BRIDGE DECK

PRODUCT HANDBOOK

DAYTON SUPERIOR™

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General and Technical Information

Safety

Dayton Superior Bridge Deck forming accessories are intended only for use by trained, qualified and experienced workers. Misuse or lack of supervision and/or inspection can contribute to accidents resulting in property damage, serious personal injury or deaths. If through experience and use, the user discovers additional or alternative procedures that may seem superior to those shown in this handbook, do not implement them until Dayton Superior has approved the change in writing.

The user of Dayton Superior products must evaluate the product application, determine the appropriate safety factor, calculate the applied loads and control all field conditions to prevent application of loads in excess of the products' safe working loads. The ultimate values shown in this handbook are approximate values based on averaged test results. For safety, a products listed safe working load should never be exceeded.

Dayton Superior strives to ensure that every product it manufactures and sells meet or exceed the applicable production and safety requirements for its products. However, the performance of a product can be greatly affected by the manner in which the product is used. It is imperative that the user be instructed in the proper installation and use of the products displayed in this handbook prior to job application.

The American Concrete Institute (ACI) publications, *Formwork for Concrete (ACI SP-4)* and *Guide to Formwork for Concrete, as reported by ACI Committee 347* are excellent reference materials for general formwork design, planning, materials, accessories, loading and pressure information as well as design tables and much more. These publications are available from:

American Concrete Institute
38800 Country Club Drive
Farmington Hills, MI 48331
Phone: 248-848-3700
E-Mail: www.concrete.org

For additional safety information, the user is advised to consult the following:

Department of Labor Occupational Safety and Health Administration (OSHA) Act, Part 1910 and 1926.
Available from:

U.S. Department of Labor
Occupational Safety & Health Administration
200 Constitution Avenue, NW
Washington, DC 20210
E-Mail: www.osha.gov

Safety Factors

Product production runs are constantly sampled and tested to assure the user a high standard of quality. Samples are tested in Dayton Superior test facilities or at independent testing laboratories. The safe working loads listed in this handbook were determined from the results of testing programs as well as other sources. The safety factor applied to a particular product is a variable dependent on the degree of hazard or risk involved in the application of the product and the job site conditions, which can often increase the degree of risk. Concentrated loads, such as construction materials stacked on the formwork, unsymmetrical placement of concrete, uplift, impact of machine delivered concrete, use of motorized carts and extreme formwork height, are examples that produce high risk factors. The user must adjust the safety factor used with the product accordingly to accommodate these risks.

Minimum Safety Factors (ACI Committee 347)		
Accessory	**Factor of Safety**	**Type of Construction**
Form Hanger	2	All applications
Form Anchor	2	Formwork supporting form weight and concrete pressure ONLY
	3	Formwork supporting weight of forms, concrete, construction live loads and impact.

Dayton Superior publishes the safe working loads and the associated minimum safety factors of its products and strongly advises the user not to compromise a products safe working load. When there are unusual job conditions, such as mentioned above, the user must reduce the products safe working load by increasing the safety factor.

To following formula should be used in situations requiring the application of a larger factor of safety than that published:

$$\frac{\text{Published Safe Working Load x Published Factor of Safety}}{\text{New Factor of Safety}} = \text{New Safe Working Load}$$

General and Technical Information

Safe Working Loads

All safe working loads shown in this handbook have been established with the following factors considered:

- All safe working loads shown in this handbook are based on the item being new or in “as new” condition. The safe working load is considered the greatest load that should be applied to a product.
- All hangers are manufactured for a specific width beam flange and are to be used only on that flange width for which they were manufactured.
- Hangers must be correctly positioned on top of the beam so that the Coil Bolts or Coil Rods are the proper distance from the edge of the beam flange.
- 90° hangers are produced so there is 1/8” clearance between the bolt and the beam flange.
- 15° hangers are produced so there is 1/8” clearance between the bolt and the beam flange.
- 45° hangers are produced so they are set back onto the beam 1/8” from the edge of the beam flange.
- All hangers are to have full bearing under the end section.
- Improper positioning of the hanger can seriously compromise the hanger’s safe working load.
- Hanger should be symmetrically arranged on the supporting beam or girder, through proper sequencing of the concrete placement to minimize twisting or rotation of the hanger.
- Coil nuts must have full bearing on hanger end sections. Use caution to ensure that the hangers and related hardware are not subjected to side loading.
- All coil bolts, coil rods and related hardware shall be of proper length, diameter and capacity.
- All coil bolts and coil rods must fully penetrate and extend through the Coil Nuts a minimum of one bolt diameter.
- All anticipated loads, to be applied to a hanger and bridge overhang bracket, are to be calculated by a qualified person. Refer to Guide to Formwork for Concrete ACI 347.
- When hangers and related items are electro-plated or hot-dip zinc galvanized, they must be properly baked to relieve hydrogen embrittlement. Failure to do so may result in a drastic reduction of the product’s safe working load.
- Extreme caution must be used when field welding. Welding may reduce material integrity and result in product failure.
- Dayton Superior recommends the use of a certified welder with a good working knowledge of materials, heat treatment and welding procedures.
- As Dayton Superior is not able to control field conditions or workmanship, Dayton Superior DOES NOT guarantee any product altered after leaving the factory.
- Impact wrenches are not to be used to tighten coil bolts or coil rods that are part of the bridge deck forming system.

Shop or Field Modification

Field welding or other modifications may compromise a products safe working load value and cause hazardous situations.

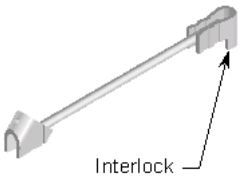
Knowledge of materials, heat and welding procedures is necessary for proper welding. If field welding is required, it is recommended that the user consult their local welding supply dealer for assistance in determining proper welding procedures.

Do not weld to a casting unless approved by a licensed metallurgical engineer. Welding to an iron casting can cause carbides and extreme brittleness to develop which could destroy most of the castings load carrying value.

As Dayton Superior cannot control either the workmanship or the conditions under which welding and/or other modifications are performed, Dayton Superior cannot be responsible for any product altered by others.

Considerations When Using Bridge Deck Accessories

Dayton Superior recommends that a interlock type hanger, such as a C-60 Type 4-A Pres-Steel Hanger, be used to support a bridge overhang bracket when a finishing machine is to ride on the overhang formwork.



The user shall install the overhang bracket, hanger and form materials in such a manner that the supporting coil bolt or coil rod makes a 45° ± 5° angle with the top surface of the exterior bridge beam.

A qualified person, such as a formwork engineer, contractor or other competent person in charge of formwork and design must accurately calculate the hanger and overhang bracket spacing so that the applied load is equal to or less than the safe working load of the overhang system.

To meet the design load requirements specified by various Department of Transportation (DOT), Dayton Superior recommends the following minimums be used when calculating loads applied to interior hangers, exterior hangers and bridge overhang brackets:

- Interior Design Loads: Use 160 pounds per cubic foot when determining the dead load of the concrete and forms plus an additional 50 pounds per square foot for any expected live loads.
- Exterior Design Loads: Use 160 pounds per cubic foot when determining the dead load of the concrete and forms, 50 pounds per square foot for any expected live loads, a 75 pound per lineal foot load applied at the edge of the overhang plus the appropriate wheel weights of any finishing machine that will be supported by the exterior hangers and overhang brackets.

General and Technical Information

Dayton Superior Technical Services

In situations where a bridge contractor does not have a qualified person on staff to calculate hanger and bracket spacing, Dayton Superior has strategically located Technical Service Departments that are well staffed and trained to provide such service. Additionally, the departments are able to provide bridge deck accessory take-offs and detailed drawings to the users of Dayton Superior bridge deck products. These services are **provided at a nominal charge** to the user.

Safety Concerns

For safety, bridge deck accessories must be properly used and maintained. The user is advised that incorrect utilization of bridge deck formwork accessories, insufficient bolt penetration through a coil nut, or altering a product in any way can result in premature failure and expose workers to unsafe conditions. Reusable bridge deck forming accessories such as coil bolts, coil rods, etc., are subject to wear, misuse, overloading, corrosion, deformation, alteration and other factors that may affect safe working loads.

It is the responsibility of the user to inspect reusable accessories for wear and/or misuse and to discard them if wear or misuse is detected. Dayton Superior recommends that all users of Dayton Superior reusable bridge deck forming products establish a quality control program to monitor and inspect their bridge deck forming accessories. The frequency of inspections is best determined by the user and is dependent on the type of product use, frequency of use, duration of use and the environmental conditions during use.

Do not straighten bent forming accessories – discard them. Discard any reusable forming accessory that has been subjected to 70% or more of its ultimate load. Such items may have been stretched to a point where they have become brittle hard.

Product Interchangeability

The construction industry does not have national standards for the manufacture of items such as coil threaded products and bridge deck forming accessories. A product supplied by other manufacturers may look similar to a Dayton Superior product, but may not have the same capacity and/or dimensions as those supplied by Dayton Superior.

Since bridge deck accessories are designed to work as a system, Dayton Superior strongly discourages efforts to interchange products supplied by other manufactures with components supplied by Dayton Superior. When used improperly or with products supplied by other manufacturers, Dayton Superior products or systems may be rendered unsafe.

Joist Spacing Charts

The spacing of the joists which support the plywood sheathing of concrete formwork, is a function of the type and thickness of plywood selected. In addition, the number of joists supporting each piece of plywood and the direction the face grain runs in relation to the joists, determines the center-to-center joist spacing.

As an aid to the bridge contractor, joist centers have been calculated using standard engineering principles that check the maximum joist spacing based on plywood bending, deflection and the rolling shear (shear in the plane of the plywood plies). Once the various centers have been calculated, the safe joist spacing is arranged in tables.

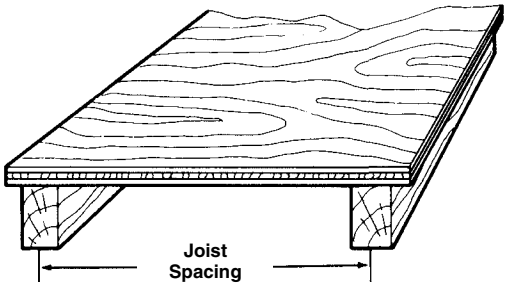
For concrete formwork, virtually any exterior plywood can be used, as all exterior plywood is produced using waterproof glue. However, the plywood industry produces special plywood called *Plyform*®, which is created especially for use as concrete formwork. *Plyform* is a proprietary product name and is used for specific products, which bear the trademark of the APA – The Engineered Wood Association.

The section properties, as well as the allowable stresses shown below, which were used to develop the safe joist spacing charts is based on information taken from the 2004 Edition of the *Concrete Forming Design/Construction Guide* published by APA – The Engineered Wood Association.

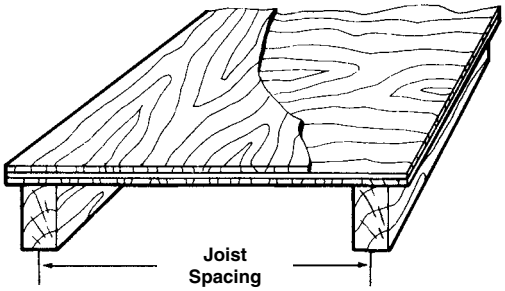
- Modulus of elasticity = E = 1,430,000 psi
- Allowable bending stress = Fb = 1,330 psi
- Allowable rolling shear stress = Fs = 72 psi

When APA Plyform is used, the spacing listed in the charts may be used with Plyform Class I, Class II or Structural I or equivalent plywood. For additional information on plywood, the user may contact the following:

APA - The Engineered Wood Association
7011 South 19th
Tacoma, WA 98466
Phone: 253-565-6600
E-Mail: www.help@apawood.org



Plyform Used Strong Direction
(Face Grains Runs Perpendicular to Joists)



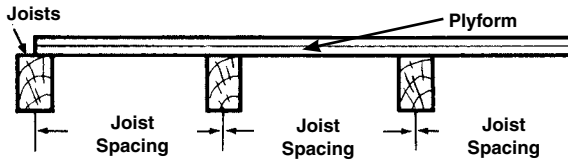
Plyform Used Weak Direction
(Face Grain Runs Parallel with Joists)

General and Technical Information

How to Use Charts — Joist Spacing Charts

Select the proper chart to use. Determine concrete thickness, the desired face grain direction and Plyform thickness, where the concrete thickness row intersects with the Plyform thickness column will be the maximum safe joist centers.

The user should be aware, that a section of plywood will bend and deflect less when supported by 4 or more joists than it will when supported by 2 or 3 joists.



Plyform Supported by 4 or More Joists

Safe Joist Spacing
Plyform Supported by 4 or more Joists

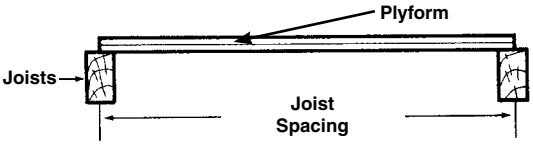
Concrete Thickness	Design Load	Face Grain Runs Perpendicular to Joists (Strong Direction)			Face Grain Runs Parallel with Joists (Weak Direction)		
		5/8"	23/32"	3/4"	5/8"	23/32"	3/4"
6"	130.0 psf	19"	21"	22"	14"	15"	17"
8"	156.7 psf	18"	20"	20"	13"	14"	16"
10"	183.3 psf	17"	19"	19"	12"	14"	15"
12"	210.0 psf	16"	18"	18"	11"	13"	14"
14"	236.7 psf	15"	17"	17"	11"	13"	14"
16"	263.3 psf	14"	16"	16"	10"	12"	13"
18"	290.0 psf	14"	15"	16"	10"	11"	13"
20"	316.7 psf	13"	14"	15"	9"	11"	12"

Note: Deflection is limited to 1/360 of span but no more than 1/16".

Safe Joist Spacing
Plyform Supported by 2 or 3 Joists

Concrete Thickness	Design Load	Face Grain Runs Perpendicular to Joists (Strong Direction)			Face Grain Runs Parallel with Joists (Weak Direction)		
		5/8"	23/32"	3/4"	5/8"	23/32"	3/4"
6"	130.0 psf	15"	17"	18"	13"	12"	14"
8"	156.7 psf	14"	16"	16"	12"	12"	13"
10"	183.3 psf	14"	15"	16"	11"	11"	12"
12"	210.0 psf	13"	14"	15"	10"	11"	11"
14"	236.7 psf	12"	14"	14"	9"	10"	11"
16"	263.3 psf	12"	13"	14"	9"	10"	11"
18"	290.0 psf	12"	13"	13"	9"	9"	10"
20"	316.7 psf	11"	13"	13"	8"	9"	10"

Note: Deflection is limited to 1/360 of span but no more than 1/16"



Plyform Supported by 2 or 3 Joists

Ledgers Spacing Charts

The center-to-center spacing of ledgers used to support joists, is a function of the species, grade and size of joist lumber selected for use, as well as the joist centers and number of ledgers used in supporting each length of joist. Over the years, almost every species, grade and size of lumber has been used for joists and ledgers in concrete formwork. Today, only certain lumber species, grades and sizes are commonly used

Nominal lumber sizes are used in the joist and ledger descriptions, but calculations are based on lumber finished on all four sides (S4S). Ledger centers are calculated by checking joist bending, deflection and horizontal shear. Once the ledger centers are determined, the joist centers and ledger spacing are arranged in tables.

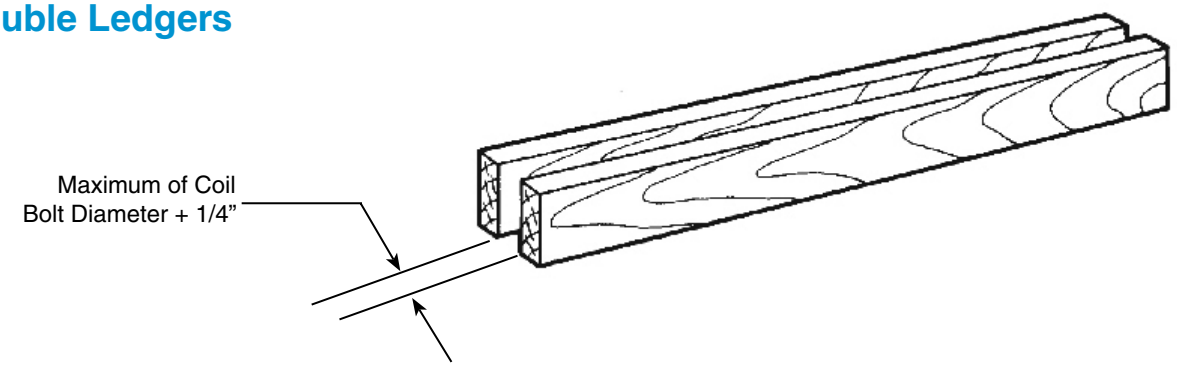
The adjusted stresses shown below, are used in all joist and ledger calculations and are based on the use of Southern Pine, Grade #2 or equivalent strength lumber:

- E = Modulus of elasticity = 1,400,000 psi
- Fb = Allowable bending stress varies with size of joist and ledgers = 1,625 psi for 2x4, 1,440 psi for 2x6, 1,310 psi for 2x8, 1,192 psi for 2x10, 1,083 psi for 2x12, 1,790 psi for 4x2, 1,625 psi for 4x4 and 1,650 psi for 6x2.
- Fs = Allowable shear stress = 225 psi (which assumes no splits or shakes in the lumber).

This data is taken from the 2005 Edition of *ANSI/AF&PA NDS-2005 National Design Specification for Wood Construction (NDS)* its *Commentary and Supplement: Design Values for Wood Construction.* For those interested, this design information is available from:

American Forest & Paper Association
American Wood Council
1111 Nineteenth Street, NW
Suite 800
Washington, DC 20036
Phone: 1-800-878-8878 or 202-463-2700
E-Mail: www.afandpa.org

Double Ledgers



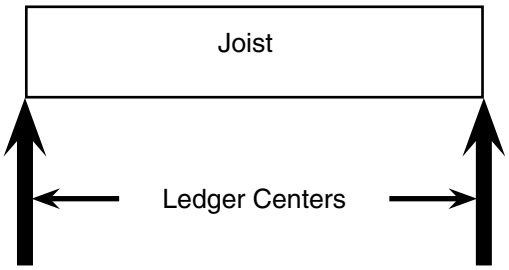
The maximum spacing between double ledgers should no more than 1/4” greater than the nominal diameter of the coil bolt or coil rod being used. When more space is allowed between the ledgers, the ledgers may crush or the flat washers may deflect and bend causing the formwork to fail.

General and Technical Information

How to Use Charts — Single Span Joists

Determine joist centers, concrete thickness and the desired joist size, where the concrete thickness row intersects with the joist size column will be the maximum safe ledger centers.

Dayton Superior does not recommend using ledgers spaced at greater than 96” on center due to the reduction in the formwork redundancy that may occur.



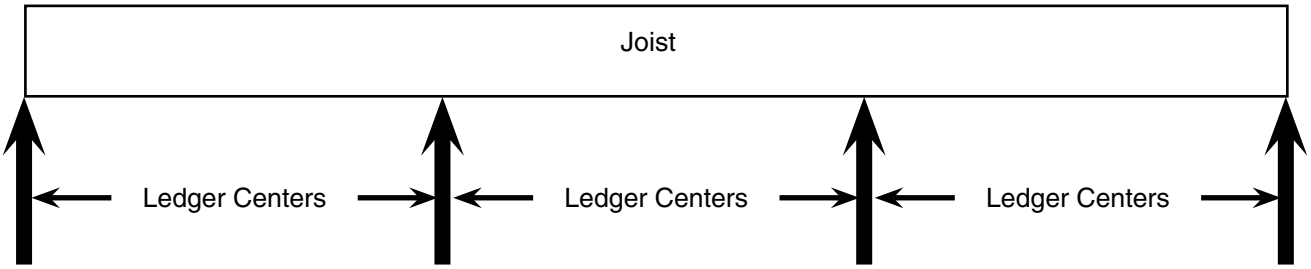
Maximum Ledger Centers							
Joist Centers	**Concrete Thickness**	**2x4 Joists**	**2x6 Joists**	**2x8 Joists**	**4x2 Joists**	**4x4 Joists**	**6X2 Joists**
9-5/8"	6"	63"	90"	110"	36"	79"	42"
	8"	59"	86"	105"	34"	75"	39"
	10"	56"	80"	101"	32"	72"	37"
	12"	53"	75"	98"	30"	70"	35"
	14"	50"	71"	93"	29"	69"	34"
	16"	48"	67"	89"	28"	66"	33"
	18"	45"	64"	84"	27"	64"	32"
	20"	43"	61"	81"	26"	62"	31"
12"	6"	58"	85"	104"	33"	75"	39"
	8"	56"	78"	100"	31"	71"	36"
	10"	51"	73"	95"	30"	69"	34"
	12"	48"	67"	89"	28"	66"	33"
	14"	45"	63"	84"	27"	63"	32"
	16"	43"	60"	79"	26"	61"	30"
	18"	41"	57"	76"	25"	59"	29"
	20"	39"	55"	72"	24"	58"	28"
16"	6"	53"	74"	97"	30"	70"	27"
	8"	48"	67"	89"	28"	66"	26"
	10"	44"	62"	82"	27"	63"	25"
	12"	41"	58"	77"	26"	60"	31"
	14"	39"	55"	72"	25"	58"	29"
	16"	37"	52"	69"	24"	56"	27"
	18"	35"	50"	65"	23"	54"	26"
	20"	34"	47"	63"	22"	51"	25"
24"	6"	43"	60"	80"	26"	61"	31"
	8"	39"	55"	73"	25"	58"	29"
	10"	36"	51"	67"	23"	55"	27"
	12"	34"	48"	63"	22"	52"	26"
	14"	32"	45"	59"	21"	49"	25"
	16"	30"	43"	56"	20"	46"	24"
	18"	29"	41"	53"	19"	44"	23"
	20"	27"	39"	51"	18"	42"	22"

NOTE: Maximum deflection is clear span / 270 or no more than 1/4"

How to Use Charts — Three or More Span Joists

Select the proper chart to use. Determine joist centers, concrete thickness and the desired joist size, where the concrete thickness row intersects with the joist size column will be the maximum safe ledger centers.

Dayton Superior does not recommend using ledgers spaced at greater than 96" on center due to the reduction in the formwork redundancy that may occur.



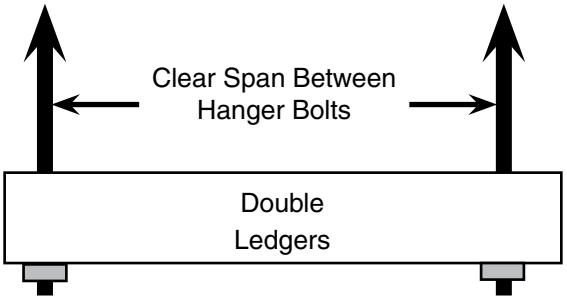
Maximum Ledger Centers							
Joist Centers	**Concrete Thickness**	**2x4 Joists**	**2x6 Joists**	**2x8 Joists**	**4x2 Joists**	**4x4 Joists**	**6X2 Joists**
9-5/8"	6"	75"	105"	129"	44"	93"	51"
	8"	59"	86"	105"	34"	75"	39"
	10"	56"	82"	101"	32"	72"	37"
	12"	53"	79"	98"	30"	70"	35"
	14"	50"	74"	93"	29"	68"	34"
	16"	48"	70"	88"	28"	66"	33"
	18"	45"	67"	84"	27"	64"	32"
	20"	43"	64"	81"	26"	62"	31"
12"	6"	68"	99"	79"	41"	88"	46"
	8"	55"	81"	76"	31"	71"	36"
	10"	51"	76"	72"	30"	69"	34"
	12"	48"	71"	109"	28"	66"	33"
	14"	45"	66"	89"	27"	63"	32"
	16"	43"	63"	82"	26"	61"	30"
	18"	41"	60"	77"	25"	59"	29"
	20"	39"	57"	72"	24"	58"	28"
16"	6"	59"	87"	109"	37"	81"	43"
	8"	48"	71"	89"	28"	66"	33"
	10"	44"	65"	82"	27"	63"	31"
	12"	41"	61"	77"	26"	60"	30"
	14"	39"	58"	72"	25"	58"	29"
	16"	37"	55"	69"	24"	56"	28"
	18"	35"	52"	65"	23"	54"	27"
	20"	34"	50"	63"	22"	51"	26"
24"	6"	45"	71"	89"	32"	73"	37"
	8"	39"	58"	73"	25"	58"	29"
	10"	36"	53"	67"	23"	55"	27"
	12"	34"	50"	63"	22"	52"	26"
	14"	32"	47"	59"	21"	49"	25"
	16"	30"	45"	56"	20"	46"	23"
	18"	29"	42"	53"	19"	44"	22"
	20"	27"	41"	51"	18"	42"	21"

NOTE: Maximum deflection is clear span / 270 or no more than 1/4"

General and Technical Information

How to Use Charts — Clear Span Between Hanger Bolts

Determine ledger centers, concrete thickness and the desired ledger size, where the concrete thickness row intersects with the ledger size column will be the maximum safe clear span between hanger bolts.



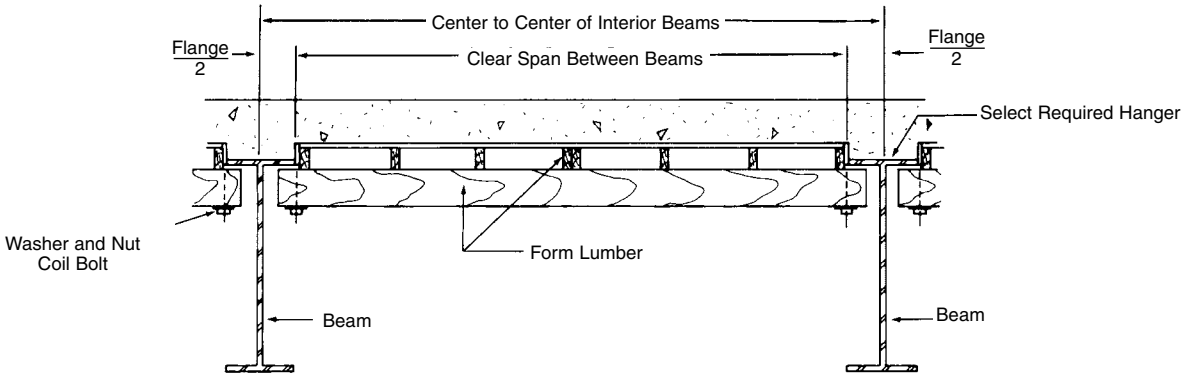
Maximum Clear Span Between Hanger Bolts						
Ledger Centers	**Concrete Thickness**	**Double 2x4 Ledgers**	**Double 2x6 Ledgers**	**Double 2x8 Ledgers**	**Double 2x10 Ledgers**	**Double 2x12 Ledgers**
24" Ledger Center	6"	58"	85"	104"	125"	145"
	8"	55"	81"	100"	120"	133"
	10"	51"	76"	95"	115"	133"
	12"	48"	71"	89"	108"	125"
	14"	45"	66"	84"	102"	118"
	16"	43"	63"	79"	96"	112"
	18"	41"	60"	76"	92"	107"
	20"	39"	57"	72"	88"	102"
27 3/8" Ledger Center	6"	56"	82"	101"	121"	140"
	8"	52"	77"	96"	116"	134"
	10"	48"	71"	89"	108"	125"
	12"	45"	66"	83"	101"	117"
	14"	42"	62"	78"	95"	110"
	16"	40"	59"	74"	90"	105"
	18"	38"	56"	71"	86"	100"
	20"	36"	54"	68"	82"	95"
32" Ledger Center	6"	53"	78"	97"	117"	135"
	8"	48"	71"	89"	108"	126"
	10"	44"	65"	82"	100"	116"
	12"	41"	61"	77"	94"	108"
	14"	39"	58"	72"	88"	102"
	16"	37"	55"	69"	84"	97"
	18"	35"	52"	65"	80"	92"
	20"	34"	50"	63"	76"	88"

Maximum Clear Span Between Hanger Bolts						
Ledger Centers	**Concrete Thickness**	**Double 2x4 Ledgers**	**Double 2x6 Ledgers**	**Double 2x8 Ledgers**	**Double 2x10 Ledgers**	**Double 2x12 Ledgers**
38 3/8" Ledger Center	6"	48"	71"	89"	109"	126"
	8"	44"	65"	81"	99"	115"
	10"	40"	60"	75"	91"	106"
	12"	38"	56"	70"	85"	99"
	14"	36"	53"	66"	80"	93"
	16"	34"	50"	63"	76"	88"
	18"	32"	47"	60"	73"	84"
	20"	31"	45"	57"	70"	81"
48" Ledger Center	6"	43"	63"	80"	97"	113"
	8"	39"	58"	73"	88"	102"
	10"	36"	53"	67"	82"	95"
	12"	34"	50"	63"	76"	89"
	14"	32"	47"	59"	72"	83"
	16"	30"	45"	56"	68"	79"
	18"	29"	42"	53"	65"	75"
	20"	27"	41"	51"	62"	72"
64" Ledger Center	6"	37"	55"	69"	84"	97"
	8"	34"	50"	63"	77"	89"
	10"	31"	46"	58"	71"	82"
	12"	29"	43"	54"	66"	77"
	14"	28"	41"	51"	62"	72"
	16"	26"	39"	49"	59"	68"
	18"	25"	37"	46"	56"	65"
	20"	24"	35"	44"	54"	62"
96" Ledger Center	6"	30"	45"	56"	69"	80"
	8"	28"	41"	51"	63"	72"
	10"	26"	38"	47"	58"	67"
	12"	24"	35"	44"	54"	63"
	14"	22"	33"	42"	51"	59"
	16"	21"	32"	40"	48"	56"
	18"	20"	30"	38"	46"	53"
	20"	19"	29"	36"	44"	51"

NOTE: Maximum deflection is clear span / 270 or no more than 1/4"

General and Technical Information

Interior Hanger Spacing Charts



The following charts list the maximum safe hanger spacing for varous types of hangers produced by Dayton Superior. When the clear span on a project is not an even foot, the next larger clear span from the chart should be used.

The charts are based on the following formula:

$$\text{Maximum Hanger Spacing (Limited at 8'-0" Maximum Centers)} = \frac{\text{SWL per Side of Hanger}}{\text{Design Load, PSF} \times \frac{\text{Clear Span, Feet}}{2}}$$

2,375 lbs. per Side Hanger Safe Working Load										
Design Load PSF	Slab Thickness	Clear Span Between Beams								
		3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
		Maximum Interior Hanger Spacing									
130.0	6"	8'-0"	8'-0"	7'-3"	6'-0"	5'-0"	4"-6"	4'-0"	3'-6"	3'-3"	3'-0"
156.7	8"	8'-0"	7'-6"	6'-0"	5'-0"	4'-3"	3'-9"	3'-3"	3'-0"	2'-9"	2'-6"
183.3	10"	8'-0"	6'-3"	5'-0"	4'-3"	3'-6"	3'-0"	2'-9"	2'-6"	2'-3"	2'-0"
210.0	12"	7'-6"	5'-6"	4'-6"	3'-9"	3'-0"	2'-9"	2'-6"	2'-3"	2'-0"	1'-9"
236.7	14"	6'-6"	5'-0"	4'-0"	3'-3"	2'-9"	2'-6"	2'-0"	2'-0"	1'-9"	1'-6"
263.3	16"	6'-0"	4'-6"	3'-6"	3'-0"	2'-6"	2'-3"	2'-0"	1'-9"	1'-6"	1'-6"
290.0	18"	5'-3"	4'-0"	3'-3"	2'-6"	2'-3"	2'-0"	1'-9"	1'-6"	1'-3"	1'-3"
316.7	20"	4'-9"	3'-6"	2'-9"	2"-3"	2'-0"	1'-9"	1'-6"	1'-3"	1'-3"	1'-0"

2,500 lbs. per Side Hanger Safe Working Load										
Design Load PSF	Slab Thickness	Clear Span Between Beams								
		3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
		Maximum Interior Hanger Spacing									
130.0	6"	8'-0"	8'-0"	7'-6"	6'-3"	5'-3"	4"-9"	4'-3"	3'-9"	3'-3"	3'-0"
156.7	8"	8'-0"	7'-9"	6'-3"	5'-3"	4'-6"	3'-9"	3'-6"	3'-0"	2'-9"	2'-6"
183.3	10"	8'-0"	6'-9"	5'-3"	4'-6"	3'-9"	3'-3"	3'-0"	2'-6"	2'-3"	2'-3"
210.0	12"	7'-9"	5'-9"	4'-9"	3'-9"	3'-3"	2'-9"	2'-6"	2'-3"	2'-0"	1'-9"
236.7	14"	7'-0"	5'-3"	4'-0"	3'-6"	3'-0"	2'-6"	2'-3"	2'-0"	1'-9"	1'-9"
263.3	16"	6'-3"	4'-6"	3'-9"	3'-0"	2'-6"	2'-3"	2'-0"	1'-9"	1'-6"	1'-6"
290.0	18"	5'-6"	4'-3"	3'-3"	2'-9"	2'-3"	2'-0"	1'-9"	1'-6"	1'-6"	1'-3"
316.7	20"	5'-3"	3'-9"	3'-0"	2"-6"	2'-3"	1'-9"	1'-9"	1'-6"	1'-3"	1'-3"

Interior Hanger Spacing Charts *Continued*

3,000 lbs. per Side Hanger Safe Working Load											
Design Load PSF	Slab Thickness	Clear Span Between Beams									
		3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
		Maximum Interior Hanger Spacing									
130.0	6"	8'-0"	8'-0"	8'-0"	7'-6"	6'-6"	5"-9"	5'-0"	4'-6"	4'-0"	3'-9"
156.7	8"	8'-0"	8'-0"	7'-6"	6'-3"	5'-3"	4'-9"	4'-3"	3'-9"	3'-3"	3'-0"
183.3	10"	8'-0"	8'-0"	6'-6"	5'-3"	4'-6"	4'-0"	3'-6"	3'-3"	2'-9"	2'-6"
210.0	12"	8'-0"	7'-0"	5'-6"	4'-9"	4'-0"	3'-6"	3'-0"	2'-9"	2'-6"	2'-3"
236.7	14"	8'-0"	6'-3"	5'-0"	4'-0"	3'-6"	3'-0"	2'-9"	2'-6"	2'-3"	2'-0"
263.3	16"	7'-6"	5'-6"	4'-6"	3'-9"	3'-3"	2'-9"	2'-6"	2'-3"	2'-0"	1'-9"
290.0	18"	6'-9"	5'-0"	4'-0"	3'-3"	2'-9"	2'-6"	2'-3"	2'-0"	1'-9"	1'-6"
316.7	20"	6'-3"	4'-6"	3'-9"	3"-0"	2'-6"	2'-3"	2'-0"	1'-9"	1'-6"	1'-6"

3,500 lbs. per Side Hanger Safe Working Load											
Design Load PSF	Slab Thickness	Clear Span Between Beams									
		3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
		Maximum Interior Hanger Spacing									
130.0	6"	8'-0"	8'-0"	8'-0"	8'-0"	7'-6"	6'-6"	5'-9"	5'-3"	4'-9"	4'-3"
156.7	8"	8'-0"	8'-0"	8'-0"	7'-3"	6'-3"	5'-6"	4'-9"	4'-3"	4'-0"	3'-6"
183.3	10"	8'-0"	8'-0"	7'-6"	6'-3"	5'-3"	4'-9"	4'-0"	3'-9"	3'-3"	3'-0"
210.0	12"	8'-0"	8'-0"	6'-6"	5'-6"	4'-9"	4'-0"	3'-6"	3'-3"	3'-0"	2'-9"
236.7	14"	8'-0"	7'-3"	5'-9"	4'-9"	4'-0"	3'-6"	3'-3"	2'-9"	2'-6"	2'-3"
263.3	16"	8'-0"	6'-6"	5'-3"	4'-3"	3'-9"	3'-3"	2'-9"	2'-6"	2'-3"	2'-0"
290.0	18"	8'-0"	6'-0"	4'-9"	4'-0"	3'-3"	3'-0"	2'-6"	2'-3"	2'-0"	2'-0"
316.7	20"	7'-3"	5'-6"	4'-3"	3"-6"	3'-0"	2'-9"	2'-3"	2'-0"	2'-0"	1'-9"

4,500 lbs. per Side Hanger Safe Working Load											
Design Load PSF	Slab Thickness	Clear Span Between Beams									
		3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
		Maximum Interior Hanger Spacing									
130.0	6"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-6"	6'-9"	6'-3"	5'-9"
156.7	8"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-0"	6'-3"	5'-6"	5'-0"	4'-9"
183.3	10"	8'-0"	8'-0"	8'-0"	8'-0"	7'-0"	6'-0"	5'-3"	4'-9"	4'-3"	4'-0"
210.0	12"	8'-0"	8'-0"	8'-0"	7'-0"	6'-0"	5'-3"	4'-9"	4'-3"	3'-9"	3'-6"
236.7	14"	8'-0"	8'-0"	7'-6"	6'-3"	5'-3"	4'-9"	4'-0"	3'-9"	3'-3"	3'-0"
263.3	16"	8'-0"	8'-0"	6'-9"	5'-6"	4'-9"	4'-3"	3'-9"	3'-3"	3'-0"	2'-9"
290.0	18"	8'-0"	7'-9"	6'-0"	5'-0"	4'-3"	3'-9"	3'-3"	3'-0"	2'-9"	2'-6"
316.7	20"	8'-0"	7'-0"	5'-6"	4"-6"	4'-0"	3'-6"	3'-0"	2'-9"	2'-6"	2'-3"

General and Technical Information

Interior Hanger Spacing Charts *Continued*

6,000 lbs. per Side Hanger Safe Working Load										
Design Load PSF	Slab Thickness	Clear Span Between Beams								
		3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
		Maximum Interior Hanger Spacing									
130.0	6"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-6"
156.7	8"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-6"	6'-9"	6'-3"
183.3	10"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-3"	6'-6"	5'-9"	5'-3"
210.0	12"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-0"	6'-3"	5'-6"	5'-0"	4'-9"
236.7	14"	8'-0"	8'-0"	8'-0"	8'-0"	7'-0"	6'-3"	5'-6"	5'-0"	4'-4"	4'-0"
263.3	16"	8'-0"	8'-0"	8'-0"	7'-6"	6'-6"	5'-6"	5'-0"	4'-6"	4'-0"	3'-9"
290.0	18"	8'-0"	8'-0"	8'-0"	6'-9"	5'-9"	5'-0"	4'-6"	4'-0"	3'-9"	3'-3"
316.7	20"	8'-0"	8'-0"	7'-6"	6"-3"	5'-3"	4'-6"	4'-0"	3'-9"	3'-3"	3'-0"

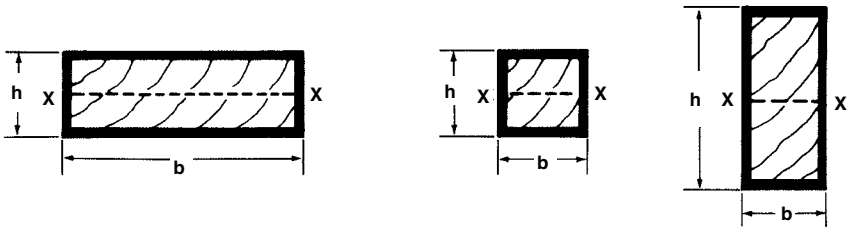
8,000 lbs. per Side Hanger Safe Working Load										
Design Load PSF	Slab Thickness	Clear Span Between Beams								
		3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
		Maximum Interior Hanger Spacing									
130.0	6"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"
156.7	8"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"
183.3	10"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-9"	7'-3"
210.0	12"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-6"	6'-9"	6'-3"
236.7	14"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-6"	6'-9"	6'-0"	5'-6"
263.3	16"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-6"	6'-9"	6'-0"	5'-6"	5'-0"
290.0	18"	8'-0"	8'-0"	8'-0"	8'-0"	7'-9"	6'-9"	6'-0"	5'-6"	5'-0"	4'-6"
316.7	20"	8'-0"	8'-0"	8'-0"	8'-0"	7'-0"	6'-3"	5'-6"	5'-0"	4'-6"	4'-0"

11,300 lbs. per Side Hanger Safe Working Load										
Design Load PSF	Slab Thickness	Clear Span Between Beams								
		3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
		Maximum Interior Hanger Spacing									
130.0	6"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"
156.7	8"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"
183.3	10"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"
210.0	12"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"
236.7	14"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-9"
263.3	16"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-9"	7'-0"
290.0	18"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-9"	7'-0"	6'-3"
316.7	20"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-9"	7'-0"	6'-3"	5'-9"

General and Technical Information

Technical Data — Lumber

X—X = Neutral Axis



Lumber Properties								
Nominal Size in Inches, *bxh*	American Standard Sizes in Inches, *bxh* S4S* 19% Maximum Moisture	Area of section A = *bh*, sq. in.		Moment of Inertia, in.^{4} $I = \frac{bh^3}{12}$		Section Modulus, in.^{3} $S = \frac{bh^2}{6}$		Board Feet per Linear Foot of Piece
		Rough	S4S	Rough	S4S	Rough	S4S	
4x1	3½ x ¾	3.17	2.62	0.20	0.12	0.46	0.33	⅓
6x1	5½ x ¾	4.92	4.12	0.31	0.19	0.72	0.52	½
8x1	7¼ x ¾	6.45	5.44	0.41	0.25	0.94	0.68	⅔
10x1	9¼ x ¾	8.20	6.94	0.52	0.32	1.20	0.87	⅝
12x1	11¼ x ¾	9.95	8.44	0.63	0.39	1.45	1.05	1
4x2	3½ x 1½	5.89	5.25	1.30	0.98	1.60	1.31	⅔
6x2	5½ x 1½	9.14	8.25	2.01	1.55	2.48	2.06	1
8x2	7¼ x 1½	11.98	10.87	2.64	2.04	3.25	2.72	1½
10x2	9¼ x 1½	15.23	13.87	3.35	2.60	4.13	3.47	1⅔
12x2	11¼ x 1½	18.48	16.87	4.07	3.16	5.01	4.21	2
2x4	1½ x 3½	5.89	5.25	6.45	5.36	3.56	3.06	⅔
2x6	1½ x 5½	9.14	8.25	24.10	20.80	8.57	7.56	1
2x8	1½ x 7¼	11.98	10.87	54.32	47.63	14.73	13.14	1⅓
2x10	1½ x 9¼	15.23	13.87	111.58	98.93	23.80	21.39	1⅔
2x12	1½ x 11¼	18.48	16.87	199.31	177.97	35.04	31.64	2
3x4	2½ x 3½	9.25	8.75	10.42	8.93	5.75	5.10	1
3x6	2½ x 5½	14.77	13.75	38.93	34.66	13.84	12.60	1½
3x8	2½ x 7¼	19.36	18.12	87.74	79.39	23.80	21.90	2
3x10	2½ x 9¼	24.61	23.12	180.24	164.89	38.45	35.65	2½
3x12	2½ x 11¼	29.86	28.12	321.96	296.63	56.61	52.73	3
4x4	3½ x 3½	13.14	12.25	14.39	12.50	7.94	7.15	1⅓
4x6	3½ x 5½	20.39	19.25	53.76	48.53	19.12	17.65	2
4x8	3½ x 7¼	26.73	25.38	121.17	111.15	32.86	30.66	2⅔
4x10	3½ x 9¼	33.98	32.38	248.91	230.84	53.10	49.91	3⅓
6x3	5½ x 2½	14.77	13.75	8.48	7.16	6.46	5.73	1½
6x4	5½ x 3½	20.39	19.25	22.33	19.65	12.32	11.23	2
6x6	5½ x 5½	31.64	30.25	83.43	76.26	29.66	27.73	3
6x8	5½ x 7½	42.89	41.25	207.81	193.36	54.51	51.56	4
8x8	7½ x 7½	58.14	56.25	281.69	263.67	73.89	70.31	5⅓

***Roughdry sizes are ⅛" larger, both dimensions.**

Properties of American Standard Board, Plank Dimension
and Timber Sizes Commonly used for Formwork Construction.
Based on data supplied by the National Forest Products Association.

General and Technical Information

Representative Working Stress Values (PSI) for Lumber at 19 Percent Moisture Content, Continuing or Prolonged Reuse

PROPERTIES / LUMBER SPECIES AND GRADE	Extreme Fiber Bending	Compression ⊥ To Grain	Compression ∥ To Grain	Horizontal Shear	Modules of Elasticity
REDWOOD					
Range, all grades	225-2025	425-650	475-2250		800,000-1,400,000
No. 2, 4x4 and smaller	1385	650	1425	160	1,200,000
Constr., 4x4 and smaller	825	425	925		900,000
DOUGLAS FIR-LARCH					
Range, all grades	275-2250	625	900-2550		1,300,000-1,900,000
No. 2, 4x4 and smaller	1350	625	2025	190	1,600,000
Constr., 4x4 and smaller	1000	625	1650		1,500,000
SPRUCE-PINE-FIR					
Range, all grades	275-1875	425	750-2100		1,100,000-1,500,000
No. 2, 4x4 and smaller	1310	425	1725	140	1,400,000
Constr., 4x4 and smaller	1000	425	1400		1,300,000
HEM-FIR					
Range, all grades	250-2100	405	850-2250		1,100,000-1,600,000
No. 2, 4x4 and smaller	1275	405	1950	150	1,300,000
Constr., 4x4 and smaller	975	405	1550		1,300,000
SOUTHERN PINE					
Range, all grades	275-2050	565	950-1800		1,100,000-1,600,000
No. 2, 4x4 and smaller	1300	565	1650	180	1,400,000
Constr., 4x4 and smaller	1000	565	1700		1,300,000
ADJUSTMENT FOR MOISTURE CONTENT GREATER THAN 19 PERCENT: Use percentage shown (also applies to wood used wet)	85%**	67%	80%	97%*	90%
INCREASE FOR LOAD DURATION OF 7 DAYS OR LESS	25%	0%	25%	25%	0%

Note: Derived from National Design Specifications for Wood Construction. Horizontal Shear Stress adjustment assumes members have no splits checks or shakes.

*When $(F_b)(C_f) \leqq 1150$ psi, $C_m=1.0$

**When $(F_c)(C_f) \leqq 750$ psi, $C_m=1.0$

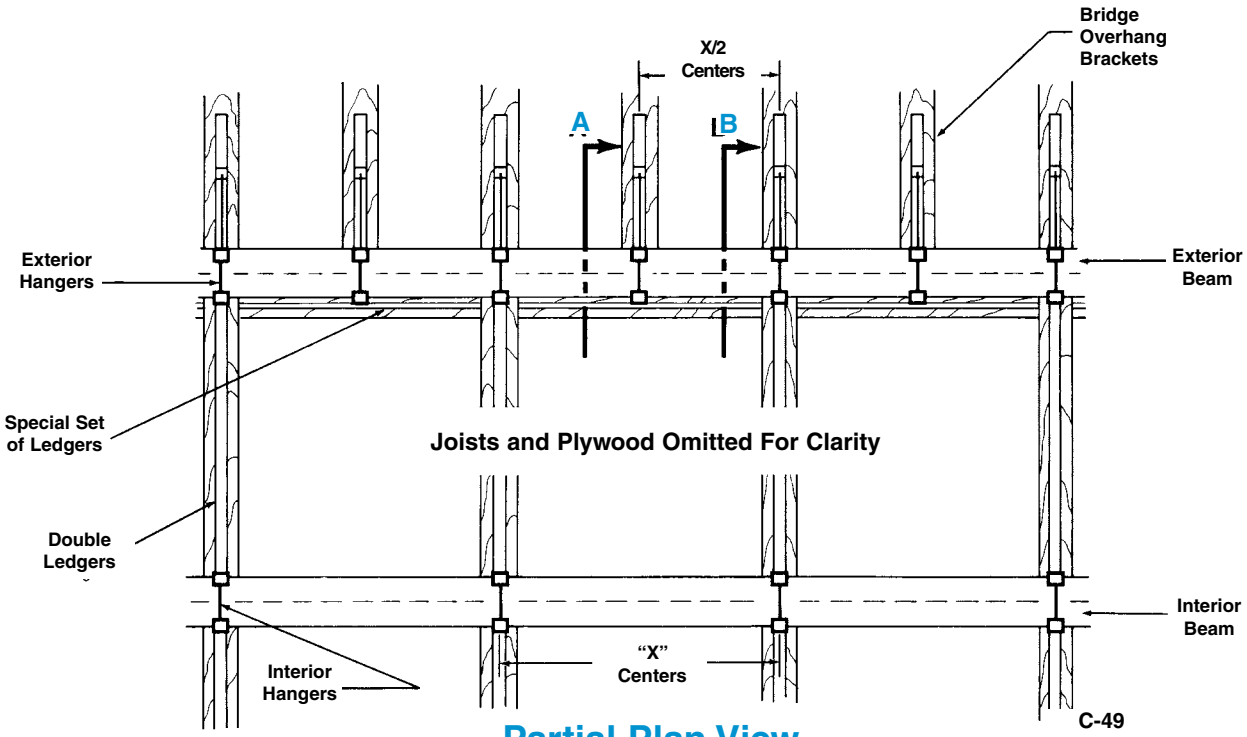
Formulas Used to Calculate Safe Support Spacings of Joists and Ledgers

To Check	for Single Span Beam	for Two-Span Beam	for Three or More Span Beam
$\triangle_{max} = \ell/360$	$\ell = 1.37\sqrt[3]{\frac{EI}{w}}$	$\ell = 1.83\sqrt[3]{\frac{EI}{w}}$	$\ell = 1.69\sqrt[3]{\frac{EI}{w}}$
$\triangle_{max} = \ell/270$	$\ell = 1.51\sqrt[3]{\frac{EI}{w}}$	$\ell = 2.02\sqrt[3]{\frac{EI}{w}}$	$\ell = 1.86\sqrt[3]{\frac{EI}{w}}$
$\triangle_{max} = 1/16$ in.	$\ell = 2.75\sqrt[4]{\frac{EI}{w}}$	$\ell = 3.43\sqrt[4]{\frac{EI}{w}}$	$\ell = 3.23\sqrt[4]{\frac{EI}{w}}$
$\triangle_{max} = 1/8$ in.	$\ell = 3.27\sqrt[4]{\frac{EI}{w}}$	$\ell = 4.08\sqrt[4]{\frac{EI}{w}}$	$\ell = 3.84\sqrt[4]{\frac{EI}{w}}$
$\triangle_{max} = 1/4$ in.	$\ell = 3.90\sqrt[4]{\frac{EI}{w}}$	$\ell = 4.85\sqrt[4]{\frac{EI}{w}}$	$\ell = 4.57\sqrt[4]{\frac{EI}{w}}$
BENDING	$\ell = 9.80\sqrt{\frac{fS}{w}}$	$\ell = 9.80\sqrt{\frac{fS}{w}}$	$\ell = 10.95\sqrt{\frac{fS}{w}}$
HORIZONTAL SHEAR	$\ell = \frac{16Hbh}{w} + 2h$	$\ell = \frac{192Hbh}{15w} + 2h$	$\ell = \frac{40Hbh}{3w} + 2h$

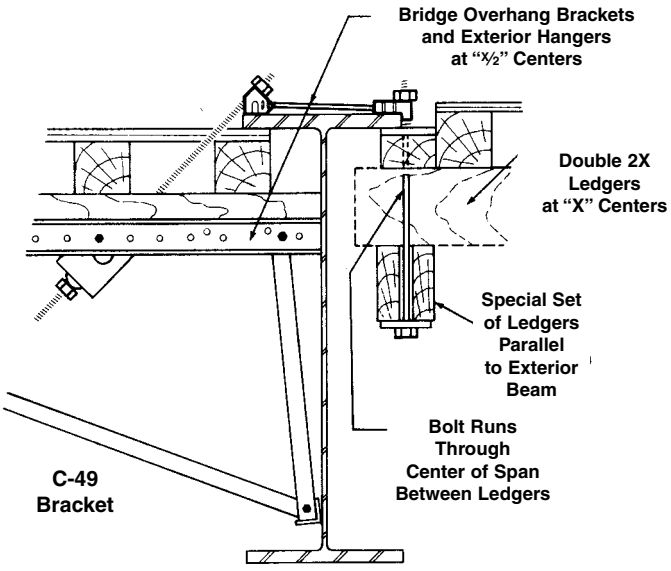
ℓ = safe spacing of supports, in.
h = depth of section, in.
I = moment of inertia, in.^{4}
$\triangle$ = deflection, in.
w = load, lbs. per linear ft.
E = modulus of elasticity, psi
b = width of section, in.
S = section modulus, in.^{3}
f = extreme fiber stress, psi
H = horizontal shear stress, psi

Exterior Hangers Spaced at Different Centers than Interior Hangers

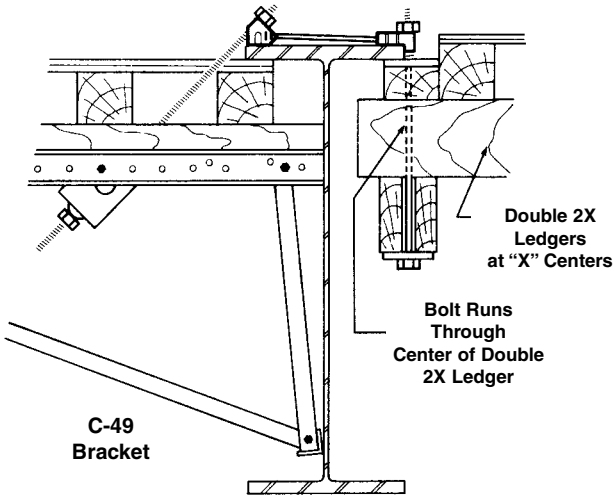
These sketches illustrate one method of supporting the bridge deck formwork when exterior hangers are to be spaced at different centers from the interior hangers.



Partial Plan View



Section View – "A"

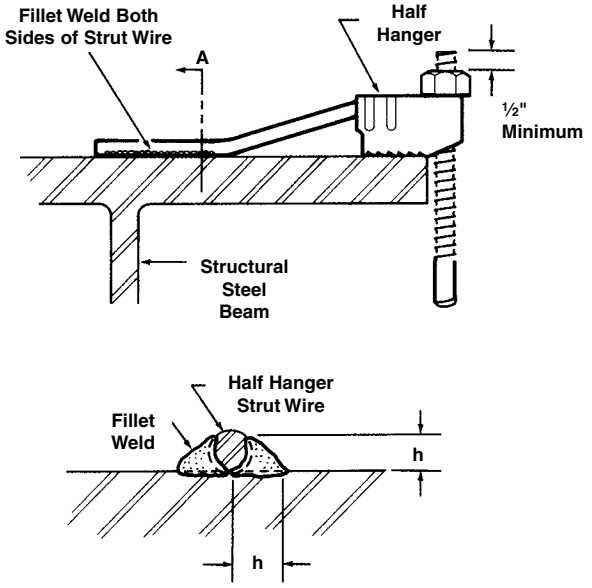


Section View – "B"

General and Technical Information

Welding of Half Hangers

Several styles of Half Hangers are manufactured by Dayton Superior for use in special cases requiring one-sided forming. Half Hangers may generally be welded to structural steel beams or rebar stirrups, however, preheat and other quality control procedures may be required in order to develop a sound weld. **It is recommended that the user contact his local welding supply dealer for assistance in determining the required welding procedures.**

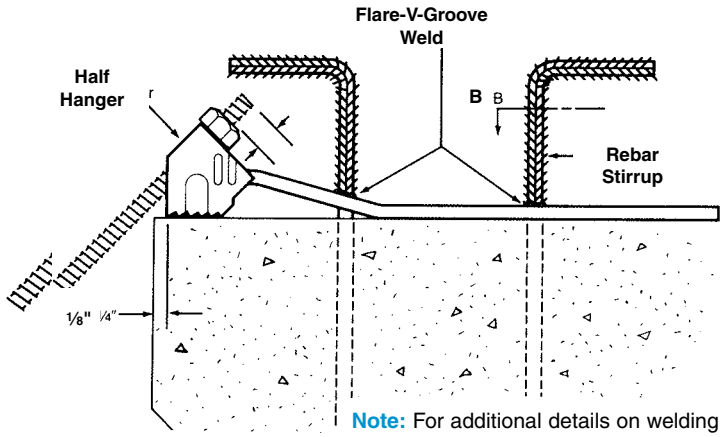


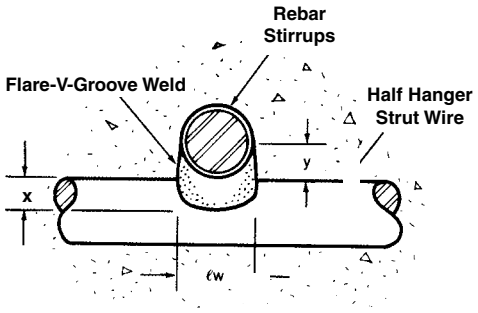
Section A

Warning: Since welding may alter the wire strut or rebar stirrup, the charts shown below should only be used as a general guide in determining the approximate strength of the welded connection. Field tests should be performed on installed Half Hangers so that actual safe working loads may be established, since actual safe working loads may be less than the maximum safe working loads shown in this handbook. Failure to perform field tests may result in premature and unexpected failures.

h Fillet Weld Size	Safe Working Load Per Linear Inch of Weld
1/8"	1,500 lbs.
3/16"	2,300 lbs.
1/4"	3,100 lbs.
5/16"	3,900 lbs.
3/8"	4,700 lbs.
7/16"	5,500 lbs.

Note: Place half the required length of weld on each side of the strut wire. Minimum length of weld is 4 h. The user should add ¼" to the weld length for starting and stopping the arc. SWL provides a factor of safety of approximately 2 to 1.





Section B

Note: For additional details on welding Pres-Steel Hangers to Rebar stirrups, contact Dayton Superior Technical Service Department.

Safe Working Load Per Weld						
Rebar Stirrup Size	ℓ_w Weld Length	Y Minimum	.375" Diameter Strut (x = 3/16" Min.)		.440" Diameter Strut (x = 7/32" Min.)	
			Grade 40 Stirrup	Grade 60 Stirrup	Grade 40 Stirrup	Grade 60 Stirrup
#4	1/2"	1/4"	1,350 lbs.	1,800 lbs.	1,600 lbs.	2,100 lbs.
#5	5/8"	5/16"	1,700 lbs.	2,200 lbs.	2,000 lbs.	2,600 lbs.
#6	3/4"	3/8"	2,050 lbs.	2,650 lbs.	2,400 lbs.	3,100 lbs.

Note: Values are based on the use of E70 series electrodes for welding to Grade 40 stirrups and E90 series Electrodes for Grade 60 stirrups. S.W.L. provides a factor of safety of approximately 2 to 1.

Reference: *Structural Welding Code — Reinforcing Steel,* American Welding Society, Miami, Florida *Standard Specifications for Highway Bridges,* American Association of State Highway and Transportation Officials, Washington, D.C. and P.C.I. *Design Handbook, 6th Edition, Chicago, IL.*

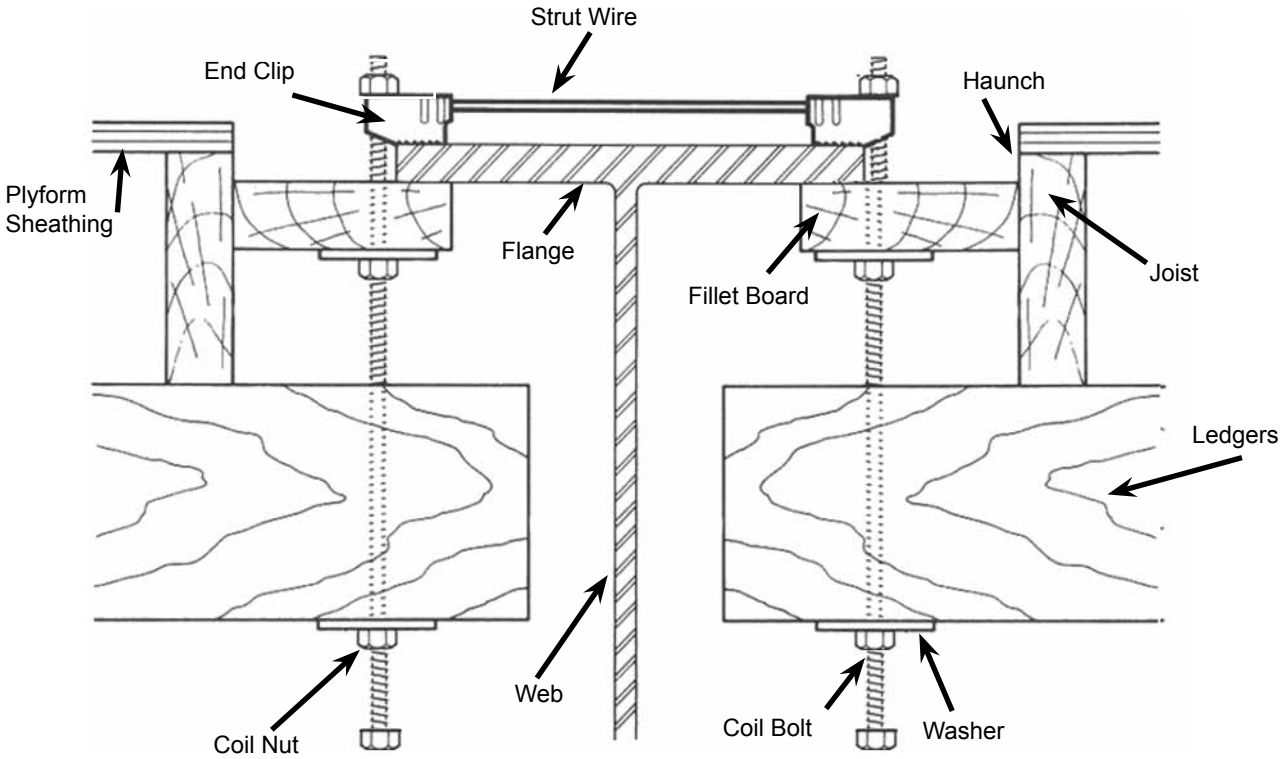
Application

Interior bridge deck hangers are typically fabricated using two heavy duty sheet metal end clips that have been electrically resistance welded to an appropriate sized wire or formed metal connecting strut. In most cases, the end clips used on interior hangers locate two coil bolts, one on each side of the bridge beam, at 90° to the top surface of the beam. These hangers can be used on rolled structural steel beams, fabricated steel plate girders or precast/prestressed concrete girders.

On occasion, there is a need for an interior half hanger that may be welded to the top flange of a steel beam, attached to the shear studs on a steel beam or the rebar shear connectors on concrete girders. However, most DOTs specifications prohibit any type of field welding to flanges in tension zones, restricting welding to compression zones only. When this restriction is encountered, several types of clip-on hangers are available for use.

Hangers are placed at predetermined locations on top of the interior bay beams and support the formwork, as well as all construction materials and workers during the installation phase of the formwork construction process. Once the formwork has been completed and concrete is placed, the interior hangers support the weight of the freshly placed concrete. After the concrete reaches a specified strength, hangers no longer serve a purpose and the coil bolts and washers can be removed allowing the formwork to be removed.

All interior hangers are identified by the shape of the end section using in the manufacture of the hanger. Unless other wise noted, all end sections are designed to accept a 1/2" diameter coil bolt or coil rod.



Typical Section View at Interior Beams

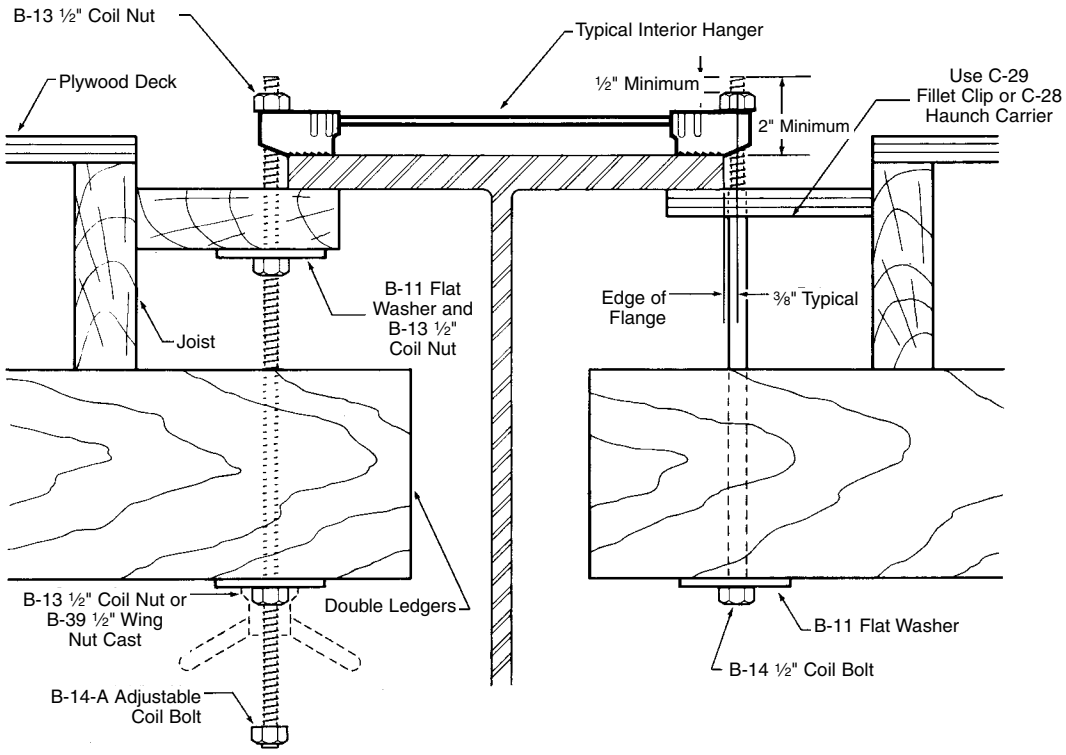
C-60 Type 1 Pres-Steel Hanger

When a bridge deck is designed with a fillet that extends a short distance away from the edge of the beam, as shown in the sketch below, this hanger is often selected for use. The hanger is designed to allow 1/8" maximum clearance between the edge of the beam and the supporting 1/2" diameter coil bolts.

To adjust the bridge deck forming to grade, all the user has to do is turn the coil nuts, which will raise or lower the formwork as needed. When adjusting the formwork to grade, care must be taken to ensure that the thread penetration does not become less than 1/2" when measured from the top of the coil nut.

To avoid decreasing the safe working of the hanger, full bearing of the end clips is required. Hangers must be equally loaded on both sides to prevent formwork from tipping.

As the flanges of bridge beams often vary in width, it is essential to check the exact width of the flanges prior to ordering hangers.



Adjustable Coil Bolt Assembly

Fixed Length Coil Bolt Assembly

Safe Working Load
3,500 lbs. per Side

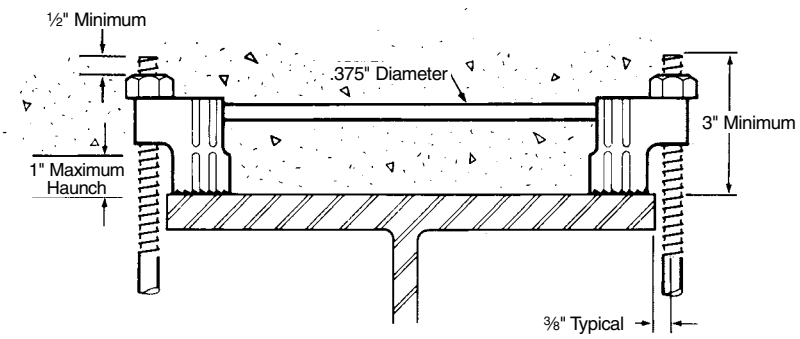
SWL provides a factor of safety of approximately 2 to 1.

WARNING: Hangers must be equally loaded on both sides.

To Order:
Specify: (1) quantity, (2) name, (3) flange width.

Example:
759 pcs. C-60 Type 1 Pres-Steel Hanger for 16" Flange.

C-60 Type 2 Pres-Steel Hanger



The Type 2 hanger is similar to the Type 1 hanger, except it is designed to be used where the deck has up to a 1" haunch. 1/8" maximum clearance between the edge of the beam and the 1/2" diameter coil bolts. To avoid decreasing the safe working load of the hanger, full bearing of the end clips is required. Hangers must be equally loaded on both sides to prevent formwork from tipping.

To Order:
Specify: (1) quantity, (2) name, (3) flange width.

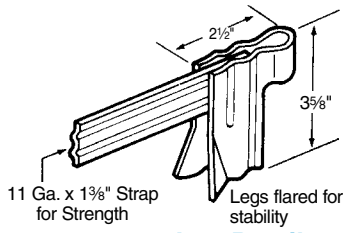
Example:
750 pcs. C-60 Type 2 Pres-Steel Hanger for 12" Flange.

Safe Working Load
2,375 lbs. per Side

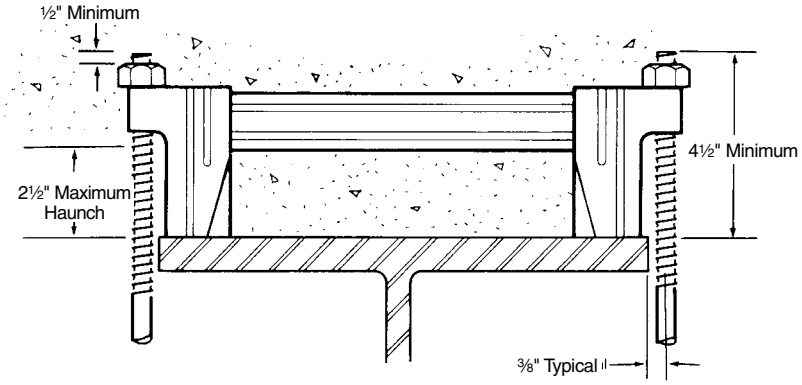
SWL provides a factor of safety of approximately 2 to 1.

WARNING: Hangers must be equally loaded on both sides.

C-60 Type 3 Pres-Steel Hanger



Leg Detail



Designed for a 2 1/2" maximum haunch. Uses a corrugated strap to connect the end clips, which are bent outward to provide stability under load. 1/8" maximum clearance between the edge of the beam and the 1/2" diameter coil bolts.

To Order:
Specify: (1) quantity, (2) name, (3) flange width.

Example:
570 pcs. C-60 Type 3 Pres-Steel Hanger for 18" Flange.

Safe Working Load
2,500 lbs. per Side

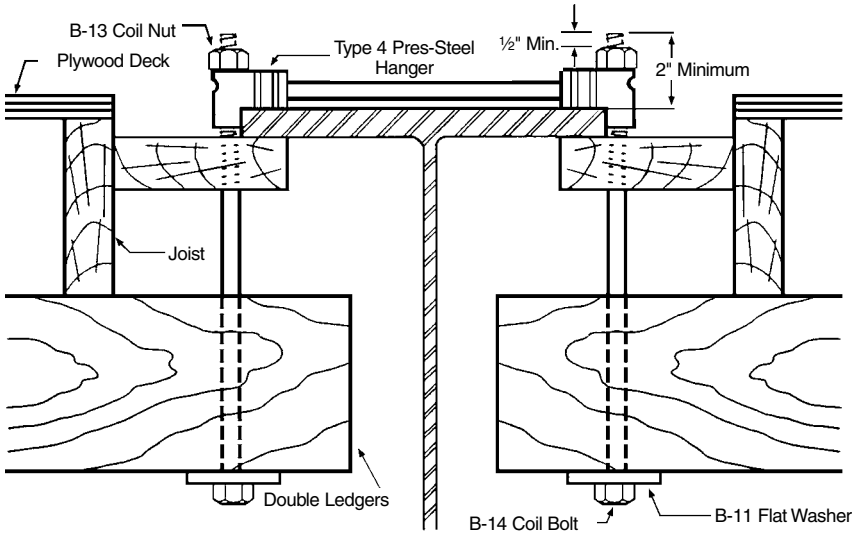
SWL provides a factor of safety of approximately 2 to 1.

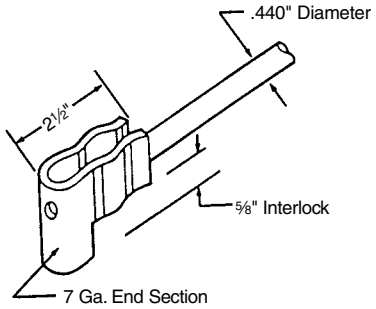
WARNING: Hangers must be equally loaded on both sides.

C-60 Type 4 Pres-Steel Hanger

The C-60 Type 4 Pres-Steel Hanger is a heavy duty hanger designed to be used when there is a fillet next to the beam flange. The hanger is manufactured using two 90° end sections that are electrically resistance welded to a 0.440" diameter wire strut. The end clips accepts 1/2" diameter coil rod and/or bolts which along with the coil nuts and washers support the interior formwork loads.

Due to the Interlock design of this hanger, it is very important that the user is aware of the exact flange widths prior to ordering hangers. Once on the jobsite, if the flange width is too wide, not allowing the hanger to be positioned on the flange as shown below, the hanger may be used with the Interlock ends pointing up instead of down.





Type 4 Leg Detail

The Interlock portion of the End Clip provides a reaction point that aids in reducing bending of the support bolts when hangers are used on extremely wide flanges.

To Order:
Specify: (1) quantity, (2) name, (3) flange width.

Example:
1,234 pcs. C-60 Type 4 Pres-Steel Hanger for 12" flange.

Safe Working Load
6,000 lbs. per Side

S.W.L. provides a factor of safety of approximately 2 to 1.

WARNING: Hangers must be equally loaded on both sides.

C-60 Type 5 Pres-Steel Hanger

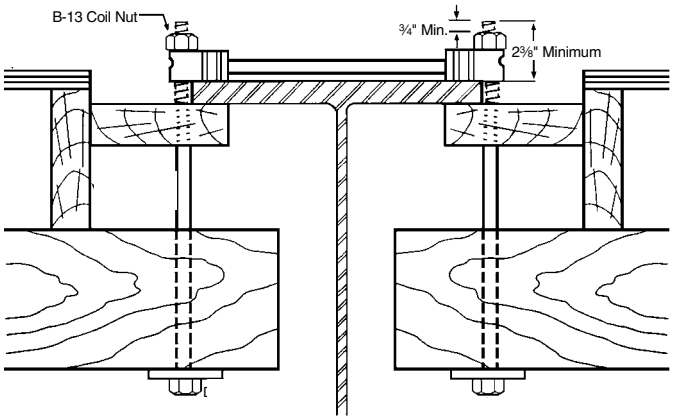
This hanger is exactly like the Type 4 hanger except it does not have the Interlock style end clips

Use with two 1/2" diameter coil rod and/or bolts which along with the coil nuts and washers support the interior formwork loads.

To Order:
Specify: (1) quantity, (2) name, (3) flange width.

Example:
1,640 pcs. C-60 Type 5 Pres-Steel Hanger for 15" flange.

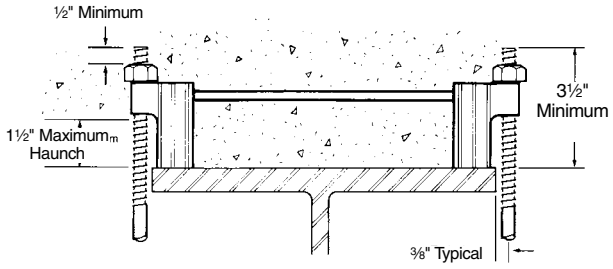
Safe Working Load 6,000 lbs. per Side



S.W.L. provides a factor of safety of approximately 2 to 1.

WARNING: Hangers must be equally loaded on both sides.

C-60 Type 7 Pres-Steel Hanger



Safe Working Load
2,375 lbs. per Side

The C-60 Type 7 Pres-Steel Hanger is similar to the standard Type 1 hanger but has the capacity to accommodate haunch heights up to 1½".

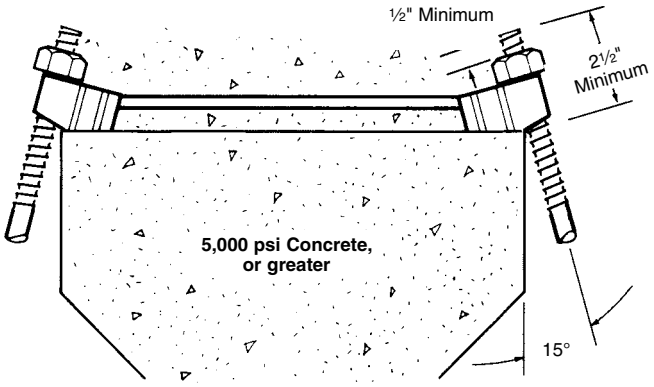
Note: The C-60 Type 7 Pres-Steel Hanger is designed to be used with full bearing under the end sections. It is essential to check the exact beam width dimensions before ordering.

To Order:
Specify: (1) quantity, (2) name, (3) flange width.

Example:
1,000 pcs. C-60 Type 7 Pres-Steel Hanger, for 18" flange.

S.W.L. provides a factor of safety of approximately 2 to 1.
Warning: Hangers must be equally loaded on both sides.

C-60 Type 8 Pres-Steel Hanger



Safe Working Load
Standard Version - 4,500 lbs. per Side
Heavy Version - 6,000 lbs. per Side

S.W.L. provides a factor of safety of approximately 2 to 1.

WARNING: Hangers must be equally loaded on both sides.

To Order:
Specify: (1) quantity, (2) name, (3) flange width.

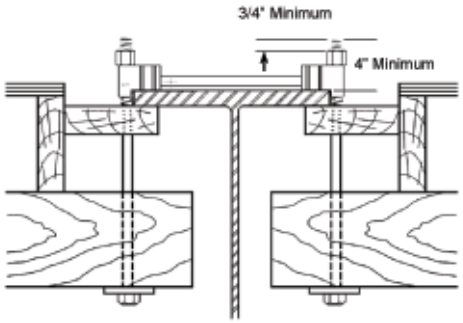
Example:
1,640 pcs. C-60 Type 8 Pres-Steel Hanger for 18" flange.

The Type 8 Press-Steel hanger is similar to the standard Type 1 except the two end clips are designed to angle the 1/2" diameter bolts at 15° from vertical. It is available in two different versions, a standard version or a heavy version. The standard version uses a 0.375" diameter wire to connect the end clips while the heavy version uses a 0.440" diameter wire.

This hanger design offers the bridge contractor an advantage on certain concrete girders, as it allows additional clearance below the formwork to support ledgers. An B-42 Batter Washer is recommended for use beneath the ledgers, which will allow for proper bearing of the head of the 1/2" diameter coil bolt.

Interior Hangers

C-60 Type 9 Pres-Steel Hanger



The Type 9 Press-Steel hanger is designed especially to support heavy forming loads using 3/4” diameter coil bolts or coil rods. The hanger is fabricated using a 3/4” diameter rod connecting two 90° end clips that have been formed from 3/16” thick material.

In order to achieve the rated safe working load of 11,300 lbs. per side, 3/4” diameter B-13-H Heavy Coil Nuts that measure 1 1/4” across flats are required. If the hanger is used with standard 3/4” diameter B-13 Coil Nuts, the safe working load will be reduced to 8,000 lbs. per side.

To Order:
Specify: (1) quantity, (2) name, (3) flange width.

Example:
600 pcs. C-60 Type 9 Pres-Steel Hanger for 24" flange.

Safe Working Loads:

11,300 lbs. per Side with 3/4" B-13-H Coil Nuts

8,000 lbs. per Side with 3/4" B-13 Coil Nuts

S.W.L. provides a factor of safety of approximately 2 to 1.

WARNING: Hangers must be equally loaded on both sides.

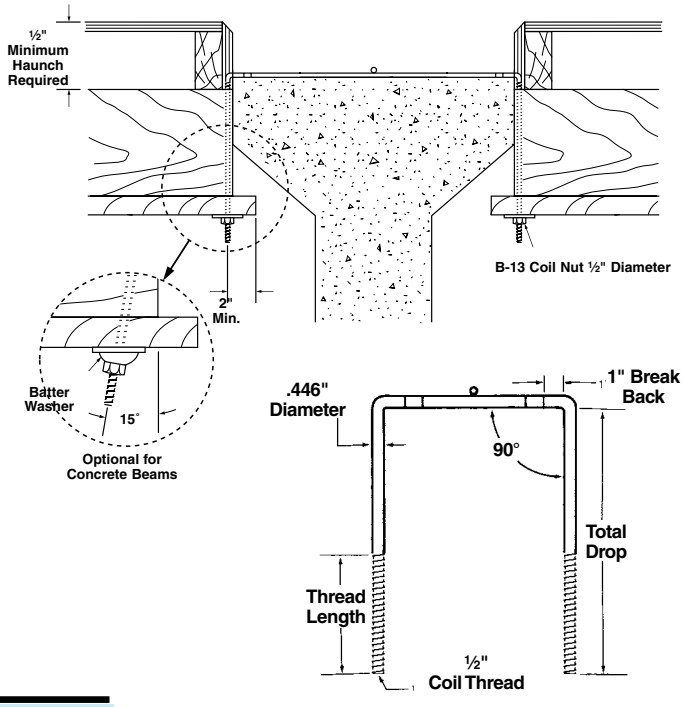
C-41 Coil Rod Hanger

This hanger provides a simple, yet strong method of suspending formwork from interior bridge beams. The formwork is adjusted to grade, after the ledgers are installed, by the worker reaching under the ledgers and adjusting the coil nut – raising or lowering the ledgers as required.

Once the formwork has been stripped, a length of pipe is placed over the extended leg and rotated back and forth until it breaks at the provided break back.

Hangers are fabricated 1/2” wider than the flange width specified. A 1” break back is standard.

When used on steel beams or girders, legs formed at 90° to the top flange are recommended. For concrete girders or box beams, legs formed at 15° to vertical are suggested.



To Order:
Specify: (1) quantity, (2) name, (3) flange width, (4) total drop, (5) length of thread, (6) bend angle

Example:
900 pcs. C-41 Coil Rod Hanger, 12" flange, 18" total drop, 8" of thread and a 15 degree angle.

Safe Working Load
4,500 lbs. per Side

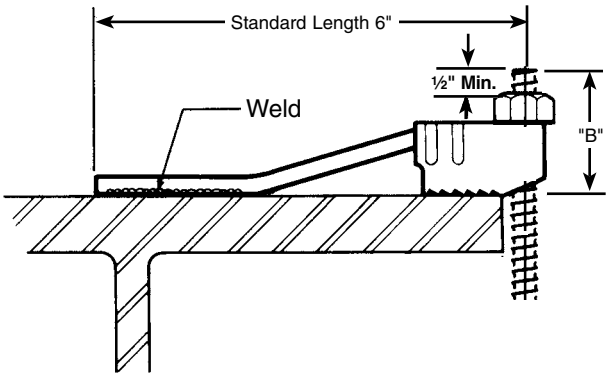
S.W.L. provides a factor of safety of approximately 2 to 1.

WARNING: Hangers must be equally loaded on both sides.

C-24 Type S Pres-Steel Steel Beam Half Hangers

C-24 Type S Pres-Steel Steel Beam Half Hangers are produced using a single 1⁄2" end clip welded to a formed wire strut and are used where conditions prevent the use of regular interior hangers. All of the C-24 Interior Half Hangers utilize a 90° end clip except for the Type 8-S Half Hanger which use a 15° end clip.

Type S Half Hangers are designed for use on steel beams. The standard Type S Half Hanger uses a wire strut that measure 6" from the centerline of the bolt to the end of the strut.



Typical Steel Beam Application

C-24 Type C Pres-Steel Concrete Beam Half Hangers

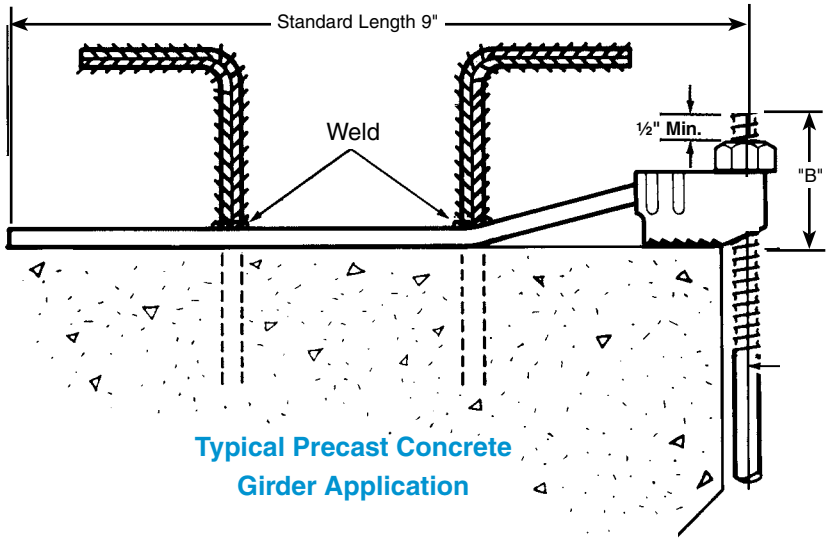
The Type C Pres-Steel Half Hanger used on concrete beams are the same as the above Half Hangers with the exception that the standard wire strut is 9" long.

These concrete beam half hangers are designed to be welded to the rebar shear connectors that extend from the top surface of a precast concrete girder.

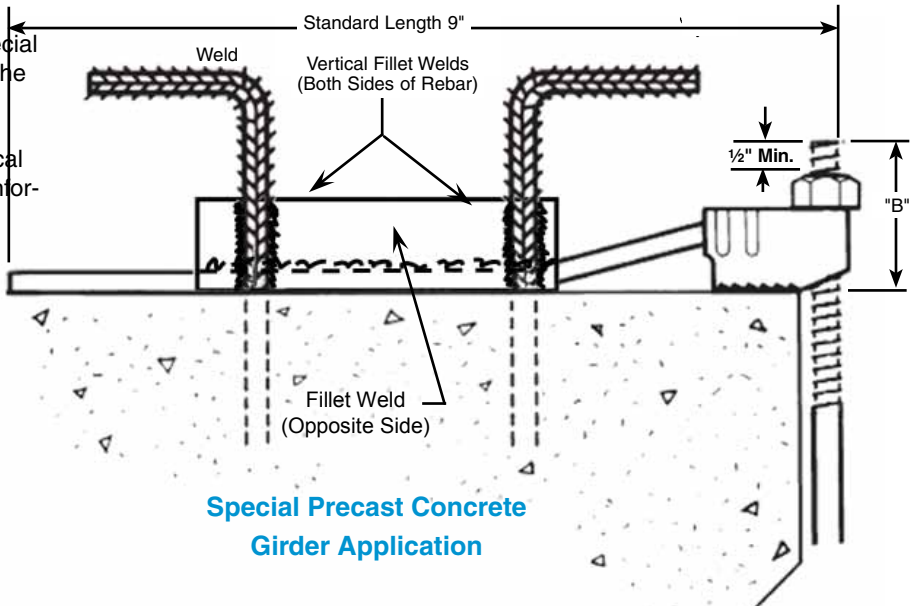
More weld and hanger capacity can be achieved by welding a suitably sized steel plate to the rebar shear connectors, using four vertical fillet welds, to weld the plate to the shear connectors. Then weld the strut wire to the steel plate. May be applied to steel beams by welding to the shear connector studs.

This application is shown in the Special Precast Concrete Girder Application To the right.

Please see the General and Technical Section of this handbook for additional information on field welding of half hangers.



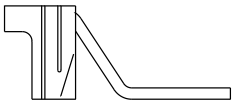
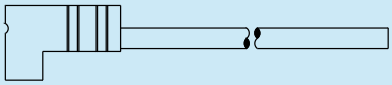
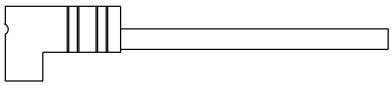
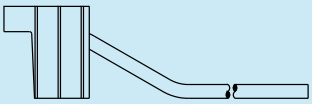
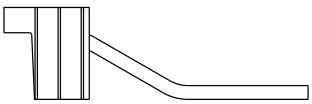
Typical Precast Concrete Girder Application



Special Precast Concrete Girder Application

C-24 Pres-Steel Half Hangers

Proper welding procedures must be used when welding half hangers, as field welding may limit the safe working load of a hanger to less than the maximum SWL listed Field tests should be conducted to establish the actual safe working load of the hanger.

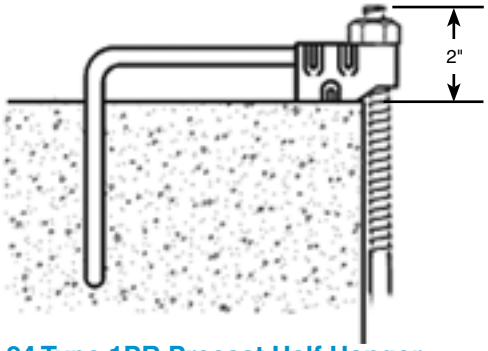
Designation	Sketch	Strut Configuration	Standard Length	Haunch	S.W.L.	B Dimension
1–C		Jogged	9"	—	3,000	2"
1–S		Jogged	6"	—	3,000	2"
2–C		Jogged	9"	1"	2,375	3"
2–S		Jogged	6"	1"	2,375	3"
3–S		Jogged	6"	2½"	2,000	4½"
4–C		Straight	9"	—	6,000	2"
4–S		Straight	6"	—	6,000	2"
7–C		Jogged	9"	1½"	2,375	3½"
7–S		Jogged	6"	1½"	2,375	3½"
8–C		Jogged	9"	—	3,000	2½"
8–S		Jogged	6"	—	3,000	2½"

Coil bolt or coil rod must penetrate through the coil nut a minimum of 1/2".
"B" dimension is distance from top of girder to top of coil rod (see previous page for diagram).
When used on concrete beams, the safe working load shown is based on a minimum concrete flange thickness of 5" and the normal weight concrete having reached a minimum compressive strength of 5,000 psi.
For hangers used on concrete beams with conditions not meeting above requirements please contact your nearest Dayton Superior Technical Service Department. Please see inside back cover for locations.
Longer length strut wire is available on request.

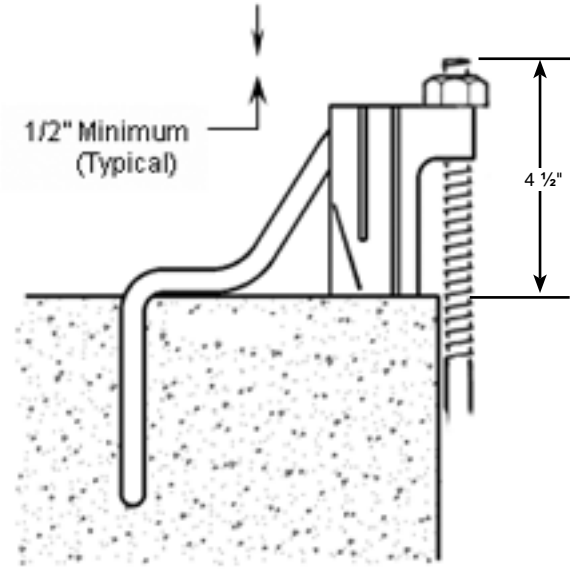
To Order:
Specify: (1) quantity, (2) name, (3) strut length

Example:
57 pcs. C-24 Type-8C Pres-Steel Half Hanger with 12" long strut

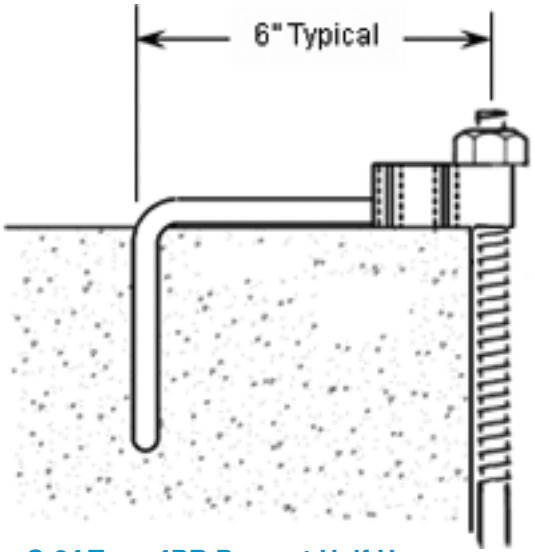
C-24 Precast Half Hangers



C-24 Type 1PR Precast Half Hanger
3,000 lbs. SWL



C-24 Type 3PR Precast Half Hanger
2,000 lbs. SWL



C-24 Type 4PR Precast Half Hanger
6,000 lbs. SWL

Precast half hangers were developed for use in wide precast concrete girders. They are currently used in all types of precast concrete bridge girders and beams.

Half hangers are installed by the precaster during the girder production process at predetermined centers provided by the bridge contractor.

Care must be exercised by the precaster to install these hangers so there will be a 1/8" clearance between the edge of the beam and the 1/2" coil bolt.

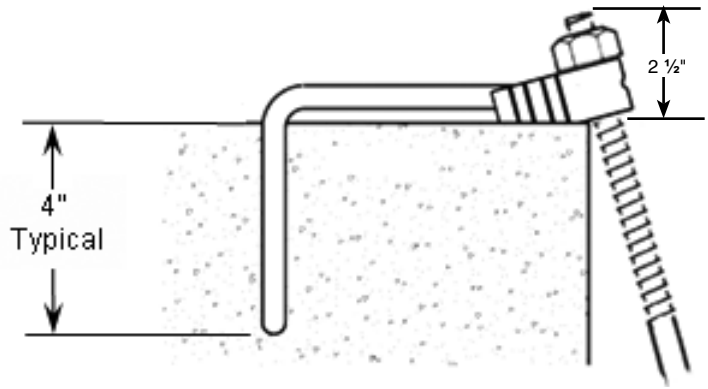
The half hangers must be positioned so the end clip will bear on the top surface of the beam. Failure to properly install these half hangers can result in a reduction in the hangers safe working load.

Type 1PR and Type 4PR are used when a fillet is required next to the beam.

The Type 3PR Half hanger is used with a maximum of 2 1/2" haunch.

When additional clearance is required beneath the ledgers for the supporting hardware, the Type 8PR Half hanger will support the coil rod at a 15° angle off of vertical.

SWL provides approximately a 2 to 1 factor of safety when hangers are installed in a beam having a concrete flange thickness of 5" and the normal weight concrete having achieved a minimum compressive strength or 5,000 psi.



C-24 Type 8PR Precast Half Hanger
6,000 lbs. SWL

C-25 Pres-Steel Adjustable Half Hanger

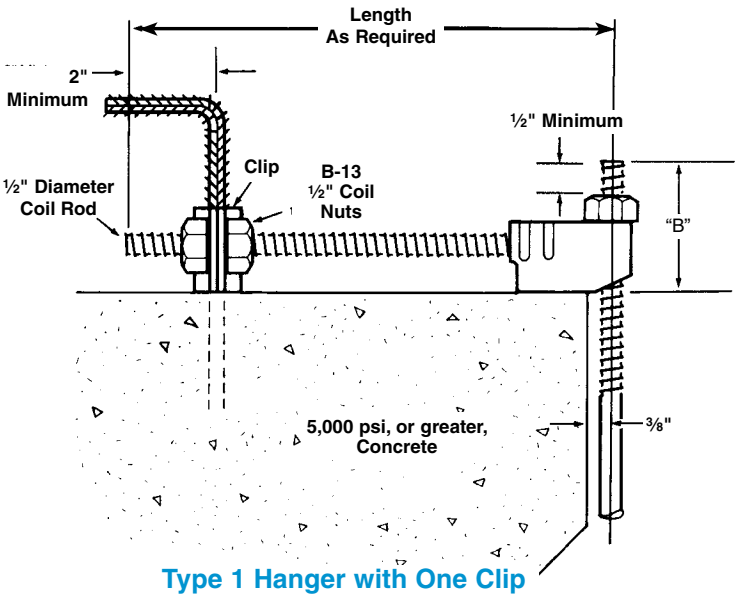
The C-25 Pres-Steel Adjustable Half Hanger is available in three types:

- Type 1 Hanger – 90° end clip
- Type 2 Hanger – 90° end clip with 1" haunch
- Type 7 Hanger – 90° end clip with 1 1/2" haunch
- Type 8 Hanger – 15° end clip

Each half hanger consists of a 1/2” end clip welded to a length of 1/2” diameter Coil Rod, Stirrup Clips and 1/2” Coil Nuts.

These half hangers are used to support interior deck formwork when one-sided forming is required and welding to the shear connectors or flange is not permitted by the DOT.

Stirrup Clips are available in #3, #4, #5, #6 and #7 rebar sizes or 3⁄8", 1⁄2", 5/8”, 3⁄4" and 7⁄8“ stud diameters as required.

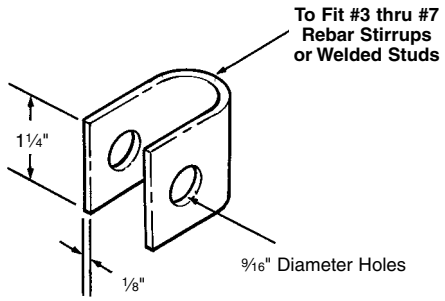


Type 1 Hanger with One Clip

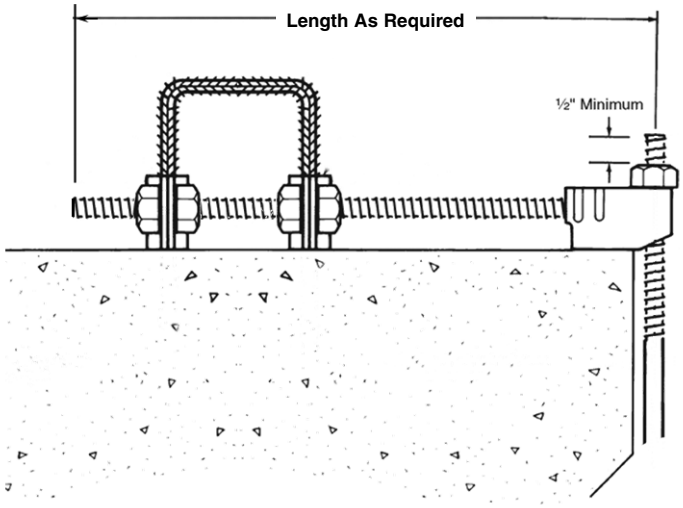
C-25 Selection Chart				
Type	Safe Working Load		Maximum Haunch	Minimum Length
	One Clip	Two Clips		
1	3,000 lbs.	3,000 lbs.	0"	8"
2	2,000 lbs.	2,375 lbs.	1"	8"
7	2,000 lbs.	2,375 lbs.	1 1/2"	8"
8	2,000 lbs.	3,000 lbs.	0"	8"

SWL provides a safety factor of approximately 2 to 1

SAFETY NOTE:
In order to develop the safe working loads listed, two Coil Nuts must compress each Stirrup Clip securely to the rebar stirrup or shear stud. Failure to accomplish a secure connection will greatly reduce the safe working load of the hanger.



Stirrip Clip Detail



Type 1 Hanger with Two Clips

To Order:
Specify: (1) quantity, (2) name, (3) type, (4) Length, (5) number of clips and (6) clip size.

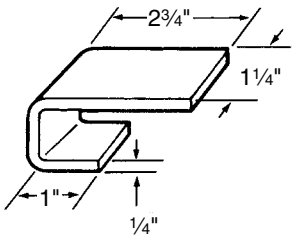
Example:
125 pcs. C-25 Type 2 Pres-Steel Adjustable Half Hanger, 12" long with 2 clips for #6 Rebar.

C-63 Pres-Steel Hook Half Hanger

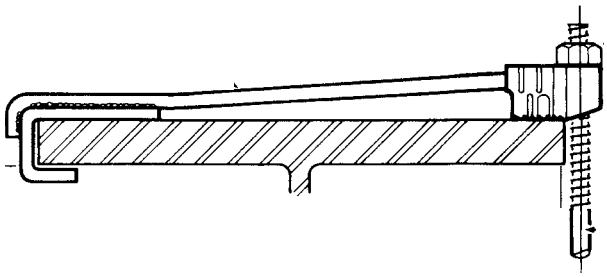
Several types of hook half hangers are available for use with metal or prestressed concrete stay-in-place interior deck forms. The beam hook is designed to slip over the edge of a steel beam having a minimum flange thickness of ½".

These half hangers are manufactured using a 90° end clip that accepts a ½" diameter coil bolt. The end clip is electrically resistance welded to a wire strut which is formed and welded to a steel beam hook, providing 180° reinforcement to the hook for increased safety.

SWL's provides approximately a 2 to 1 factor of safety.



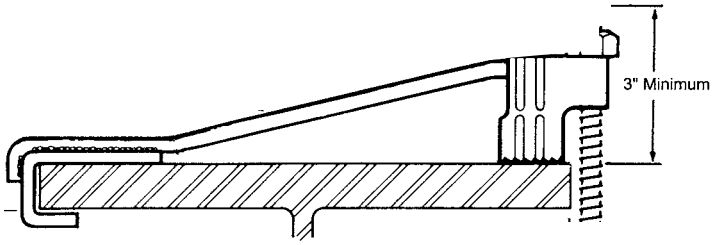
Beam Hook Detail



C-63 Type 1-B Hanger

3,500 lbs. safe working load.

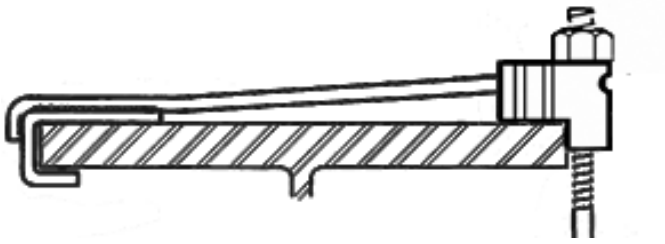
Designed to form a bridge deck having a fillet next to the beam.



C-63 Type 2-B Hanger

2,375 lbs. safe working load.

Designed To accommodate haunch heights of up to 1".



C-63 Type 4-B Hanger

5,000 lbs. safe working load.

Heavy duty half hanger designed for use to form a bridge deck having a fillet next to the beam.

To Order:
Specify: (1) quantity, (2) name, (3) type, (4) flange width, (5) flange thickness.

Example:
175 pcs. C-63 Type 2 Pres-Steel Hook Half Hanger, for 18" flange width x 1-1/4" thick.

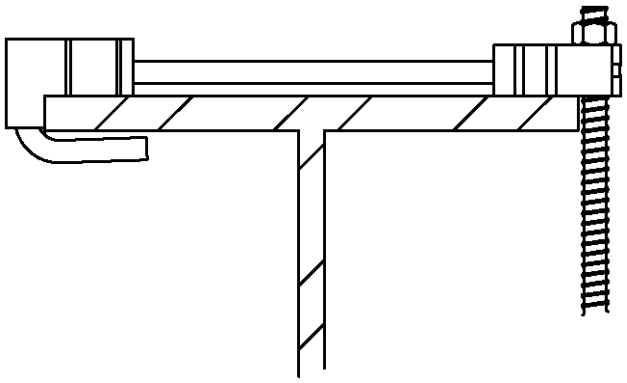
Interior Hangers

C-68 90° Type 4B Ty-Down Half Hanger

This is an excellent hanger for applications requiring a heavy duty interior half hanger. Normally supplied hot dipped galvanized after fabrication as a portion of the hanger will normally not be encased in the concrete deck leaving the exposed portion to rapidly corrode if not protected with a heavy zinc coating.

This hanger is rated with a safe working load of 6,000 lbs. and is designed to work with 1/2" diameter coil bolt.

SWL provides approximately a 2 to 1 factor of safety.



To Order:
Specify: (1) quantity, (2) name, (3) type, (4) flange width, (5) flange thickness and (6) finish.

Example:
175 pcs. C-68 Type 4 Ty-Down Half Hanger, for 14" flange width x 1-1/8" thick, HDG.

C-65 Adjustable Joist Hanger

As wales are not required when using this system, an immediate savings in lumber cost is realized.

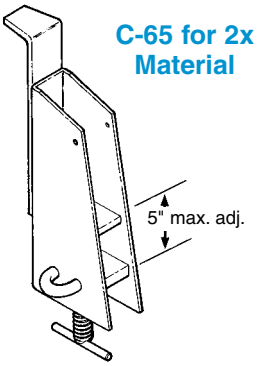
Available in two sizes, for 2x or 4x joist lumber. Both models are fully adjustable and are adaptable to concrete girders, box culverts and steel beams/girders. The A-65 Adjustable Joist Hangers are 100% reusable and are rated at 3,000 lbs. safe working load with an approximate 2 to 1 factor of safety.

No welding or additional working parts are required. Hanger are installed by simply placing the support angle on top of the beam flange and inserting the joist. Turn the adjusting handle to raise or lower the formwork to its proper elevation.

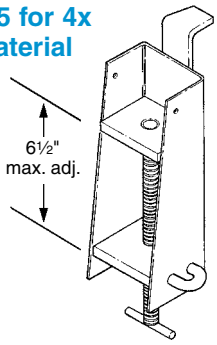
Stripping of the formwork is equally easy. Removal of the Release Pin allows Jack-Screw Assembly to be taken out, allowing the joist to be stripped.

Concrete should be placed at mid span and be evenly distributed outward towards the joist hanger C-65-S Cover Shields are available for ease of hanger removal.

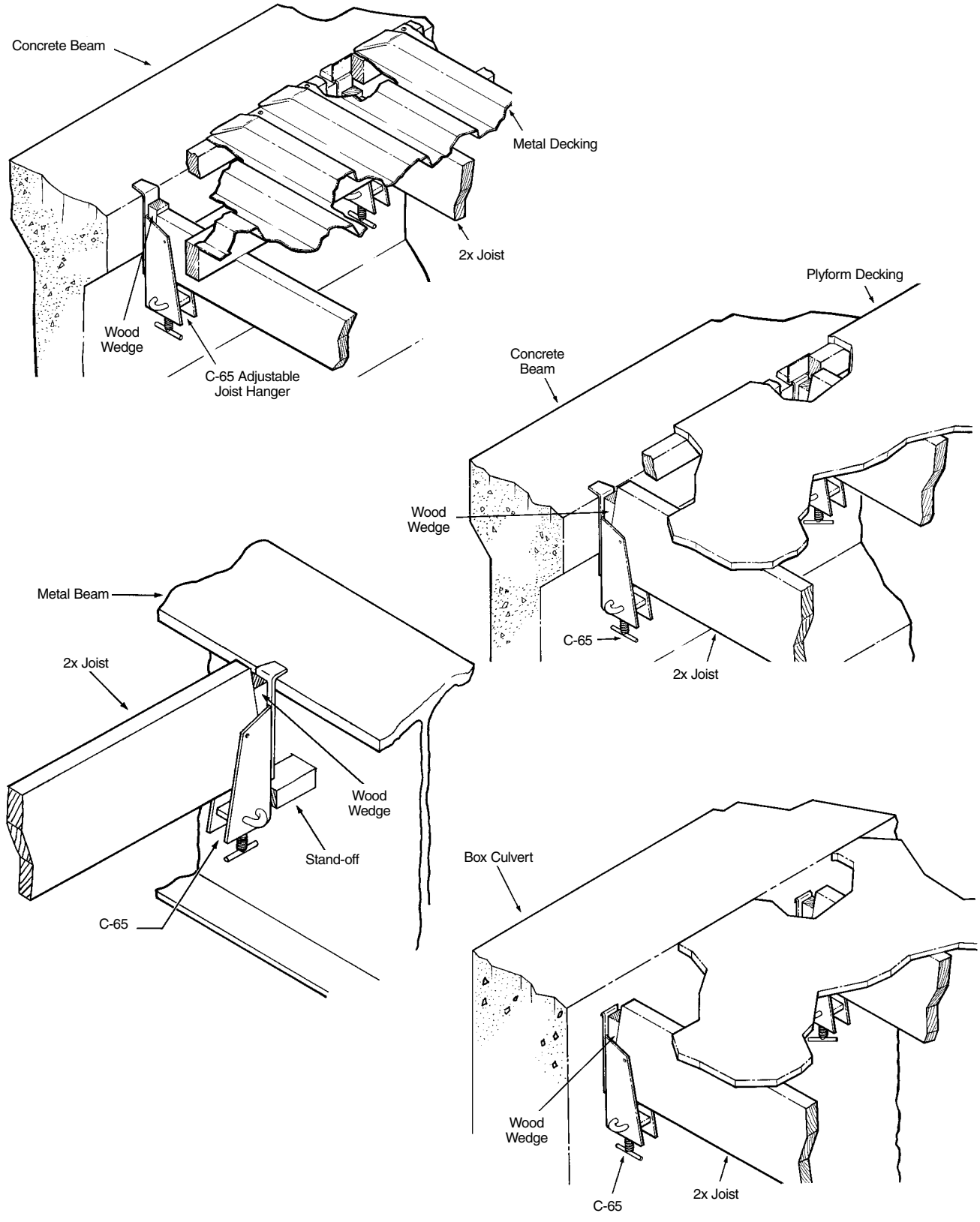
C-65 for 2x Material



C-65 for 4x Material



C-65 Adjustable Joist Hanger Typical Applications



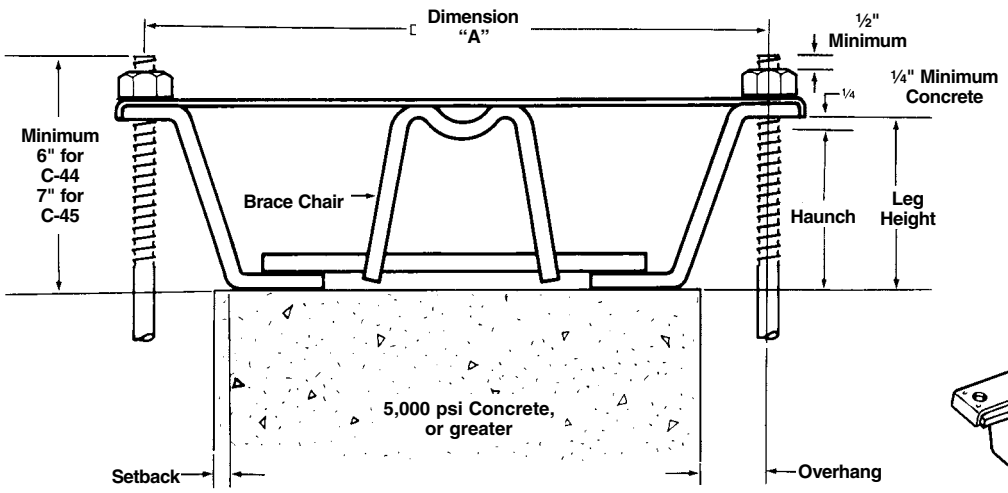
Interior Hangers

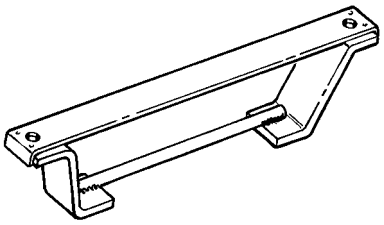
C-65 Adjustable Joist Hanger Spacing Chart

This chart is used to determine the allowable spacing for the C-65 hanger when the maximum clear span and concrete thickness is known. Design load is based on 160 pounds per cubic foot concrete and 50 pounds per square foot live load. This chart is based on the use of Southern Pine, Grade #2 or equivalent strength lumber joists.

Concrete Thickness	Design Load	Joist Lumber	Clear Span					
			5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"
			Joist Spacings Based on 3/4" Plyform					
5"	116.7 psf	2x6	23"	21"	13"	8"	5"	3"
		2x8	23"	23"	23"	18"	12"	8"
		2x10	23"	23"	23"	23"	21"	16"
		2x12	23"	23"	23"	23"	23"	23"
6"	130.0 psf	2x6	22"	18"	12"	7"	5"	3"
		2x8	22"	22"	22"	17"	10"	7"
		2x10	22"	22"	22"	22"	19"	14"
		2x12	22"	22"	23"	22"	22"	21"
8"	156.7 psf	2x6	21"	15"	10"	6"	4"	2"
		2x8	21"	21"	18"	14"	9"	6"
		2x10	21"	21"	21"	21"	16"	12"
		2x12	21"	21"	21"	21"	21"	18"
10"	183.3 psf	2x6	19"	13"	8"	5"	3"	100"
		2x8	20"	20"	15"	12"	7"	95"
		2x10	20"	20"	20"	17"	13"	10"
		2x12	20"	20"	20"	20"	21"	18"
12"	210.0 psf	2x6	17"	11"	7"	5"	3"	2"
		2x8	19"	18"	13"	10"	6"	4"
		2x10	19"	19"	19"	15"	12"	9"
		2x12	19"	19"	19"	21"	16"	13"
5"	116.7 psf	4x6	23"	23"	23"	19"	12"	8"
		4x8	23"	23"	23"	23"	23"	18"
		4x10	23"	23"	23"	23"	23"	23"
		4x12	23"	23"	23"	23"	23"	23"
6"	130.0 psf	4x6	22"	22"	22"	17"	11"	7"
		4x8	22"	22"	22"	22"	22"	16"
		4x10	22"	22"	22"	22"	22"	22"
		4x12	22"	22"	22"	22"	22"	22"
8"	156.7 psf	4x6	21"	21"	21"	14"	9"	6"
		4x8	21"	21"	21"	21"	20"	13"
		4x10	21"	21"	21"	21"	21"	21"
		4x12	21"	21"	21"	21"	21"	21"
10"	183.3 psf	4x6	20"	20"	19"	12"	8"	5"
		4x8	20"	20"	20"	20"	17"	11"
		4x10	20"	20"	20"	20"	20"	20"
		4x12	20"	20"	20"	20"	20"	20"
12"	210.0 psf	4x6	19"	19"	17"	11"	7"	4"
		4x8	19"	19"	19"	19"	15"	10"
		4x10	19"	19"	19"	19"	19"	19"
		4x12	19"	19"	19"	19"	19"	19"

C-44 and C-45 Con-Beam Hanger





Typical Con-Beam Hanger

C-44 and C-45 Con-Beam Hanger				
Type	Overhang	Setback	Haunch	Leg Height
C-44	3/8"	1 1/4"	4"	4 1/4"
C-44	5/8"	1"	3 1/4"	4 1/4"
C-44	7/8"	3/4"	2 1/8"	4 1/4"
C-44	1 1/8"	1/2"	1"	4 1/4"
C-44	1 3/8"	1/4"	0"	4 1/4"
C-45	3/8"	1 1/2"	5"	5 1/4"
C-45	5/8"	1 1/4"	4 1/8"	5 1/4"
C-45	7/8"	1"	3 1/8"	5 1/4"
C-45	1 1/8"	3/4"	2"	5 1/4"
C-45	1 3/8"	1/2"	1"	5 1/4"
C-45	1 5/8"	1/4"	0"	5 1/4"

Note: Dimension "A" is equal to 2 times the overhang plus flange width.

The C-44 and C-45 Con-Beam Hanger is designed to provide coverage of various haunch heights up to 5" and numerous overhang conditions. The top plate of the hanger is fabricated from steel strap and is reinforced with a brace chair on wider hangers. C-44 and C-45 hangers are designed for use with 1/2" Coil Bolts or Coil Rods only.

Con-Beam Hangers are designed for supporting interior formwork only. Do not use for suspending overhang form loads.

Safe Working Load
3,000 lbs. per Side

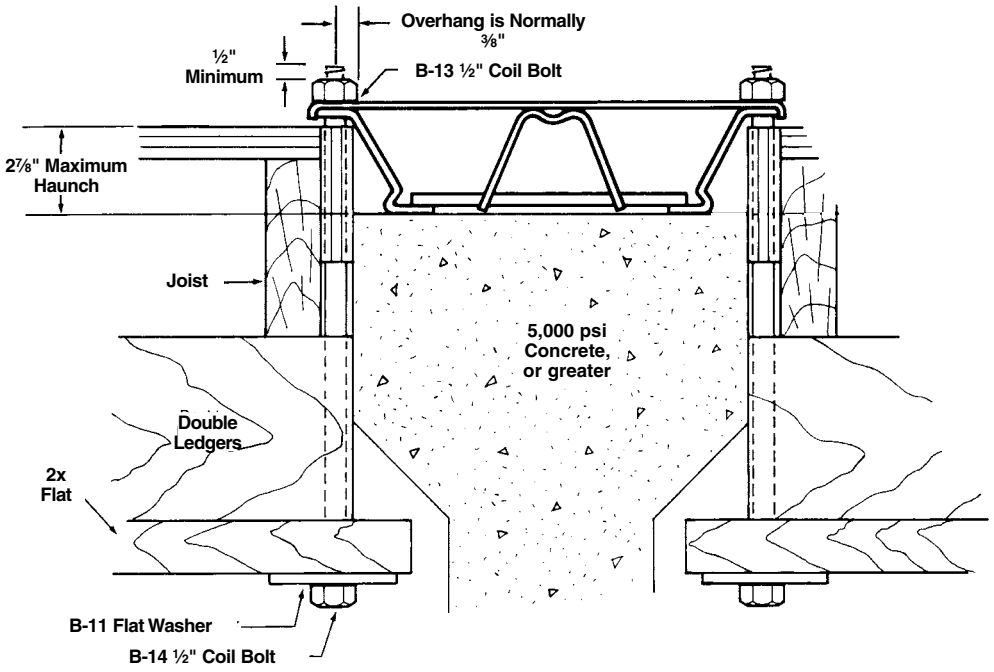
S.W.L. provides a factor of safety of approximately 2 to 1.

WARNING: Hangers must be equally loaded on both sides.

To Order:
Specify: (1) quantity, (2) name, (3) dimension "A", (4) flange width.

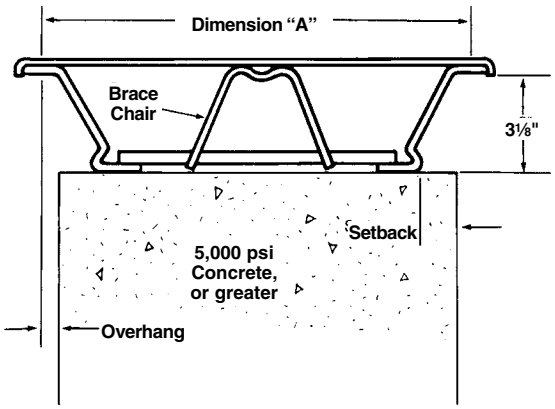
Example:
750 pcs. C-44 Con-Beam Hanger, 15¾" A dimension for 15" flange.

C-46 Con-Beam Hanger



C-46 Con-Beam Hanger		
Haunch	**Overhang**	**Setback**
2 7/8"	3/8"	1"
2 1/2"	5/8"	3/4"
2"	7/8"	1/2"
1 5/8"	1"	3/8"

Note: Dimension "A" is equal to 2 times the overhang plus flange width.



The C-46 Con-Beam Hanger is designed to provide coverage of various haunch heights up to 2⅞" and numerous overhang conditions. The top plate of the hanger is fabricated from steel strap and is reinforced with a brace chair on wider hangers. C-46 hangers are designed for use with ½" Coil Bolts or Coil Rods only.

Con-Beam Hangers are designed for supporting interior formwork only. Do not use for suspending overhang form loads.

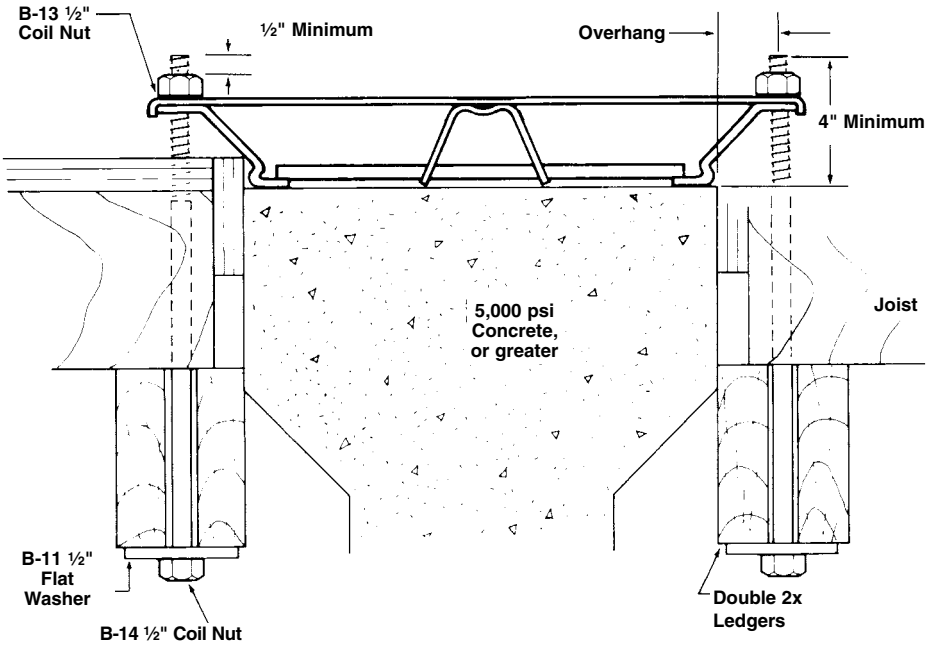
Safe Working Load
3,000 lbs. per Side

S.W.L. provides a factor of safety of approximately 2 to 1.
Warning: Hangers must be equally loaded on both sides.

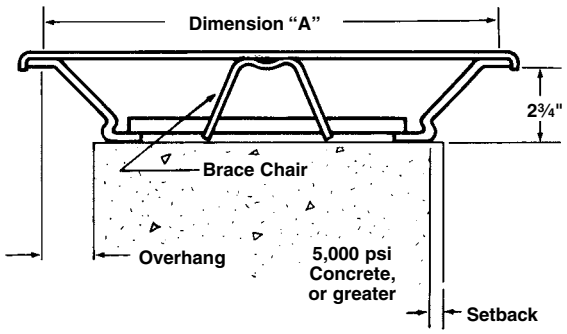
To Order:
Specify: (1) quantity, (2) name, (3) dimension "A", (4) flange width.

Example:
750 pcs. C-46 Con-Beam Hanger, 22" A dimension for 20" flange.

C-47 Con-Beam Hanger



C-47 Con-Beam Hanger		
Haunch	Overhang	Setback
2½"	⅜"	1⅝"
2¼"	½"	1½"
2"	¾"	1¼"
1¾"	1"	1"
1½"	1¼"	¾"
1¼"	1½"	½"
1⅛"	1¾"	¼"



Note: Dimension "A" is equal to 2 times the overhang plus flange width.
WARNING: Hangers must be equally loaded on both sides.

The C-47 Con-Beam Hanger is designed to provide coverage of various haunch heights up to 2½" and overhang conditions up to 1¾" away from the beam side. The top plate of the hanger is fabricated from steel strap and is reinforced with a brace chair on wider hangers. C-47 hangers are designed for use with ½" Coil Bolts or Coil Rods only.

Con-Beam Hangers are designed for supporting interior formwork only. Do not use for suspending overhang form loads.

Safe Working Load
2,000 lbs. per Side

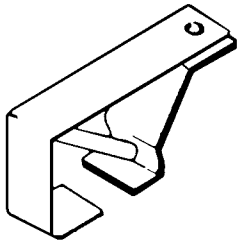
S.W.L. provides a factor of safety of approximately 2 to 1.

To Order:
Specify: (1) quantity, (2) name, (3) dimension "A", (4) flange width.

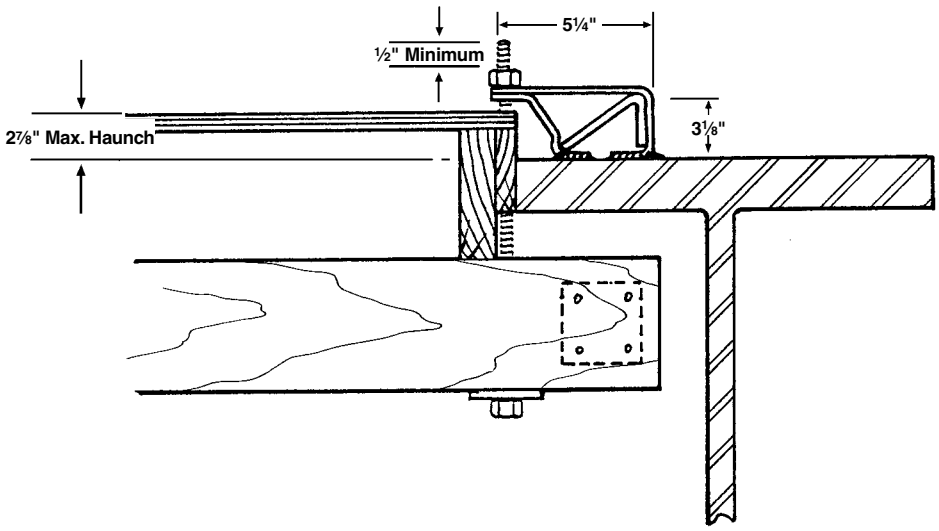
Example:
750 pcs. C-47 Con-Beam Hanger, 15½" A dimension for 12" flange.

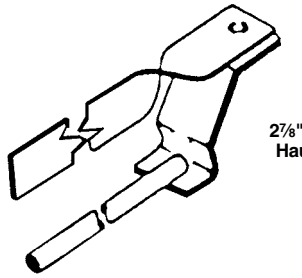
Interior Hangers

C-46-H and C-46-TH Con-Beam Half Hangers

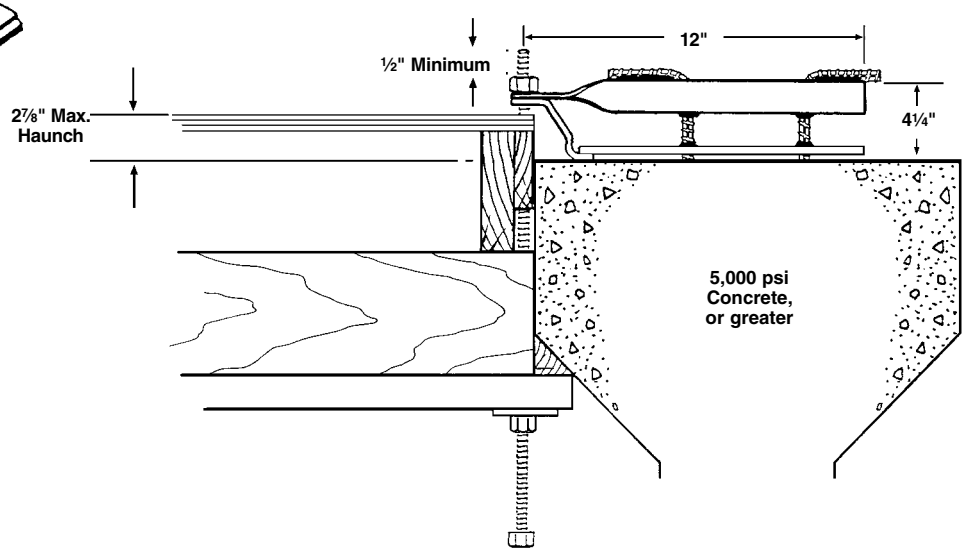


C-46_H
Con-Beam
Half Hanger





C-46-TH
Con-Beam
Half Hanger



The C-46-H and C-46-TH Half Hangers are designed to be used where conditions prevent the use of standard Con-Beam Hangers. The C-46-H hanger is designed so it can be welded to the top surface of a structural steel bridge beam. It is 5¼" from centerline of the bolt hole to the end of the hanger and has an overall height of 3½".

The C-46-TH hanger comes in a standard length of 12" and has an overall height of 4¼". The hanger is designed to be welded to the stirrups of a precast concrete bridge beam.

Caution: Care must be exercised when welding hangers. Field welding may alter the strength of the wire strut and may limit the hanger to a much lower safe working load than that shown in the chart. Field tests should be conducted to verify actual safe working loads. See related note on welding in the General and Technical Information Section.

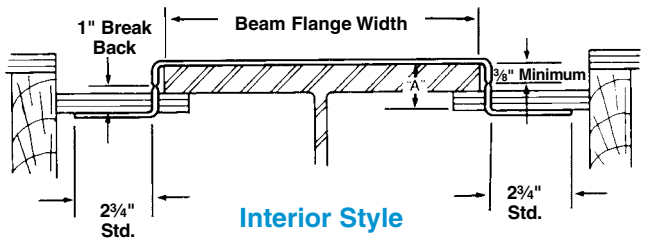
Maximum Safe Working Load
3,000 lbs.

S.W.L. provides a factor of safety of approximately 2 to 1.

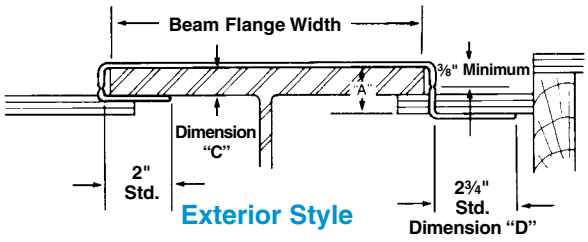
To Order:
Specify: (1) quantity, (2) name

Example:
750 pcs. C-46-H Con-Beam Half Hanger,

C-28 Haunch Carrier



Interior Style

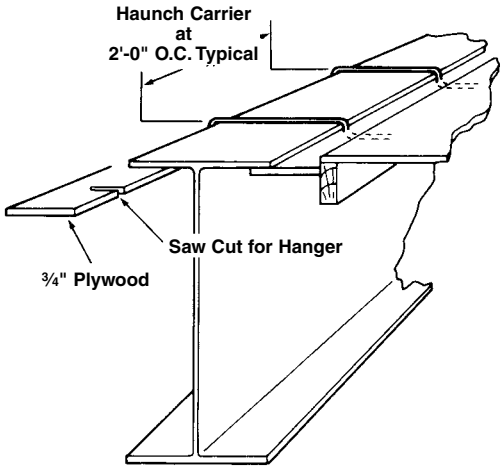


Exterior Style

"A" = Flange Thickness + Plywood Thickness Less ⅛" for Tightness (1⅛" = Minimum "A")

Safe Working Load
100 lbs. per Side

S.W.L. provides a factor of safety of approximately 2 to 1.



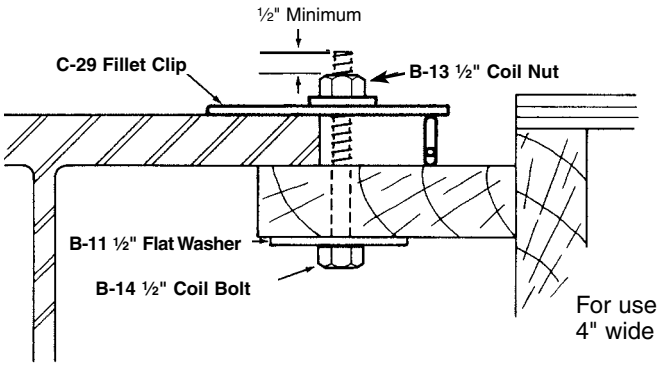
The C-28 Haunch Carrier is used to support haunch or filler strips to simplify framing, erection and stripping. The C-28 Haunch Carrier is available for interior and exterior forming configurations and is equipped with a standard 1" breakback capability similar to Snap Ties.

Do not weld haunch carrier to beam. Do not stand on trim strips supported only by the Haunch Carrier.

To Order:
Specify: (1) quantity, (2) name, (3) types, (4) beam width, (5) "A" and "C" (Exterior only) dimensions, (6) break back.

Example:
500 pcs. C-28 Haunch Carrier, Exterior Type, 12" beam width, "A" = 1⅜" "C" = ¾", Break Back 1".

C-29 Fillet Clip



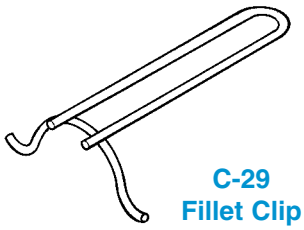
For use in supporting 3" to 4" wide fillets.

Safe Working Load
350 lbs. per Clip

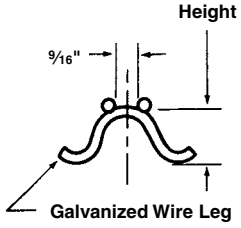
S.W.L. provides a factor of safety of approximately 2 to 1.

The C-29 Fillet Clip is used to support haunch or filler strips by bolting through the form with a ½" Coil Bolt (not included). The C-29 clip is available for flange thickness of ¾" or greater and can be special ordered with plastic protected legs, if required.

Do not stand on trim strips supported only by the fillet clips.



C-29 Fillet Clip

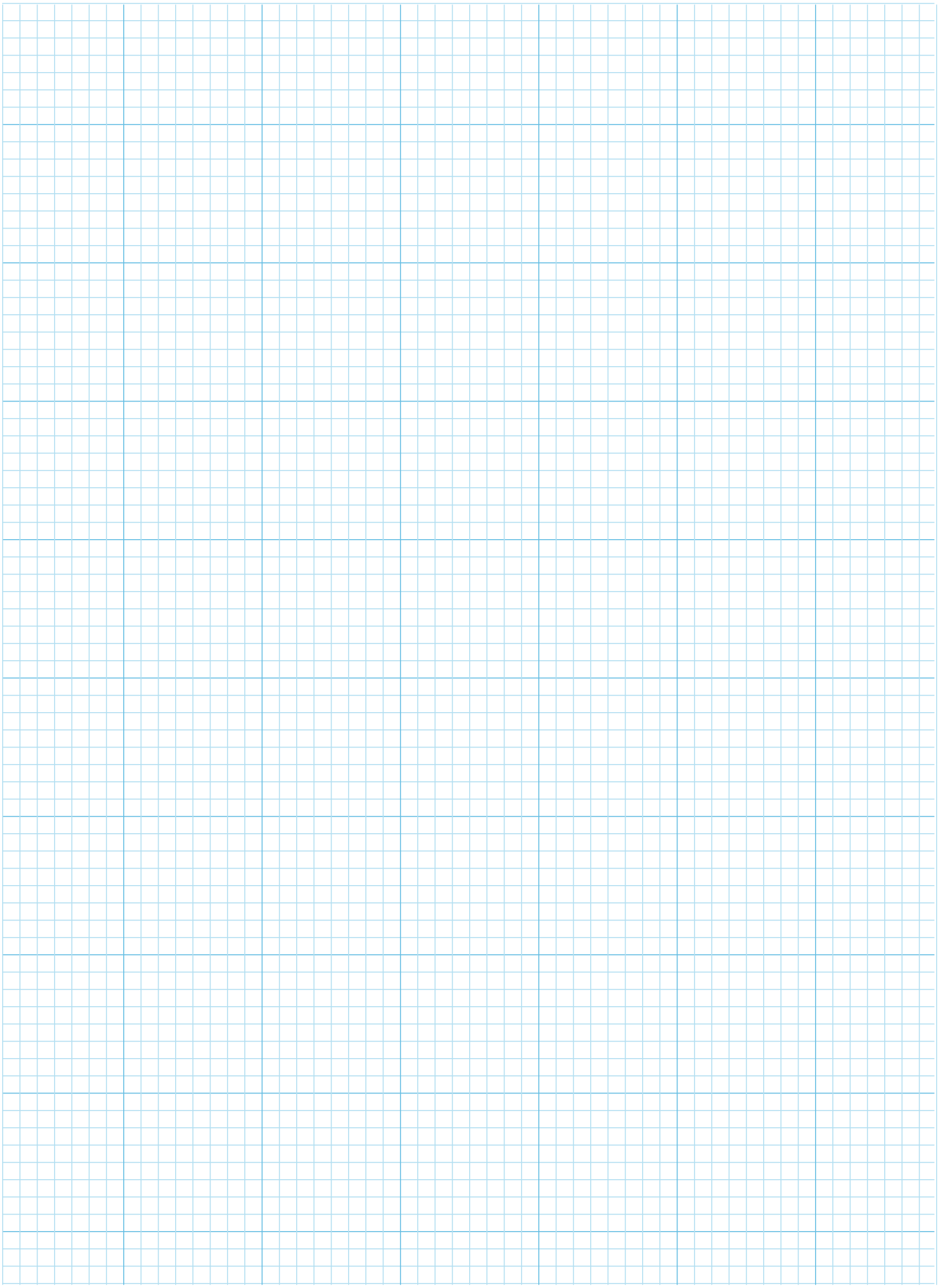


Fillet Clip Detail

To Order:
Specify: (1) quantity, (2) name.

Example:
200 pcs. C-29 Fillet Clips.

Notes and Sketches

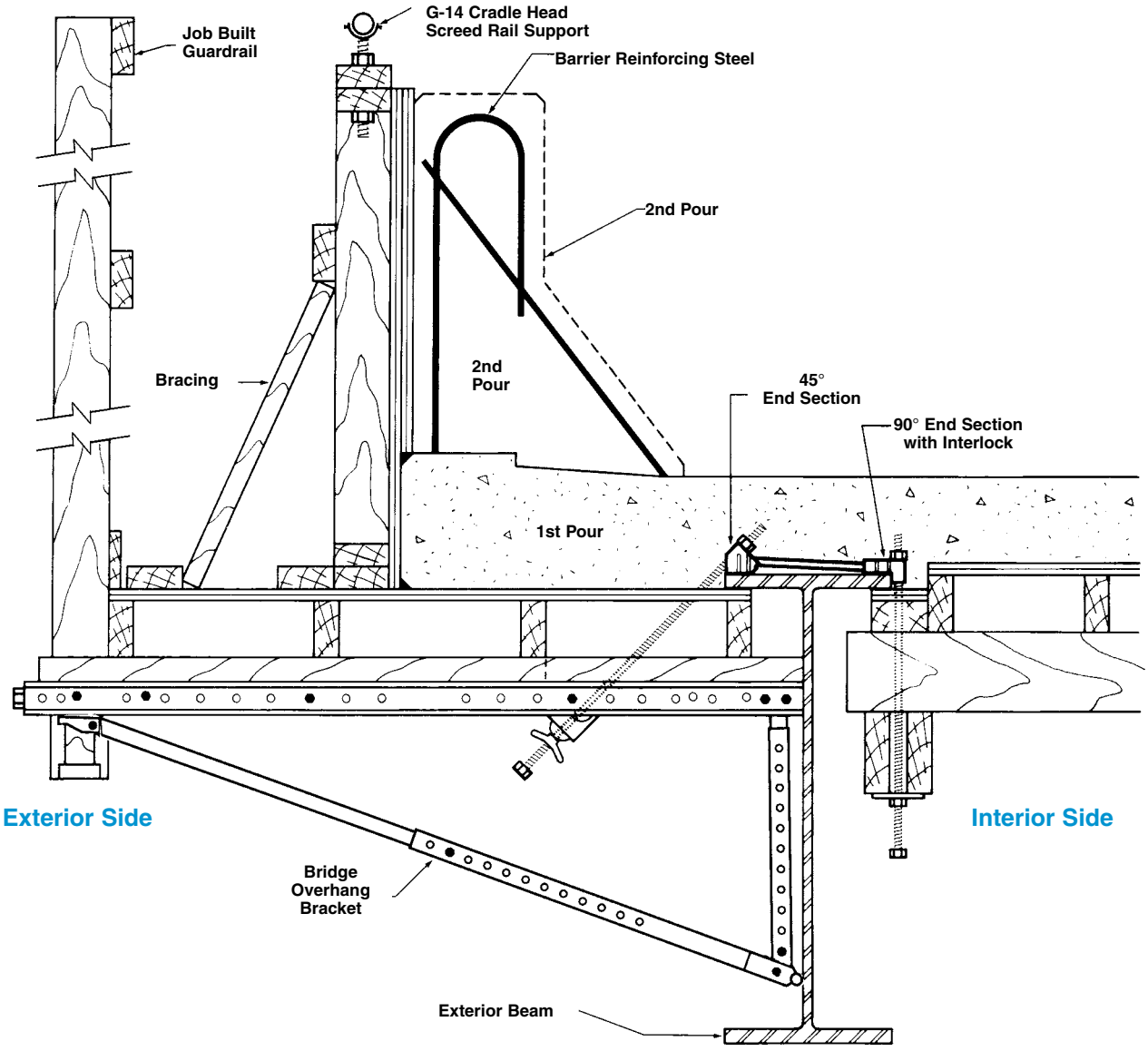


Application

Exterior hangers generally utilizes two different types of end clips, a 90° end to support the interior formwork and a 45° end to support the overhang forming on the exterior side. Dayton Superior offers several exterior hangers that are especially designed to support bridge deck formwork loads, consisting of a live load, dead load, formwork load and usually on the exterior overhang a concrete conveyor and/or a finishing machine load.

Occasionally, 45° half hangers may be required, especially for use in situations where prestressed concrete or steel stay-in-place forms are used to form the interior bays of a bridge deck.

Exterior bridge deck hangers are designed for use on rolled structural steel beams, fabricated steel plate girders or precast/prestressed concrete girders. Hangers are designed to be used with full bearing under the end clips. It is essential to check the exact beam width dimensions before ordering.



Typical Section View at Exterior Beams

For safety reasons, a qualified person must accurately calculate the loads induced into an overhang bracket and exterior hanger. Calculated loads must be equal to or less than the hanger safe working load as well as the overhang bracket's safe working load. The user is encouraged to contact the closest Dayton Superior Technical Service Department for assistance if they are not qualified to determine the applied loads and the resulting hanger and overhang bracket spacing.

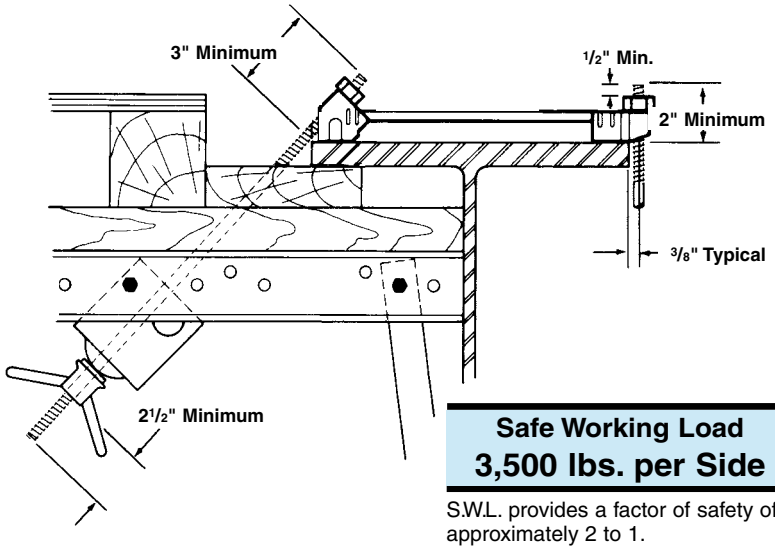
Exterior Hangers

C-60 Type 1-A Pres-Steel Hanger

The Type 1-A Pres-Steel Hangers are especially designed to be used when there is a fillet, on the interior side of the beam. This hanger consists of a 90° end clip and 45° end clip electrically resistance welded to a single 0.375" diameter wire strut.

Both end clips are designed to work with 1/2" diameter coil bolts or coil rods. The design allows installation and adjustment from the top of the formwork.

SAFETY NOTE:
This hanger should be used to support overhang brackets only when the weight of concrete finishing machine and/or conveyor machine is supported directly on the exterior bridge beam.



To Order:
Specify: (1) quantity, (2) name, and (3) flange width.
Example:
750 pcs. C-60 Type 1-A Pres-Steel Hanger for 12" flange.

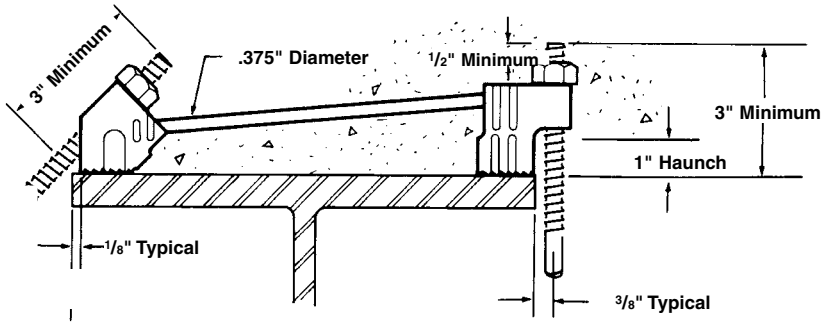
Safe Working Load
3,500 lbs. per Side

S.W.L. provides a factor of safety of approximately 2 to 1.

C-60 Type 2-A Pres-Steel Hanger

The Type 2-A hanger is similar in design to the Type 1-A hanger above, except it is designed to provide a 1" haunch relief on the interior side.

Both end clips are designed to work with 1/2" diameter coil bolts or coil rods.



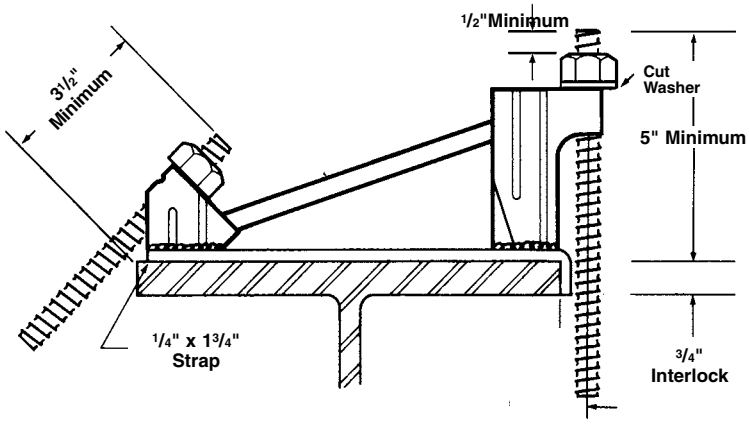
SAFETY NOTE:
This hanger should be used to support overhang brackets only when the weight of concrete finishing machine and/or conveyor machine is supported directly on the exterior bridge beam.

To Order:
Specify: (1) quantity, (2) name, (3) flange width.
Example:
1,250 pcs. C-60 Type 2-A Pres-Steel Hanger- for 24" flange.

Safe Working Load
2,375 lbs. per Side

S.W.L. provides a factor of safety of approximately 2 to 1.

C-62 Type 6-A Pres-Steel Hanger



SAFETY NOTE:
To develop the safe working load of this hanger requires the use of a 1/2" E-7 Cut Washer be used between the top of the 90° end clip and the 1/2" Coil Nut.

This is an excellent hanger to use when a higher haunch is required on the interior side of the exterior beam and a finishing and/or concrete conveyor is to be supported on the exterior overhang formwork. Designed to work with a haunch height of up to 2 1/2".

End clips accept 1/2" diameter coil rod or coil bolts.

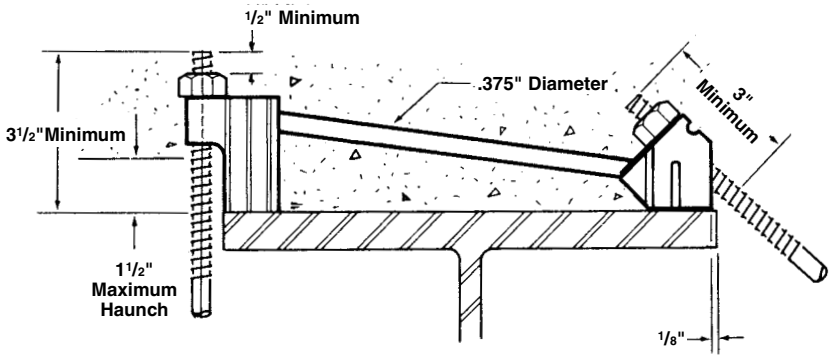
To Order:
Specify: (1) quantity, (2) name, and (3) flange width.
Example:
25 pcs. C-62 Type 6-A Pres-Steel Hanger for 16" flange.

Safe Working Load
4,000 lbs. on 45° Side
2,800 lbs. on 90° Side

S.W.L. provides a factor of safety of approximately 2 to 1.

C-60 Type 7-A Pres-Steel Hanger

The Type 7-A hanger is similar to the Type 1-A but can accommodate haunch heights up to 1-1/2". Use with 1/2" diameter coil rod or bolts.



Safe Working Load
2,375 lbs. per Side

S.W.L. provides a factor of safety of approximately 2 to 1.

To Order:
Specify: (1) quantity, (2) name, and (3) flange width.
Example:
1,850 pcs. C-60 Type 7-A Pres-Steel Hanger for 12" flange.

SAFETY NOTE:
This hanger should be used to support overhang brackets only when the weight of concrete finishing machine and/or conveyor machine is supported directly on the exterior bridge beam.

C-60 Type 8-A Pres-Steel Hanger

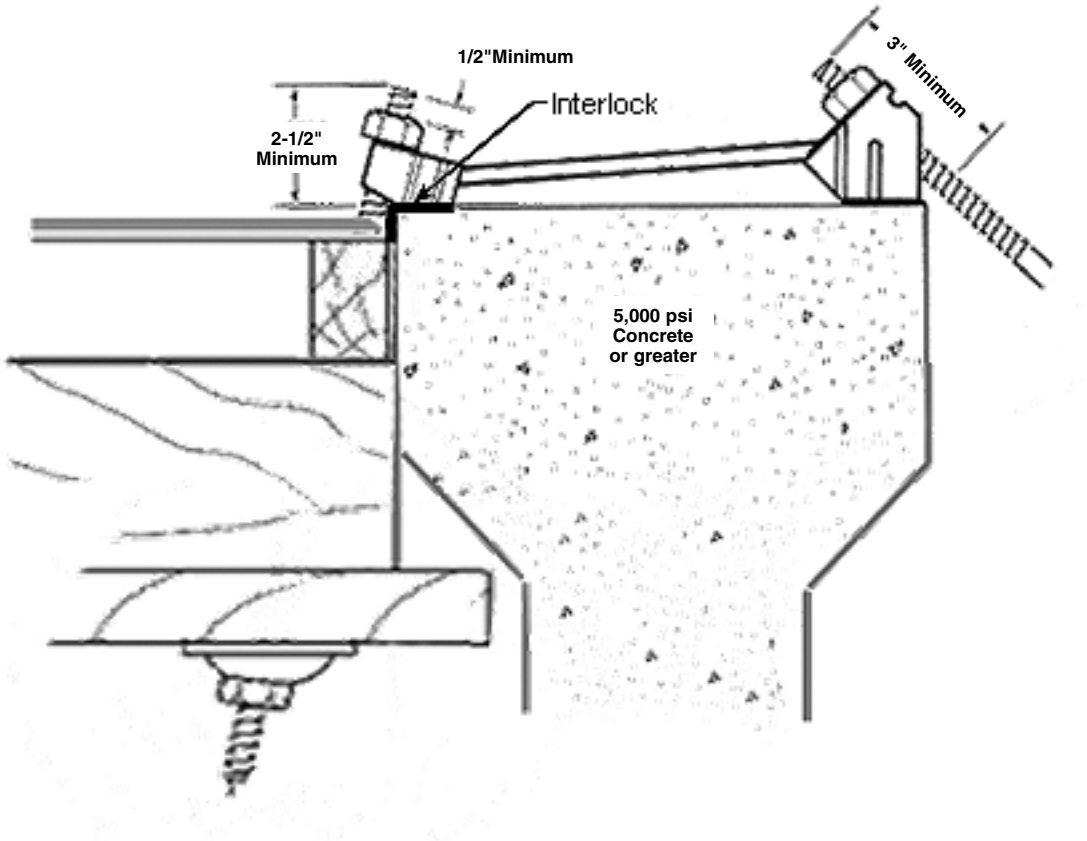
The Type 8-A hanger consists of a 15° end clip and a 45° end clip, both designed to accept ½" diameter coil rods or bolts. The 15° end supports the interior formwork while the 45° end supports the overhang bracket and the exterior formwork.

Available in two styles, standard and heavy, with the heavy unit having a higher safe working load.

Typically used on precast/prestressed concrete beams and girders as the 15° interior end clip allows additional clearance below the formwork to support the ledgers. A B-42 Batter Washer is recommended for use beneath the ledgers, to allow for proper bearing of the head of the ½" diameter coil bolt.

The 15° end clip has a separate interlock welded to it, which resists the lateral loads induced into the hanger due to the overhang bracket loads.

As with other types of pres-steel hangers, installation and adjustment to grade is from the top of the beams.



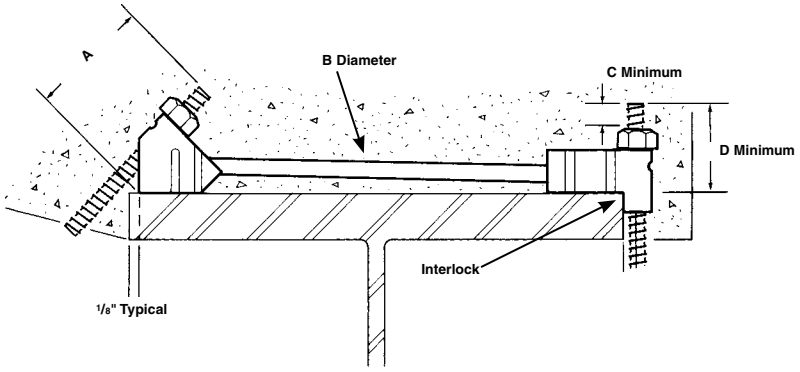
To Order:
Specify: (1) quantity, (2) name, style and (3) flange width.
Example:
275 pcs. C-60 Type 8-A Pres-Steel Hanger for 12" flange.

Safe Working Load
4,500 lbs. per Side - Standard
6,000 lbs. per side - Heavy

S.W.L. provides a factor of safety of approximately 2 to 1.

C-60 Type 4-A and 9-A Pres-Steel Hangers

The Type 4-A Pres-Steel Hanger is fabricated with a 90° interlock type end clip and a 45° end clip, both of which are electric resistance welded to a 0.440" diameter wire strut. Both end clips are designed to accept ½" diameter coil bolts and/or coil rods and nuts.



Type 9-A hanger is similar to the 4-A, except it is fabricated from ¾" diameter strut wire and heavier end clips designed to accept ¾" diameter coil rods and/or bolts.

The Type 9-A hanger is intended for use with the C-89-L Heavy Duty Bridge Overhang Brackets, which requires the use of a ¾" diameter coil bolt.

The 90° end on both hangers has an interlock end clip which resist lateral forces from the loads applied at the 45° end.

Type	Safe Working Load	Bolt Diameter		A	B	C	D
		45° End	90° End				
4-A	6,000 lbs. per Side	1/2"	1/2"	3"	.440"	1/2"	2"
9-A	11,300 lbs. per Side	3/4"	3/4"	4-1/2"	.750"	3/4"	3-1/2"

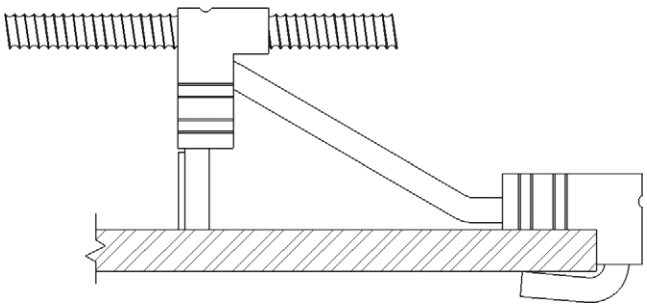
S.W.L. provides a factor of safety of approximately 2 to 1.

SAFETY NOTE:
To develop the safe working load of the Type 9-A requires the use of 3/4" B-13-H (Heavy Hex) Coil Nuts or two 3/4" B-13 Coil Nuts with a 3/4"E-7 Cut Washer.

To Order:
Specify: (1) quantity, (2) name, and (3) flange width.
Example:
150 pcs. C-60 Type 9-A Pres-Steel Hanger for 18" flange.

C-67 Tie Bar Beam Clip Pre-stress Hanger

C-67 Tie Bar Beam Clip Pre-stress Hanger is an ideal half hanger for supporting overhang formwork over stay-in-place decking. These half hangers are fabricated with the strut wire formed into a "J" shape so it engages the edge of the flange. A 90 degree interlock end clip is welded to the strut wire to provide increase capacity. This hanger is furnished with a 90 degree end clip that accepts a ½" diameter coil rod or bolt.



Flange Thickness	0.75.	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00

To Order:
Specify: (1) quantity, (2) name, and (3) flange thickness, (4) anti-tip plate, if needed
Example:
150 pcs. C-67 Tie bar Beam Clip Pres-Stess Hanger, 1.00 Flange Thickness

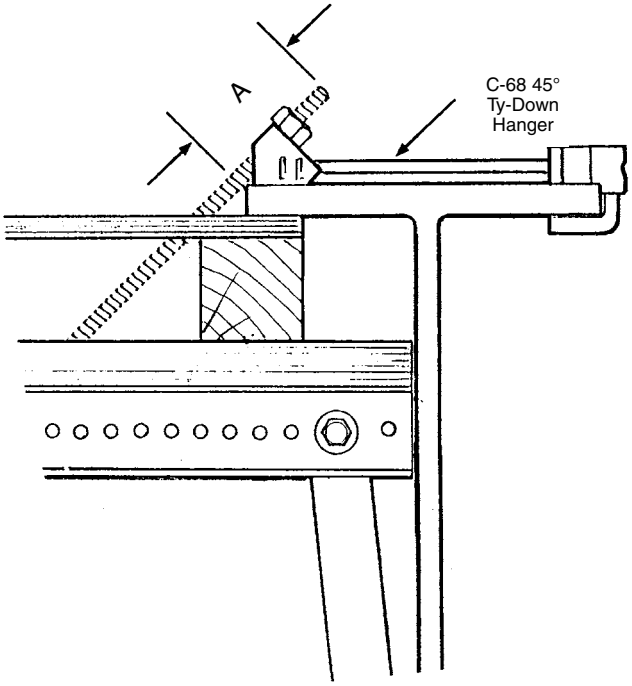
C-68 Type 4-AB and 9-AB Pres-Steel Ty-Down Half Hangers

The C-68 is an ideal half hanger for supporting overhang formwork when stay-in-place metal decking is used on the interior bays of a bridge deck.

These half hangers are fabricated with the strut wire formed into a "J" shape so it engages the edge of the flange. A 90° interlock end clip is welded to the strut wire to provide increased capacity.

The Type 4-AB half hanger is furnished with a 45° end clip that accepts a 1/2" diameter coil rod or bolt.

Type 9-AB hanger has a heavier strut wire and end clips and is designed to accept a 3/4" diameter coil rod or bolt. It is intended for used with the C-89-L Heavy Duty Bridge Overhang Brackets



SAFETY NOTE:
To develop the safe working load of the Type 9-AB half hanger requires the use of a 3/4" B-13-H (Heavy Hex) Coil Nut or 3/4" B-13 Coil Nut with two 3/4" E-7 cut washer

To Order:
Specify: (1) quantity, (2) name, and (3) flange width and (4)flange thickness.

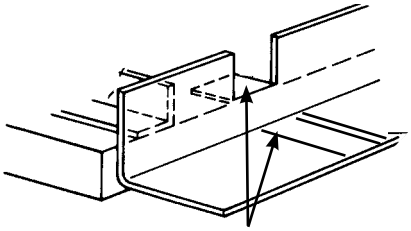
Example:
150 pcs. C-60 Type
9-AB Pres-Steel Ty-Down Half Hanger
for 18" wide x 1 1/2" thick flange.

Metal Deck Application

Type	Safe Working Load	Bolt Diameter	A
4-AB	6,000 lbs.	1/2"	3"
9-AB	11,300 lbs.	3/4"	4-1/2"

S.W.L. provides a factor of safety of approximately 2 to 1.

Metal decking materials shown as example only.
Actual application may vary.



Cut slot and bend tab down for hanger to fit.

C-41 Type 4-A Coil Rod Hanger

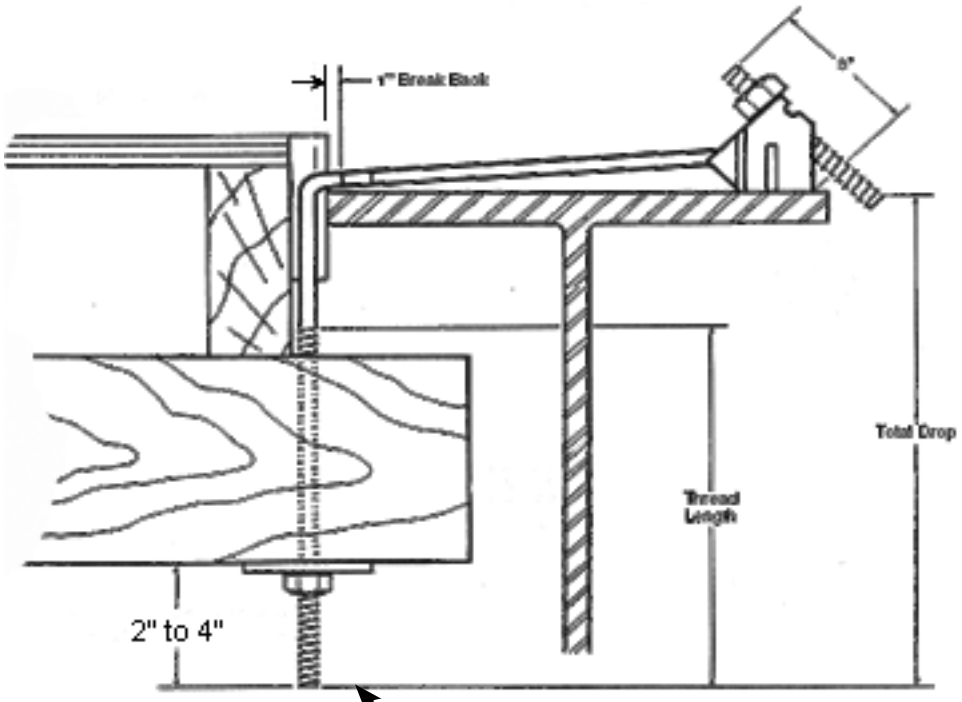
This hanger is fabricated with a 45° end clip electrically resistance welded to the end of a 0.444" diameter wire strut that is bent an angle. The opposite end is threaded with a length of 1/2" coil threads. The user must specify the required length of threads.

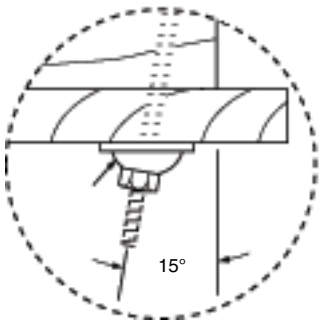
The threaded end of the hanger supports the interior formwork while the 45°end clip supports the overhang bracket and the applied formwork loads. When used on steel beams or girders, legs formed at 90° to the top flange are recommended. For concrete girders or box beams, legs formed at 15° to vertical are suggested

The interior formwork is adjusted to grade, after the ledgers are installed, by the worker reaching under the ledgers and adjusting the coil nut – raising or lowering the ledgers as required.

Designed to accommodate haunch heights of 1/2" or greater and comes equipped with a 1" breakback.

After the deck has been placed and the formwork has been stripped, a length of pipe is placed over the exposed end of the hanger, rotated back and forth until the end "breaks off" at the breakback.





Optional for Concrete Beams

To Order:
Specify: (1) quantity, (2) name, (3) flange width, (4) total drop, and (5) thread length.

Example:
500 pcs. C-41 Type 4-A Coil Rod Hanger for 12" flange, with 14" total drop, provide 8" thread.

Safe Working Load
4,500 lbs. per Side

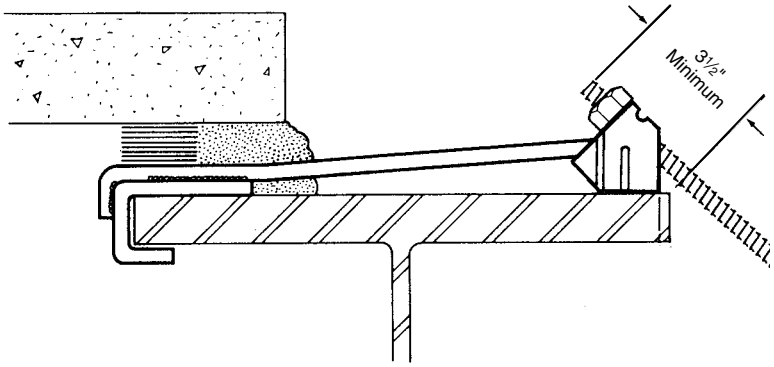
S.W.L. provides a factor of safety of approximately 2 to 1.

Exterior Hangers

C-63 Type 4-AB Pres-Steel Hook Half Hanger

Used when one-sided forming is required and field welding to the beam is prohibited. Can be furnished electro-plated or hot dip galvanized after fabrication for corrosion resistance, if specified.

Type 4-AB hanger is designed for use with 1/2" diameter coil bolts. Manufactured using a 45° end clip welded to formed wire strut. The interior end of the wire strut is wrapped-around and welded to a 1/4" thick steel beam clamp. The wrapped-around wire strut reinforces and strengthens the beam clamp which slips over the flange of a steel beam anchoring the hanger.

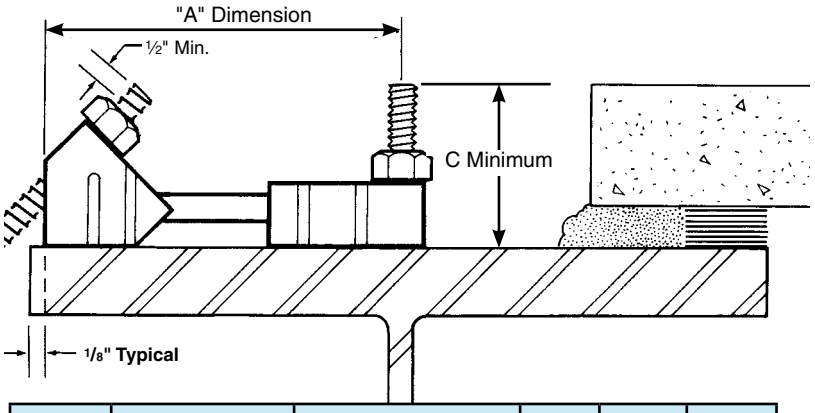


Safe Working Load
5,000 lbs. for 4-AB

To Order:
Specify: (1) quantity, (2) name, (3) flange width, (4) flange thickness and (5) finish.

Example:
205 pcs. C-63 Type 4-AB Pres-Steel Half Hanger, for 12" wire x 1" thick flange, HDG.

C-64 Type 4-A, 4-AN and 9-AN Pres-Steel Half Hanger



Type	Maximum Safe Working Load	Bolt Diameter		A	B	C
		45° End	90° End			
4-A	6,000 lbs.	1/2"	1/2"	5"	.440"	2"
4-AN	6,000 lbs.	1/2"	3/4"	5"	.440"	2"
9-AN	11,300 lbs.	3/4"	3/4"	7"	.750"	3-1/2"

To Order:
Specify: (1) quantity, (2) name, (3) "A".dimension

Example:
100 pcs. C-64 Type 4-AN Pres-Steel Half Hanger, "A" = 12".

This type of hanger works extremely well on bridge rehab projects, bridge widening jobs and other similar projects where only exterior formwork support is required. This hanger can also be used on concrete girders with 5" minimum flange thickness on Type 4-A and 4-AN hangers and 6" on type 9-AN with 5,000 psi concrete.

The actual safe working load of the these hangers is highly dependent on the size of the headed shear stud, as well as the strength of the weld between the stud and the beam flange. The safe working load is based on the use of a properly welded 3/4" diameter stud with a minimum tensile strength of 55,000 psi.

The Type 4-A and 4-AN use a ½" diameter 45° coil bolt. The Type 9-AN is similar with the exception that it uses a ¾" diameter 45°coil bolt.

SWL of hanger provides a factor of safety of approximately 2 to 1.

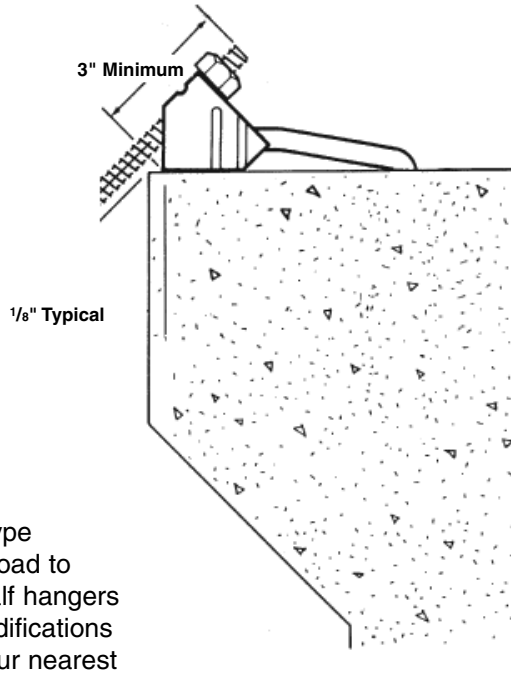
C-64 type 9-AN comes with 3"x3"x¼" bearing plate beneath the end clip.

SAFETY NOTE: The safe working load of the Type 9-A hanger requires ¾" B-13-H (Heavy Hex) Coil Nuts or two ¾" B-13 Coil Nuts with a ¾" E-7 Cut Washer.

C-24 Type 4-AP, 4-APR and 9 APR Pres-Steel Precast Half Hanger

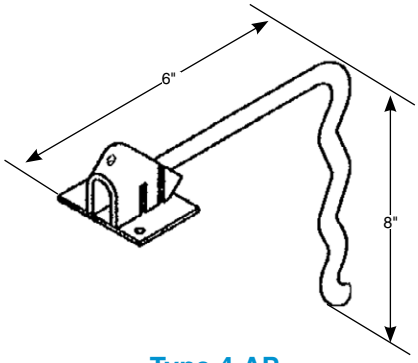
The Dayton Superior C-24 Pres-Steel Precast Half Hangers are available in three styles and capacities and are designed to be cast into the top portion of a precast/prestressed concrete girder. At the bridge site, these hangers are used to support the bridge overhang bracket, formwork, live load and dead load as well as the weight of a bridge deck finishing machine and/or concrete conveyer.

The bridge contractor must be certain of his bridge overhang bracket spacing before advising the precaster of the centers at which to install these hangers.

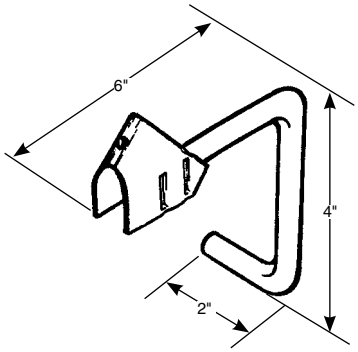


Install the C-24 half hangers into the concrete maintaining the proper 1/8" setback from the edge of the girder. After the end of the strut wire is pushed into the fresh concrete, slightly vibrate the surrounding concrete so the strut wire is completely and solidly embedded into the concrete. The legs of the end clip must rest solidly on the top surface of the concrete.

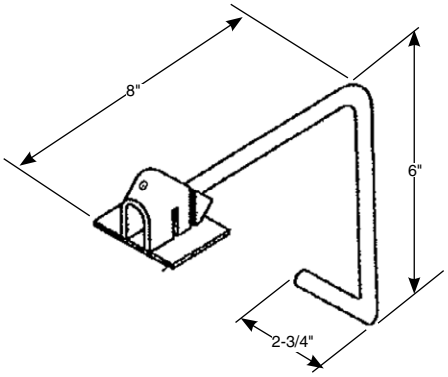
An optional Bearing Plate can be welded beneath the end clip on Type 4-AP and 4-APR half hangers which will aid in spreading the hanger load to a wider area of concrete. Bearing Plates are generally required on half hangers used in girders having a flange thickness less than 5". For hanger modifications required for use with a flange thickness less than 5", please contact our nearest Technical Service Department for assistance. A Bearing Plate is standard on Type 9-APR half hangers.



Type 4-AP
(For 1/2" diameter coil bolt)



Type 4-APR
(For 1/2" diameter coil bolt)



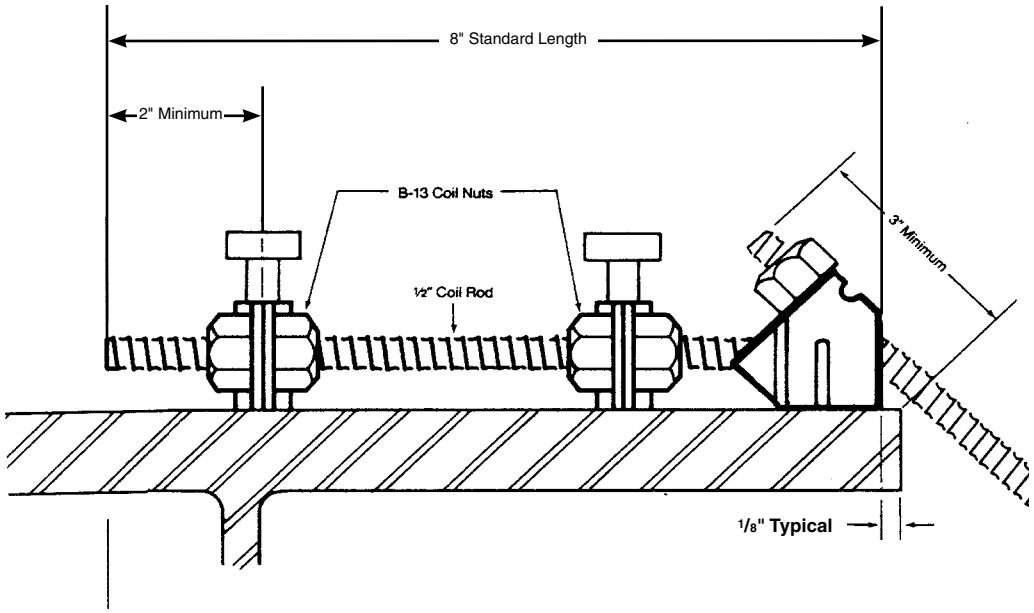
Type 9-APR
(For 3/4" diameter coil bolt)

To Order:
Specify: (1) quantity, (2) name, (3) type.
Example:
715 C-24 Type 4-APR Pres-Steel Precast Half Hanger

Safe Working Load
3,300 lbs. for 4-AP
6,000 lbs. for 4-APR
11,300 lbs. for 9-APR

SWL of hanger provides a factor of safety of approximately 2 to 1.

C-25 45° Adjustable Half Hanger



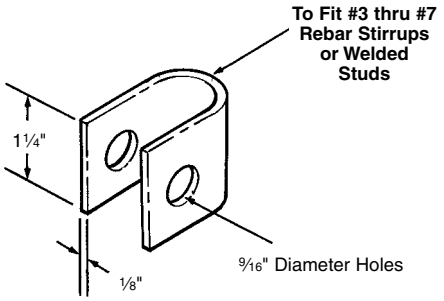
This adjustable half hanger consists of a 45° end clip welded to a length of 1/2" diameter coil rod, two stirrup clips and five 1/2" coil nuts. The standard length is 8". Other lengths, additional stirrup clips and coil nuts are available on request.

These half hangers are used to support overhang brackets for exterior deck formwork where one-sided forming is required, welding is not permitted and rebar or headed stud shear connectors are available to connect the hanger to.

Stirrup clips are available in #3 thru #8 and #11 rebar sizes or 3⁄8", 1⁄2", 5/8", 3⁄4", 7/8" and 1-3⁄8“ stud diameters as required

End clip accepts a 1/2” diameter coil bolt or coil rod.

SAFETY NOTE:
In order to develop the safe working load, two coil nuts must compress each stirrup clip securely to the rebar stirrup or shear stud. Failure to accomplish a secure connection will greatly reduce the safe working load of the hanger.



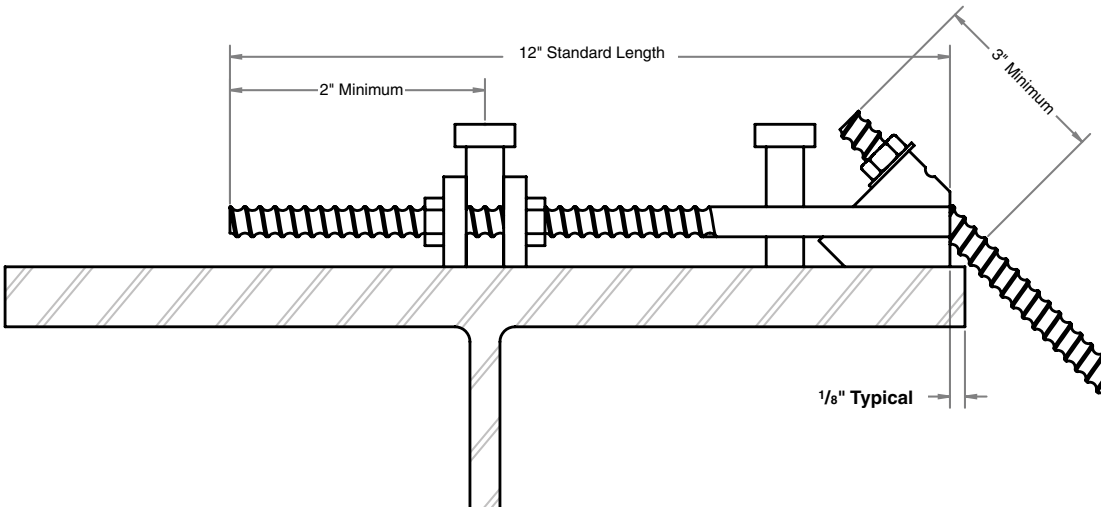
Clip Detail

To Order:
Specify: (1) quantity, (2) name, (3) type, (4) length, (5) number of clips and (6) clip size.
Example:
125 pcs. C-25 Pres-Steel Adjustable Half Hanger, 18" long with 3 clips for #6 Rebar

Safe Working Load
3,000 lbs. with 2 clips

SWL of hanger provides a factor of safety of approximately 2 to 1.

C-25 45˚ Heavy Duty Adjustable Half Hanger



This adjustable half hanger consists of a 45° end clip welded to two 1/2" diameter coil rods, two connection bars and five 1/2" coil nuts. The standard length is 12". Other lengths are available on request.

These half hangers are used to support overhang brackets for exterior deck formwork where one-sided forming is required, welding is not permitted and rebar or headed stud shear connectors are available to connect the hanger to.

To Order:
Specify: (1) quantity, (2) name, (3) type, (4) length, (5) and number of connection bars.
Example:
125 pcs. C-25 Heavy Duty Adjustable Half Hanger, 12" long with 2 connection bars.

Safe Working Load
6,000 lbs.

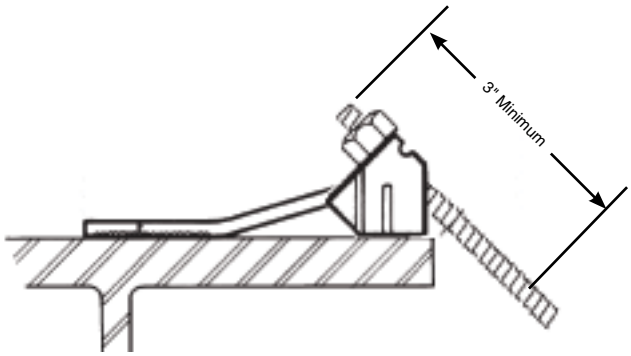
SWL of hanger provides a factor of safety of approximately 2 to 1.

Exterior Hangers

C-24 Pres-Steel Steel Beam Half Hangers

C-24 Pres-Steel Steel Beam Half Hangers are produced using a single end clip welded to a formed wire strut and are used where conditions prevent the use of regular exterior hangers.

Type S Half Hangers are designed for use on steel beams. The standard Type S Half Hanger uses a wire strut that measure 6" from the centerline of the bolt to the end of the strut.



Typical Steel Beam Application

C-24 Pres-Steel Concrete Beam Half Hangers

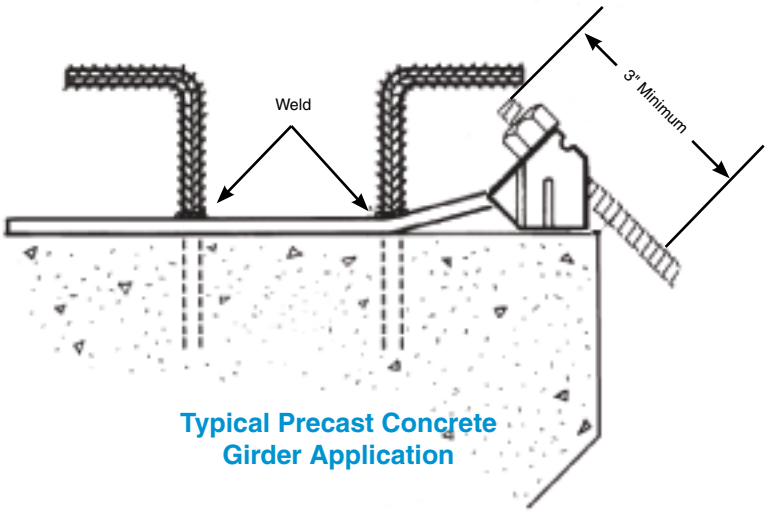
The Type C Pres-Steel Half Hanger used on concrete beams are the same as the above Half Hangers with the exception of the standard wire strut length.

These concrete beam half hangers are designed to be welded to the rebar shear connectors that extend from the top surface of a precast concrete girder.

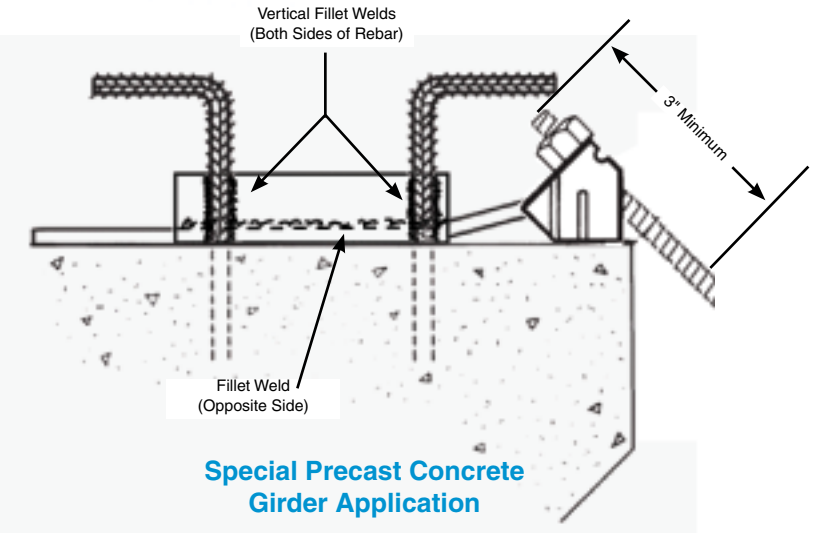
More weld and hanger capacity can be achieved by welding a suitably sized steel plate to the rebar shear connectors, using four vertical fillet welds, to weld the plate to the share connectors. Then weld the strut wire to the steel plate. May be applied to steel beams by welding to the shear connector studs.

This application is shown in the Special Precast Concrete Girder Application to the right.

Please see the General and Technical Section of this handbook for additional information on field welding of half hangers.



Typical Precast Concrete Girder Application



Special Precast Concrete Girder Application

C-24 Pres-Steel Half Hanger

C-24 45° Pres-Steel Half Hangers are manufactured with a single 1/2" end section welded to a jogged wire strut and are used where conditions prevent the use of standard double-ended hangers.

Standard Style AC hangers measure 12" from the centerline of the bolt to the end of the strut. This style hanger is designed to be welded to the rebar stirrups of precast concrete bridge beams.

Standard Style AS hangers measure 6" from the centerline of the bolt to the end of the strut. These hangers are designed to be welded to the top surface of steel girders.

Lengths other than standard are available. Contact Dayton Superior for additional information.

Caution: Care must be exercised when welding hangers. Field welding may alter the strength of the wire strut and may limit the hanger to a much lower safe working load than that shown in the chart. Field tests should be conducted to verify actual safe working loads. See related notes on welding in the General and Technical Information Section

Proper welding procedures must be used when welding half hangers, as field welding may limit the safe working load of a hanger to less than the maximum SWL listed Field tests should be conducted to establish the actual safe working load of the hanger.

Hanger Type	Hanger Shape	Standard Length	Maximum SWL
1-AC		12"	3,500 lbs.
1-AS		6"	3,500 lbs.
4-AC		12"	6,000 lbs.
4-AS		6"	6,000 lbs.

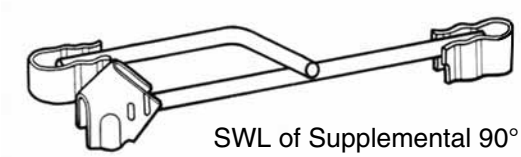
Notes:

- Safe working load provides a factor of safety of approximately 2 to 1.
- Coil bolt or coil rod must penetrate through the coil nut a minimum of one bolt diameter.
- When used on concrete beams, the safe working load shown is based on normal weight concrete having reached a minimum compressive strength of 5,000 psi.
- Requires a minimum concrete flange thickness of 5".
- For hangers used on concrete beams with conditions not meeting above requirements please contact Dayton Superior Technical Service.
- Longer length strut wire is available on request.

To Order:
Specify: (1) quantity, (2) name, (3) strut length
Example:
75 pcs. C-24 Type 1-AC Pres-Steel Half Hanger, with 18" long strut

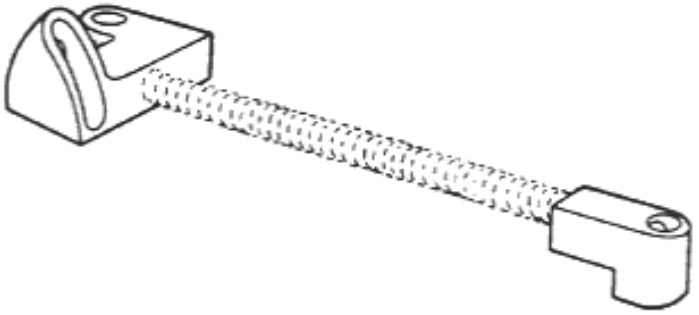
C-60 Type 1-4A Combination Pres-Steel Hanger with Supplemental 90º Leg Pres-Steel Half Hanger

Special overhang conditions may require the use of a 90° bolt to support the back end of a bridge overhang bracket. When this situation is encountered the C-60 Type 4-A Pres-Steel Hanger may be ordered with a supplemental 90°end clip and strut wire electrically resistance welded to the main support hanger as shown in the sketch.



SWL of Supplemental 90° End Is 1,000 lbs. with an approximate factor of safety of 2 to 1

C-61 Combination Exterior Hanger



Ideal hanger to have on-hand to minimize down time from hanger shortages, unexpected beam sizes and etc. Hanger consists of three individual parts, a 90° Interior End Section with an integral interlock, a length of 3/4" diameter coil rod and a Combination Exterior End Section.

The 3/4" diameter coil rod and the two End Sections are assembled in the field to make up a complete hanger. The length of the 3/4" diameter coil rod that connects the two End Sections is equal to the beam's flange width

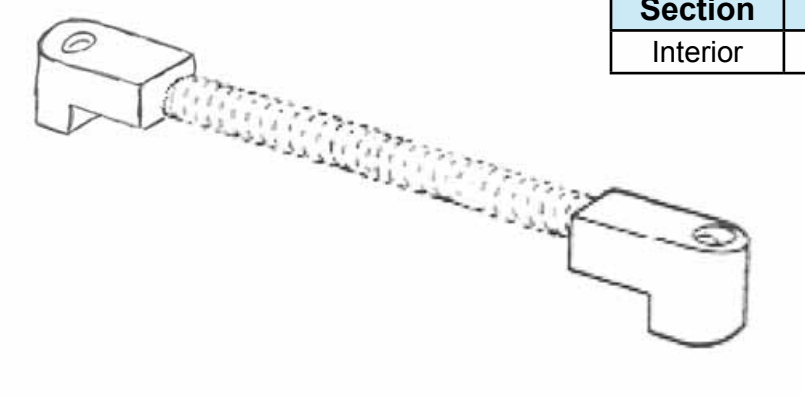
Designed specifically for use with bridge overhang brackets that utilize a horizontal member and diagonal leg only and no vertical leg. The Combination End Section is used with a 1/2" diameter coil rod/bolt that can be used at any angle from 5° to 45°. In addition, this End Section is also designed to accept a 1/2" diameter coil rod/bolt installed at 90° to the top of the flange.

End Section	Angle	Safe Working Load
Exterior	5° to 45°	6,000 lbs.
Exterior	90°	3,000 lbs.
Interior	90°	6,000 lbs.

C-61 Combination Interior Hanger

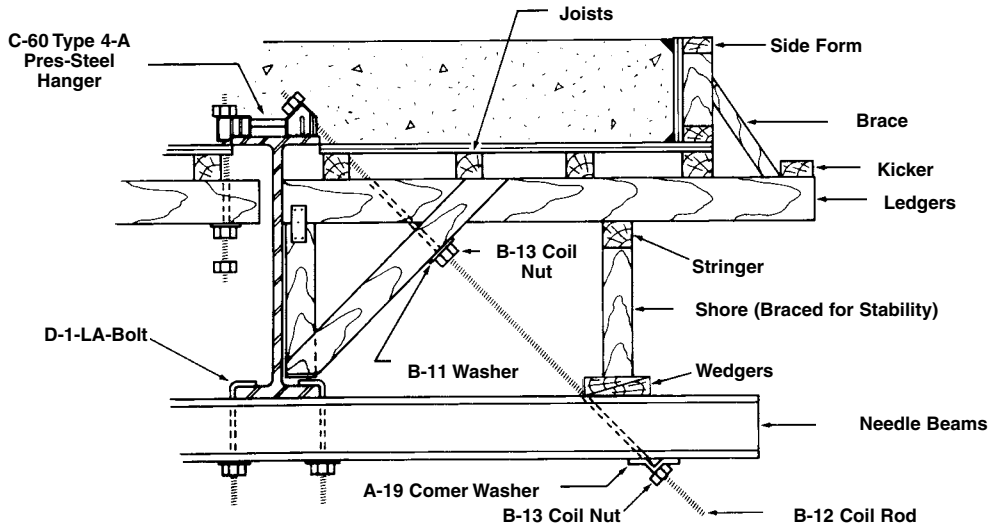
Two of the above 90° End Sections and a length of 3/4" diameter coil rod may be used to field assembly a 90° interior hanger.

End Section	Angle	Safe Working Load
Interior	90°	6,000 lbs. per side

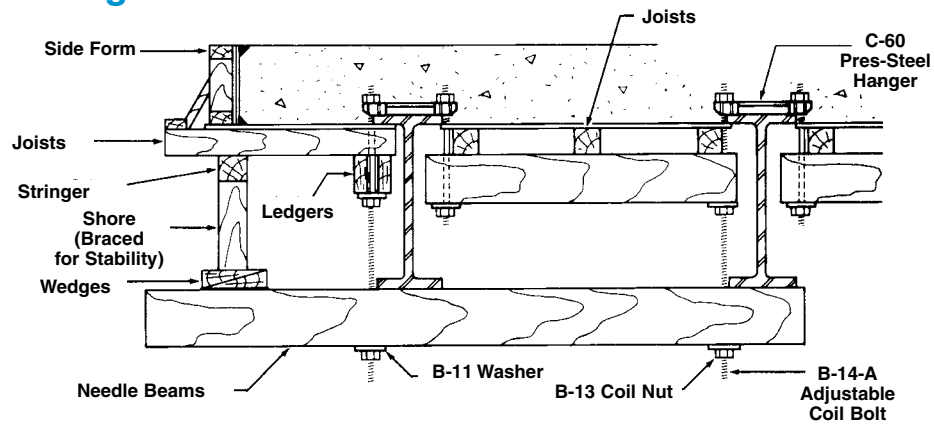


Shown below are several ideas for supporting the overhang formwork when the bridge design will not allow the use of conventional bridge overhang brackets.

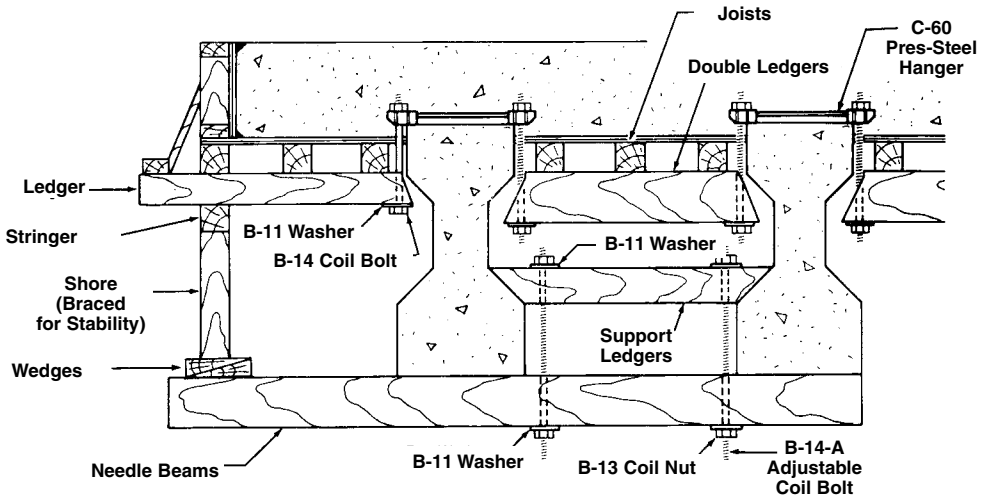
Wide Overhang on a Shallow Steel Beam



Short Overhang on a Shallow Steel Beam



Short Overhang on a Shallow Concrete Beam

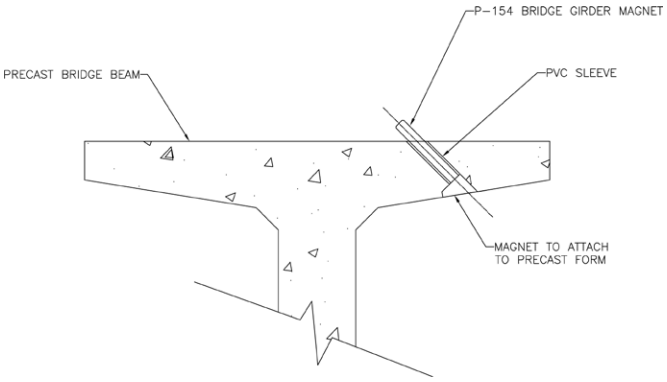


P-154 Bridge Girder Magnet

The P-154 Bridge Girder Magnet provides an easy method for precasters to form a void for the coil rod used to hang bridge overhang brackets. The magnet is designed to be used for AASHTO Type V and Type VI Bulb-Tee Girders.

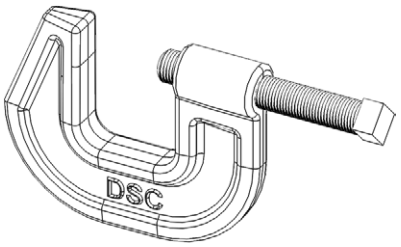
PRODUCT FEATURES AND BENEFITS

- Magnet is reusable and eliminates the need for bridge hangers or drilling the precast beam.
- Magnet provides a strong connection with the precast form to provide precise placement of PVC sleeves.
- Magnet is fabricated to provide a void that is compatible with C-49 and C-89 type overhang brackets.
- Magnet attraction only on bottom of magnet.
- Shaft of magnet is 1" diameter to allow compatibility with standard PVC pipe.
- Base of magnet is molded with urethane material to provide a uniform void in the bottom of bridge girders and to eliminate any patch work required by precaster.



C-90 Clamp for Falsework

PRODUCT DESCRIPTION:



The C90 Clamp is designed as a longitudinal holding device for components in a falsework assembly. They are typically used to clamp angle iron to the bottom flange of a steel beam as a way to mount it on timber or other temporary supporting elements.

PRODUCT FEATURES AND BENEFITS:

The C90 Clamp is an engineered product that is manufactured from Forged Alloy Steel. It meets or exceeds all requirements for the clamp listed in California Office of Structure Construction, Falsework Memo No. 4 and 5.

PRODUCT SPECIFICATIONS:

- Rated Clamping force of up to 10 tons
- Proof tested to 52 kips for over 2.5:1 Factor of Safety at full rated load
- Made with ¾-10 NC Grade 8 Bolt with Cup Point Hardened to Rc 45-53.
- Clamping Force (lbs) = 80 x Bolt Torque (ftlbs)
- Remains in Elastic Range at 90 ft-lbs Torque
- Rated Bolt Torque is 250 ft-lbs (650 ft-lbs max)
- It's use should be restricted to beams with non-sloping flanges or flat angles and plates.
- Holding force is dependent on the actual friction coefficient of the surfaces being clamped.

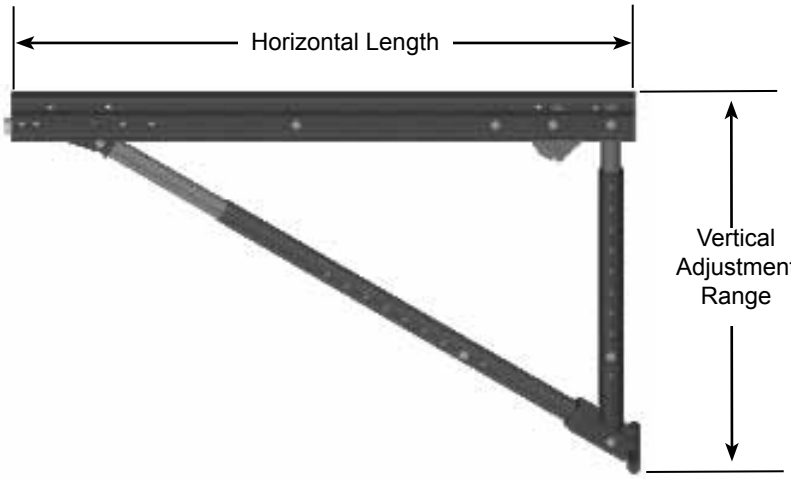
C-49, C-49-D, C-49-S and C-49-JR Bridge Overhang Brackets

Dayton Superior offers the bridge contractor four different versions of the C-49 Bridge Overhang Bracket, which allows for maximum adjustability to meet the varied bridge overhang forming requirements on both structural steel and precast/prestressed concrete beams. The C-49 is the most versatile overhang bracket available and is used for general conditions.

The C-49-D version is used on deep beams. The C-49-D bracket is identical to the C-49 bracket, except it uses longer bottom diagonal and vertical legs.

The C-49-S bracket is a field modified C-49. The C-49 is modified by removing the inner vertical leg. Using only the outer vertical leg, the bracket can be adjusted to a minimum vertical height of 14". This bracket is ideal for use on short steel or concrete beams.

The C-49-JR is a small bracket used in situations where the horizontal member of the standard C-49 Overhang Bracket is too long, due to limited space between twin bridges.



Bracket Type	Vertical Adjustment Range	Horizontal Length
C-49	30" - 50"	54"
C-49-D	50" - 70"	54"
C-49-S	16" - 28"	54"
C-49-JR	16" - 28"	27"

The adjusting nut at the outboard end of the bracket is used to adjust the bracket to grade.

Each of these brackets offer the bridge contractor, the ability to easily and quickly preset the brackets to size and shape on the ground, as required for each specific overhang requirement. The adjusting nut and the wide range of adjustability built into the brackets vertical and diagonal legs allow a bracket to be adjusted to fit almost any standard bridge overhang.

Both the vertical and diagonal legs have adjustment holes spaced at 2" increments which allows the legs to be adjusted so the diagonal leg will transfer the construction load to near the bottom flange, which aids in resisting web deflection and bending .

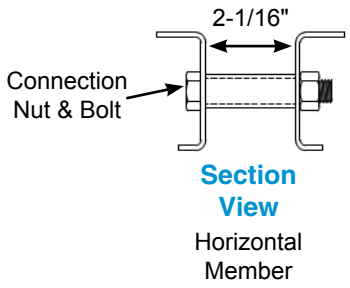
The C-54 Extender, C-52, C-52P and C-53 Guardrail Receptacles, and C-51 Wall Plate Assemblies add to the versatility of the C-49 overhang brackets.

SAFETY NOTE:
Overhang brackets should be adjusted to proper grade during the normal "dry run" operation.

DO NOT attempt an upward adjustment during the concrete pouring operation. Lowering the bracket is permissible during the concrete pour

Bridge Overhang Brackets

Type C-49, C-49-D, C-49-S and C-49-JR Bridge Overhang Brackets



The diagonal leg of all versions of the C-49 bracket has a SWL of 3,750 lbs. based on an approximate factor of safety of 2 to 1.

Horizontal Channels

The horizontal channels are fabricated from back to back, unequal leg, 54" long, channel sections using 12 gauge HRP&O, high strength, low alloy, simi-killed steel strip meeting ASTM A-570 Grade 50 standards. This material has a minimum yield strength of 50 ksi and a minimum tensile strength of 65 ksi.

As shown in the section view above, 3/4" O.D. tubing is placed over 1/2" diameter bolts to provide a 2 1/16" space between the two steel channel sections of the bracket's horizontal member.

Vertical And Horizontal Leg

Vertical and diagonal legs are fabricated from electric resistance welded carbon steel tubing, Type #1 A.W.H.R. (as welded hot-rolled steel), Grade 1010 per ASTM A-513 standards. The brackets four leg members along with their outside diameter and wall thickness are listed in the chart.

Part	Outside Diameter	Wall Thickness
Outer Vertical Leg	1 7/8"	0.083"
Inner Vertical Leg	1 5/8"	0.120"
Outer Vertical Leg	1 7/8"	0.083"
Inner Diagonal Leg	1 5/8"	0.120"

Connection Bolts and Nuts

Connection bolts and nuts are galvanized 1/2"-13 NC threaded meeting ASTM Standard A-449 or SAE Standard J-429 Grade 5.

Section Properties

Horizontal Member
Total Section Modulus (S) = 0.537 in.3
Moment of Inertia (I) = 0.799 in.4
Area (A) = 0.888 in.2

C-54 Overhang Bracket Extender
Section Modulus (S) = 0.231in.3
Moment of Inertia (I) = 0.310 in.4
Area (A) = 0.438 in.2

C-59-D Conversion Kit

A C-49 Bridge Overhang Bracket is quickly and easily converted to the deeper C-49-D Bridge Overhang Bracket by using this conversion kit.

1) Simply remove each of the adjusting bolts from the vertical and diagonal legs,

2) Remove the lower legs,

3) Slide on the conversion kit legs and

4) Adjust the legs to length and reinstall the two adjusting bolts.

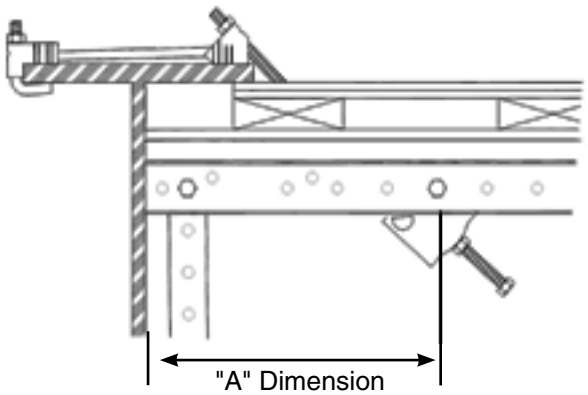
C-49 Bolt Holder

The C-49 Bolt Holder is supplied as part of every C-49, C-49-D, C-49-S and C-49-JR Bridge Overhang Bracket and is designed to accept a 1/2" diameter coil threaded bolt or coil rod. This 1/2" diameter coil bolt is the load carrying device that transfers loads from the overhang bracket to the 45° exterior hanger.

The Bolt Holder must be moved, for each specific project's situation, so the 1/2" diameter load carrying bolt is as close to a 45° angle with the top of the beam's flange as possible. The half oval face of the Bolt Holder allows the load carrying bolt to vary slightly from an exact 45° angle, yet still maintain the proper bearing with the coil nut.

The "lugs" that protrude from each side of the Bolt Holder, bears against the bottom side of the bracket's horizontal member and provides support to the bracket.

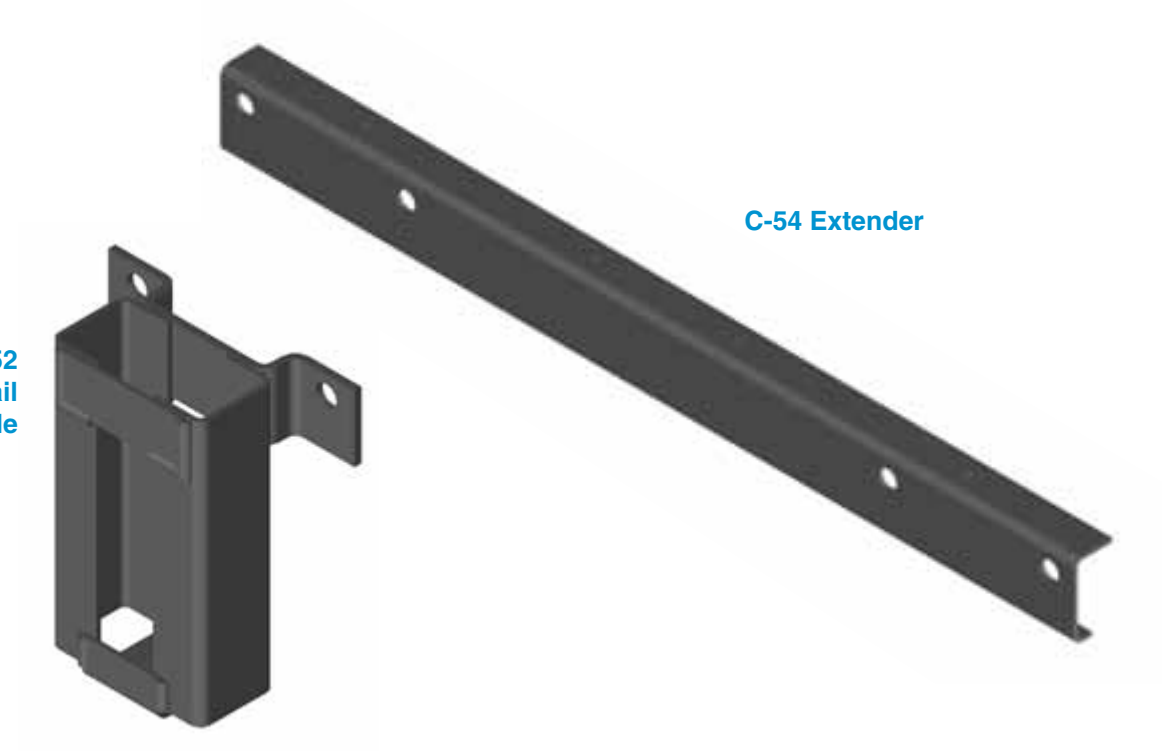
Safety Note:
Do not drill out a C-49 Bolt Holder to accept a larger diameter bolt, as this could, on a later use, allow the head of a 1/2" diameter bolt to pull through the larger diameter hole.



The Bolt Holder can only be located at certain locations along the horizontal member of the bracket, based on the holes that have been factory punched in the side of the horizontal channels. On the C-49, C-49-S and C-49-D brackets, the bolt holder can be installed at "A" dimensions of 7 1/8", 9 5/8", 12 1/8", 14 5/8", 17 1/8", 19 5/8" and 22 1/8" from the inboard or beam end of the bracket. On the C-49-Jr. bracket, the Bolt Holder can be located at "A" dimensions of 7 1/8", 9 5/8", 12 1/8" and 14 5/8".

Bridge Overhang Brackets

C-52 2x4 Guard Rail Receptacle
C-54 Bridge Overhang Bracket Extender



The C-52 Guardrail Receptacle is designed to allow the easy installation of an OHSA required lumber guard rail post on the exterior formwork of a bridge deck.

The C-52 receptacle bolts securely to either the C-49 Bridge Overhang bracket and/or C-54 extender and accepts 2x4 guardrail posts. Each C-52 receptacle ships with two 1/2”-13 NC x 3” long (ASTM A325 or SAE 429 Grade 5) electro-galvanized bolts and nuts which are used to attach the guard rail receptacle to the horizontal member of a C-49, C-49-D, C-49-S or C-49 JR. Bridge Overhang Bracket.

The C-54 Bridge Overhang Bracket Extender attaches to one side of the outboard end of the overhang bracket’s horizontal member to extend the usable working surface of the bracket. The C-54 Extender and C-52 Guard Rail Receptacle are used when the overhang formwork is required to extend beyond the end of the horizontal member of the bridge overhang bracket. The extender is used to support walkway loads only. When the extender is used, each bracket is required to have one extender and one C-52 Guard Rail Receptacle.

Each C-54 Bridge Overhang Bracket Extender ships with two 1/2”-13 NC x 1” long (ASTM A325 or SAE 429 Grade 5) electro-galvanized bolts and nuts which are used to attach the C-52 receptacle to the C-54 extender. The 1/2”-13 NC x 3” long bolts (shipped with the C-52 receptacle) are used to attach the extender to the horizontal member of the bridge overhang bracket.

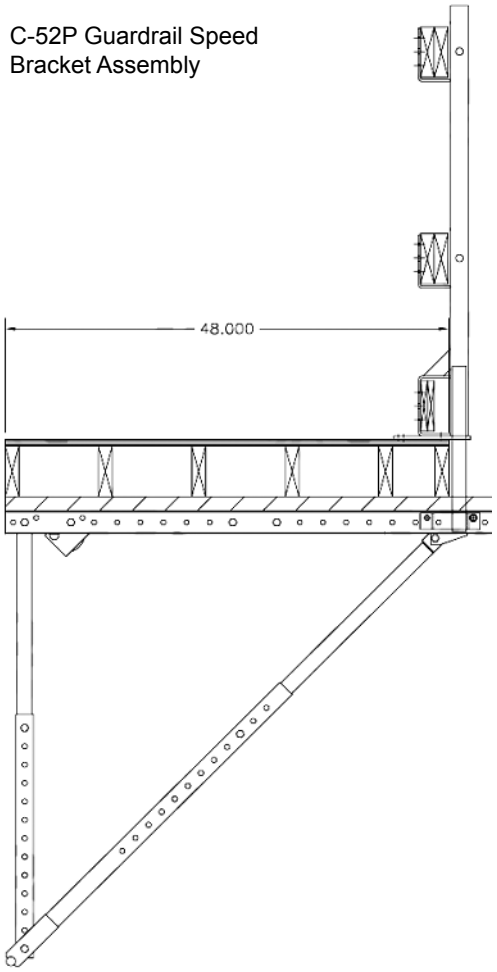
To Order:
Specify: (1) quantity and (2) name

Example:
600 pcs. C-54 Bridge
Overhang Bracket Extender

C-52P Guard Rail Speed Bracket Assembly

The C-52P Guardrail Speed Bracket Assembly is designed for fast and easy attachment to the C-49 Bridge Overhang Bracket and C-54 Bridge Overhang Exterior Bracket Extender. The C-52P's Speed Bracket bolts securely to the C-49 Bridge Overhang Bracket and provides a base to simply install the Guardrail Post. The Guardrail Post has a nail down feature to prevent uplift. The C-52P is compatible with lumber or cable railings. The Guardrail Assembly weighs a convenient 15.6 lbs.

C-52P Guardrail Speed Bracket Assembly



NOTE: C-52P Guard Rail Speed Bracket Assembly meets all OSHA requirements.

WARNING: Guardrail Speed Bracket Assembly must be secured to deck with proper fasteners to ensure complete safety.

To Order:
Specify: (1) quantity and (2) name

Example:
150 pcs. C-52P Guardrail Speed Bracket Assembly

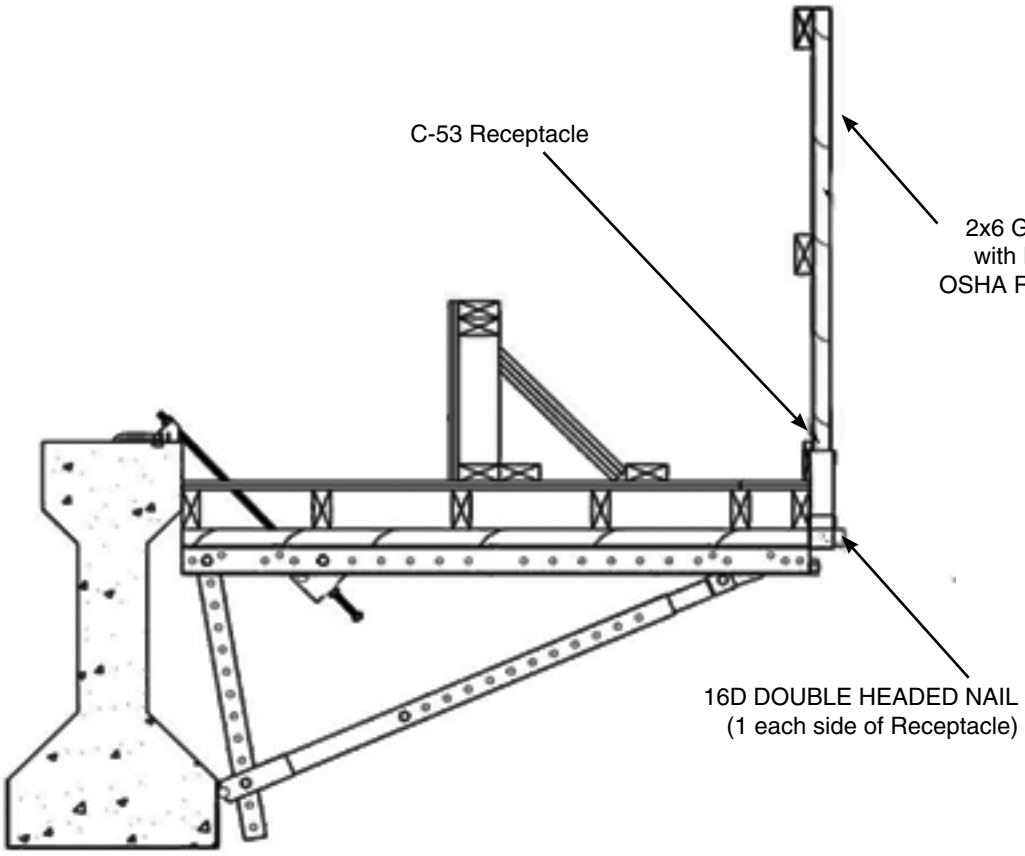
Bridge Overhang Brackets

C-53 2x6 Guard Rail Receptacle

The C-53 Guardrail Receptacle is designed to allow the easy installation of an OHSA required guard rail post on the exterior formwork of a bridge deck.

The C-53 receptacle slips over the end of the 6x2 nailer that is attached to and extends beyond the end of a bridge overhang bracket's horizontal member. The C-53 receptacle is nailed to the 6x2 nailer, using two 16d double headed nails, one on each side, in the provided hole.

This receptacle readily accepts a 2x6 guardrail post.



Typical Section Through Overhang
Actual Overhang Conditions May Vary

To Order:
Specify: (1) quantity and (2) name

Example:
600 pcs. C-53 Bridge Guard Rail Receptacle

Selected OSHA Safety Regulations

For complete information see www.osha.gov

1926.501(b)(2)(ii) Each employee on a walking/working surface 6 feet or more above a lower level where leading edges are under construction, but who is not engaged in the leading edge work, shall be protected from falling by a guardrail system, safety net system, or personal fall arrest system. If a guardrail system is chosen to provide the fall protection, and a controlled access zone has already been established for leading edge work, the control line may be used in lieu of a guardrail along the edge that parallels the leading edge. The standard requires guardrail systems and components to be designed and built to meet the requirements of 1926.502(b)(3), (4), and (5).

This Appendix serves as a non-mandatory guideline to assist employers in complying with these requirements. An employer may use these guidelines.

1926.501(b)(2)(i) .... However, the guidelines do not provide all the information necessary to build a complete system, and the employer is still responsible for designing and assembling these components in such a way that the completed system will meet the requirements of 1926.502(b)(3), (4), and (5). Components for which no specific guidelines are given in this Appendix (e.g., joints, base connections, components made with other materials, and components with other dimensions) must also be designed and constructed in such a way that the completed system meets the requirements of 1926.502.

(1) For wood railings: Wood components shall be minimum 1,500 lb-ft/in (2) fiber (stress grade) construction grade lumber; the posts shall be at least 2” x 4” lumber spaced not more than 8 feet apart on centers; the top rail shall be at least 2” x 4” lumber, the intermediate rail shall be at least 1” x 6”. All lumber dimensions are nominal sizes as provided by the American Softwood Lumber Standards.

1926.502(b) "Guardrail systems." Guardrail systems and their use shall comply with the following provisions:

1926.502(b)(1) Top edge height of top rails, or equivalent guardrail system members, shall be 42” plus or minus 3” above the walking/working level. When conditions warrant, the height of the top edge may exceed the 45” height, provided the guardrail system meets all other criteria of this paragraph

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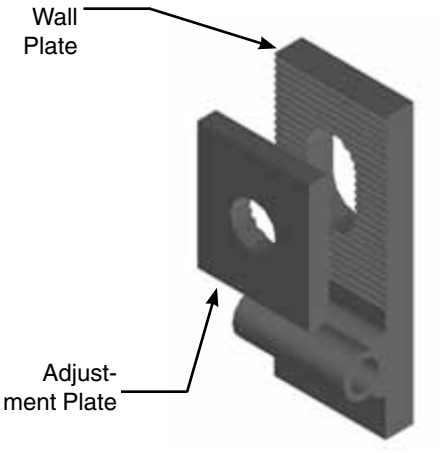
1926.502(b)(3) Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds applied within 2” of the top edge, in any outward or downward direction, at any point along the top edge. Guardrail systems shall be so surfaced as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.

1926.502(b)(7) The ends of all top rails and midrails shall not overhang the terminal posts, except where such overhang does not constitute a projection hazard.

Bridge Overhang Brackets

C-51 Wall Plate Assembly

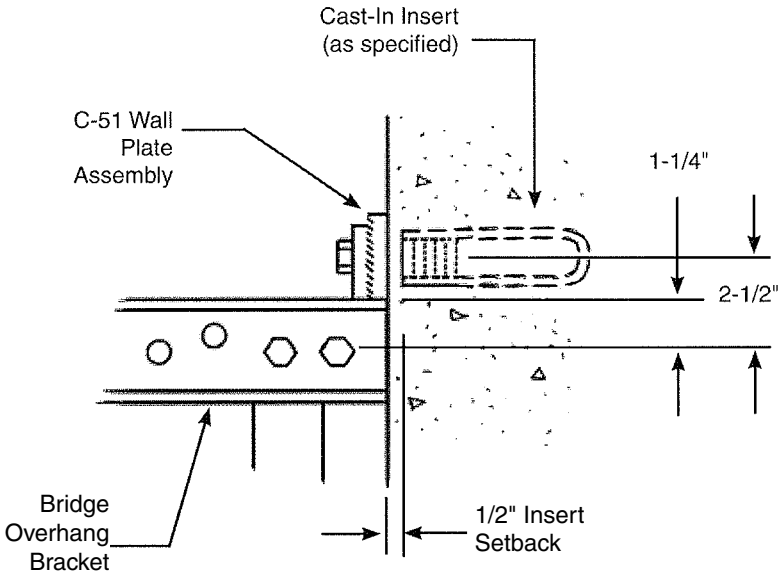


The C-51 Wall Plate Assembly is an optional device that allows direct attachment of either a C-49, C-49-D or C-49 Jr. Bridge Overhang Bracket to an insert that has been cast into a precast concrete bridge beam. The C-51 assembly consists of two parts, the Wall Plate and the Washer. Both parts are manufactured with machined threads on their face that allows for limited vertical adjustment of the bracket.

To attach the Wall Plate to a bracket, remove the rear 1/2" NC bolt, nut and spacer tube from the horizontal member of the bridge overhang and replace the spacer with the C-51 Wall Plate. Reuse the 1/2" NC bolt and nut to complete the installation of the wall plate to the bracket.

The C-51 assembly, depending on type of insert used, is designed to accept either a 3/4"-10 NC or 3/4"-4 1/2 coil threaded bolt to fasten the Wall Plate Assembly to the insert.

When ready to remove the bridge overhang bracket and C-51 Wall Plate Assembly for reuse, it is easiest to remove the 1/2" NC bolt freeing the bracket from the Wall Plate assembly, remove the bracket and then unbolt and remove the Wall Plate Assembly from the face of the precast member.



To Order:
Specify: (1) quantity and (2) name

Example:
155 pcs. C-51 Wall Plate Assembly

B-16 Coil Loop Insert, 3/4" x 6"

Although simple in design and fabrication, the 3/4” diameter x 6” long B-16 Coil Loop Insert is highly efficient for use in attaching the C-49 Bridge Overhang Brackets to a precast concrete box beam. The B-16 Insert is made using a single looped wire welded to a 3/4” diameter helix coil.

A 3/4” diameter B-14 Coil Bolt is used along with our C-51 Wall Plate Assembly as the connection between the bracket and the concrete.

To obtain the required load carrying capacity, the 3/4” coil bolt must extend at least 2 1/4” beyond the end of strut wire. A torque of 100 lb. ft. should be used to properly tighten the coil bolt

F-64 Ferrule Loop Insert, 3/4" x 6 1/8"

The 3/4” x 6 1/8”F-64 Ferrule Loop Insert is produced using a closed bottom ferrule that has been electrically resistance welded to a loop of wire. This makes for a strong, yet economical insert for use in attaching bridge overhang brackets to a precast concrete bridge beam.

A 3/4”-10 NC threaded bolt is used along with our C-51 Wall Plate Assembly as the connection between the bracket and the concrete.

To obtain the required load carrying capacity, the 3/4”-10 NC threaded bolt must extend into the ferrule at least 3/4”. A torque of 65 lb. ft. should be used to properly tighten the NC bolt.

If an attachment bolt “bottoms out” before it becomes securely tighten against the wall plate or adapter plate, remove the bolt and use sufficient 3/4” diameter cut washers under the head of the bolt so that the bolt can be properly secured. Minimum embedment into the insert shall be 3/4”.

Safety Note:
Failure to use the proper type or length of bolt, to engage the coil or ferrule, or properly tightened the bolt may result in an unexpected failure causing property damage, personal injury or death.

To Order:
Specify: (1) quantity, (2) name and (3) size

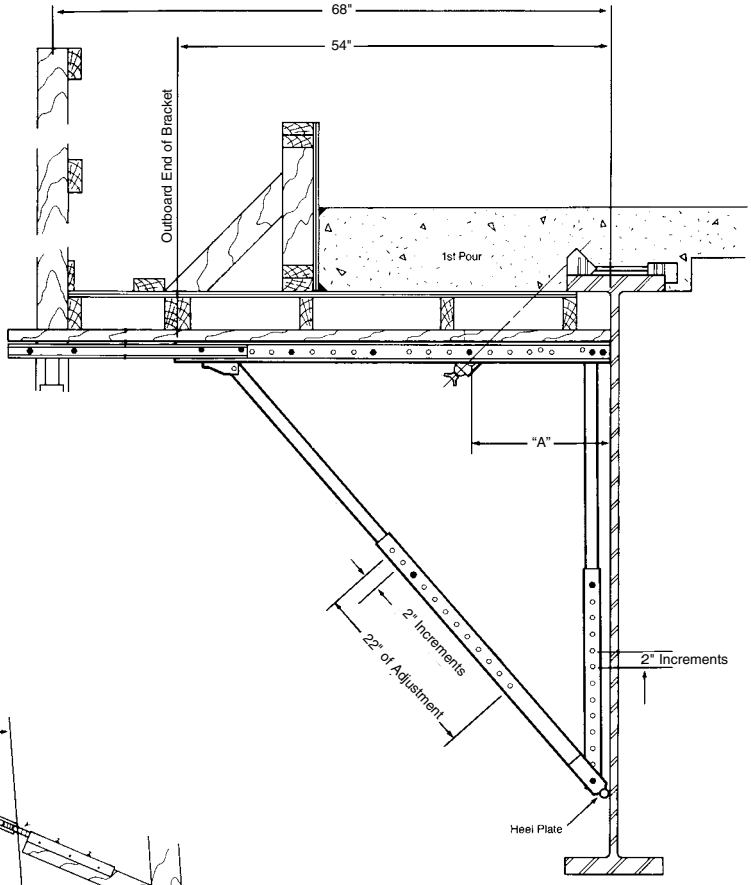
Example:
500 pcs., B-16 Coil Loop Insert 3/4" x 6"

Bridge Overhang Brackets

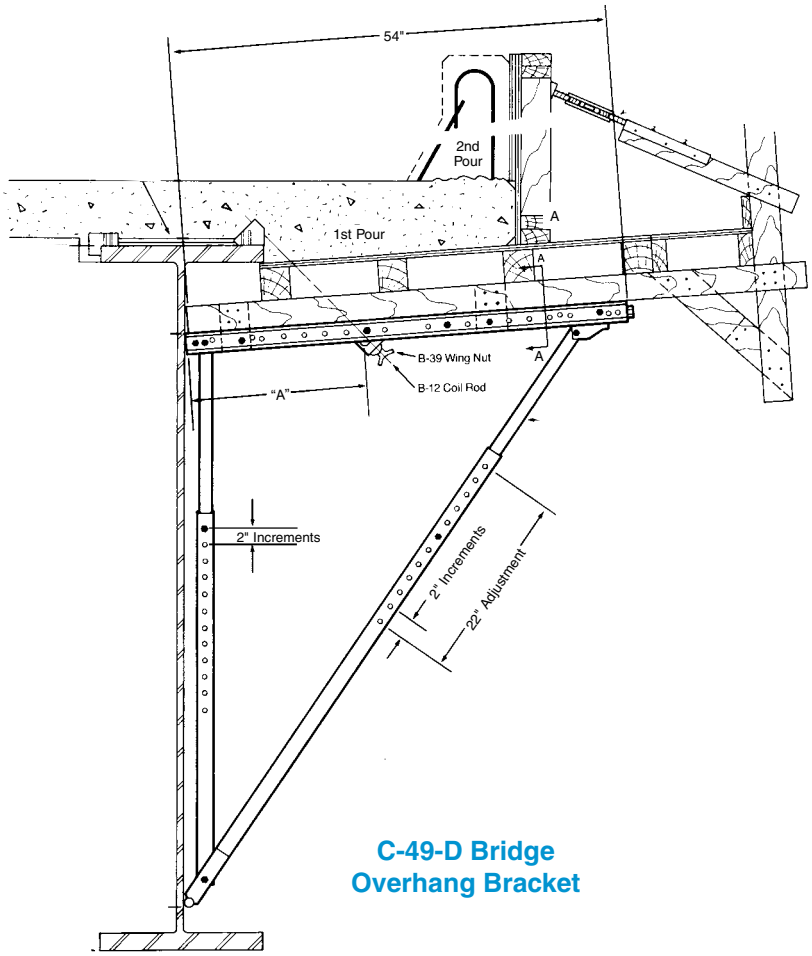
Typical Application On Steel Beams

Several DOTs require the overhang brackets, when used on steel beams, to bear within 6” of the bottom flange. Both the vertical and diagonal legs are adjustable in 2” increments, which allows the bracket to be quickly and easily adjusted so that the applied construction loads are transferred to near the bottom flange.

The various DOTs have found that moving the loads to the lower flange area greatly reduces the beams tendency to twist and bend under construction loads.



C-49 Bridge Overhang Bracket



C-49-D Bridge Overhang Bracket

On deeper beams, where the C-49 is too short to be correctly used, the C-49-D overhang bracket is recommended for use.

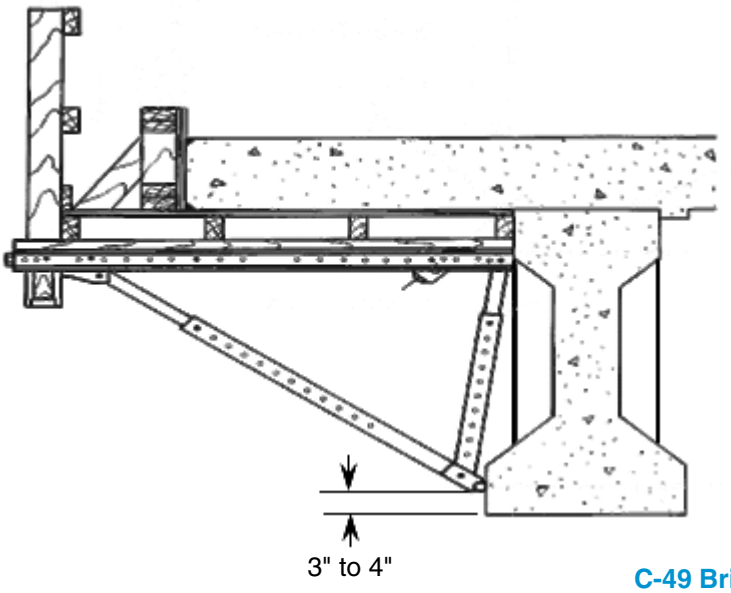
In situations where the overhang is longer than the horizontal members, double 2x lumber can be “cleated” to the bracket.

Either a 6x2 nailed to the horizontal members or double 2x’s are considered part of the bracket design and one or the other must be used at all times.

Typical Application On Concrete Beams

Dayton Superior recommends that brackets bear against the side of the bottom flange on precast concrete girders. This will reduce the number of changes required in setting up the overhang brackets.

Allowing 3” to 4” of clearance between the bottom of the vertical leg and the bottom of the concrete eliminates the chance of the concrete spalling due to the construction loads introduced into the girder from the diagonal leg.

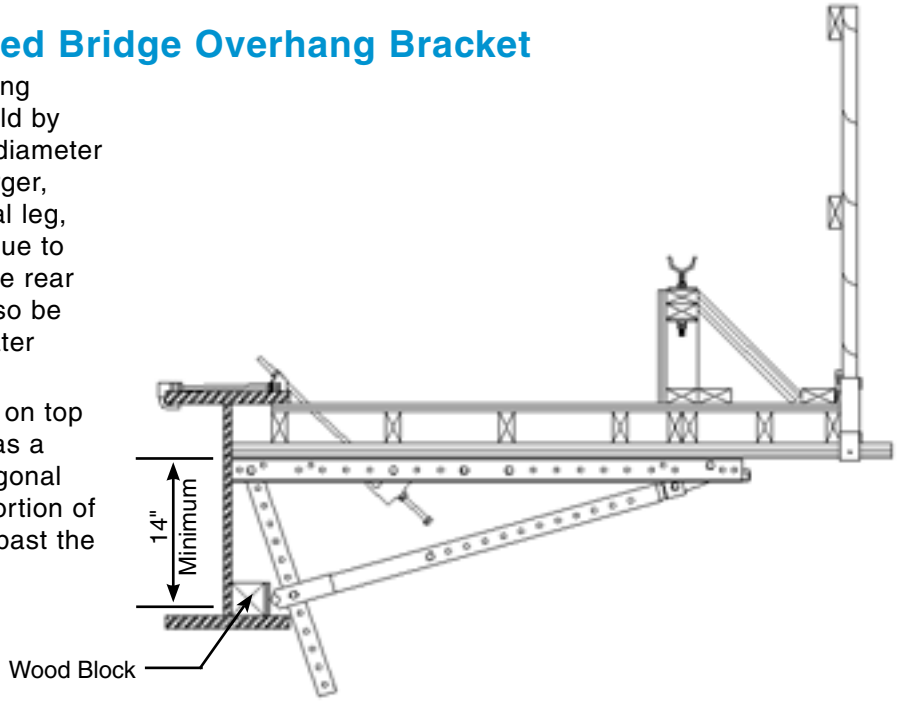


C-49 Bridge Overhang Bracket

C-49-S Field Modified Bridge Overhang Bracket

The C-49 Bridge Overhang Bracket is modified in the field by removing the smaller, inner diameter vertical leg and using the larger, outer as the bracket’s vertical leg, as shown. In some cases, due to manufacturing tolerances, the rear spacer, nut and bolt must also be removed and set aside for later re-assembly.

Wood blocking is placed on top of the bottom flange, to act as a support for the bracket’s diagonal leg. This allows the lower portion of the vertical leg to run “wild” past the beam’s bottom flange.



C-49-S Bridge Overhang Bracket
Actual Overhang Conditions May Vary

Bridge Overhang Brackets

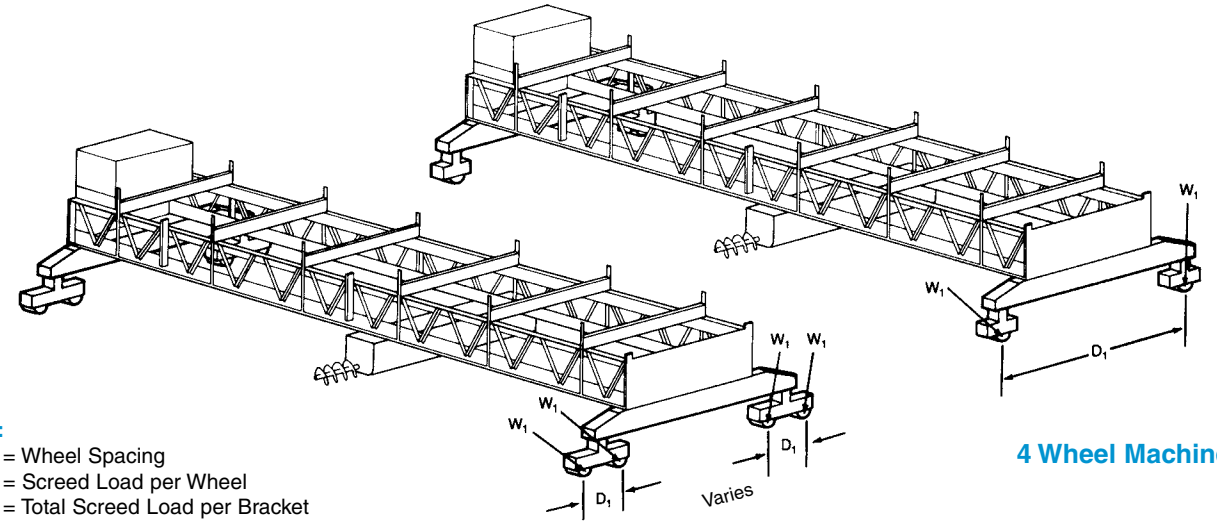
How to Use Spacing Tables

The Spacing Tables shown on the following pages indicate the maximum hanger and overhang bracket spacings for the various slab thicknesses and screed loads. The type of hanger and overhang bracket required, as well as the proper bracket "A" and "D" dimensions, which must be used to safely obtain the spacings shown, are listed.

When Selecting a trial hanger and overhang bracket spacing; and the selected spacing is:

- Equal to or less than D_1, multiply Wheel Load (W_1) by a Screed Load Factor of 1.0;
- Over D_1 and up to $2D_1$, multiply Wheel Load (W_1) by a Screed Load Factor of 1.5;
- Over $2D_1$ and up to $3D_1$, multiply Wheel Load (W_1) by a Screed Load Factor of 1.7;
- Over $3D_1$ and up to $4D_1$, multiply Wheel Load (W_1) by a Screed Load Factor of 1.9;
- Greater than $4D_1$, multiply Wheel Load (W_1) by a Screed Load Factor of 2.3; to determine a close approximation of the total Screed Load (S_1) that will be applied to an individual overhang bracket. Use this value or next highest incremental value for the total Screed Load (S_1) per bracket when using the spacing tables.

The two basic types of bridge deck finishing/screed machines in use today are illustrated below.



Note:
D_1 = Wheel Spacing
W_1 = Screed Load per Wheel
S_1 = Total Screed Load per Bracket

4 Wheel Machine

8 Wheel Machine

Example

40" Deep Plate Girder with 1" Thick Flanges
3'-0" Overhang
8" Thick Overhang Slab (157 PSF)
C-49 Bridge Overhang Bracket
C-60 Type 8-A Pres-Steel Hanger, 4,500 lbs.

8 Wheel Screed Machine
D_1 = 1'-6"
W_1 = 650 lbs. Wheel Load

As we are using the C-49 Overhang Bracket in the above example to support a 3'-0" overhang from a plate girder, the spacing table on page 70 should be used. The correct "D" dimension (30") is determined by subtracting from the girder's 40" depth, both flange thicknesses, the overall thickness of the form lumber plus a clearance allowance of 2" to 6".

For the above example it has been decided to use a trial hanger and bracket spacing of 4'-0". This results in a total screed load (S_1) per bracket of 1,105 lbs.

$$\frac{\text{4'-0" Trial Spacing}}{\text{1.5' } D_1} = 2.66$$, which means the Screed Load Factor (SLF) as shown above is 1.7.

$S_1 = (W_1)(SLF) = 650$ lbs. x 1.7 = 1,105 lbs.

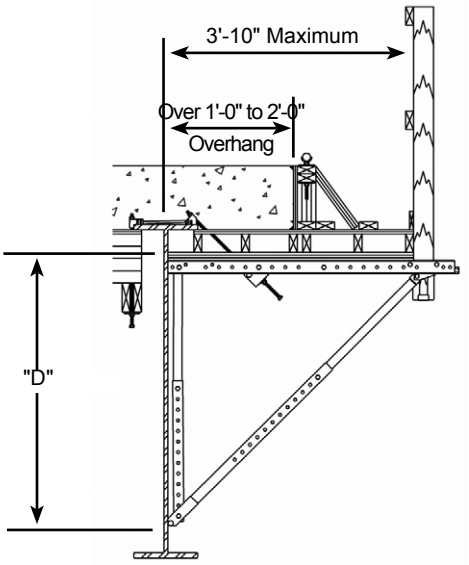
Enter the spacing table at 157 PSF design load (8" slab thickness), "D" = 30" and upper row for a 4,500 lb. Pres-Steel Hanger. Follow this row until it intersects the vertical column having a total screed load (S_1) per bracket of 1,250 lbs. The allowable hanger and bracket spacing is 3'-3".

Safety Note:

Contact the nearest Dayton Superior Technical Service Department for assistance on spacing requirements when a finishing machine and a conveyor are both to be used when placing concrete

C-49 Bridge Overhang Bracket and Exterior Hanger Spacing

Over 1'-0" to 2'-0" Overhangs On Steel Beams Or Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30" to 50"	*	*	*	1' 0"	1' 6"	2' 3"	3' 0"	5' 9"	3,000 to 3,500
			1' 9"	2' 6"	3' 3"	3' 9"	4' 6"	5' 3"	6' 0"	8' 0"	4,500 to 5,000
			4' 9"	5' 6"	6' 0"	6' 9"	7' 6"	8' 0"	8' 0"	8' 0"	6,000
157	8"	30" to 50"	*	*	*	*	1' 6"	2' 0"	2' 9"	5' 3"	3,000 to 3,500
			1' 6"	2' 3"	2' 9"	3' 6"	4' 0"	4' 9"	5' 3"	7' 9"	4,500 to 5,000
			4' 3"	4' 9"	5' 6"	6' 0"	6' 9"	7' 3"	8' 0"	8' 0"	6,000
184	10"	30" to 50"	*	*	*	*	1' 3"	1' 9"	2' 6"	4' 9"	3,000 to 3,500
			1' 6"	2' 0"	2' 6"	3' 0"	3' 9"	4' 3"	4' 9"	7' 0"	4,500 to 5,000
			3' 9"	4' 6"	5' 0"	5' 6"	6' 0"	6' 9"	7' 3"	8' 0"	6,000
210	12"	30" to 50"	*	*	*	*	1' 3"	1' 9"	2' 3"	4' 3"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 9"	3' 3"	4' 0"	4' 6"	6' 6"	4,500 to 5,000
			3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	6' 0"	6' 6"	8' 0"	6,000
237	14"	30" to 50"	*	*	*	*	1' 0"	1' 6"	2' 0"	4' 0"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 6"	3' 0"	3' 6"	4' 0"	6' 0"	4,500 to 5,000
			3' 3"	3' 9"	4' 3"	4' 9"	5' 3"	5' 6"	6' 0"	8' 0"	6,000
264	16"	30" to 50"	*	*	*	*	1' 0"	1' 6"	1' 9"	3' 9"	3,000 to 3,500
			1' 0"	1' 6"	2' 0"	2' 6"	2' 9"	3' 3"	3' 9"	5' 6"	4,500 to 5,000
			3' 0"	3' 6"	3' 9"	4' 3"	4' 9"	5' 3"	5' 9"	7' 6"	6,000
290	18"	30" to 50"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	1' 9"	2' 3"	2' 9"	3' 0"	3' 6	5' 3"	4,500 to 5,000
			2' 9"	3' 3"	3' 6"	4' 0"	4' 6"	4' 9"	5' 3"	7' 0"	6,000
317	20"	30" to 50"	*	*	*	*	*	1' 3"	1' 6"	3' 3"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	3' 0"	3' 3"	4' 9"	4,500 to 5,000
			2' 6"	3' 0"	3' 3"	3' 9"	4' 3"	4' 6"	5' 0"	6' 6"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

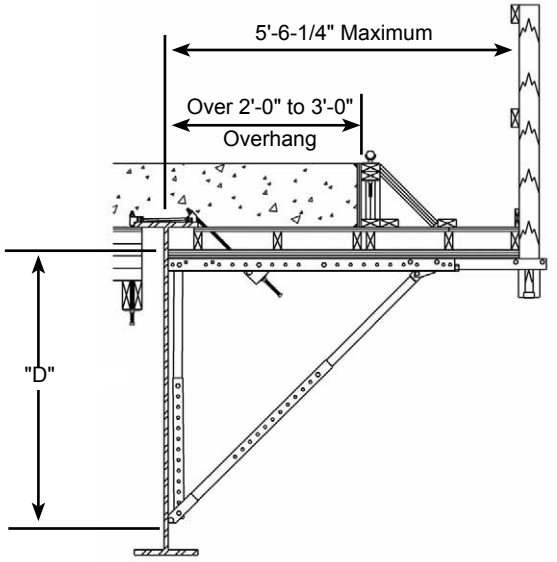
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49 Bridge Overhang Bracket and Exterior Hanger Spacing

Over 2' -0" to 3' -0" Overhangs on Steel Beams Or Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30" to 50"	*	*	*	*	1' 0"	1' 6"	2' 0"	4' 0"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 6"	3' 0"	3' 6"	4' 0"	6' 0"	4,500 to 5,000
			3' 3"	3' 9"	4' 3"	4' 6"	5' 0"	5' 6"	6' 0"	8' 0"	6,000
157	8"	30" to 50"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	1' 9"	2' 3"	2' 9"	3' 3"	3' 6"	5' 3"	4,500 to 5,000
			2' 9"	3' 3"	3' 9"	4' 0"	4' 6"	5' 0"	5' 3"	7' 0"	6,000
184	10"	30" to 50"	*	*	*	*	*	1' 3"	1' 6"	3' 0"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	2' 9"	3' 3"	4' 9"	4,500 to 5,000
			2' 6"	3' 0"	3' 3"	3' 9"	4' 0"	4' 6"	4' 9"	6' 3"	6,000
210	12"	30" to 50"	*	*	*	*	*	1' 0"	1' 6"	2' 9"	3,000 to 3,500
			*	1' 3"	1' 6"	1' 9"	2' 3"	2' 6"	3' 0"	4' 3"	4,500 to 5,000
			2' 3"	2' 6"	3' 0"	3' 3"	3' 9"	4' 0"	4' 3"	5' 9"	6,000
237	14"	30" to 50"	*	*	*	*	*	1' 0"	1' 3"	2' 6"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 9"	2' 0"	2' 3"	2' 9"	4' 0"	4,500 to 5,000
			2' 0"	2' 6"	2' 9"	3' 0"	3' 3"	3' 9"	4' 0"	5' 3"	6,000
264	16"	30" to 50"	*	*	*	*	*	1' 0"	1' 3"	2' 3"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	1' 9"	2' 3"	2' 6"	3' 6"	4,500 to 5,000
			2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	3' 9"	4' 9"	6,000
290	18"	30" to 50"	*	*	*	*	*	*	1' 0"	2' 3"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	3' 3"	4,500 to 5,000
			1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 6"	4' 6"	6,000
317	20"	30" to 50"	*	*	*	*	*	*	1' 0"	2' 0"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	3' 0"	4,500 to 5,000
			1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	4' 3"	6,000

NOTES:

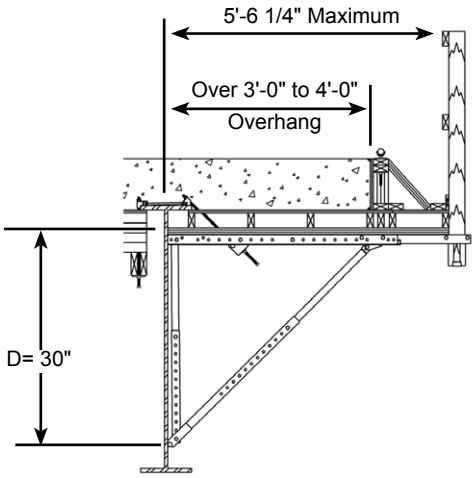
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) For a nominal charge, Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49 Bridge Overhang Bracket and Exterior Hanger Spacing

Over 3' -0" to 4' -0" Overhangs on Steel Beams or Girders - 30" "D" Dimension



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30"	*	*	*	*	*	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			*	1' 3"	1' 9"	2' 3"	2' 9"	3' 0"	3' 6"	5' 3"	4,500 to 5,000
			*	1' 6"	2' 0"	2' 9"	3' 6"	4' 3"	5' 3"	7' 0"	6,000
157	8"	30"	*	*	*	*	*	1' 0"	1' 6"	3' 0"	3,000 to 3,500
			*	1' 0"	1' 6"	2' 0"	2' 3"	2' 9"	3' 0"	4' 6"	4,500 to 5,000
			*	1' 3"	1' 9"	2' 6"	3' 3"	4' 0"	4' 6"	6' 0"	6,000
184	10"	30"	*	*	*	*	*	1' 0"	1' 3"	2' 6"	3,000 to 3,500
			*	*	1' 3"	1' 9"	2' 0"	2' 3"	2' 9"	4' 0"	4,500 to 5,000
			*	1' 0"	1' 6"	2' 3"	3' 0"	3' 6"	4' 0"	5' 3"	6,000
210	12"	30"	*	*	*	*	*	*	1' 3"	2' 3"	3,000 to 3,500
			*	*	1' 0"	1' 6"	1' 9"	2' 0"	2' 3"	3' 6"	4,500 to 5,000
			*	1' 0"	1' 6"	2' 0"	2' 9"	3' 3"	3' 6"	4' 9"	6,000
237	14"	30"	*	*	*	*	*	*	1' 0"	2' 0"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	3' 3"	4,500 to 5,000
			*	1' 0"	1' 3"	1' 9"	2' 3"	3' 0"	3' 3"	4' 3"	6,000
264	16"	30"	*	*	*	*	*	*	1' 0"	1' 9"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 9"	4,500 to 5,000
			*	*	1' 3"	1' 9"	2' 3"	2' 9"	3' 0"	3' 9"	6,000
290	18"	30"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 6"	4,500 to 5,000
			*	*	1' 0"	1' 6"	2' 0"	2' 6"	2' 9"	3' 6"	6,000
317	20"	30"	*	*	*	*	*	*	*	1' 6"	3,000 to 3,500
			*	*	*	1' 0"	1' 3"	1' 6"	1' 6"	2' 6"	4,500 to 5,000
			*	*	1' 0"	1' 6"	1' 9"	2' 3"	2' 6"	3' 3"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

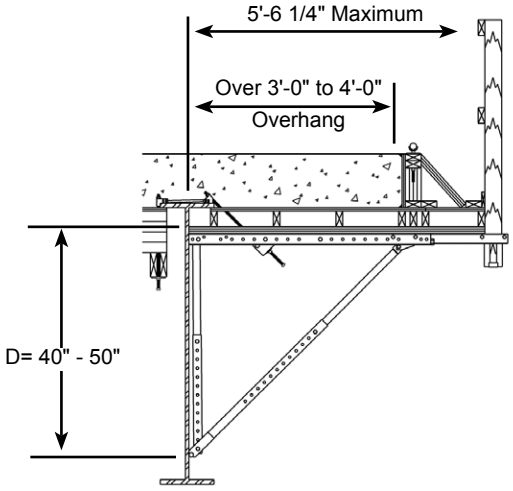
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) For a nominal charge, Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49 Bridge Overhang Bracket and Exterior Hanger Spacing

Over 3' -0" to 4' -0" Overhangs On Steel Beams or Girders - 40" to 50" "D" Dimension



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	40" to 50"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	1' 9"	2' 3"	2' 9"	3' 0"	3' 6"	5' 3"	4,500 to 5,000
			2' 3"	3' 0"	3' 6"	4' 0"	4' 6"	4' 9"	5' 3"	7' 0"	6,000
157	8"	40" to 50"	*	*	*	*	*	1' 0"	1' 6"	3' 0"	3,000 to 3,500
			*	1' 3"	1' 6"	2' 0"	2' 3"	2' 9"	3' 0"	4' 6"	4,500 to 5,000
			2' 0"	2' 9"	3' 0"	3' 6"	3' 9"	4' 3"	4' 6"	6' 0"	6,000
184	10"	40" to 50"	*	*	*	*	*	1' 0"	1' 3"	2' 6"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 9"	2' 0"	2' 3"	2' 9"	4' 0"	4,500 to 5,000
			1' 9"	2' 6"	2' 9"	3' 0"	3' 3"	3' 9"	4' 0"	5' 3"	6,000
210	12"	40" to 50"	*	*	*	*	*	*	1' 3"	2' 3"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	3' 6"	4,500 to 5,000
			1' 9"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	3' 6"	4' 9"	6,000
237	14"	40" to 50"	*	*	*	*	*	*	1' 0"	2' 0"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	3' 3"	4,500 to 5,000
			1' 6"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	4' 3"	6,000
264	16"	40" to 50"	*	*	*	*	*	*	1' 0"	1' 9"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 9"	4,500 to 5,000
			1' 6"	1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 9"	6,000
290	18"	40" to 50"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	1' 0"	1' 0"	1' 3"	1' 6"	1' 9"	2' 6"	4,500 to 5,000
			1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 6"	6,000
317	20"	40" to 50"	*	*	*	*	*	*	*	1' 6"	3,000 to 3,500
			*	*	*	1' 0"	1' 3"	1' 6"	1' 6"	2' 6"	4,500 to 5,000
			1' 3"	1' 6"	1' 9"	1' 9"	2' 0"	2' 3"	2' 6"	3' 3"	6,000

NOTES:

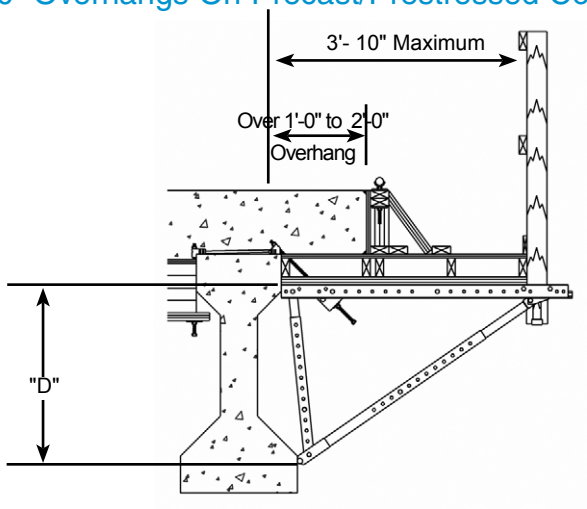
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) For a nominal charge, Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49 Bridge Overhang Bracket and Exterior Hanger Spacing

Over 1'-0" to 2'-0" Overhangs On Precast/Prestressed Concrete Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30" to 50"	*	*	*	*	1' 3"	2' 0"	2' 6"	4' 9"	3,000 to 3,500
			1' 6"	2' 0"	2' 9"	3' 3"	3' 9"	4' 6"	5' 0"	7' 3"	4,500 to 5,000
			4' 0"	4' 6"	5' 3"	5' 9"	6' 3"	7' 0"	7' 6"	8' 0"	6,000
157	8"	30" to 50"	*	*	*	*	1' 3"	1' 9"	2' 3"	4' 3"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 9"	3' 6"	4' 0"	4' 6"	6' 6"	4,500 to 5,000
			3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	6' 0"	6' 9"	8' 0"	6,000
184	10"	30" to 50"	*	*	*	*	1' 0"	1' 6"	2' 0"	3' 9"	3,000 to 3,500
			1' 3"	1' 6"	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	5' 9"	4,500 to 5,000
			3' 3"	3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	6' 0"	7' 9"	6,000
210	12"	30" to 50"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	2' 0"	2' 3"	2' 9"	3' 3"	3' 6"	5' 3"	4,500 to 5,000
			2' 9"	3' 3"	3' 9"	4' 0"	4' 6"	5' 0"	5' 6"	7' 0"	6,000
237	14"	30" to 50"	*	*	*	*	*	1' 3"	1' 9"	3' 3"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	3' 0"	3' 3"	4' 9"	4,500 to 5,000
			2' 6"	3' 0"	3' 6"	3' 9"	4' 3"	4' 6"	5' 0"	6' 6"	6,000
264	16"	30" to 50"	*	*	*	*	*	1' 3"	1' 6"	3' 0"	3,000 to 3,500
			*	1' 3"	1' 6"	2' 0"	2' 3"	2' 9"	3' 0"	4' 6"	4,500 to 5,000
			2' 6"	2' 9"	3' 0"	3' 6"	3' 9"	4' 3"	4' 6"	6' 0"	6,000
290	18"	30" to 50"	*	*	*	*	*	1' 0"	1' 6"	2' 9"	3,000 to 3,500
			*	1' 0"	1' 6"	1' 9"	2' 3"	2' 6"	2' 9"	4' 3"	4,500 to 5,000
			2' 3"	2' 6"	3' 0"	3' 3"	3' 6"	4' 0"	4' 3"	5' 6"	6,000
317	20"	30" to 50"	*	*	*	*	*	1' 0"	1' 3"	2' 6"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 9"	2' 0"	2' 3"	2' 6"	3' 9"	4,500 to 5,000
			2' 0"	2' 3"	2' 9"	3' 0"	3' 3"	3' 6"	4' 0"	5' 3"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

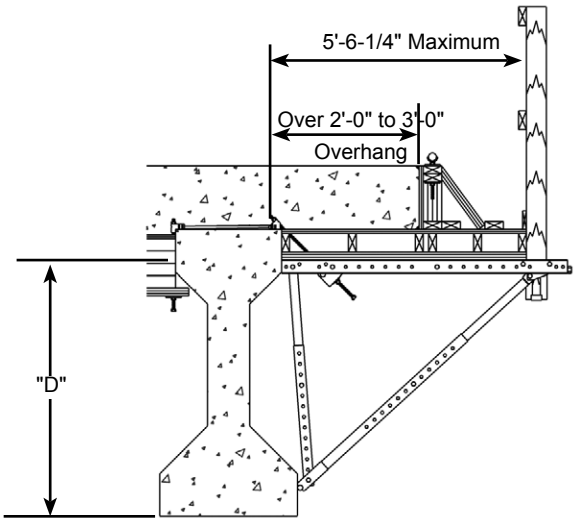
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49 Bridge Overhang Bracket and Exterior Hanger Spacing

Over 2' -0" to 3' -0" Overhangs On Precast/Prestressed Concrete Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30" to 50"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	2' 0"	2' 3"	2' 9"	3' 3"	3' 6"	5' 3"	4,500 to 5,000
			2' 3"	2' 9"	3' 6"	4' 0"	4' 6"	5' 0"	5' 3"	7' 0"	6,000
157	8"	30" to 50"	*	*	*	*	*	1' 3"	1' 6"	3' 0"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	2' 9"	3' 3"	4' 6"	4,500 to 5,000
			2' 6"	2' 9"	3' 3"	3' 6"	4' 0"	4' 3"	4' 9"	6' 3"	6,000
184	10"	30" to 50"	*	*	*	*	*	1' 0"	1' 3"	2' 9"	3,000 to 3,500
			*	1' 0"	1' 6"	1' 9"	2' 0"	2' 6"	2' 9"	4' 0"	4,500 to 5,000
			2' 3"	2' 6"	2' 9"	3' 3"	3' 6"	3' 9"	4' 3"	5' 6"	6,000
210	12"	30" to 50"	*	*	*	*	*	1' 0"	1' 3"	2' 6"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	2' 0"	2' 3"	2' 6"	3' 9"	4,500 to 5,000
			2' 0"	2' 3"	2' 6"	3' 0"	3' 3"	3' 6"	3' 9"	5' 0"	6,000
237	14"	30" to 50"	*	*	*	*	*	*	1' 0"	2' 3"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	3' 3"	4,500 to 5,000
			1' 9"	2' 0"	2' 3"	2' 6"	3' 0"	3' 3"	3' 6"	4' 6"	6,000
264	16"	30" to 50"	*	*	*	*	*	*	1' 0"	2' 0"	3,000 to 3,500
			*	*	1' 0"	1" 3"	1' 6"	1' 9"	2' 0"	3' 0"	4,500 to 5,000
			1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	4' 3"	6,000
290	18"	30" to 50"	*	*	*	*	*	*	1' 0"	1' 9"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 9"	4,500 to 5,000
			1' 6"	1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 9"	6,000
317	20"	30" to 50"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	1' 0"	1' 0"	1' 3"	1' 6"	1' 9"	2' 9"	4,500 to 5,000
			1' 6"	1' 6"	1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 6"	6,000

NOTES:

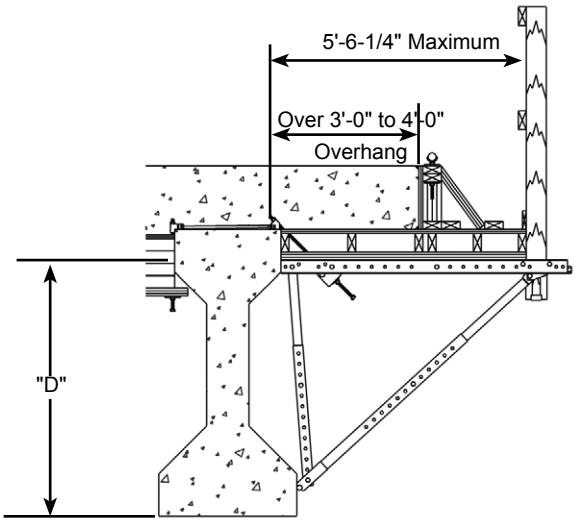
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49 Bridge Overhang Bracket and Exterior Hanger Spacing

Over 3' -0" to 4' -0" Overhangs On Precast/Prestressed Concrete Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30" to 50"	*	*	*	*	*	1' 0"	1' 6"	3' 0"	3,000 to 3,500
			*	*	*	1' 9"	2' 6"	2' 9"	3' 3"	4' 6"	4,500 to 5,000
			*	*	*	1' 9"	2' 6"	3' 0"	3' 9"	6' 9"	6,000
157	8"	30" to 50"	*	*	*	*	*	*	1' 3"	2' 6"	3,000 to 3,500
			*	*	*	1' 6"	2' 0"	2' 3"	2' 9"	4' 0"	4,500 to 5,000
			*	*	*	1' 6"	2' 3"	2' 9"	3' 6"	5' 3"	6,000
184	10"	30" to 50"	*	*	*	*	*	*	1' 3"	2' 3"	3,000 to 3,500
			*	*	*	1' 3"	1' 9"	2' 0"	2' 3"	3' 6"	4,500 to 5,000
			*	*	*	1' 6"	2' 0"	2' 6"	3' 0"	4' 9"	6,000
210	12"	30" to 50"	*	*	*	*	*	*	1' 0"	2' 0"	3,000 to 3,500
			*	*	*	1' 3"	1' 6"	1' 9"	2' 0"	3' 0"	4,500 to 5,000
			*	*	*	1' 3"	1' 9"	2' 3"	2' 9"	4' 3"	6,000
237	14"	30" to 50"	*	*	*	*	*	*	1' 0"	1' 9"	3,000 to 3,500
			*	*	*	1' 0"	1' 6"	1' 9"	1' 9"	2' 9"	4,500 to 5,000
			*	*	*	1' 0"	1' 6"	2' 0"	2' 6"	3' 9"	6,000
264	16"	30" to 50"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 6"	4,500 to 5,000
			*	*	*	1' 0"	1' 6"	1' 9"	2' 3"	3' 6"	6,000
290	18"	30" to 50"	*	*	*	*	*	*	*	1' 6"	3,000 to 3,500
			*	*	*	*	1' 0"	1' 3"	1' 6"	2' 3"	4,500 to 5,000
			*	*	*	1' 0"	1' 3"	1' 9"	2' 0"	3' 0"	6,000
317	20"	30" to 50"	*	*	*	*	*	*	*	1' 3"	3,000 to 3,500
			*	*	*	*	1' 0"	1' 3"	1' 6"	2' 0"	4,500 to 5,000
			*	*	*	*	1' 3"	1' 6"	2' 0"	2' 9"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

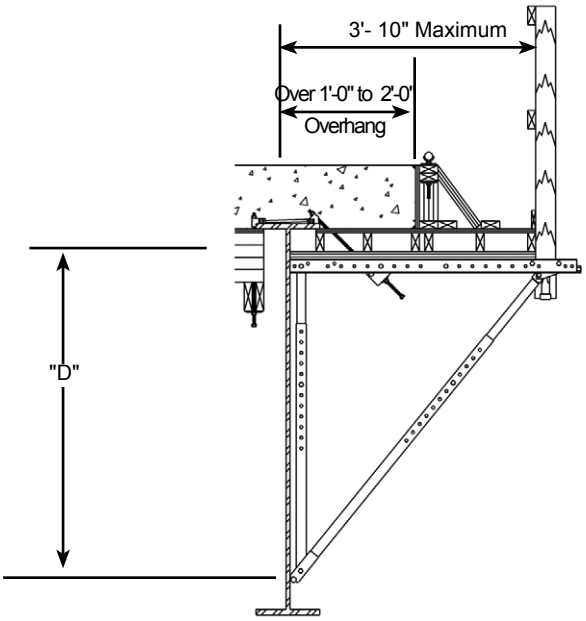
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49-D Bridge Overhang Bracket and Exterior Hanger Spacing

Over 1'-0" to 2'-0" Overhangs on Steel Beams or Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	50" to 70"	*	*	*	1' 0"	1' 6"	2' 3"	3' 0"	5' 9"	3,000 to 3,500
			1' 9"	2' 6"	3' 3"	3' 9"	4' 6"	5' 3"	6' 0"	8' 0"	4,500 to 5,000
			4' 9"	5' 6"	6' 0"	6' 9"	7' 6"	8' 0"	8' 0"	8' 0"	6,000
157	8"	50" to 70"	*	*	*	*	1' 6"	2' 0"	2' 9"	5' 3"	3,000 to 3,500
			1' 6"	2' 3"	2' 9"	3' 6"	4' 0"	4' 9"	5' 3"	7' 9"	4,500 to 5,000
			4' 3"	4' 9"	5' 6"	6' 0"	6' 9"	7' 3"	8' 0"	8' 0"	6,000
184	10"	50" to 70"	*	*	*	*	1' 3"	1' 9"	2' 6"	4' 9"	3,000 to 3,500
			1' 6"	2' 0"	2' 6"	3' 0"	3' 9"	4' 3"	4' 9"	7' 0"	4,500 to 5,000
			3' 9"	4' 6"	5' 0"	5' 6"	6' 0"	6' 9"	7' 3"	8' 0"	6,000
210	12"	50" to 70"	*	*	*	*	1' 3"	1' 9"	2' 3"	4' 3"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 9"	3' 3"	4' 0"	4' 6"	6' 6"	4,500 to 5,000
			3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	6' 0"	6' 6"	8' 0"	6,000
237	14"	50" to 70"	*	*	*	*	1' 0"	1' 6"	2' 0"	4' 0"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 6"	3' 0"	3' 6"	4' 0"	6' 0"	4,500 to 5,000
			3' 3"	3' 9"	4' 3"	4' 9"	5' 3"	5' 6"	6' 0"	8' 0"	6,000
264	16"	50" to 70"	*	*	*	*	1' 0"	1' 6"	1' 9"	3' 9"	3,000 to 3,500
			1' 0"	1' 6"	2' 0"	2' 6"	2' 9"	3' 3"	3' 9"	5' 6"	4,500 to 5,000
			3' 0"	3' 6"	3' 9"	4' 3"	4' 9"	5' 3"	5' 9"	7' 6"	6,000
290	18"	50" to 70"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	1' 9"	2' 3"	2' 9"	3' 0"	3' 6	5' 3"	4,500 to 5,000
			2' 9"	3' 3"	3' 6"	4' 0"	4' 6"	4' 9"	5' 3"	7' 0"	6,000
317	20"	50" to 70"	*	*	*	*	*	1' 3"	1' 6"	3' 3"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	3' 0"	3' 3"	4' 9"	4,500 to 5,000
			2' 6"	3' 0"	3' 3"	3' 9"	4' 3"	4' 6"	5' 0"	6' 6"	6,000

NOTES:

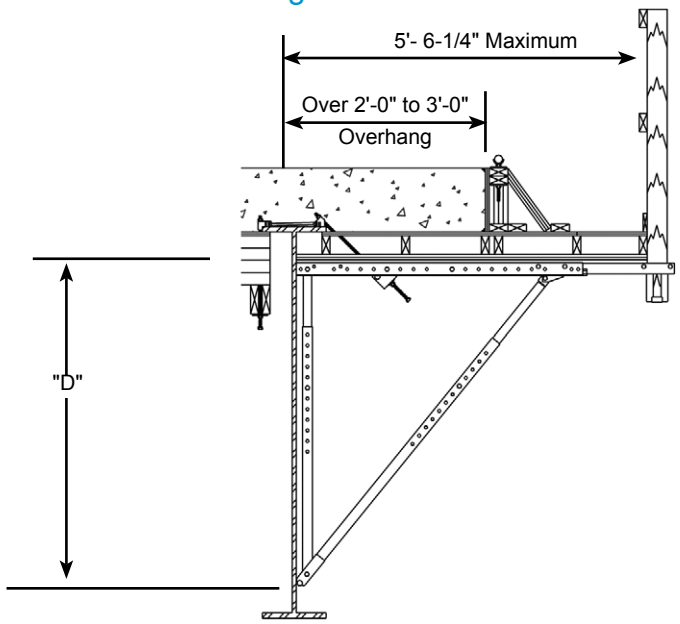
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49-D Bridge Overhang Bracket and Exterior Hanger Spacing

Over 2' -0" to 3' -0" Overhangs On Steel Beams Or Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	50" to 70"	*	*	*	*	1' 0"	1' 6"	2' 0"	4' 0"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 6"	3' 0"	3' 6"	4' 0"	6' 0"	4,500 to 5,000
			3' 3"	3' 9"	4' 3"	4' 6"	5' 0"	5' 6"	6' 0"	8' 0"	6,000
157	8"	50" to 70"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	1' 9"	2' 3"	2' 9"	3' 3"	3' 6"	5' 3"	4,500 to 5,000
			2' 9"	3' 3"	3' 9"	4' 0"	4' 6"	5' 0"	5' 3"	7' 0"	6,000
184	10"	50" to 70"	*	*	*	*	*	1' 3"	1' 6"	3' 0"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	2' 9"	3' 3"	4' 9"	4,500 to 5,000
			2' 6"	3' 0"	3' 3"	3' 9"	4' 0"	4' 6"	4' 9"	6' 3"	6,000
210	12"	50" to 70"	*	*	*	*	*	1' 0"	1' 6"	2' 9"	3,000 to 3,500
			*	1' 3"	1' 6"	1' 9"	2' 3"	2' 6"	3' 0"	4' 3"	4,500 to 5,000
			2' 3"	2' 6"	3' 0"	3' 3"	3' 9"	4' 0"	4' 3"	5' 9"	6,000
237	14"	50" to 70"	*	*	*	*	*	1' 0"	1' 3"	2' 6"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 9"	2' 0"	2' 3"	2' 9"	4' 0"	4,500 to 5,000
			2' 0"	2' 6"	2' 9"	3' 0"	3' 3"	3' 9"	4' 0"	5' 3"	6,000
264	16"	50" to 70"	*	*	*	*	*	1' 0"	1' 3"	2' 3"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	1' 9"	2' 3"	2' 6"	3' 6"	4,500 to 5,000
			2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	3' 9"	4' 9"	6,000
290	18"	50" to 70"	*	*	*	*	*	*	1' 0"	2' 3"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	3' 3"	4,500 to 5,000
			1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 6"	4' 6"	6,000
317	20"	50" to 70"	*	*	*	*	*	*	1' 0"	2' 0"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	3' 0"	4,500 to 5,000
			1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	4' 3"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

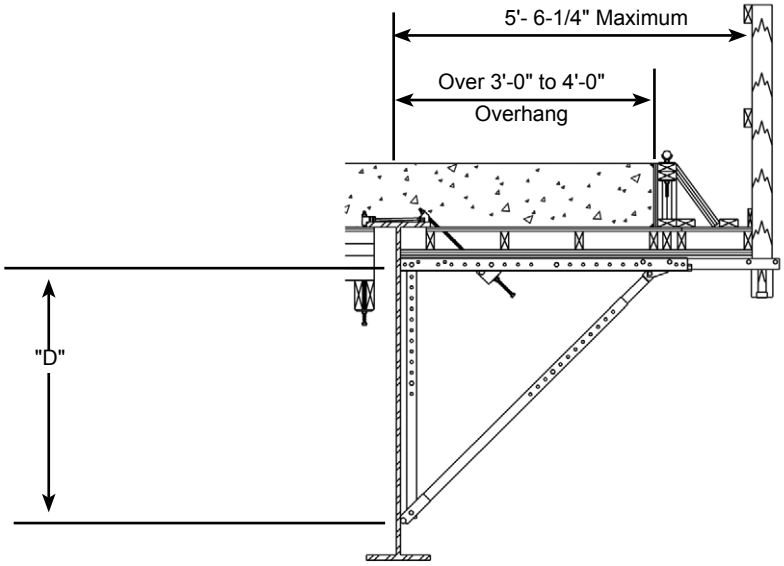
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49-D Bridge Overhang Bracket and Exterior Hanger Spacing

Over 3' -0" to 4' -0" Overhangs On Steel Beams or Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	50" to 70"	*	*	*	*	*	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	1' 9"	2' 3"	2' 9"	3' 0"	3' 6"	5' 3"	4,500 to 5,000
			2' 9"	3' 3"	3' 6"	4' 0"	4' 6"	4' 9"	5' 3"	7' 0"	6,000
157	8"	50" to 70"	*	*	*	*	*	1' 0"	1' 6"	3' 0"	3,000 to 3,500
			*	1' 3"	1' 6"	2' 0"	2' 3"	2' 9"	3' 0"	4' 6"	4,500 to 5,000
			2' 3"	2' 9"	3' 0"	3' 6"	3' 9"	4' 3"	4' 6"	6' 0"	6,000
184	10"	50" to 70"	*	*	*	*	*	1' 0"	1' 3"	2' 6"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 9"	2' 0"	2' 3"	2' 9"	4' 0"	4,500 to 5,000
			2' 0"	2' 6"	2' 9"	3' 0"	3' 6"	3' 9"	4' 0"	5' 3"	6,000
210	12"	50" to 70"	*	*	*	*	*	*	1' 3"	2' 3"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	3' 6"	4,500 to 5,000
			1' 9"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	3' 6"	4' 9"	6,000
237	14"	50" to 70"	*	*	*	*	*	*	1' 0"	2' 0"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	3' 3"	4,500 to 5,000
			1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	4' 3"	6,000
264	16"	50" to 70"	*	*	*	*	*	*	1' 0"	1' 9"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 9"	4,500 to 5,000
			1' 6"	1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 9"	6,000
290	18"	50" to 70"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 6"	4,500 to 5,000
			1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 6"	6,000
317	20"	50" to 70"	*	*	*	*	*	*	*	1' 6"	3,000 to 3,500
			*	*	*	1' 0"	1' 3"	1' 6"	1' 6"	2' 6"	4,500 to 5,000
			1' 3"	1' 6"	1' 9"	1' 9"	2' 0"	2' 3"	2' 6"	3' 3"	6,000

NOTES:

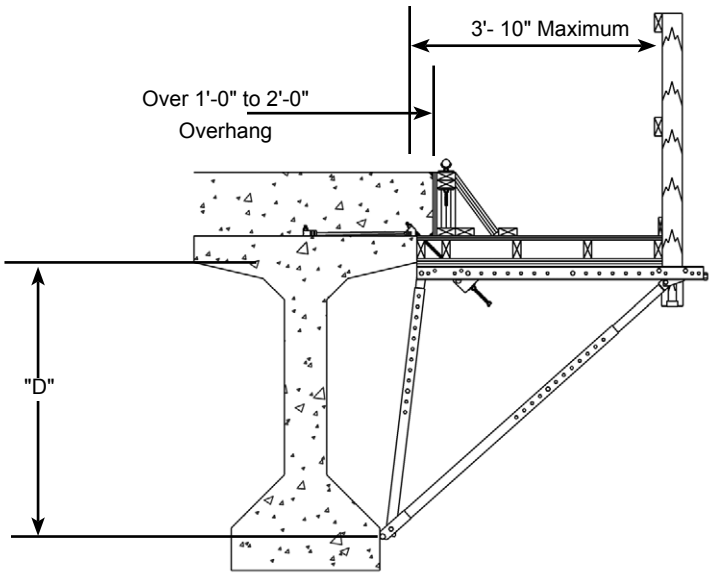
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49-D Bridge Overhang Bracket and Exterior Hanger Spacing

Over 1'-0" to 2'-0" Overhangs On Precast/Prestressed Concrete Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	50" to 70"	*	*	*	*	1' 3"	2' 0"	2' 6"	4' 9"	3,000 to 3,500
			1' 6"	2' 0"	2' 9"	3' 3"	3' 9"	4' 6"	5' 0"	7' 3"	4,500 to 5,000
			4' 0"	4' 6"	5' 3"	5' 9"	6' 3"	7' 0"	7' 6"	8' 0"	6,000
157	8"	50" to 70"	*	*	*	*	1' 3"	1' 9"	2' 3"	4' 3"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 9"	3' 6"	4' 0"	4' 6"	6' 6"	4,500 to 5,000
			3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	6' 0"	6' 9"	8' 0"	6,000
184	10"	50" to 70"	*	*	*	*	1' 0"	1' 6"	2' 0"	3' 9"	3,000 to 3,500
			1' 3"	1' 6"	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	5' 9"	4,500 to 5,000
			3' 3"	3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	6' 0"	7' 9"	6,000
210	12"	50" to 70"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	2' 0"	2' 3"	2' 9"	3' 3"	3' 6"	5' 3"	4,500 to 5,000
			2' 9"	3' 3"	3' 9"	4' 0"	4' 6"	5' 0"	5' 6"	7' 0"	6,000
237	14"	50" to 70"	*	*	*	*	*	1' 3"	1' 9"	3' 3"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	3' 0"	3' 3"	4' 9"	4,500 to 5,000
			2' 6"	3' 0"	3' 6"	3' 9"	4' 3"	4' 6"	5' 0"	6' 6"	6,000
264	16"	50" to 70"	*	*	*	*	*	1' 3"	1' 6"	3' 0"	3,000 to 3,500
			*	1' 3"	1' 6"	2' 0"	2' 3"	2' 9"	3' 0"	4' 6"	4,500 to 5,000
			2' 6"	2' 9"	3' 0"	3' 6"	3' 9"	4' 3"	4' 6"	6' 0"	6,000
290	18"	50" to 70"	*	*	*	*	*	1' 0"	1' 6"	2' 9"	3,000 to 3,500
			*	1' 0"	1' 6"	1' 9"	2' 3"	2' 6"	2' 9"	4' 3"	4,500 to 5,000
			2' 3"	2' 6"	3' 0"	3' 3"	3' 6"	4' 0"	4' 3"	5' 6"	6,000
317	20"	50" to 70"	*	*	*	*	*	1' 0"	1' 3"	2' 6"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 9"	2' 0"	2' 3"	2' 6"	3' 9"	4,500 to 5,000
			2' 0"	2' 3"	2' 9"	3' 0"	3' 3"	3' 6"	4' 0"	5' 3"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

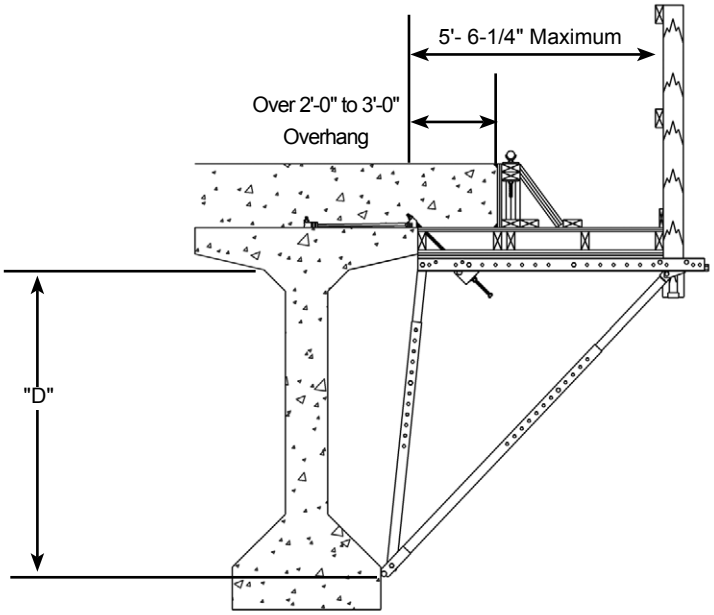
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49-D Bridge Overhang Bracket and Exterior Hanger Spacing

Over 2'-0" to 3'-0" Overhangs On Precast/Prestressed Concrete Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	50" to 70"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	2' 0"	2' 3"	2' 9"	3' 3"	3' 6"	5' 3"	4,500 to 5,000
			2' 3"	2' 9"	3' 6"	4' 0"	4' 6"	5' 0"	5' 3"	7' 0"	6,000
157	8"	50" to 70"	*	*	*	*	*	1' 3"	1' 6"	3' 0"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	2' 9"	3' 3"	4' 6"	4,500 to 5,000
			2' 6"	2' 9"	3' 3"	3' 6"	4' 0"	4' 3"	4' 9"	6' 3"	6,000
184	10"	50" to 70"	*	*	*	*	*	1' 0"	1' 3"	2' 9"	3,000 to 3,500
			*	1' 0"	1' 6"	1' 9"	2' 0"	2' 6"	2' 9"	4' 0"	4,500 to 5,000
			2' 3"	2' 6"	2' 9"	3' 3"	3' 6"	3' 9"	4' 3"	5' 6"	6,000
210	12"	50" to 70"	*	*	*	*	*	1' 0"	1' 3"	2' 6"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	2' 0"	2' 3"	2' 6"	3' 9"	4,500 to 5,000
			2' 0"	2' 3"	2' 6"	3' 0"	3' 3"	3' 6"	3' 9"	5' 0"	6,000
237	14"	50" to 70"	*	*	*	*	*	*	1' 0"	2' 3"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	3' 3"	4,500 to 5,000
			1' 9"	2' 0"	2' 3"	2' 6"	3' 0"	3' 3"	3' 6"	4' 6"	6,000
264	16"	50" to 70"	*	*	*	*	*	*	1' 0"	2' 0"	3,000 to 3,500
			*	*	1' 0"	1" 3"	1' 6"	1' 9"	2' 0"	3' 0"	4,500 to 5,000
			1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	4' 3"	6,000
290	18"	50" to 70"	*	*	*	*	*	*	1' 0"	1' 9"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 9"	4,500 to 5,000
			1' 6"	1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 9"	6,000
317	20"	50" to 70"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	1' 0"	1' 0"	1' 3"	1' 6"	1' 9"	2' 9"	4,500 to 5,000
			1' 6"	1' 6"	1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 6"	6,000

NOTES:

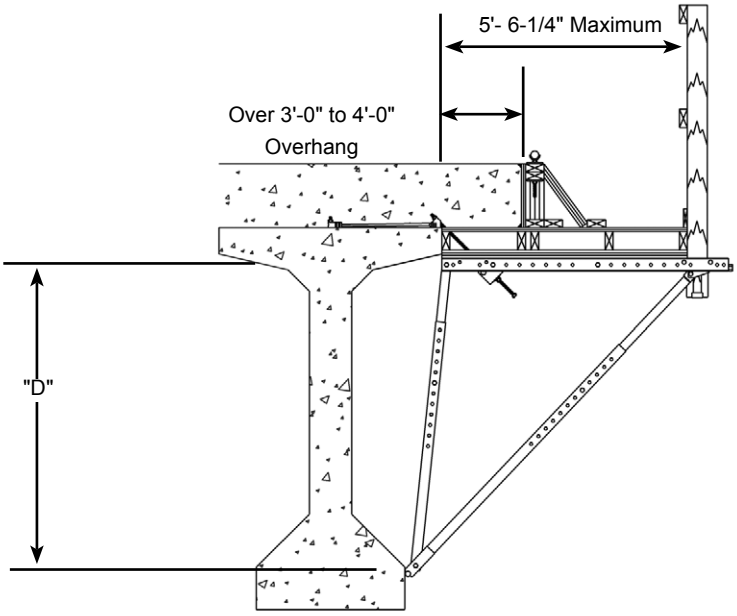
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49-D Bridge Overhang Bracket and Exterior Hanger Spacing

Over 3' -0" to 4'-0" Overhangs On Precast/Prestressed Concrete Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	50" to 70"	*	*	*	*	*	1' 3"	1' 6"	3' 0"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	2' 9"	3' 3"	4' 6"	4,500 to 5,000
			2' 0"	2' 9"	3' 3"	3' 9"	4' 0"	4' 3"	4' 9"	6' 3"	6,000
157	8"	50" to 70"	*	*	*	*	*	1' 0"	1' 3"	2' 6"	3,000 to 3,500
			*	1' 0"	1' 6"	1' 9"	2' 0"	2' 3"	2' 9"	4' 0"	4,500 to 5,000
			2' 0"	2' 6"	2' 9"	3' 0"	3' 6"	3' 9"	4' 0"	5' 3"	6,000
184	10"	50" to 70"	*	*	*	*	*	*	1' 3"	2' 3"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	3' 6"	4,500 to 5,000
			1' 9"	2' 3"	2' 6"	2' 9"	3' 0"	3' 6"	3' 6"	4' 9"	6,000
210	12"	50" to 70"	*	*	*	*	*	*	1' 0"	2' 0"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	3' 0"	4,500 to 5,000
			1' 6"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	4' 3"	6,000
237	14"	50" to 70"	*	*	*	*	*	*	1' 0"	1' 9"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	1' 9"	2' 9"	4,500 to 5,000
			1' 3"	1' 9"	2' 0"	2' 3"	2' 3"	2' 6"	2' 9"	3' 9"	6,000
264	16"	50" to 70"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 6"	4,500 to 5,000
			1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	2' 3"	2' 6"	3' 6"	6,000
290	18"	50" to 70"	*	*	*	*	*	*	*	1' 6"	3,000 to 3,500
			*	*	*	1' 0"	1' 3"	1' 3"	1' 6"	2' 3"	4,500 to 5,000
			1' 0"	1' 6"	1' 6"	1' 9"	2' 0"	2' 3"	2' 3"	3' 0"	6,000
317	20"	50" to 70"	*	*	*	*	*	*	*	1' 3"	3,000 to 3,500
			*	*	*	1' 0"	1' 0"	1' 3"	1' 6"	2' 0"	4,500 to 5,000
			1' 0"	1' 3"	1' 6"	1' 9"	1' 9"	2' 0"	2' 3"	2' 9"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

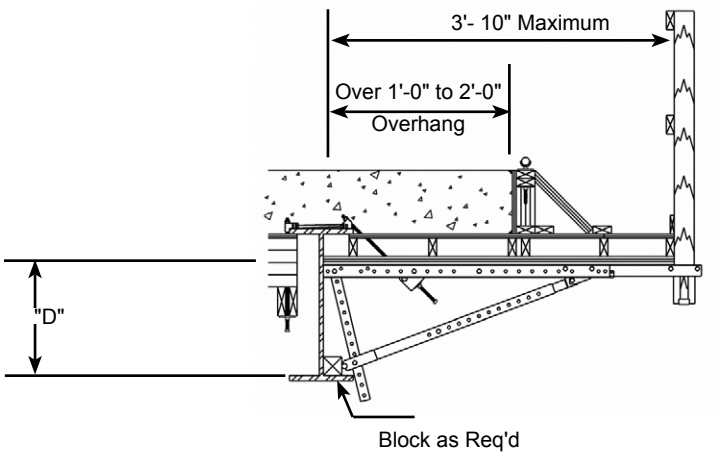
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49-S Bridge Overhang Bracket and Exterior Hanger Spacing

Over 1'-0" to 2'-0" Overhangs On Steel Beams or Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	14" to 28"	*	*	*	1' 0"	1' 6"	2' 3"	3' 0"	5' 9"	3,000 to 3,500
			1' 9"	2' 6"	3' 3"	3' 9"	4' 6"	5' 3"	6' 0"	8' 0"	4,500 to 5,000
			4' 9"	5' 6"	6' 0"	6' 9"	7' 6"	8' 0"	8' 0"	8' 0"	6,000
157	8"	14" to 28"	*	*	*	*	1' 6"	2' 0"	2' 9"	5' 3"	3,000 to 3,500
			1' 6"	2' 3"	2' 9"	3' 6"	4' 0"	4' 9"	5' 3"	7' 9"	4,500 to 5,000
			4' 3"	4' 9"	5' 6"	6' 0"	6' 9"	7' 3"	8' 0"	8' 0"	6,000
184	10"	14" to 28"	*	*	*	*	1' 3"	1' 9"	2' 6"	4' 9"	3,000 to 3,500
			1' 6"	2' 0"	2' 6"	3' 0"	3' 9"	4' 3"	4' 9"	7' 0"	4,500 to 5,000
			3' 9"	4' 6"	5' 0"	5' 6"	6' 0"	6' 9"	7' 3"	8' 0"	6,000
210	12"	14" to 28"	*	*	*	*	1' 3"	1' 9"	2' 3"	4' 3"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 9"	3' 3"	4' 0"	4' 6"	6' 6"	4,500 to 5,000
			3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	6' 0"	6' 6"	8' 0"	6,000
237	14"	14" to 28"	*	*	*	*	1' 0"	1' 6"	2' 0"	4' 0"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 6"	3' 0"	3' 6"	4' 0"	6' 0"	4,500 to 5,000
			3' 3"	3' 9"	4' 3"	4' 9"	5' 3"	5' 6"	6' 0"	8' 0"	6,000
264	16"	14" to 28"	*	*	*	*	1' 0"	1' 6"	1' 9"	3' 9"	3,000 to 3,500
			1' 0"	1' 6"	2' 0"	2' 6"	2' 9"	3' 3"	3' 9"	5' 6"	4,500 to 5,000
			3' 0"	3' 6"	3' 9"	4' 3"	4' 9"	5' 3"	5' 9"	7' 6"	6,000
290	18"	14" to 28"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	1' 9"	2' 3"	2' 9"	3' 0"	3' 6	5' 3"	4,500 to 5,000
			2' 9"	3' 3"	3' 6"	4' 0"	4' 6"	4' 9"	5' 3"	7' 0"	6,000
317	20"	14" to 28"	*	*	*	*	*	1' 3"	1' 6"	3' 3"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	3' 0"	3' 3"	4' 9"	4,500 to 5,000
			2' 6"	3' 0"	3' 3"	3' 9"	4' 3"	4' 6"	5' 0"	6' 6"	6,000

NOTES:

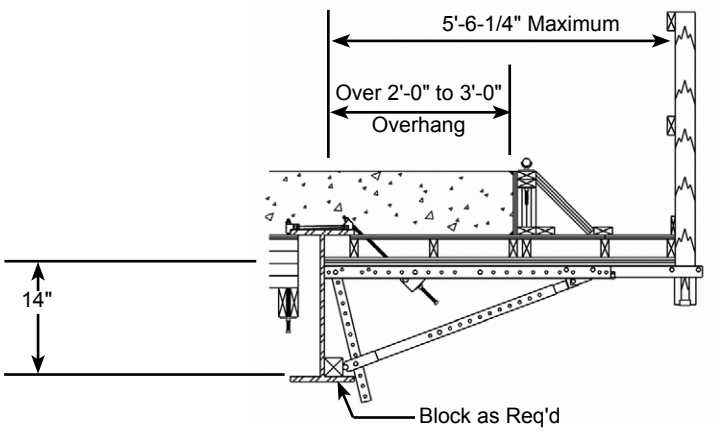
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49-S Bridge Overhang Bracket and Exterior Hanger Spacing

Over 2'-0" to 3'-0" Overhangs On Steel Beams or Girders - 14" Bracket Depth



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	14"	*	*	*	*	*	*	1' 0"	3' 6"	3,000 to 3,500
			*	*	*	1' 0"	1' 6"	2' 3"	2' 9"	5' 3"	4,500 to 5,000
			*	*	1' 3"	1' 9"	2' 6"	3' 0"	3' 9"	6' 3"	6,000
157	8"	14"	*	*	*	*	*	*	1' 0"	3' 0"	3,000 to 3,500
			*	*	*	*	1' 6"	2' 0"	2' 6"	4' 9"	4,500 to 5,000
			*	*	1' 0"	1' 9"	2' 3"	2' 9"	3' 6"	5' 9"	6,000
184	10"	14"	*	*	*	*	*	*	*	2' 9"	3,000 to 3,500
			*	*	*	*	1' 3"	1' 9"	2' 3"	4' 3"	4,500 to 5,000
			*	*	1' 0"	1' 6"	2' 0"	2' 6"	3' 3"	5' 3"	6,000
210	12"	14"	*	*	*	*	*	*	*	2' 6"	3,000 to 3,500
			*	*	*	*	1' 3"	1' 6"	2' 0"	3' 9"	4,500 to 5,000
			*	*	1' 0"	1' 6"	2' 0"	2' 6"	3' 0"	5' 0"	6,000
237	14"	14"	*	*	*	*	*	*	*	2' 3"	3,000 to 3,500
			*	*	*	*	1' 0"	1' 6"	1' 9"	3' 6"	4,500 to 5,000
			*	*	*	1' 3"	1' 9"	2' 3"	2' 9"	4' 6"	6,000
264	16"	14"	*	*	*	*	*	*	*	2' 0"	3,000 to 3,500
			*	*	*	*	1' 0"	1' 3"	1' 9"	3' 3"	4,500 to 5,000
			*	*	*	1' 3"	1' 9"	2' 0"	2' 6"	4' 3"	6,000
290	18"	14"	*	*	*	*	*	*	*	2' 0"	3,000 to 3,500
			*	*	*	*	*	1' 3"	1' 6"	3' 0"	4,500 to 5,000
			*	*	*	1' 3"	1' 6"	2' 0"	2' 6"	4' 0"	6,000
317	20"	14"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	*	*	*	1' 0"	1' 6"	2' 9"	4,500 to 5,000
			*	*	*	1' 0"	1' 6"	1' 9"	2' 3"	3' 6"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

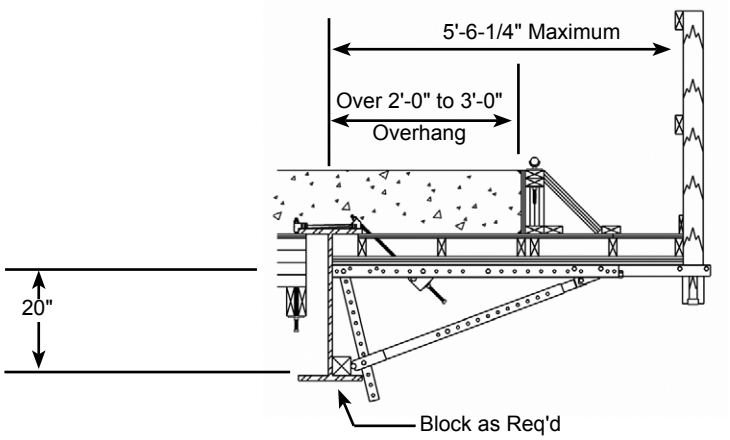
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49-S Bridge Overhang Bracket and Exterior Hanger Spacing

Over 2'-0" to 3'-0" Overhangs On Steel Beams or Girders - 20" Bracket Depth



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	20"	*	*	*	*	*	1' 3"	1' 9"	4' 0"	3,000 to 3,500
			*	1' 0"	1' 9"	2' 3"	2' 9"	3' 6"	4' 0"	6' 0"	4,500 to 5,000
			1' 3"	1' 9"	2' 6"	3' 0"	3' 9"	4' 3"	5' 0"	8' 0"	6,000
157	8"	20"	*	*	*	*	*	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			*	1' 0"	1' 6"	2' 0"	2' 6"	3' 0"	3' 6"	5' 3"	4,500 to 5,000
			1' 0"	1' 9"	2' 3"	2' 9"	3' 6"	4' 0"	4' 9"	7' 0"	6,000
184	10"	20"	*	*	*	*	*	1' 0"	1' 6"	3' 0"	3,000 to 3,500
			*	*	1' 3"	1' 9"	2' 3"	2' 9"	3' 3"	4' 9"	4,500 to 5,000
			1' 0"	1' 6"	2' 0"	2' 9"	3' 3"	3' 9"	4' 6"	6' 3"	6,000
210	12"	20"	*	*	*	*	*	1' 0"	1' 3"	2' 9"	3,000 to 3,500
			*	*	1' 3"	1' 9"	2' 0"	2' 6"	3' 0"	4' 3"	4,500 to 5,000
			1' 0"	1' 6"	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	5' 9"	6,000
237	14"	20"	*	*	*	*	*	*	1' 3"	2' 6"	3,000 to 3,500
			*	*	1' 0"	1' 6"	2' 0"	2' 3"	2' 9"	4' 0"	4,500 to 5,000
			1' 0"	1' 3"	1' 9"	2' 3"	2' 9"	3' 3"	3' 9"	5' 3"	6,000
264	16"	20"	*	*	*	*	*	*	1' 0"	2' 3"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	3' 6"	4,500 to 5,000
			*	1' 3"	1' 9"	2' 3"	2' 6"	3' 0"	3' 6"	4' 9"	6,000
290	18"	20"	*	*	*	*	*	*	1' 0"	2' 3"	3,000 to 3,500
			*	*	*	1' 3"	1' 6"	1' 9"	2' 3"	3' 3"	4,500 to 5,000
			*	1' 3"	1' 6"	2' 0"	2' 6"	2' 9"	3' 3"	4' 6"	6,000
317	20"	20"	*	*	*	*	*	*	1' 0"	2' 0"	3,000 to 3,500
			*	*	*	1' 0"	1' 6"	1' 9"	2' 0"	3' 0"	4,500 to 5,000
			*	1' 0"	1' 6"	1' 9"	2' 3"	2' 6"	3' 0"	4' 3"	6,000

NOTES:

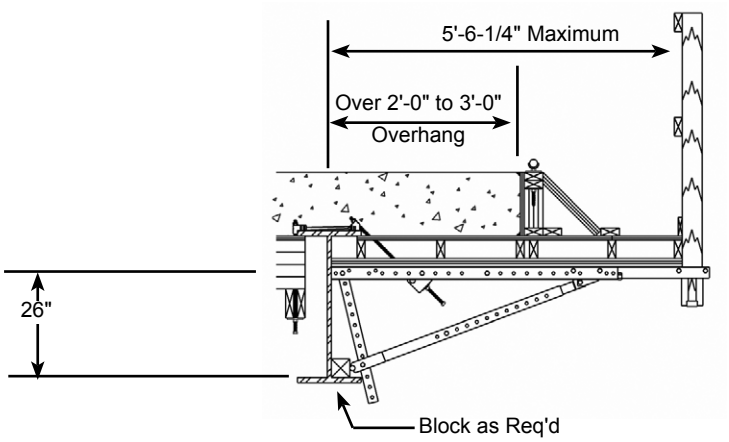
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49-S Bridge Overhang Bracket and Exterior Hanger Spacing

Over 2'-0" to 3'-0" Overhangs On Steel Beams or Girders - 26" Bracket Depth



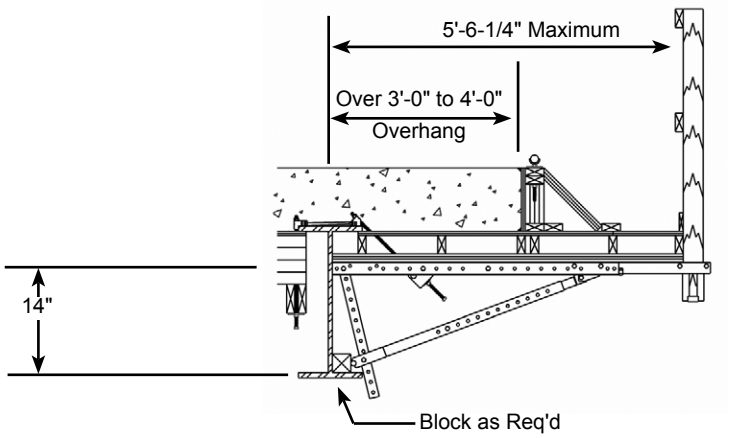
Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
			Bracket "A" Dimension = 8" to 12"								
130	6"	26"	*	*	*	*	1' 0"	1' 6"	2' 0"	4' 0"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 6"	3' 0"	3' 6"	4' 0"	6' 0"	4,500 to 5,000
			3' 3"	3' 9"	4' 3"	4' 6"	5' 0"	5' 6"	6' 0"	8' 0"	6,000
157	8"	26"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	1' 9"	2' 3"	2' 9"	3' 3"	3' 6"	5' 3"	4,500 to 5,000
			2' 9"	3' 3"	3' 9"	4' 0"	4' 6"	5' 0"	5' 3"	7' 0"	6,000
184	10"	26"	*	*	*	*	*	1' 3"	1' 6"	3' 0"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	2' 9"	3' 3"	4' 9"	4,500 to 5,000
			2' 6"	3' 0"	3' 3"	3' 9"	4' 0"	4' 6"	4' 9"	6' 3"	6,000
210	12"	26"	*	*	*	*	*	1' 0"	1' 6"	2' 9"	3,000 to 3,500
			*	1' 3"	1' 6"	1' 9"	2' 3"	2' 6"	3' 0"	4' 3"	4,500 to 5,000
			2' 3"	2' 6"	3' 0"	3' 3"	3' 9"	4' 0"	4' 3"	5' 9"	6,000
237	14"	26"	*	*	*	*	*	1' 0"	1' 3"	2' 6"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 9"	2' 0"	2' 3"	2' 9"	4' 0"	4,500 to 5,000
			2' 0"	2' 6"	2' 9"	3' 0"	3' 3"	3' 9"	4' 0"	5' 3"	6,000
264	16"	26"	*	*	*	*	*	1' 0"	1' 3"	2' 3"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	1' 9"	2' 3"	2' 6"	3' 6"	4,500 to 5,000
			2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	3' 9"	4' 9"	6,000
290	18"	26"	*	*	*	*	*	*	1' 0"	2' 3"	3,000 to 3,500
			*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	3' 3"	4,500 to 5,000
			1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 6"	4' 6"	6,000
317	20"	26"	*	*	*	*	*	*	1' 0"	2' 0"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	3' 0"	4,500 to 5,000
			1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	3' 3"	4' 3"	6,000

NOTES:
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.
3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49-S Bridge Overhang Bracket and Exterior Hanger Spacing

Over 3'-0" to 4'-0" Overhangs On Steel Beams or Girders - 14" Bracket Depth



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	14"	*	*	*	*	*	*	*	2' 9"	3,000 to 3,500
			*	*	*	*	*	*	1' 6"	4' 0"	4,500 to 5,000
			*	*	*	*	*	1' 6"	2' 3"	4' 9"	6,000
157	8"	14"	*	*	*	*	*	*	*	2' 3"	3,000 to 3,500
			*	*	*	*	*	*	1' 3"	3' 6"	4,500 to 5,000
			*	*	*	*	*	1' 3"	2' 0"	4' 3"	6,000
184	10"	14"	*	*	*	*	*	*	*	2' 0"	3,000 to 3,500
			*	*	*	*	*	*	1' 3"	3' 3"	4,500 to 5,000
			*	*	*	*	*	1' 3"	1' 9"	3' 9"	6,000
210	12"	14"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	*	*	*	*	1' 0"	2' 9"	4,500 to 5,000
			*	*	*	*	*	1' 0"	1' 6"	3' 6"	6,000
237	14"	14"	*	*	*	*	*	*	*	1' 6"	3,000 to 3,500
			*	*	*	*	*	*	1' 0"	2' 6"	4,500 to 5,000
			*	*	*	*	*	1' 0"	1' 6"	3' 3"	6,000
264	16"	14"	*	*	*	*	*	*	*	1' 6"	3,000 to 3,500
			*	*	*	*	*	*	*	2' 3"	4,500 to 5,000
			*	*	*	*	*	*	1' 3"	3' 0"	6,000
290	18"	14"	*	*	*	*	*	*	*	1' 3"	3,000 to 3,500
			*	*	*	*	*	*	*	1' 9"	4,500 to 5,000
			*	*	*	*	*	*	1' 3"	2' 9"	6,000
317	20"	14"	*	*	*	*	*	*	*	1' 3"	3,000 to 3,500
			*	*	*	*	*	*	*	1' 9"	4,500 to 5,000
			*	*	*	*	*	*	1' 0"	2' 6"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

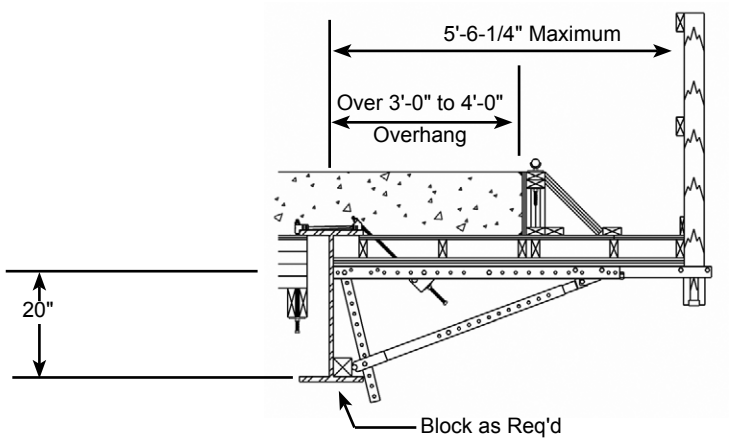
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

DAYTON SUPERIOR

C-49-S Bridge Overhang Bracket and Exterior Hanger Spacing

Over 3'-0" to 4'-0" Overhangs On Steel Beams or Girders - 20" Bracket Depth



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	20"	*	*	*	*	*	*	*	3' 3"	3,000 to 3,500
			*	*	*	*	1' 3"	1' 9"	2' 6"	5' 0"	4,500 to 5,000
			*	*	*	1' 3"	1' 9"	2' 6"	3' 3"	5' 9"	6,000
157	8"	20"	*	*	*	*	*	*	*	3' 0"	3,000 to 3,500
			*	*	*	*	1' 0"	1' 9"	2' 3"	4' 6"	4,500 to 5,000
			*	*	*	1' 0"	1' 9"	2' 3"	2' 9"	5' 3"	6,000
184	10"	20"	*	*	*	*	*	*	*	2' 6"	3,000 to 3,500
			*	*	*	*	1' 0"	1' 6"	2' 0"	4' 0"	4,500 to 5,000
			*	*	*	1' 0"	1' 6"	2' 0"	2' 6"	4' 9"	6,000
210	12"	20"	*	*	*	*	*	*	*	2' 3"	3,000 to 3,500
			*	*	*	*	*	1' 3"	1' 9"	3' 6"	4,500 to 5,000
			*	*	*	*	1' 3"	1' 9"	2' 3"	4' 3"	6,000
237	14"	20"	*	*	*	*	*	*	*	2' 0"	3,000 to 3,500
			*	*	*	*	*	1' 0"	1' 6"	3' 0"	4,500 to 5,000
			*	*	*	*	1' 3"	1' 6"	2' 0"	3' 9"	6,000
264	16"	20"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	*	*	*	1' 0"	1' 3"	2' 9"	4,500 to 5,000
			*	*	*	*	1' 0"	1' 6"	2' 0"	3' 6"	6,000
290	18"	20"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	*	*	*	*	1' 3"	2' 6"	4,500 to 5,000
			*	*	*	*	1' 0"	1' 6"	1' 9"	3' 3"	6,000
317	20"	20"	*	*	*	*	*	*	*	1' 6"	3,000 to 3,500
			*	*	*	*	*	*	1' 0"	2' 3"	4,500 to 5,000
			*	*	*	*	1' 0"	1' 3"	1' 9"	3' 0"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

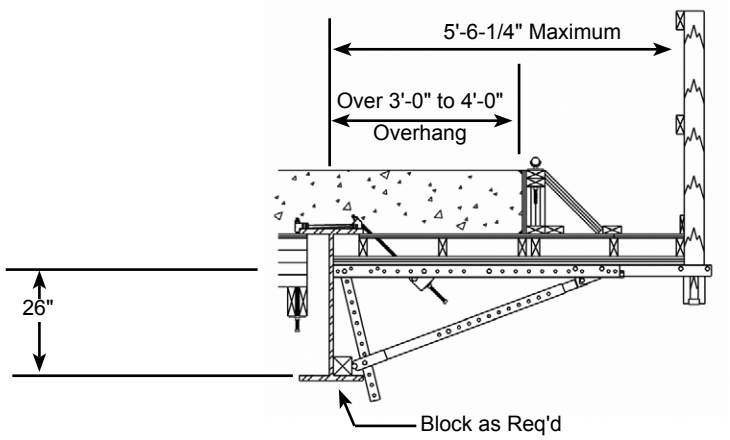
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49-S Bridge Overhang Bracket and Exterior Hanger Spacing

Over 3'-0" to 4'-0" Overhangs On Steel Beams or Girders - 26" Bracket Depth



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	26"	*	*	*	*	*	*	1' 6"	3' 6"	3,000 to 3,500
			*	*	1' 0"	1' 9"	2' 3"	3' 0"	3' 6"	5' 3"	4,500 to 5,000
			*	*	1' 6"	2' 0"	2' 9"	3' 6"	4' 0"	7' 0"	6,000
157	8"	26"	*	*	*	*	*	*	1' 3"	3' 0"	3,000 to 3,500
			*	*	*	1' 6"	2' 0"	2' 6"	3' 0"	4' 6"	4,500 to 5,000
			*	*	1' 3"	1' 9"	2' 6"	3' 0"	3' 9"	6' 0"	6,000
184	10"	26"	*	*	*	*	*	*	1' 0"	2' 6"	3,000 to 3,500
			*	*	*	1' 3"	1' 9"	2' 3"	2' 9"	4' 0"	4,500 to 5,000
			*	*	1' 0"	1' 9"	2' 3"	2' 9"	3' 3"	5' 3"	6,000
210	12"	26"	*	*	*	*	*	*	1' 0"	2' 3"	3,000 to 3,500
			*	*	*	1' 0"	1' 6"	2' 0"	2' 3"	3' 6"	4,500 to 5,000
			*	*	1' 0"	1' 6"	2' 0"	2' 6"	3' 0"	4' 9"	6,000
237	14"	26"	*	*	*	*	*	*	*	2' 0"	3,000 to 3,500
			*	*	*	1' 0"	1' 3"	1' 9"	2' 0"	3' 3"	4,500 to 5,000
			*	*	1' 0"	1' 3"	1' 9"	2' 3"	2' 9"	4' 3"	6,000
264	16"	26"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	*	*	1' 3"	1' 6"	2' 0"	2' 9"	4,500 to 5,000
			*	*	*	1' 3"	1' 9"	2' 0"	2' 6"	3' 9"	6,000
290	18"	26"	*	*	*	*	*	*	*	1' 9"	3,000 to 3,500
			*	*	*	*	1' 0"	1' 6"	1' 9"	2' 6"	4,500 to 5,000
			*	*	*	1' 3"	1' 6"	2' 0"	2' 3"	3' 6"	6,000
317	20"	26"	*	*	*	*	*	*	*	1' 6"	3,000 to 3,500
			*	*	*	*	1' 0"	1' 3"	1' 6"	2' 6"	4,500 to 5,000
			*	*	*	1' 0"	1' 6"	1' 9"	2' 0"	3' 3"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

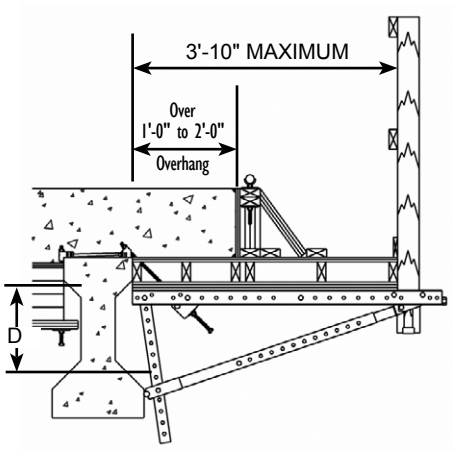
3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49-S Bridge Overhang Bracket and Exterior Hanger Spacing

Over 1'-0" To 2'-0" Overhangs On Precast/Prestressed Concrete Girders

C-49-S Bracket With Hanger & Concrete Beam Concrete Box Beam
Over 1'-0" to 2'-0" Overhang Forming 3/4" ply., 3 1/2" joist & 2x nailer on flat

Design Load PSF	Slab Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	14"	*	*	*	*	*	1'-1"	1'-9"	4'-7"	3,000 to 3,500
			*	*	*	*	*	2'-2"	3'-4"	6'-11"	4,500 to 5,000
			*	*	*	*	*	2'-2"	3'-4"	8'-0"	6,000
130	6"	20"	*	*	*	*	1'-4"	1'-11"	2'-6"	4'-9"	3,000 to 3,500
			*	*	2'-0"	3'-2"	3'-9"	4'-4"	4'-10"	7'-1"	4,500 to 5,000
			*	*	2'-0"	3'-3"	4'-5"	5'-8"	6'-10"	8'-0"	6,000
130	6"	26"	*	*	*	*	1'-4"	1'-11"	2'-6"	4'-9"	3,000 to 3,500
			1'-6"	2'-1"	2'-7"	3'-2"	3'-9"	4'-4"	4'-10"	7'-1"	4,500 to 5,000
			2'-9"	4'-0"	5'-0"	5'-7"	6'-1"	6'-8"	7'-3"	8'-0"	6,000
157	8"	14"	*	*	*	*	*	*	1'-7"	4'-2"	3,000 to 3,500
			*	*	*	*	*	2'-0"	3'-1"	6'-4"	4,500 to 5,000
			*	*	*	*	*	2'-0"	3'-1"	7'-7"	6,000
157	8"	20"	*	*	*	*	1'-2"	1'-8"	2'-2"	4'-3"	3,000 to 3,500
			*	*	1'-11"	2'-10"	3'-4"	3'-10"	4'-4"	6'-4"	4,500 to 5,000
			*	*	1'-11"	3'-0"	4'-2"	5'-4"	6'-5"	8'-0"	6,000
157	8"	26"	*	*	*	*	1'-2"	1'-8"	2'-2"	4'-3"	3,000 to 3,500
			1'-4"	1'-10"	2'-4"	2'-10"	3'-4"	3'-10"	4'-4"	6'-4"	4,500 to 5,000
			2'-7"	3'-9"	4'-5"	4'-11"	5'-5"	5'-11"	6'-6"	8'-0"	6,000
183	10"	14"	*	*	*	*	*	*	1'-5"	3'-9"	3,000 to 3,500
			*	*	*	*	*	1'-10"	2'-11"	5'-8"	4,500 to 5,000
			*	*	*	*	*	1'-10"	2'-11"	7'-1"	6,000
183	10"	20"	*	*	*	*	1'-1"	1'-6"	2'-0"	3'-10"	3,000 to 3,500
			*	*	1'-9"	2'-7"	3'-0"	3'-5"	3'-11"	5'-9"	4,500 to 5,000
			*	*	1'-9"	2'-10"	3'-10"	4'-11"	5'-10"	7'-8"	6,000
183	10"	26"	*	*	*	*	1'-1"	1'-6"	2'-0"	3'-10"	3,000 to 3,500
			1'-2"	1'-8"	2'-1"	2'-7"	3'-0"	3'-5"	3'-11"	5'-9"	4,500 to 5,000
			2'-5"	3'-6"	4'-0"	4'-6"	4'-11"	5'-5"	5'-10"	7'-8"	6,000
210	12"	14"	*	*	*	*	*	*	1'-4"	3'-5"	3,000 to 3,500
			*	*	*	*	*	1'-9"	2'-8"	5'-2"	4,500 to 5,000
			*	*	*	*	*	1'-9"	2'-8"	6'-6"	6,000
210	12"	20"	*	*	*	*	1'-0"	1'-5"	1'-10"	3'-6"	3,000 to 3,500
			*	*	1'-8"	2'-4"	2'-9"	3'-2"	3'-7"	5'-3"	4,500 to 5,000
			*	*	1'-8"	2'-7"	3'-7"	4'-7"	5'-4"	7'-0"	6,000
210	12"	26"	*	*	*	*	1'-0"	1'-5"	1'-10"	3'-6"	3,000 to 3,500
			1'-1"	1'-6"	1'-11"	2'-4"	2'-9"	3'-2"	3'-7"	5'-3"	4,500 to 5,000
			2'-3"	3'-3"	3'-8"	4'-1"	4'-6"	4'-11"	5'-4"	7'-0"	6,000
237	14"	14"	*	*	*	*	*	*	1'-2"	3'-1"	3,000 to 3,500
			*	*	*	*	*	1'-7"	2'-6"	4'-8"	4,500 to 5,000
			*	*	*	*	*	1'-7"	2'-6"	5'-11"	6,000
237	14"	20"	*	*	*	*	*	1'-3"	1'-8"	3'-2"	3,000 to 3,500
			*	*	1'-6"	2'-2"	2'-6"	2'-11"	3'-3"	4'-9"	4,500 to 5,000
			*	*	1'-6"	2'-5"	3'-4"	4'-2"	4'-11"	6'-5"	6,000
237	14"	26"	*	*	*	*	*	1'-3"	1'-8"	3'-2"	3,000 to 3,500
			1'-0"	1'-4"	1'-9"	2'-2"	2'-6"	2'-11"	3'-3"	4'-9"	4,500 to 5,000
			2'-1"	3'-0"	3'-4"	3'-9"	4'-1"	4'-6"	4'-11"	6'-5"	6,000
263	16"	14"	*	*	*	*	*	*	1'-1"	2'-9"	3,000 to 3,500
			*	*	*	*	*	1'-5"	2'-3"	4'-2"	4,500 to 5,000
			*	*	*	*	*	1'-5"	2'-3"	5'-4"	6,000
263	16"	20"	*	*	*	*	*	1'-2"	1'-6"	2'-11"	3,000 to 3,500
			*	*	1'-4"	2'-0"	2'-4"	2'-8"	3'-0"	4'-5"	4,500 to 5,000
			*	*	1'-4"	2'-2"	3'-0"	3'-10"	4'-6"	5'-11"	6,000
263	16"	24"	*	*	*	*	*	1'-2"	1'-6"	2'-11"	3,000 to 3,500
			*	1'-3"	1'-7"	2'-0"	2'-4"	2'-8"	3'-0"	4'-5"	4,500 to 5,000
			1'-11"	2'-8"	3'-1"	3'-5"	3'-10"	4'-2"	4'-6"	5'-11"	6,000
290	18"	14"	*	*	*	*	*	*	*	2'-6"	3,000 to 3,500
			*	*	*	*	*	1'-4"	2'-1"	3'-9"	4,500 to 5,000
			*	*	*	*	*	1'-4"	2'-1"	4'-10"	6,000
290	18"	20"	*	*	*	*	*	1'-1"	1'-5"	2'-9"	3,000 to 3,500
			*	*	1'-3"	1'-10"	2'-2"	2'-6"	2'-10"	4'-1"	4,500 to 5,000
			*	*	1'-3"	2'-0"	2'-9"	3'-6"	4'-2"	5'-6"	6,000
290	18"	26"	*	*	*	*	*	1'-1"	1'-5"	2'-9"	3,000 to 3,500
			*	1'-2"	1'-6"	1'-10"	2'-2"	2'-6"	2'-10"	4'-1"	4,500 to 5,000
			1'-9"	2'-6"	2'-11"	3'-3"	3'-6"	3'-10"	4'-2"	5'-6"	6,000
317	20"	14"	*	*	*	*	*	*	*	2'-3"	3,000 to 3,500
			*	*	*	*	*	1'-2"	1'-10"	3'-5"	4,500 to 5,000
			*	*	*	*	*	1'-2"	1'-10"	4'-4"	6,000
317	20"	20"	*	*	*	*	*	1'-0"	1'-4"	2'-7"	3,000 to 3,500
			*	*	1'-2"	1'-8"	2'-0"	2'-4"	2'-7"	3'-10"	4,500 to 5,000
			*	*	1'-2"	1'-10"	2'-6"	3'-2"	3'-10"	5'-2"	6,000
317	20"	26"	*	*	*	*	*	1'-0"	1'-4"	2'-7"	3,000 to 3,500
			*	1'-1"	1'-5"	1'-8"	2'-0"	2'-4"	2'-7"	3'-10"	4,500 to 5,000
			1'-7"	2'-3"	2'-8"	3'-0"	3'-4"	3'-7"	3'-11"	5'-2"	6,000



NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

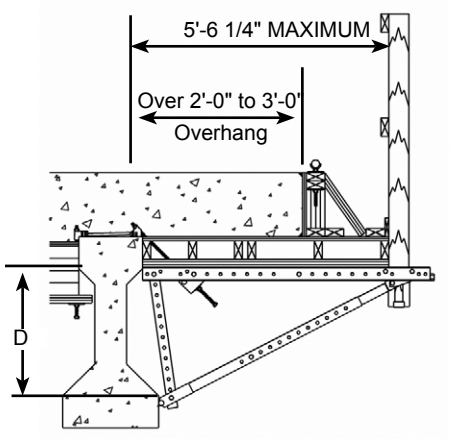
Bridge Overhang Brackets

C-49-S Bridge Overhang Bracket and Exterior Hanger Spacing

Over 2'-0" - 3'-0" Overhangs On Precast/Prestressed Concrete Girders

C-49-S Bracket With Hanger & Concrete Beam Concrete Box Beam
Overhang 2'-0" to 3'-0" Overhang Forming 3/4" ply., 3 1/2" joist & 2x nailer on flat

Design Load PSF	Slab Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	14"	*	*	*	*	*	*	*	3'-5"	3,000 to 3,500
			*	*	*	*	*	*	*	5'-2"	4,500 to 5,000
			*	*	*	*	*	*	*	5'-3"	6,000
130	6"	20"	*	*	*	*	*	*	1'-4"	4'-0"	3,000 to 3,500
			*	*	*	*	*	2'-0"	3'-2"	6'-0"	4,500 to 5,000
			*	*	*	*	*	2'-0"	3'-2"	7'-11"	6,000
130	6"	26"	*	*	*	*	*	1'-7"	2'-1"	4'-0"	3,000 to 3,500
			*	*	*	1'-9"	3'-0"	3'-8"	4'-1"	6'-0"	4,500 to 5,000
			*	*	*	1'-9"	3'-0"	4'-2"	5'-4"	8'-0"	6,000
157	8"	14"	*	*	*	*	*	*	*	3'-0"	3,000 to 3,500
			*	*	*	*	*	*	*	4'-6"	4,500 to 5,000
			*	*	*	*	*	*	*	4'-8"	6,000
157	8"	20"	*	*	*	*	*	*	1'-2"	3'-6"	3,000 to 3,500
			*	*	*	*	*	1'-9"	2'-10"	5'-3"	4,500 to 5,000
			*	*	*	*	*	1'-9"	2'-10"	7'-0"	6,000
157	8"	26"	*	*	*	*	*	1'-4"	1'-10"	3'-6"	3,000 to 3,500
			*	*	*	1'-7"	2'-8"	3'-2"	3'-7"	5'-3"	4,500 to 5,000
			*	*	*	1'-7"	2'-8"	3'-9"	4'-9"	7'-0"	6,000
183	10"	14"	*	*	*	*	*	*	*	2'-8"	3,000 to 3,500
			*	*	*	*	*	*	*	4'-0"	4,500 to 5,000
			*	*	*	*	*	*	*	4'-2"	6,000
183	10"	20"	*	*	*	*	*	*	1'-0"	3'-1"	3,000 to 3,500
			*	*	*	*	*	1'-7"	2'-7"	4'-7"	4,500 to 5,000
			*	*	*	*	*	1'-7"	2'-7"	6'-2"	6,000
183	10"	26"	*	*	*	*	*	1'-2"	1'-7"	3'-1"	3,000 to 3,500
			*	*	*	1'-5"	2'-5"	2'-9"	3'-2"	4'-7"	4,500 to 5,000
			*	*	*	1'-5"	2'-5"	3'-4"	4'-4"	6'-2"	6,000
210	12"	14"	*	*	*	*	*	*	*	2'-4"	3,000 to 3,500
			*	*	*	*	*	*	*	3'-6"	4,500 to 5,000
			*	*	*	*	*	*	*	3'-9"	6,000
210	12"	20"	*	*	*	*	*	*	*	2'-9"	3,000 to 3,500
			*	*	*	*	*	1'-5"	2'-4"	4'-1"	4,500 to 5,000
			*	*	*	*	*	1'-5"	2'-4"	5'-6"	6,000
210	12"	26"	*	*	*	*	*	1'-0"	1'-5"	2'-9"	3,000 to 3,500
			*	*	*	1'-4"	2'-2"	2'-6"	2'-10"	4'-1"	4,500 to 5,000
			*	*	*	1'-4"	2'-2"	3'-0"	3'-10"	5'-6"	6,000
237	14"	14"	*	*	*	*	*	*	*	2'-1"	3,000 to 3,500
			*	*	*	*	*	*	*	3'-2"	4,500 to 5,000
			*	*	*	*	*	*	*	3'-5"	6,000
237	14"	20"	*	*	*	*	*	*	*	2'-6"	3,000 to 3,500
			*	*	*	*	*	1'-4"	2'-1"	3'-9"	4,500 to 5,000
			*	*	*	*	*	1'-4"	2'-1"	5'-0"	6,000
237	14"	26"	*	*	*	*	*	*	1'-3"	2'-6"	3,000 to 3,500
			*	*	*	1'-2"	1'-11"	2'-3"	2'-6"	3'-9"	4,500 to 5,000
			*	*	*	1'-2"	1'-11"	2'-9"	3'-6"	5'-0"	6,000
263	16"	14"	*	*	*	*	*	*	*	1'-11"	3,000 to 3,500
			*	*	*	*	*	*	*	2'-10"	4,500 to 5,000
			*	*	*	*	*	*	*	3'-1"	6,000
263	16"	20"	*	*	*	*	*	*	*	2'-3"	3,000 to 3,500
			*	*	*	*	*	1'-2"	1'-11"	3'-5"	4,500 to 5,000
			*	*	*	*	*	1'-2"	1'-11"	4'-7"	6,000
263	16"	24"	*	*	*	*	*	*	1'-2"	2'-3"	3,000 to 3,500
			*	*	*	1'-1"	1'-9"	2'-1"	2'-4"	3'-5"	4,500 to 5,000
			*	*	*	1'-1"	1'-9"	2'-6"	3'-2"	4'-7"	6,000
290	18"	14"	*	*	*	*	*	*	*	1'-8"	3,000 to 3,500
			*	*	*	*	*	*	*	2'-7"	4,500 to 5,000
			*	*	*	*	*	*	*	2'-9"	6,000
290	18"	20"	*	*	*	*	*	*	*	2'-1"	3,000 to 3,500
			*	*	*	*	*	1'-1"	1'-8"	3'-1"	4,500 to 5,000
			*	*	*	*	*	1'-1"	1'-9"	4'-2"	6,000
290	18"	26"	*	*	*	*	*	*	1'-1"	2'-1"	3,000 to 3,500
			*	*	*	*	1'-7"	1'-11"	2'-2"	3'-1"	4,500 to 5,000
			*	*	*	*	1'-7"	2'-3"	2'-11"	4'-2"	6,000
317	20"	14"	*	*	*	*	*	*	*	1'-6"	3,000 to 3,500
			*	*	*	*	*	*	*	2'-4"	4,500 to 5,000
			*	*	*	*	*	*	*	2'-6"	6,000
317	20"	20"	*	*	*	*	*	*	*	1'-11"	3,000 to 3,500
			*	*	*	*	*	1'-0"	1'-6"	2'-10"	4,500 to 5,000
			*	*	*	*	*	1'-0"	1'-7"	3'-10"	6,000
317	20"	26"	*	*	*	*	*	*	*	1'-11"	3,000 to 3,500
			*	*	*	*	*	1'-5"	1'-9"	2'-0"	2'-11"	4,500 to 5,000
			*	*	*	*	*	1'-5"	2'-0"	2'-7"	3'-10"	6,000



NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

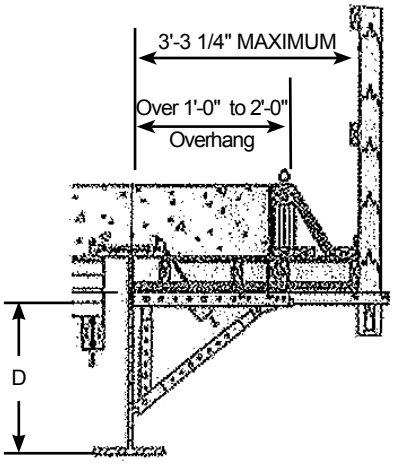
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

DAYTON SUPERIOR

C-49-JR Bridge Overhang Bracket and Exterior Hanger Spacing

Over 1'-0" To 2'-0" Overhangs On Steel Beams or Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	16" to 28"	*	*	*	1' 0"	1' 9"	2' 6"	3' 3"	6' 0"	3,000 to 3,500
			1' 9"	2' 9"	3' 6"	4' 3"	4' 9"	5' 6"	6' 0"	8' 0"	4,500 to 5,000
			5' 0"	5' 9"	6' 6"	7' 3"	8' 0"	8' 0"	8' 0"	8' 0"	6,000
157	8"	16" to 28"	*	*	*	*	1' 6"	2' 3"	2' 9"	5' 6"	3,000 to 3,500
			1' 9"	2' 3"	3' 0"	3' 9"	4' 3"	5' 0"	5' 9"	8' 0"	4,500 to 5,000
			4' 6"	5' 0"	5' 9"	6' 6"	7' 3"	7' 6"	8' 0"	8' 0"	6,000
184	10"	16" to 28"	*	*	*	*	1' 3"	2' 0"	2' 6"	5' 0"	3,000 to 3,500
			1' 6"	2' 0"	2' 9"	3' 3"	4' 0"	4' 6"	5' 0"	7' 6"	4,500 to 5,000
			4' 0"	4' 9"	5' 3"	5' 9"	6' 6"	7' 0"	7' 9"	8' 0"	6,000
210	12"	16" to 28"	*	*	*	*	1' 3"	1' 9"	2' 3"	4' 6"	3,000 to 3,500
			1' 3"	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	4' 9"	6' 9"	4,500 to 5,000
			3' 6"	4' 3"	4' 9"	5' 3"	6' 0"	6' 6"	7' 0"	8' 0"	6,000
237	14"	16" to 28"	*	*	*	*	1' 0"	1' 6"	2' 0"	4' 3"	3,000 to 3,500
			1' 3"	1' 9"	2' 3"	2' 9"	3' 3"	3' 9"	4' 3"	6' 9"	4,500 to 5,000
			3' 3"	3' 9"	4' 3"	4' 9"	5' 3"	5' 9"	6' 3"	8' 0"	6,000
264	16"	16" to 28"	*	*	*	*	1' 0"	1' 6"	2' 0"	3' 9"	3,000 to 3,500
			1' 3"	1' 6"	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	5' 9"	4,500 to 5,000
			3' 0"	3' 6"	4' 0"	4' 6"	5' 0"	5' 3"	5' 9"	7' 9"	6,000
290	18"	16" to 28"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 6"	3,000 to 3,500
			1' 0"	1' 6"	2' 0"	2' 3"	2' 9"	3' 3"	3' 6"	5' 3"	4,500 to 5,000
			2' 9"	3' 3"	3' 9"	4' 3"	4' 6"	5' 0"	5' 6"	7' 3"	6,000
317	20"	16" to 28"	*	*	*	*	*	1' 3"	1' 9"	3' 3"	3,000 to 3,500
			1' 0"	1' 3"	1' 9"	2' 3"	2' 6"	3' 0"	3' 3"	5' 0"	4,500 to 5,000
			2' 9"	3' 0"	3' 6"	3' 9"	4' 3"	4' 9"	5' 0"	6' 9"	6,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

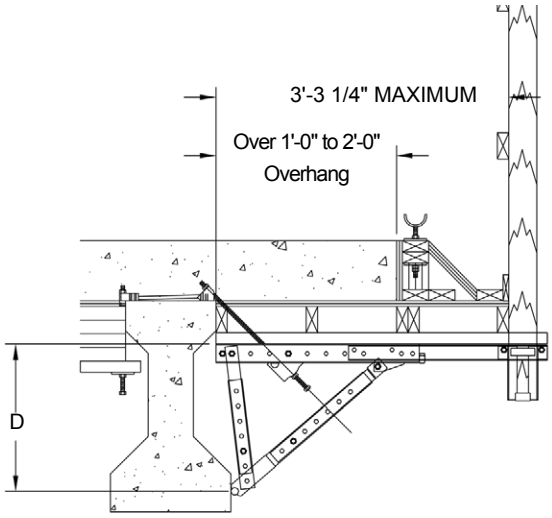
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49-JR Bridge Overhang Bracket and Exterior Hanger Spacing

Over 1'-0" To 2'-0" Overhangs On Precast/Prestressed Concrete Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	16" to 28"	*	*	*	*	1' 0"	2' 0"	2' 9"	5' 3"	3,000 to 3,500
			*	1' 6"	2' 6"	3' 6"	4' 0"	4' 9"	5' 3"	7' 9"	4,500 to 5,000
			*	1' 6"	2' 6"	3' 6"	4' 9"	6' 0"	7' 0"	8' 0"	6,000
157	8"	16" to 28"	*	*	*	*	*	1' 9"	2' 3"	4' 6"	3,000 to 3,500
			*	1' 3"	2' 3"	3' 0"	3' 6"	4' 3"	4' 9"	7' 0"	4,500 to 5,000
			*	1' 6"	2' 3"	3' 3"	4' 3"	5' 6"	6' 6"	8' 0"	6,000
184	10"	16" to 28"	*	*	*	*	*	1' 6"	2' 0"	4' 0"	3,000 to 3,500
			*	1' 3"	1' 9"	2' 6"	3' 3"	3' 9"	4' 3"	6' 3"	4,500 to 5,000
			*	1' 3"	2' 3"	3' 0"	4' 0"	5' 0"	6' 0"	8' 0"	6,000
210	12"	16" to 28"	*	*	*	*	*	1' 3"	2' 0"	3' 9"	3,000 to 3,500
			*	1' 0"	1' 9"	2' 3"	3' 0"	3' 3"	3' 9"	5' 6"	4,500 to 5,000
			*	1' 3"	2' 0"	2' 9"	3' 6"	4' 6"	5' 3"	7' 6"	6,000
237	14"	16" to 28"	*	*	*	*	*	1' 0"	1' 9"	3' 3"	3,000 to 3,500
			*	*	1' 6"	2' 0"	2' 6"	3' 0"	3' 6"	5' 0"	4,500 to 5,000
			*	1' 0"	1' 9"	2' 6"	3' 3"	4' 0"	4' 9"	6' 9"	6,000
264	16"	16" to 28"	*	*	*	*	*	1' 0"	1' 6"	3' 0"	3,000 to 3,500
			*	*	1' 3"	1' 9"	2' 3"	2' 9"	3' 3"	4' 9"	4,500 to 5,000
			*	1' 0"	1' 6"	2' 3"	3' 0"	3' 6"	4' 3"	6' 3"	6,000
290	18"	16" to 28"	*	*	*	*	*	*	1' 3"	2' 9"	3,000 to 3,500
			*	*	1' 0"	1' 6"	2' 0"	2' 6"	2' 9"	4' 3"	4,500 to 5,000
			*	1' 0"	1' 6"	2' 0"	2' 9"	3' 3"	3' 9"	5' 9"	6,000
317	20"	16" to 28"	*	*	*	*	*	*	1' 0"	2' 6"	3,000 to 3,500
			*	*	1' 0"	1' 3"	1' 9"	2' 0"	2' 6"	4' 0"	4,500 to 5,000
			*	*	1' 3"	1' 9"	2' 6"	3' 0"	3' 6"	5' 3"	6,000

NOTES:

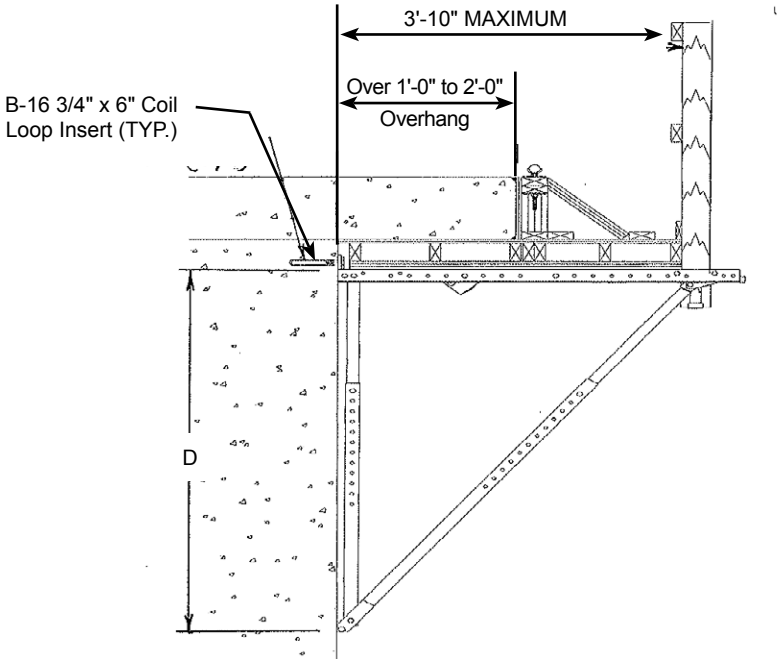
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49 / C-49D Bridge Overhang Brackets with C-51 Wall Plate Assembly

Over 1’-0” To 2’-0” Overhangs On ConcreteWalls and Box Beams



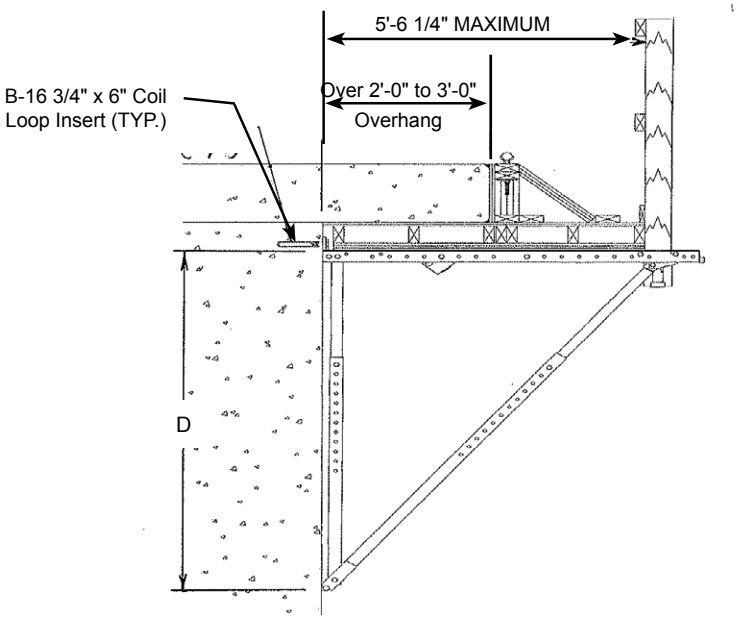
Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1							
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.
130	6"	30" to 70"	3' 0"	4' 0"	4' 6"	5' 0"	5' 9"	6' 3"	7' 0"	8' 0"
157	8"	30" to 70"	2' 9"	3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	6' 3"	8' 0"
184	10"	30" to 70"	2' 6"	3' 0"	3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	7' 6"
210	12"	30" to 70"	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	4' 6"	5' 0"	6' 9"
237	14"	30" to 70"	2' 0"	2' 3"	2' 9"	3' 3"	3' 6"	4' 0"	4' 3"	6' 0"
264	16"	30" to 70"	1' 9"	2' 3"	2' 6"	2' 9"	3' 3"	3' 6"	4' 0"	5' 6"
290	18"	30" to 70"	1' 6"	2' 0"	2' 3"	2' 6"	3' 0"	3' 3"	3' 6"	5' 0"
317	20"	30" to 70"	1' 6"	1' 9"	2' 0"	2' 6"	2' 9"	3' 0"	3' 3"	4' 6"

NOTES:
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.
3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49 / C-49D Bridge Overhang Brackets with C-51 Wall Plate Assembly

Up to Over 2'-0" to 3' - 0" Overhangs On Concrete Walls and Box Beams



Design Load PSF	Slab Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1							
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.
130	6"	30"	*	*	*	*	1' 3"	2' 0"	2' 9"	5' 6"
		40"	1' 0"	1' 6"	2' 3"	2' 9"	3' 3"	4' 0"	4' 6"	6' 9"
		50" to 70"	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	4' 6"	5' 0"	6' 9"
157	8"	30"	*	*	*	*	1' 3"	2' 0"	2' 6"	5' 0"
		40"	1' 0"	1' 6"	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	5' 9"
		50" to 70"	1' 9"	2' 3"	2' 9"	3' 3"	3' 6"	4' 0"	4' 3"	5' 9"
183	10"	30"	*	*	*	*	1' 0"	1' 9"	2' 3"	4' 6"
		40"	*	1' 3"	1' 9"	2' 3"	2' 9"	3' 3"	3' 9"	5' 3"
		50" to 70"	1' 6"	2' 0"	2' 6"	2' 9"	3' 3"	3' 6"	3' 9"	5' 3"
210	12"	30"	*	*	*	*	1' 0"	1' 6"	2' 0"	4' 0"
		40"	*	1' 3"	1' 9"	2' 0"	2' 6"	3' 0"	3' 3"	4' 9"
		50" to 70"	1' 6"	2' 0"	2' 3"	2' 6"	3' 0"	3' 3"	3' 6"	4' 9"
237	14"	30"	*	*	*	*	*	1' 3"	1' 9"	3' 9"
		40"	*	1' 0"	1' 6"	2' 0"	2' 3"	2' 9"	3' 0"	4' 3"
		50" to 70"	1' 3"	1' 9"	2' 0"	2' 3"	2' 6"	3' 0"	3' 3"	4' 3"
263	16"	30"	*	*	*	*	*	1' 3"	1' 6"	3' 3"
		40"	*	1' 0"	1' 6"	1' 9"	2' 3"	2' 6"	2' 9"	4' 0"
		50" to 70"	1' 3"	1' 6"	2' 0"	2' 3"	2' 6"	2' 9"	3' 0"	4' 0"
290	18"	30"	*	*	*	*	*	1' 0"	1' 3"	2' 9"
		40"	*	1' 0"	1' 3"	1' 9"	2' 0"	2' 3"	2' 6"	3' 6"
		50" to 70"	1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	2' 6"	2' 9"	3' 6"
317	20"	30"	*	*	*	*	*	1' 0"	1' 3"	2' 6"
		40"	*	*	1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	3' 3"
		50" to 70"	1' 0"	1' 3"	1' 6"	1' 9"	2' 0"	2' 3"	2' 6"	3' 3"

NOTES:

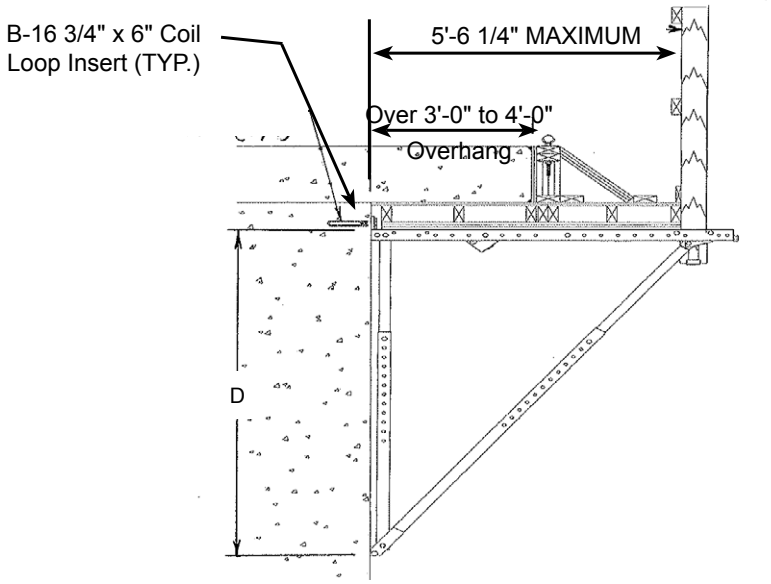
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49 / C-49D Bridge Overhang Brackets with C-51 Wall Plate Assembly

Over 3'-0" to 4'-0" Overhangs On Concrete Walls and Box Beams



Design Load PSF	Slab Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1							
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.
130	6"	30"	*	*	*	*	*	*	1' 0"	4' 0"
		40"	*	*	*	1' 3"	1' 9"	2' 6"	3' 0"	5' 6"
		50" to 70"	*	*	1' 3"	2' 0"	2' 6"	3' 3"	3' 9"	5' 9"
157	8"	30"	*	*	*	*	*	*	*	3' 6"
		40"	*	*	*	1' 0"	1' 6"	2' 0"	2' 9"	4' 9"
		50" to 70"	*	*	1' 3"	1' 9"	2' 3"	2' 9"	3' 3"	5' 0"
183	10"	30"	*	*	*	*	*	*	*	3' 3"
		40"	*	*	*	*	1' 3"	1' 9"	2' 3"	4' 3"
		50" to 70"	*	*	1' 0"	1' 6"	2' 0"	2' 6"	3' 0"	4' 6"
210	12"	30"	*	*	*	*	*	*	*	2' 9"
		40"	*	*	*	*	1' 3"	1' 9"	2' 0"	3' 9"
		50" to 70"	*	*	1' 0"	1' 3"	1' 9"	2' 3"	2' 9"	4' 0"
237	14"	30"	*	*	*	*	*	*	*	2' 6"
		40"	*	*	*	*	1' 0"	1' 6"	2' 0"	3' 6"
		50" to 70"	*	*	*	1' 3"	1' 6"	2' 0"	2' 6"	3' 6"
263	16"	30"	*	*	*	*	*	*	*	2' 3"
		40"	*	*	*	*	1' 0"	1' 3"	1' 9"	3' 0"
		50" to 70"	*	*	*	1' 0"	1' 6"	1' 9"	2' 3"	3' 3"
290	18"	30"	*	*	*	*	*	*	*	2' 0"
		40"	*	*	*	*	*	1' 3"	1' 6"	2' 9"
		50" to 70"	*	*	*	1' 0"	1' 3"	1' 9"	2' 0"	3' 0"
317	20"	30"	*	*	*	*	*	*	*	1' 9"
		40"	*	*	*	*	*	1' 0"	1' 6"	2' 6"
		50" to 70"	*	*	*	1' 0"	1' 3"	1' 6"	1' 9"	2' 9"

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

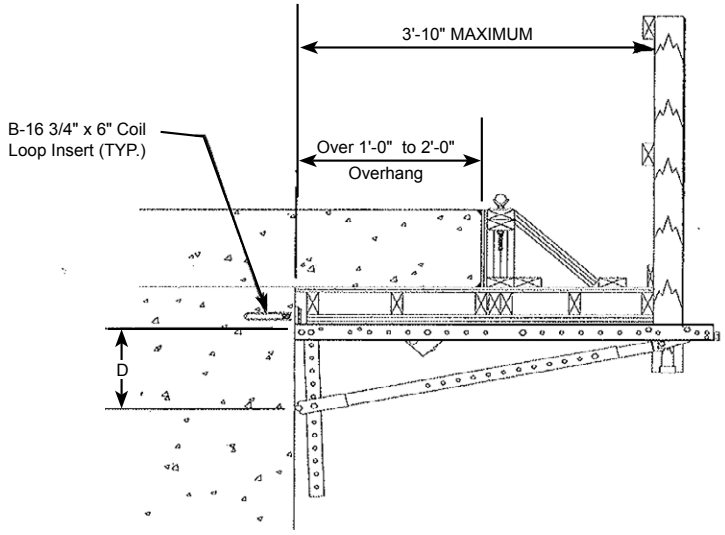
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49-S Bridge Overhang Brackets with C-51 Wall Plate Assembly

Over 1'-0" to 2'-0" Overhangs On Concrete Walls and Box Beams



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1							
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.
130	6"	14"	*	*	*	*	*	*	*	3' 6"
		20"	*	*	*	*	1' 3"	2' 0"	3' 0"	6' 9"
		26"	1' 9"	2' 9"	3' 6"	4' 3"	5' 0"	5' 6"	6' 3"	8' 0"
157	8"	14"	*	*	*	*	*	*	*	3' 3"
		20"	*	*	*	*	1' 0"	1' 9"	2' 9"	6' 0"
		26"	1' 6"	2' 6"	3' 3"	3' 9"	4' 3"	5' 0"	5' 6"	8' 0"
184	10"	14"	*	*	*	*	*	*	*	2' 9"
		20"	*	*	*	*	1' 0"	1' 6"	2' 3"	5' 3"
		26"	1' 3"	2' 0"	2' 9"	3' 6"	4' 0"	4' 6"	5' 0"	7' 0"
210	12"	14"	*	*	*	*	*	*	*	2' 6"
		20"	*	*	*	*	*	1' 6"	2' 0"	4' 6"
		26"	1' 0"	1' 9"	2' 3"	3' 0"	3' 6"	4' 0"	4' 6"	6' 3"
237	14"	14"	*	*	*	*	*	*	*	2' 3"
		20"	*	*	*	*	*	1' 3"	1' 9"	4' 0"
		26"	1' 0"	1' 6"	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	5' 9"
264	16"	14"	*	*	*	*	*	*	*	2' 0"
		20"	*	*	*	*	*	1' 0"	1' 6"	3' 6"
		26"	*	1' 3"	1' 9"	2' 0"	2' 6"	3' 0"	3' 6"	5' 3"
290	18"	14"	*	*	*	*	*	*	*	1' 9"
		20"	*	*	*	*	*	*	1' 3"	3' 0"
		26"	*	*	1' 3"	1' 9"	2' 3"	2' 6"	3' 0"	4' 6"
317	20"	14"	*	*	*	*	*	*	*	1' 6"
		20"	*	*	*	*	*	*	1' 0"	2' 6"
		26"	*	*	1' 3"	1' 6"	1' 9"	2' 3"	2' 6"	3' 9"

NOTES:

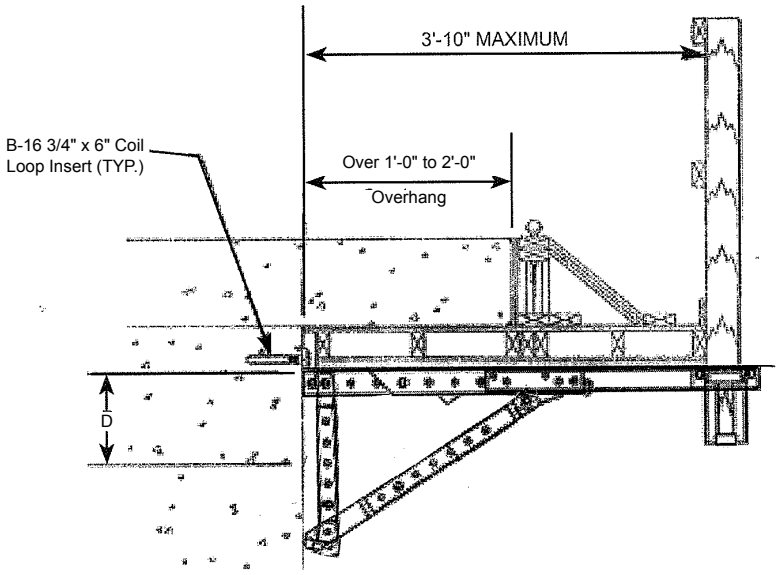
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49JR Bridge Overhang Brackets with C-51 Wall Plate Assembly

Over 1'-0" to 2'-0" Overhangs On Concrete Walls and Box Beams



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1							
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.
130	6"	16"	*	*	*	*	*	*	1' 0"	5' 0"
		22"	*	*	*	1' 3"	2' 3"	3' 0"	4' 0"	7' 6"
		28"	*	*	1' 3"	2' 3"	3' 0"	4' 0"	4' 9"	8' 0"
157	8"	16"	*	*	*	*	*	*	1' 0"	4' 6"
		22"	*	*	*	1' 3"	2' 0"	2' 9"	3' 6"	6' 9"
		28"	*	*	1' 3"	2' 0"	2' 9"	3' 6"	4' 6"	7' 6"
184	10"	16"	*	*	*	*	*	*	*	4' 0"
		22"	*	*	*	1' 0"	1' 9"	2' 6"	3' 3"	6' 0"
		28"	*	*	1' 0"	1' 9"	2' 6"	3' 3"	4' 0"	6' 9"
210	12"	16"	*	*	*	*	*	*	*	3' 6"
		22"	*	*	*	1' 0"	1' 6"	2' 9"	3' 0"	5' 6"
		28"	*	*	1' 0"	1' 9"	2' 3"	3' 0"	3' 6"	6' 3"
237	14"	16"	*	*	*	*	*	*	*	3' 0"
		22"	*	*	*	*	1' 6"	2' 0"	2' 9"	5' 0"
		28"	*	*	1' 0	1' 6"	2' 0"	2' 9"	3' 3"	5' 9"
264	16"	16"	*	*	*	*	*	*	*	2' 6"
		22"	*	*	*	*	1' 3"	1' 9"	2' 3"	4' 3"
		28"	*	*	*	1' 3"	1' 9"	2' 6"	3' 0"	5' 0"
290	18"	16"	*	*	*	*	*	*	*	2' 3"
		22"	*	*	*	*	1' 0"	1' 6"	2' 0"	3' 6"
		28"	*	*	*	1' 3"	1' 9"	2' 3"	2' 9"	4' 9"
317	20"	16"	*	*	*	*	*	*	*	2' 0"
		22"	*	*	*	*	*	1' 3"	1' 6"	3' 0"
		28"	*	*	*	1' 0"	1' 6"	2' 0"	2' 6"	4' 3"

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

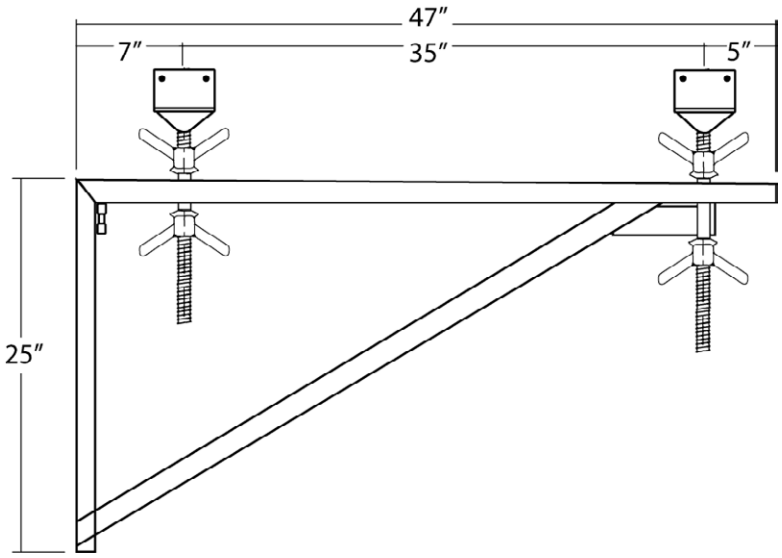
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-49W Bridge Overhang Bracket and Exterior Spacing on Concrete Beam

Up to 2'-0" Overhang on 3/4" ply., 3-1/2" Joist and Double 2 x 6 Wales



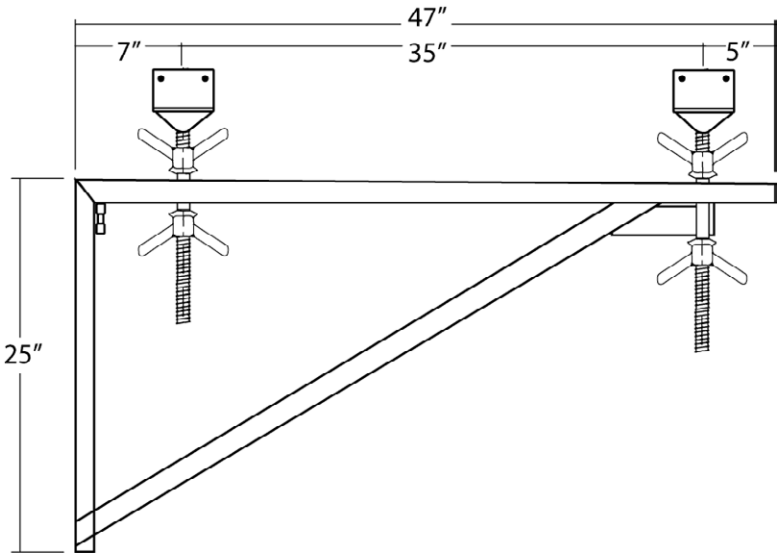
Design Load PSF	Slab Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Insert SWL
			1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	750 lbs.	500 lbs.	250 lbs.	0 lbs.	
			Bracket "A" Dimension = 8" to 12"								
130	6"	25	1'-11"	2'-9"	3'-6"	4'-3"	5'-1"	5'-10"	6'-8"	7'-5"	4,000
143	7"	25	1'-10"	2'-7"	3'-4"	4'-1"	4'-11"	5'-8"	6'-5"	7'-2"	4,000
157	8"	25	1'-10"	2'-6"	3'-3"	4'-0"	4'-8"	5'-5"	6'-2"	6'-10"	4,000
170	9"	25	1'-9"	2'-5"	3'-1"	3'-10"	4'-6"	5'-2"	5'-11"	6'-7"	4,000
183	10"	25	1'-8"	2'-4"	3'-0"	3'-8"	4'-4"	5'-0"	5'-8"	6'-4"	4,000
197	11"	25	1'-7"	2'-3"	2'-10"	3'-6"	4'-1"	4'-9"	5'-5"	6'-0"	4,000
210	12"	25	1'-6"	2'-1"	2'-9"	3'-4"	3'-11"	4'-7"	5'-2"	5'-9"	4,000
223	13"	25	1'-5"	2'-0"	2'-7"	3'-2"	3'-9"	4'-4"	4'-11"	5'-6"	4,000
237	14"	25	1'-5"	1'-11"	2'-6"	3'-1"	3'-7"	4'-2"	4'-9"	5'-3"	4,000
250	15"	25	1'-4"	1'-10"	2'-5"	2'-11"	3'-5"	4'-0"	4'-6"	5'-0"	4,000
263	16"	25	1'-3"	1'-9"	2'-3"	2'-9"	3'-3"	3'-10"	4'-4"	4'-9"	4,000
277	17"	25	1'-2"	1'-8"	2'-2"	2'-8"	3'-2"	3'-7"	4'-1"	4'-5"	4,000
290	18"	25	1'-2"	1'-7"	2'-1"	2'-6"	3'-0"	3'-5"	3'-10"	4'-2"	4,000
303	19"	25	1'-1"	1'-6"	2'-0"	2'-5"	2'-10"	3'-3"	3'-7"	3'-11"	4,000
317	20"	25	1'-0"	1'-5"	1'-10"	2'-4"	2'-9"	3'-1"	3'-5"	3'-9"	4,000

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area assumed 2'-0" wide.
2) Always check overhang form lumber to make sure it will span the selected bracket spacing.
3) For a nominal charge, Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-49W Bridge Overhang Bracket and Exterior Spacing on Concrete Beam

Over 2'-0" to 3"-0" Overhang on 3/4" ply., 3-1/2" Joist and Double 2 x 6 Wales



Design Load PSF	Slab Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Insert SWL
			1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	750 lbs.	500 lbs.	250 lbs.	0 lbs.	
			Bracket "A" Dimension = 8" to 12"								
130	6"	25	*	*	*	1'-5"	2'-1"	2'-10"	3'-6"	4'-2"	4,000
143	7"	25	*	*	*	1'-4"	2'-0"	2'-8"	3'-4"	3'-11"	4,000
157	8"	25	*	*	*	1'-4"	1'-11"	2'-6"	3'-2"	3'-9"	4,000
170	9"	25	*	*	*	1'-3"	1'-10"	2'-5"	3'-0"	3'-7"	4,000
183	10"	25	*	*	*	1'-2"	1'-9"	2'-4"	2'-10"	3'-5"	4,000
197	11"	25	*	*	*	1'-2"	1'-8"	2'-2"	2'-9"	3'-3"	4,000
210	12"	25	*	*	*	1'-1"	1'-7"	2'-1"	2'-7"	3'-2"	4,000
223	13"	25	*	*	*	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	4,000
237	14"	25	*	*	*	1'-0"	1'-5"	1'-11"	2'-5"	2'-10"	4,000
250	15"	25	*	*	*	*	1'-5"	1'-10"	2'-4"	2'-9"	4,000
263	16"	25	*	*	*	*	1'-4"	1'-9"	2'-2"	2'-8"	4,000
277	17"	25	*	*	*	*	1'-3"	1'-8"	2'-1"	2'-6"	4,000
290	18"	25	*	*	*	*	1'-3"	1'-7"	2'-0"	2'-5"	4,000
303	19"	25	*	*	*	*	1'-2"	1'-7"	1'-11"	2'-4"	4,000
317	20"	25	*	*	*	*	1'-1"	1'-6"	1'-10"	2'-3"	4,000

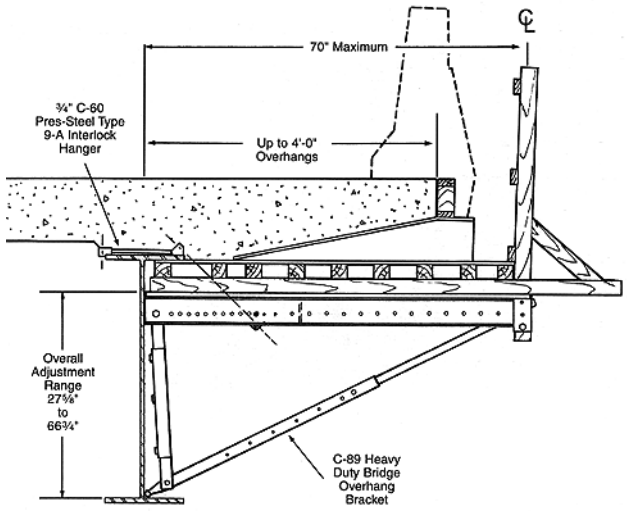
NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area assumed to be 2'-0" wide.
2) Always check overhang form lumber to make sure it will span the selected bracket spacing.
3) For a nominal charge, Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-89 Heavy Duty Bridge Overhang Bracket (72")

Up to 4'-0" Overhangs on Steel Girders



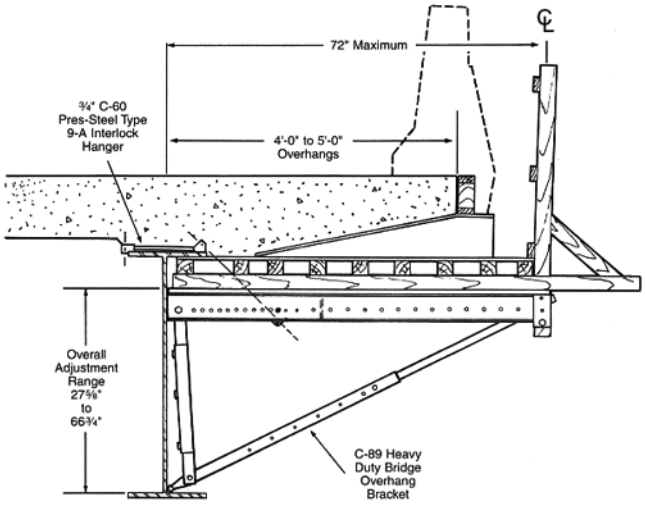
Design Load PSF	Slab Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1						Insert SWL
			1,500 lbs.	1,250 lbs.	750 lbs.	500 lbs.	250 lbs.	0 lbs.	
			Bracket "A" Dimension = 18" to 20"						
125	6"	30"	7'-11"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	7'-11"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	7'-11"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
150	8"	30"	6'-9"	7'-2"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			7'-5"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	6'-9"	7'-2"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	6'-9"	7'-2"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
175	10"	30"	5'-11"	6'-3"	7'-0"	7'-4"	7'-8"	8'-0"	8000
			6'-9"	7'-3"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	6'-0"	6'-3"	7'-0"	7'-4"	7'-8"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	6'-0"	6'-3"	7'-0"	7'-4"	7'-8"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
200	12"	30"	5' 3"	5'-7"	6'-3"	6'-8"	7'-0"	7'-4"	8000
			6'-0"	6'-9"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	5' 3"	5'-7"	6'-3"	6'-8"	7'-0"	7'-4"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	5' 3"	5'-7"	6'-3"	6'-8"	7'-0"	7'-4"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300

Note: Design includes 50 PSF live load on walkway area.
Overhang form lumber must be checked to mae sure it will span the selected spacing.
Warning: Contact Dayton Superior Technical Service Department for recommended spacings when conditions on your specific project vary from those shown.

DAYTON SUPERIOR

C-89 Heavy Duty Bridge Overhang Bracket (72")

Over 4'-0" to 5'-0" Overhangs on Steel Girders



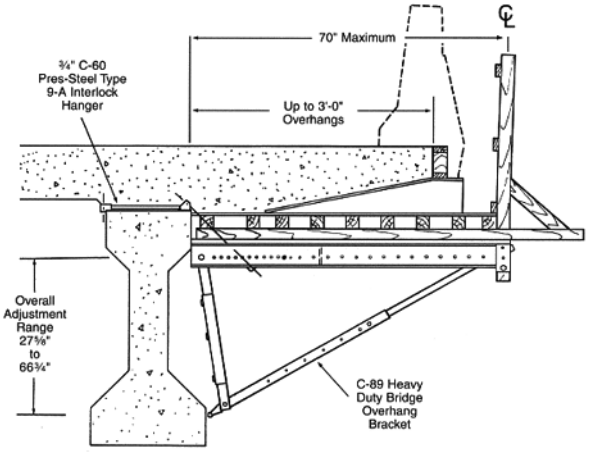
Design Load PSF	Slab Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1						Insert SWL
			1,500 lbs.	1,250 lbs.	750 lbs.	500 lbs.	250 lbs.	0 lbs.	
			Bracket "A" Dimension = 18" to 20"						
125	6"	30"	5'-6"	6'-6"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			5'-6"	6'-6"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	6'-9"	7'-3"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	6'-9"	7'-3"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
150	8"	30"	5'-0"	5'-9"	7'-0"	7'-3"	7'-8"	8'-0"	8000
			5'-0"	5'-9"	7'-4"	8'-0"	8'-0"	8'-0"	11300
		45"	5'-10"	6'-3"	6'-11"	7'-3"	7'-8"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	5'-10"	6'-3"	6'-11"	7'-3"	7'-8"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
175	10"	30"	4'-3"	5'-0"	6'-0"	6'-3"	6'-8"	7'-0"	8000
			4'-3"	5'-0"	6'-6"	7'-3"	8'-0"	8'-0"	11300
		45"	5'-1"	5'-4"	6'-0"	6'-4"	6'-8"	7'-0"	8000
			7'-6"	7'-9"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	5'-1"	5'-4"	6'-0"	6'-4"	6'-8"	7'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
200	12"	30"	3'-9"	4'-6"	5'-3"	5'-7"	5'-10"	6'-2"	8000
			3'-9"	4'-6"	5'-9"	6'-5"	7'-1"	7'-9"	11300
		45"	4'-5"	4'-9"	5'-3"	5'-7"	5'-10"	6'-2"	8000
			6'-9"	7'-4"	7'-10"	8'-0"	8'-0"	8'-0"	11300
		60"	4'-5"	4'-8"	5'-3"	5'-7"	5'-10"	6'-2"	8000
			7'-0"	7'-4"	7'-10"	8'-0"	8'-0"	8'-0"	11300

Note: Design includes 50 PSF live load on walkway area.
Overhang form lumber must be checked to mae sure it will span the selected spacing.
Warning: Contact Dayton Superior Technical Service Department for recommended spacings when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-89 Heavy Duty Bridge Overhang Bracket (72")

Up to 3'-0" Overhangs on Precast/Prestressed Concrete Girders



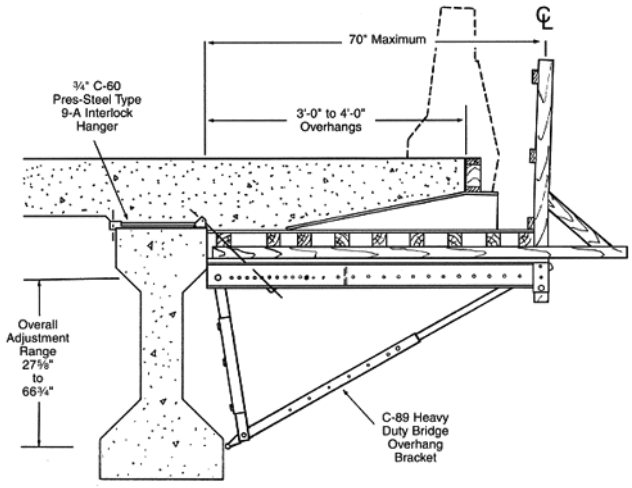
Design Load PSF	Slab Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1						Insert SWL
			1,500 lbs.	1,250 lbs.	750 lbs.	500 lbs.	250 lbs.	0 lbs.	
			Bracket "A" Dimension = 12" to 16"						
125	6"	30"	7'-8"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	7'-8"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	7'-8"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
150	8"	30"	6'-8"	7'-1"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	6'-8"	7'-1"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	6'-8"	7'-1"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
175	10"	30"	6'-0"	6'-4"	7'-1"	7'-5"	7'-10"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	6'-0"	6'-4"	7'-1"	7'-5"	7'-10"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	6'-0"	6'-4"	7'-1"	7'-5"	7'-10"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
200	12"	30"	5' 4"	5'-8"	6'-4"	6'-8"	7'-0"	7'-4"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	5' 4"	5'-8"	6'-4"	6'-8"	7'-0"	7'-4"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	5' 4"	5'-8"	6'-4"	6'-8"	7'-0"	7'-4"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300

Note: Design includes 50 PSF live load on walkway area.
Overhang form lumber must be checked to mae sure it will span the selected spacing.
Warning: Contact Dayton Superior Technical Service Department for recommended spacings when conditions on your specific project vary from those shown.

DAYTON SUPERIOR

C-89 Heavy Duty Bridge Overhang Bracket (72")

Over 3'-0" to 4'-0" Overhangs on Precast/Prestressed Concrete Girders



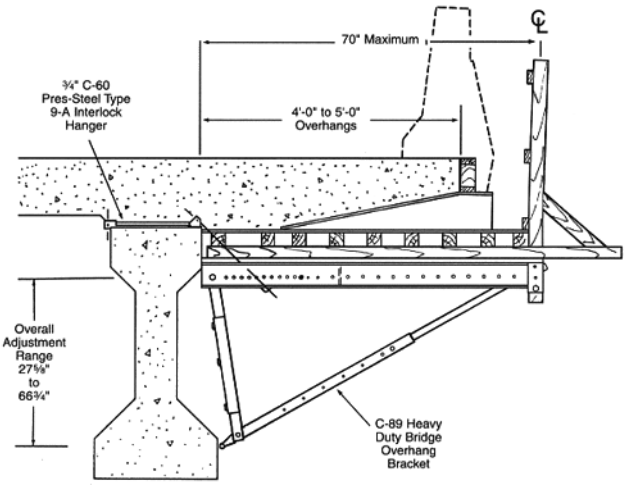
Design Load PSF	Slab Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1						Insert SWL
			1,500 lbs.	1,250 lbs.	750 lbs.	500 lbs.	250 lbs.	0 lbs.	
			Bracket "A" Dimension = 12" to 16"						
125	6"	30"	6'-9"	7'-2"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	6'-9"	7'-2"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	6'-9"	7'-2"	8'-0"	8'-0"	8'-0"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
150	8"	30"	5'-9"	6'-3"	6'-10"	7'-3"	7'-7"	7'-11"	8000
			7'-8"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	5'-9"	6'-3"	6'-10"	7'-3"	7'-7"	7'-11"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	5'-9"	6'-3"	6'-10"	7'-3"	7'-7"	7'-11"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
175	10"	30"	5'-0"	5'-4"	6'-0"	6'-3"	6'-7"	6'-11"	8000
			6'-9"	7'-6"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	5'-0"	5'-4"	6'-0"	6'-3"	6'-7"	6'-11"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	5'-0"	5'-4"	6'-0"	6'-3"	6'-7"	6'-11"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
200	12"	30"	4'-6"	4'-9"	5'-3"	5'-7"	5'-10"	6'-2"	8000
			6'-1"	6'-8"	7'-11"	8'-0"	8'-0"	8'-0"	11300
		45"	4'-6"	4'-9"	5'-3"	5'-7"	5'-10"	6'-2"	8000
			7'-3"	7'-7"	7'-11"	8'-0"	8'-0"	8'-0"	11300
		60"	4'-6"	4'-9"	5'-3"	5'-7"	5'-10"	6'-2"	8000
			7'-3"	7'-7"	7'-11"	8'-0"	8'-0"	8'-0"	11300

Note: Design includes 50 PSF live load on walkway area.
Overhang form lumber must be checked to mae sure it will span the selected spacing.
Warning: Contact Dayton Superior Technical Service Department for recommended spacings when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-89 Heavy Duty Bridge Overhang Bracket (72")

Over 4'-0" to 5'-0" Overhangs on Precast/Prestressed Concrete Girders



Design Load PSF	Slab Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1						Insert SWL
			1,500 lbs.	1,250 lbs.	750 lbs.	500 lbs.	250 lbs.	0 lbs.	
			Bracket "A" Dimension = 12" to 16"						
125	6"	30"	4'-8"	5'-5"	7'-0"	7'-4"	7'-8"	8'-0"	8000
			4'-8"	5'-5"	7'-0"	7'-9"	8'-0"	8'-0"	11300
		45"	5'-11"	6'-3"	7'-0"	7'-4"	7'-8"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	5'-11"	6'-3"	7'-0"	7'-4"	7'-8"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
150	8"	30"	4'-0"	4'-8"	5'-11"	6'-2"	6'-6"	6'-10"	8000
			4'-0"	4'-8"	6'-0"	6'-9"	7'-5"	8'-0"	11300
		45"	5'-0"	5'-4"	5'-11'	6'-2"	6'-6"	6'-10"	8000
			7'-4"	8'-0"	8'-0'	8'-0"	8'-0"	8'-0"	11300
		60"	5'-0"	5'-4"	5'-11'	6'-4"	6'-6"	6'-10"	8090
			7'-10"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
175	10"	30"	3'-6"	4'-1"	5'-1"	5'-5"	5'-8"	5'-11"	8000
			3'-6"	4'-1"	5'-4"	5'-11"	6'-8"	7'-1"	11300
		45"	4'-4"	4'-7"	5'-1"	5'-5"	5'-8"	5'-11"	8000
			6'-5"	7'-1"	7'-7"	7'-10"	8'-0"	8'-0"	11300
		60"	4'-4"	4'-7"	5'-1"	5-5"	5'-8"	5'-11"	8000
			6'-9"	7'-1"	7'-7"	7'-10"	8'-0"	8'-0"	11300
200	12"	30"	3'-1"	3'-8"	4'-6"	4'-9"	5'-0"	5'-3"	8000
			3'-1"	3'-8"	4'-8"	5'-3"	5'-9"	6'-3"	11300
		45"	3'-10"	4'-1"	4'-6"	4'-9"	5'-0"	5'-8"	8000
			5'-9"	6'-3"	6'-8"	6'-11"	7'-2"	7-5"	11300
		60"	3'-10"	4'-1"	4'-6"	4'-9"	5'-0"	5'-3"	8000
			6'-0"	6'-8"	6'-8"	6'-11"	7'-2"	7'-5"	11300

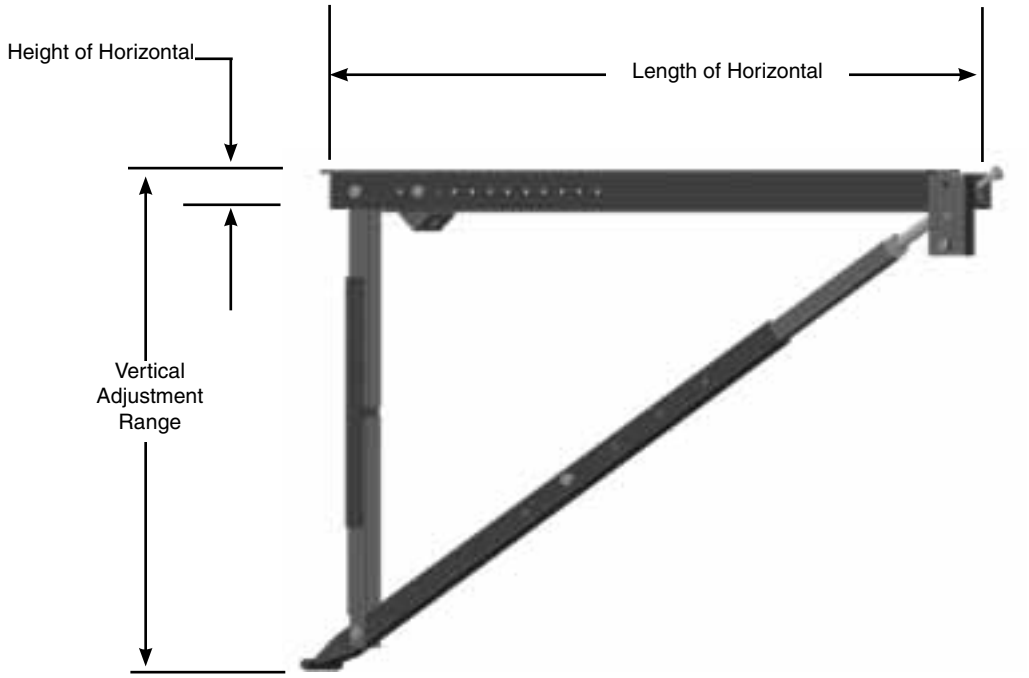
Note: Design includes 50 PSF live load on walkway area.
Overhang form lumber must be checked to mae sure it will span the selected spacing.
Warning: Contact Dayton Superior Technical Service Department for recommended spacings when conditions on your specific project vary from those shown.

Bridge Overhang Bracket Type C-89-L

The C-89-L and can be utilized on either steel or concrete girders using the appropriate 3/4" exterior hanger, such as the C-68 Type 9AB Ty-Down hanger.

These brackets are fabricated with nail holes in the top of the horizontal member for securing the required lumber nailer to the bracket. Either a 6x2 or an 8x2 lumber member may be used as the nailer.

A guardrail receptacle, which allows for attaching a 2x4 guard rail post, is built into the outboard end of the bracket's horizontal member. The bracket can be easily and quickly preset on the ground and then set in place as needed. An outboard adjustment nut controls the vertical movement of the outboard end of the bracket to accommodate setting the overhang formwork to final grade.



The C-89-L Heavy Duty Bridge Overhang Bracket is designed for maximum adjustment and strength to meet the varied overhang forming requirements of the various State D.O.T.

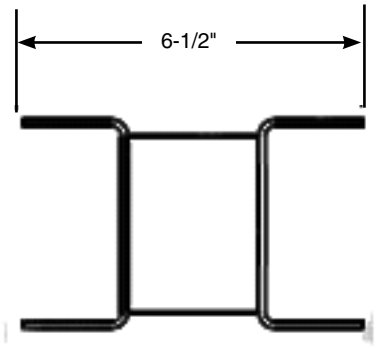
Bracket Type	Length of Horizontal	Height of Horizontal	Range of Vertical Adjustment
C-89-L	90"	6"	30" to 68"

Overhang brackets are usually adjusted to proper grade during the normal "dry run" operation. Typically, the overhang forms are set 1/4" to 3/8" above finished grade to compensate for dead load deflection.

SAFETY NOTE:
DO NOT attempt an upward adjustment of the bracket during the concrete pouring operation. Lowering the bracket is permissible during the concrete pour.

Bridge Overhang Brackets

Bridge Overhang Bracket Type C-89-L



Section View
Horizontal Member

The diagonal leg of the C-89-L bracket has a SWL of 6,000 lbs. based on an approximate factor of safety of 2 to 1.

Horizontal Channels

The horizontal member is fabricated from two back to back channels using 10 gauge carbon steel plate meeting the requirements of ASTM 1011, Grade 50 Class 1. This material has a minimum yield strength of 50 ksi and a minimum tensile strength of 65 ksi. The horizontal member of the C-89-L is 6” deep x 90” long.

Vertical Leg

The vertical leg is made up of three channels, each channel is fabricated from 10 gauge carbon steel plate meeting the requirements of ASTM A1011, Grade 50 Class 1 having a minimum yield strength of 50 ksi and a minimum tensile strength of 65 ksi.

Part	Channel Leg	Channel Base
Vertical Leg Top Channel	2-1/4"	2-1/4"
Vertical Leg Extension Channel	1-15/16"	3-1/8"
Vertical Leg Bottom Channel	2-3/16"	2-13/16"

Diagonal Leg

Square carbon steel tubing is used to fabricate the diagonal leg. The lower portion uses 2 1/2” and the upper portion uses 2” tubing. Both meet ASTM A500, Grade B requirements with a yield strength of 42 ksi and a ultimate tensile strength of 58 ksi.

Connection Bolts and Nuts

Connection bolts and nuts are Dayton Superior 3/4” diameter B-14 Coil Bolts and two B-13 Coil Nuts .

Section Properties

C-89-L Horizontal Member

Section Modulus (S) = $4.438 in^3$

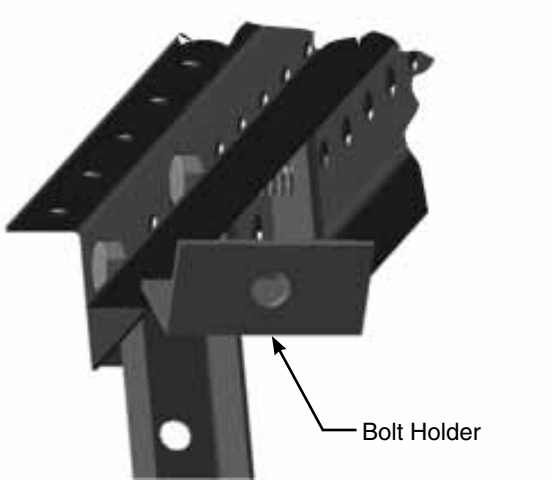
Moment of Inertia (I) = $12.604 in^4$

Area (A) = $2.438 in^2$

C-89-L Bolt Holder

The bolt holder used in the C-89-L brackets is designed to accept a 3/4' coil threaded bolt or coil rod and is the load carrying device that transfers the load from the overhang bracket to the 45° exterior bridge deck hanger.

The bolt holder can only be located at certain locations along the horizontal member of the bracket, based on the holes that have been factory punched in the side of the horizontal channels. These holes start at 2" from the inboard or beam end of the bracket and continue at 4", 6", 8", 10", 12", 14", 16", 18", 20', 22", 24" and 26" from the end of the bracket.



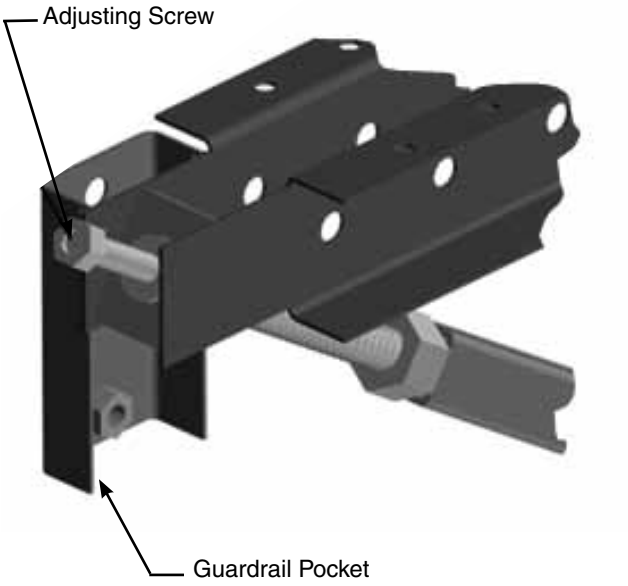
The Bolt Holder must be moved, for each specific project's situation, so the 3/4" diameter load carrying bolt is as close to a 45° angle with the top of the beam's flange as possible.

A bolt holder is shipped with each bracket.

Adjusting to Grade

The "fine adjusting" screw at the end of the horizontal member allows the bracket to be easily adjusted to grade prior to loading.

To adjust the bracket, use a wrench on the 3/4"-10 UNC Heavy Hex Nut to raise or lower the bracket as needed.



Guardrail Pocket

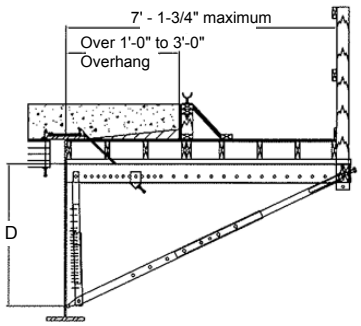
The build-in guardrail pocket is designed to accept a 2x4 guard rail post.

Please refer to the C-49 Bridge Overhang Bracket section of this handbook for information on the OSHA requirements for guardrails.

Bridge Overhang Brackets

C-89-L Bridge Overhang Bracket and Exterior Hanger Spacing

Over 1'-0" to 3'-0" Overhangs on Steel Beams Or Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30"	4'-7"	5'-5"	5'-11"	6'-4"	6'-9"	7'-2"	7'-7"	8'-0"	8000
			4'-7"	5'-5"	6'-4"	7'-2"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		45"	5'-2"	5'-6"	5'-11"	6'-4"	6'-9"	7'-2"	7'-7"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	5'-2"	5'-6"	5'-11"	6'-4"	6'-9"	7'-2"	7'-7"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
157	8"	30"	4'-5"	5'-0"	5'-4"	5'-9"	6'-1"	6'-6"	6'-10"	8'-0"	8000
			4'-5"	5'-3"	6'-1"	6'-11"	7'-9"	8'-0"	8'-0"	8'-0"	11300
		45"	4'-7"	5'-0"	5'-4"	5'-9"	6'-1"	6'-6"	6'-10"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	4'-7"	5'-0"	5'-4"	5'-9"	6'-1"	6'-6"	6'-10"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
184	10"	30"	4'-2"	4'-6"	4'-10"	5'-3"	5'-7"	5'-11"	6'-3"	7'-7"	8000
			4'-3"	5'-1"	5'-10"	6'-8"	7'-6"	8'-0"	8'-0"	8'-0"	11300
		45"	4'-2"	4'-6"	4'-10"	5'-3"	5'-7"	5'-11"	6'-3"	7'-7"	8000
			7'-4"	7'-8"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	4'-2"	4'-6"	4'-10"	5'-3"	5'-7"	5'-11"	6'-3"	7'-7"	8000
			7'-4"	7'-8"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
210	12"	30"	3'-10"	4'-2"	4'-6"	4'-9"	5'-1"	5'-5"	5'-8"	6'-11"	8000
			4'-1"	4'-10"	5'-7"	6'-4"	7'-2"	7'-11"	8'-0"	8'-0"	11300
		45"	3'-10"	4'-2"	4'-6"	4'-9"	5'-1"	5'-5"	5'-8"	6'-11"	8000
			6'-9"	7'-0"	7'-4"	7'-8"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	3'-10"	4'-2"	4'-6"	4'-9"	5'-1"	5'-5"	5'-8"	6'-11"	8000
			6'-9"	7'-0"	7'-4"	7'-8"	8'-0"	8'-0"	8'-0"	8'-0"	11300
237	14"	30"	3'-7"	3'-10"	4'-2"	4'-5"	4'-8"	5'-0"	5'-3"	6'-5"	8000
			3'-10"	4'-7"	5'-4"	6'-1"	6'-9"	7'-6"	7'-11"	8'-0"	11300
		45"	3'-7"	3'-10"	4'-2"	4'-5"	4'-8"	5'-0"	5'-3"	6'-5"	8000
			6'-3"	6'-6"	6'-9"	7'-1"	7'-4"	7'-8"	7'-11"	8'-0"	11300
		60"	3'-7"	3'-10"	4'-2"	4'-5"	4'-8"	5'-0"	5'-3"	6'-5"	8000
			6'-3"	6'-6"	6'-9"	7'-1"	7'-4"	7'-8"	7'-11"	8'-0"	11300
264	16"	30"	3'-4"	3'-7"	3'-10"	4'-1"	4'-4"	4'-8"	4'-11"	5'-11"	8000
			3'-8"	4'-4"	5'-0"	5'-8"	6'-5"	7'-1"	7'-4"	8'-0"	11300
		45"	3'-4"	3'-7"	3'-10"	4'-1"	4'-4"	4'-8"	4'-11"	5'-11"	8000
			5'-9"	6'-0"	6'-4"	6'-7"	6'-10"	7'-1"	7'-4"	8'-0"	11300
		60"	3'-4"	3'-7"	3'-10"	4'-1"	4'-4"	4'-8"	4'-11"	5'-11"	8000
			5'-9"	6'-0"	6'-4"	6'-7"	6'-10"	7'-1"	7'-4"	8'-0"	11300
290	18"	30"	3'-1"	3'-4"	3'-7"	3'-10"	4'-1"	4'-4"	4'-7"	5'-7"	8000
			3'-5"	4'-1"	4'-8"	5'-4"	6'-0"	6'-8"	6'-11"	7'-10"	11300
		45"	3'-1"	3'-4"	3'-7"	3'-10"	4'-1"	4'-4"	4'-7"	5'-7"	8000
			5'-5"	5'-8"	5'-11"	6'-2"	6'-5"	6'-8"	6'-11"	7'-10"	11300
		60"	3'-1"	3'-4"	3'-7"	3'-10"	4'-1"	4'-4"	4'-7"	5'-7"	8000
			5'-5"	5'-8"	5'-11"	6'-2"	6'-5"	6'-8"	6'-11"	7'-10"	11300
317	20"	30"	2'-11"	3'-1"	3'-4"	3'-7"	3'-10"	4'-1"	4'-3"	5'-3"	8000
			3'-2"	3'-10"	4'-5"	5'-0"	5'-7"	6'-3"	6'-5"	7'-5"	11300
		45"	2'-11"	3'-1"	3'-4"	3'-7"	3'-10"	4'-1"	4'-3"	5'-3"	8000
			5'-1"	5'-3"	5'-6"	5'-9"	6'-0"	6'-3"	6'-5"	7'-5"	11300
		60"	2'-11"	3'-1"	3'-4"	3'-7"	3'-10"	4'-1"	4'-3"	5'-3"	8000
			5'-1"	5'-3"	5'-6"	5'-9"	6'-0"	6'-3"	6'-5"	7'-5"	11300

NOTES:

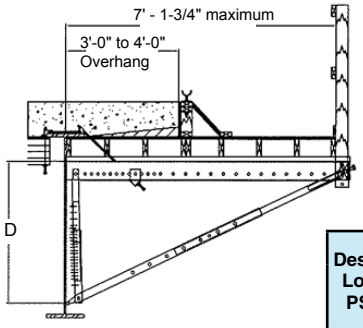
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

2) Always check overhang form lumber to make certain it will span the selected bracket spacing.

3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

C-89-L Bridge Overhang Bracket and Exterior Hanger Spacing

Over 3'-0" To 4'-0" Overhangs on Steel Beams Or Girders



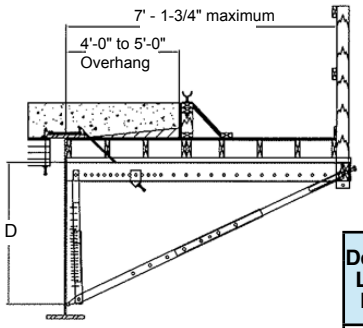
Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30"	1'-6"	2'-5"	3'-4"	4'-3"	5'-2"	6'-1"	6'-8"	8'-0"	8000
			1'-6"	2'-5"	3'-4"	4'-3"	5'-2"	6'-1"	7'-0"	8'-0"	11300
		45"	4'-6"	4'-11"	5'-3"	5'-7"	6'-0"	6'-4"	6'-8"	8'-0"	8000
			6'-9"	7'-8"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	4'-6"	4'-11"	5'-3"	5'-7"	6'-0"	6'-4"	6'-8"	8'-0"	8000
			7'-11"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
157	8"	30"	1'-5"	2'-3"	3'-2"	4'-0"	4'-10"	5'-7"	5'-11"	7'-2"	8000
			1'-5"	2'-3"	3'-2"	4'-0"	4'-10"	5'-8"	6'-6"	8'-0"	11300
		45"	4'-0"	4'-4"	4'-7"	4'-11"	5'-3"	5'-7"	5'-11"	7'-2"	8000
			6'-4"	7'-2"	7'-7"	7'-11"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	4'-0"	4'-4"	4'-7"	4'-11"	5'-3"	5'-7"	5'-11"	7'-2"	8000
			7'-0"	7'-3"	7'-7"	7'-11"	8'-0"	8'-0"	8'-0"	8'-0"	11300
184	10"	30"	1'-4"	2'-1"	2'-11"	3'-8"	4'-6"	5'-0"	5'-3"	6'-5"	8000
			1'-4"	2'-1"	2'-11"	3'-8"	4'-6"	5'-3"	6'-1"	8'-0"	11300
		45"	3'-7"	3'-10"	4'-2"	4'-5"	4'-8"	5'-0"	5'-3"	6'-5"	8000
			5'-11"	6'-6"	6'-9"	7'-1"	7'-4"	7'-8"	7'-11"	8'-0"	11300
		60"	3'-7"	3'-10"	4'-2"	4'-5"	4'-8"	5'-0"	5'-3"	6'-5"	8000
			6'-3"	6'-6"	6'-9"	7'-1"	7'-4"	7'-8"	7'-11"	8'-0"	11300
210	12"	30"	1'-3"	2'-0"	2'-8"	3'-5"	4'-2"	4'-6"	4'-9"	5'-9"	8000
			1'-3"	2'-0"	2'-8"	3'-5"	4'-2"	4'-11"	5'-8"	8'-0"	11300
		45"	3'-3"	3'-6"	3'-9"	4'-0"	4'-3"	4'-6"	4'-9"	5'-9"	8000
			5'-6"	5'-10"	6'-2"	6'-5"	6'-8"	6'-11"	7'-2"	8'-0"	11300
		60"	3'-3"	3'-6"	3'-9"	4'-0"	4'-3"	4'-6"	4'-9"	5'-9"	8000
			5'-7"	5'-10"	6'-2"	6'-5"	6'-8"	6'-11"	7'-2"	8'-0"	11300
237	14"	30"	1'-2"	1'-10"	2'-6"	3'-2"	3'-10"	4'-1"	4'-4"	5'-3"	8000
			1'-2"	1'-10"	2'-6"	3'-2"	3'-11"	4'-7"	5'-3"	7'-6"	11300
		45"	2'-11"	3'-2"	3'-5"	3'-8"	3'-10"	4'-1"	4'-4"	5'-3"	8000
			5'-1"	5'-4"	5'-7"	5'-10"	6'-1"	6'-4"	6'-6"	7'-6"	11300
		60"	2'-11"	3'-2"	3'-5"	3'-8"	3'-10"	4'-1"	4'-4"	5'-3"	8000
			5'-1"	5'-4"	5'-7"	5'-10"	6'-1"	6'-4"	6'-6"	7'-6"	11300
264	16"	30"	1'-1"	1'-8"	2'-4"	3'-0"	3'-7"	3'-9"	4'-0"	4'-10"	8000
			1'-1"	1'-8"	2'-4"	3'-0"	3'-7"	4'-3"	4'-11"	6'-10"	11300
		45"	2'-8"	2'-11"	3'-1"	3'-4"	3'-7"	3'-9"	4'-0"	4'-10"	8000
			4'-8"	4'-11"	5'-2"	5'-4"	5'-7"	5'-9"	6'-0"	6'-10"	11300
		60"	2'-8"	2'-11"	3'-1"	3'-4"	3'-7"	3'-9"	4'-0"	4'-10"	8000
			4'-8"	4'-11"	5'-2"	5'-4"	5'-7"	5'-9"	6'-0"	6'-10"	11300
290	18"	30"	1'-0"	1'-7"	2'-2"	2'-9"	3'-3"	3'-6"	3'-8"	4'-6"	8000
			1'-0"	1'-7"	2'-2"	2'-9"	3'-4"	3'-11"	4'-6"	6'-4"	11300
		45"	2'-6"	2'-8"	2'-11"	3'-1"	3'-3"	3'-6"	3'-8"	4'-6"	8000
			4'-4"	4'-7"	4'-9"	4'-11"	5'-2"	5'-4"	5'-7"	6'-4"	11300
		60"	2'-6"	2'-8"	2'-11"	3'-1"	3'-3"	3'-6"	3'-8"	4'-6"	8000
			4'-4"	4'-7"	4'-9"	4'-11"	5'-2"	5'-4"	5'-7"	6'-4"	11300
317	20"	30"	*	1'-5"	2'-0"	2'-7"	3'-1"	3'-3"	3'-5"	4'-2"	8000
			*	1'-5"	2'-0"	2'-7"	3'-1"	3'-8"	4'-2"	5'-11"	11300
		45"	2'-4"	2'-6"	2'-8"	2'-10"	3'-1"	3'-3"	3'-5"	4'-2"	8000
			4'-1"	4'-3"	4'-5"	4'-7"	4'-9"	5'-0"	5'-2"	5'-11"	11300
		60"	2'-4"	2'-6"	2'-8"	2'-10"	3'-1"	3'-3"	3'-5"	4'-2"	8000
			4'-1"	4'-3"	4'-5"	4'-7"	4'-9"	5'-0"	5'-2"	5'-11"	11300

NOTES:
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.
3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-89-L Bridge Overhang Bracket and Exterior Hanger Spacing

Over 4'-0" To 5'-0" Overhangs on Steel Beams Or Girders



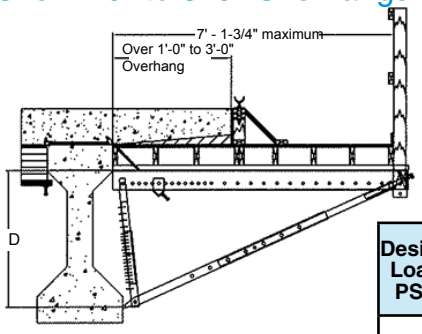
Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30"	*	*	1'-3"	2'-2"	3'-1"	3'-11"	4'-10"	7'-4"	8000
			*	*	1'-3"	2'-2"	3'-1"	3'-11"	4'-10"	8'-0"	11300
		45"	3'-8"	4'-5"	4'-8"	5'-0"	5'-4"	5'-8"	6'-0"	7'-4"	8000
			3'-8"	4'-7"	5'-5"	6'-4"	7'-3"	8'-0"	8'-0"	8'-0"	11300
		60"	4'-1"	4'-5"	4'-8"	5'-0"	5'-4"	5'-8"	6'-0"	7'-4"	8000
			7'-1"	7'-5"	7'-9"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
157	8"	30"	*	*	1'-2"	1'-11"	2'-9"	3'-7"	4'-4"	6'-4"	8000
			*	*	1'-2"	1'-11"	2'-9"	3'-7"	4'-4"	7'-7"	11300
		45"	3'-4"	3'-9"	4'-1"	4'-4"	4'-8"	4'-11"	5'-2"	6'-4"	8000
			3'-4"	4'-1"	4'-11"	5'-8"	6'-6"	7'-4"	7'-10"	8'-0"	11300
		60"	3'-6"	3'-9"	4'-1"	4'-4"	4'-8"	4'-11"	5'-2"	6'-4"	8000
			6'-1"	6'-5"	6'-8"	7'-0"	7'-3"	7'-6"	7'-10"	8'-0"	11300
184	10"	30"	*	*	1'-1"	1'-9"	2'-6"	3'-3"	3'-11"	5'-7"	8000
			*	*	1'-1"	1'-9"	2'-6"	3'-3"	3'-11"	6'-10"	11300
		45"	3'-0"	3'-4"	3'-7"	3'-10"	4'-1"	4'-4"	4'-7"	5'-7"	8000
			3'-0"	3'-9"	4'-5"	5'-2"	5'-11"	6'-7"	6'-11"	7'-10"	11300
		60"	3'-1"	3'-4"	3'-7"	3'-10"	4'-1"	4'-4"	4'-7"	5'-7"	8000
			5'-5"	5'-8"	5'-11"	6'-2"	6'-5"	6'-8"	6'-11"	7'-10"	11300
210	12"	30"	*	*	*	1'-7"	2'-3"	2'-11"	3'-7"	5'-0"	8000
			*	*	*	1'-7"	2'-3"	2'-11"	3'-7"	6'-3"	11300
		45"	2'-9"	3'-0"	3'-2"	3'-5"	3'-8"	3'-10"	4'-1"	5'-0"	8000
			2'-9"	3'-4"	4'-0"	4'-8"	5'-4"	5'-11"	6'-2"	7'-0"	11300
		60"	2'-9"	3'-0"	3'-2"	3'-5"	3'-8"	3'-10"	4'-1"	5'-0"	8000
			4'-10"	5'-0"	5'-3"	5'-6"	5'-8"	5'-11"	6'-2"	7'-0"	11300
237	14"	30"	*	*	*	1'-6"	2'-1"	2'-8"	3'-3"	4'-6"	8000
			*	*	*	1'-6"	2'-1"	2'-8"	3'-3"	5'-8"	11300
		45"	2'-6"	2'-8"	2'-11"	3'-1"	3'-3"	3'-6"	3'-8"	4'-6"	8000
			2'-6"	3'-1"	3'-8"	4'-3"	4'-11"	5'-4"	5'-7"	6'-4"	11300
		60"	2'-6"	2'-8"	2'-11"	3'-1"	3'-3"	3'-6"	3'-8"	4'-6"	8000
			4'-4"	4'-7"	4'-9"	4'-11"	5'-2"	5'-4"	5'-7"	6'-4"	11300
264	16"	30"	*	*	*	1'-4"	1'-11"	2'-5"	3'-0"	4'-1"	8000
			*	*	*	1'-4"	1'-11"	2'-5"	3'-0"	5'-3"	11300
		45"	2'-3"	2'-5"	2'-8"	2'-10"	3'-0"	3'-2"	3'-4"	4'-1"	8000
			2'-3"	2'-10"	3'-5"	3'-11"	4'-6"	4'-11"	5'-1"	5'-9"	11300
		60"	2'-3"	2'-5"	2'-8"	2'-10"	3'-0"	3'-2"	3'-4"	4'-1"	8000
			4'-0"	4'-2"	4'-4"	4'-6"	4'-8"	4'-11"	5'-1"	5'-9"	11300
290	18"	30"	*	*	*	1'-3"	1'-9"	2'-3"	2'-9"	3'-9"	8000
			*	*	*	1'-3"	1'-9"	2'-3"	2'-9"	4'-10"	11300
		45"	2'-1"	2'-3"	2'-5"	2'-7"	2'-9"	2'-11"	3'-1"	3'-9"	8000
			2'-1"	2'-7"	3'-1"	3'-7"	4'-1"	4'-6"	4'-8"	5'-4"	11300
		60"	2'-1"	2'-3"	2'-5"	2'-7"	2'-9"	2'-11"	3'-1"	3'-9"	8000
			3'-8"	3'-10"	4'-0"	4'-2"	4'-4"	4'-6"	4'-8"	5'-4"	11300
317	20"	30"	*	*	*	1'-2"	1'-7"	2'-1"	2'-6"	3'-6"	8000
			*	*	*	1'-2"	1'-7"	2'-1"	2'-6"	4'-5"	11300
		45"	1'-11"	2'-1"	2'-3"	2'-5"	2'-6"	2'-8"	2'-10"	3'-6"	8000
			1'-11"	2'-5"	2'-10"	3'-4"	3'-10"	4'-2"	4'-4"	4'-11"	11300
		60"	1'-11"	2'-1"	2'-3"	2'-5"	2'-6"	2'-8"	2'-10"	3'-6"	8000
			3'-4"	3'-6"	3'-8"	3'-10"	4'-0"	4'-2"	4'-4"	4'-11"	11300

NOTES:
1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.
2) Always check overhang form lumber to make certain it will span the selected bracket spacing.
3) **For a nominal charge,** Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

DAYTON SUPERIOR

C-89-L Bridge Overhang Bracket and Exterior Hanger Spacing

Over 1'-0" to 3'-0" Overhangs on Precast/Prestressed Concrete Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30"	3'-7"	4'-3"	5'-0"	5'-8"	6'-1"	6'-6"	6'-10"	8'-0"	8000
			3'-7"	4'-3"	5'-0"	5'-8"	6'-4"	7'-0"	7'-8"	8'-0"	11300
		45"	4'-8"	5'-0"	5'-4"	5'-9"	6'-1"	6'-6"	6'-10"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	4'-8"	5'-0"	5'-4"	5'-9"	6'-1"	6'-6"	6'-10"	8'-0"	8000
			8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
157	8"	30"	3'-5"	4'-1"	4'-9"	5'-2"	5'-6"	5'-9"	6'-1"	7'-5"	8000
			3'-5"	4'-1"	4'-9"	5'-5"	6'-1"	6'-9"	7'-4"	8'-0"	11300
		45"	4'-2"	4'-6"	4'-10"	5'-2"	5'-6"	5'-9"	6'-1"	7'-5"	8000
			7'-3"	7'-7"	7'-11"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	4'-2"	4'-6"	4'-10"	5'-2"	5'-6"	5'-9"	6'-1"	7'-5"	8000
			7'-3"	7'-7"	7'-11"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
184	10"	30"	3'-3"	3'-11"	4'-4"	4'-8"	4'-11"	5'-3"	5'-6"	6'-9"	8000
			3'-3"	3'-11"	4'-6"	5'-2"	5'-9"	6'-5"	7'-0"	8'-0"	11300
		45"	3'-9"	4'-0"	4'-4"	4'-8"	4'-11"	5'-3"	5'-6"	6'-9"	8000
			6'-6"	6'-10"	7'-2"	7'-5"	7'-9"	8'-0"	8'-0"	8'-0"	11300
		60"	3'-9"	4'-0"	4'-4"	4'-8"	4'-11"	5'-3"	5'-6"	6'-9"	8000
			6'-6"	6'-10"	7'-2"	7'-5"	7'-9"	8'-0"	8'-0"	8'-0"	11300
210	12"	30"	3'-1"	3'-8"	3'-11"	4'-3"	4'-6"	4'-9"	5'-1"	6'-2"	8000
			3'-1"	3'-8"	4'-3"	4'-11"	5'-6"	6'-1"	6'-8"	8'-0"	11300
		45"	3'-5"	3'-8"	3'-11"	4'-3"	4'-6"	4'-9"	5'-1"	6'-2"	8000
			5'-11"	6'-3"	6'-6"	6'-9"	7'-1"	7'-4"	7'-7"	8'-0"	11300
		60"	3'-5"	3'-8"	3'-11"	4'-3"	4'-6"	4'-9"	5'-1"	6'-2"	8000
			5'-11"	6'-3"	6'-6"	6'-9"	7'-1"	7'-4"	7'-7"	8'-0"	11300
237	14"	30"	2'-11"	3'-5"	3'-8"	3'-11"	4'-2"	4'-5"	4'-8"	5'-8"	8000
			2'-11"	3'-6"	4'-1"	4'-7"	5'-2"	5'-9"	6'-3"	8'-0"	11300
		45"	3'-2"	3'-5"	3'-8"	3'-11"	4'-2"	4'-5"	4'-8"	5'-8"	8000
			5'-6"	5'-9"	6'-0"	6'-3"	6'-6"	6'-9"	7'-0"	8'-0"	11300
		60"	3'-2"	3'-5"	3'-8"	3'-11"	4'-2"	4'-5"	4'-8"	5'-8"	8000
			5'-6"	5'-9"	6'-0"	6'-3"	6'-6"	6'-9"	7'-0"	8'-0"	11300
264	16"	30"	2'-9"	3'-2"	3'-4"	3'-7"	3'-10"	4'-1"	4'-3"	5'-3"	8000
			2'-9"	3'-4"	3'-10"	4'-4"	4'-10"	5'-5"	5'-11"	7'-5"	11300
		45"	2'-11"	3'-2"	3'-4"	3'-7"	3'-10"	4'-1"	4'-3"	5'-3"	8000
			5'-1"	5'-4"	5'-6"	5'-9"	6'-0"	6'-3"	6'-5"	7'-5"	11300
		60"	2'-11"	3'-2"	3'-4"	3'-7"	3'-10"	4'-1"	4'-3"	5'-3"	8000
			5'-1"	5'-4"	5'-6"	5'-9"	6'-0"	6'-3"	6'-5"	7'-5"	11300
290	18"	30"	2'-7"	2'-11"	3'-1"	3'-4"	3'-7"	3'-9"	4'-0"	4'-10"	8000
			2'-7"	3'-1"	3'-7"	4'-1"	4'-7"	5'-1"	5'-7"	6'-10"	11300
		45"	2'-8"	2'-11"	3'-1"	3'-4"	3'-7"	3'-9"	4'-0"	4'-10"	8000
			4'-9"	4'-11"	5'-2"	5'-4"	5'-7"	5'-9"	6'-0"	6'-10"	11300
		60"	2'-8"	2'-11"	3'-1"	3'-4"	3'-7"	3'-9"	4'-0"	4'-10"	8000
			4'-9"	4'-11"	5'-2"	5'-4"	5'-7"	5'-9"	6'-0"	6'-10"	11300
317	20"	30"	2'-5"	2'-9"	2'-11"	3'-1"	3'-4"	3'-6"	3'-9"	4'-6"	8000
			2'-5"	2'-11"	3'-4"	3'-10"	4'-3"	4'-9"	5'-3"	6'-5"	11300
		45"	2'-6"	2'-9"	2'-11"	3'-1"	3'-4"	3'-6"	3'-9"	4'-6"	8000
			4'-5"	4'-7"	4'-10"	5'-0"	5'-3"	5'-5"	5'-7"	6'-5"	11300
		60"	2'-6"	2'-9"	2'-11"	3'-1"	3'-4"	3'-6"	3'-9"	4'-6"	8000
			4'-5"	4'-7"	4'-10"	5'-0"	5'-3"	5'-5"	5'-7"	6'-5"	11300

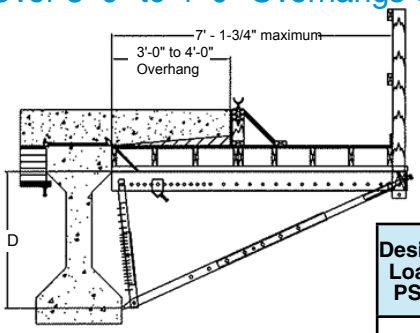
NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.
2) Always check overhang form lumber to make sure it will span the selected bracket spacing.
3) For a nominal charge, Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

Bridge Overhang Brackets

C-89-L Bridge Overhang Bracket and Exterior Hanger Spacing

Over 3'-0" to 4'-0" Overhangs on Precast/Prestressed Concrete Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30"	1'-3"	1'-11"	2'-8"	3'-5"	4'-2"	4'-10"	5'-7"	7'-5"	8000
			1'-3"	1'-11"	2'-8"	3'-5"	4'-2"	4'-10"	5'-7"	8'-0"	11300
		45"	4'-2"	4'-6"	4'-10"	5'-2"	5'-6"	5'-9"	6'-1"	7'-5"	8000
			5'-5"	6'-2"	6'-11"	7'-7"	8'-0"	8'-0"	8'-0"	8'-0"	11300
		60"	4'-2"	4'-6"	4'-10"	5'-2"	5'-6"	5'-9"	6'-1"	7'-5"	8000
			7'-3"	7'-7"	7'-11"	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	11300
157	8"	30"	1'-1"	1'-10"	2'-6"	3'-2"	3'-10"	4'-6"	5'-2"	6'-6"	8000
			1'-1"	1'-10"	2'-6"	3'-2"	3'-10"	4'-6"	5'-2"	7'-10"	11300
		45"	3'-7"	3'-11"	4'-2"	4'-6"	4'-9"	5'-1"	5'-4"	6'-6"	8000
			5'-0"	5'-8"	6'-4"	7'-0"	7'-6"	7'-9"	8'-0"	8'-0"	11300
		60"	3'-7"	3'-11"	4'-2"	4'-6"	4'-9"	5'-1"	5'-4"	6'-6"	8000
			6'-4"	6'-7"	6'-11"	7'-2"	7'-6"	7'-9"	8'-0"	8'-0"	11300
184	10"	30"	1'-0"	1'-8"	2'-3"	2'-11"	3'-6"	4'-2"	4'-9"	5'-10"	8000
			1'-0"	1'-8"	2'-3"	2'-11"	3'-6"	4'-2"	4'-9"	7'-3"	11300
		45"	3'-3"	3'-6"	3'-9"	4'-0"	4'-3"	4'-6"	4'-9"	5'-10"	8000
			4'-8"	5'-3"	5'-11"	6'-5"	6'-8"	6'-11"	7'-2"	8'-0"	11300
		60"	3'-3"	3'-6"	3'-9"	4'-0"	4'-3"	4'-6"	4'-9"	5'-10"	8000
			5'-7"	5'-11"	6'-2"	6'-5"	6'-8"	6'-11"	7'-2"	8'-0"	11300
210	12"	30"	*	1'-6"	2'-1"	2'-8"	3'-3"	3'-10"	4'-3"	5'-3"	8000
			*	1'-6"	2'-1"	2'-8"	3'-3"	3'-10"	4'-5"	6'-9"	11300
		45"	2'-11"	3'-2"	3'-4"	3'-7"	3'-10"	4'-1"	4'-3"	5'-3"	8000
			4'-3"	4'-10"	5'-5"	5'-9"	6'-0"	6'-3"	6'-5"	7'-5"	11300
		60"	2'-11"	3'-2"	3'-4"	3'-7"	3'-10"	4'-1"	4'-3"	5'-3"	8000
			5'-1"	5'-4"	5'-6"	5'-9"	6'-0"	6'-3"	6'-5"	7'-5"	11300
237	14"	30"	*	1'-5"	1'-11"	2'-6"	3'-0"	3'-7"	3'-11"	4'-9"	8000
			*	1'-5"	1'-11"	2'-6"	3'-0"	3'-7"	4'-1"	6'-3"	11300
		45"	2'-8"	2'-10"	3'-1"	3'-3"	3'-6"	3'-8"	3'-11"	4'-9"	8000
			4'-0"	4'-6"	5'-0"	5'-3"	5'-5"	5'-8"	5'-10"	6'-9"	11300
		60"	2'-8"	2'-10"	3'-1"	3'-3"	3'-6"	3'-8"	3'-11"	4'-9"	8000
			4'-7"	4'-10"	5'-0"	5'-3"	5'-5"	5'-8"	5'-10"	6'-9"	11300
264	16"	30"	*	1'-4"	1'-10"	2'-4"	2'-10"	3'-4"	3'-7"	4'-4"	8000
			*	1'-4"	1'-10"	2'-4"	2'-10"	3'-4"	3'-10"	5'-9"	11300
		45"	2'-5"	2'-7"	2'-10"	3'-0"	3'-2"	3'-5"	3'-7"	4'-4"	8000
			3'-8"	4'-2"	4'-7"	4'-10"	5'-0"	5'-2"	5'-5"	6'-2"	11300
		60"	2'-5"	2'-7"	2'-10"	3'-0"	3'-2"	3'-5"	3'-7"	4'-4"	8000
			4'-3"	4'-5"	4'-7"	4'-10"	5'-0"	5'-2"	5'-5"	6'-2"	11300
290	18"	30"	*	1'-3"	1'-8"	2'-2"	2'-7"	3'-1"	3'-4"	4'-0"	8000
			*	1'-3"	1'-8"	2'-2"	2'-7"	3'-1"	3'-6"	5'-4"	11300
		45"	2'-3"	2'-5"	2'-7"	2'-9"	2'-11"	3'-1"	3'-4"	4'-0"	8000
			3'-5"	3'-11"	4'-3"	4'-5"	4'-7"	4'-9"	5'-0"	5'-8"	11300
		60"	2'-3"	2'-5"	2'-7"	2'-9"	2'-11"	3'-1"	3'-4"	4'-0"	8000
			3'-11"	4'-1"	4'-3"	4'-5"	4'-7"	4'-9"	5'-0"	5'-8"	11300
317	20"	30"	*	1'-2"	1'-7"	2'-0"	2'-5"	2'-10"	3'-1"	3'-9"	8000
			*	1'-2"	1'-7"	2'-0"	2'-5"	2'-10"	3'-3"	5'-0"	11300
		45"	2'-1"	2'-3"	2'-5"	2'-7"	2'-9"	2'-11"	3'-1"	3'-9"	8000
			3'-2"	3'-7"	3'-11"	4'-1"	4'-3"	4'-5"	4'-7"	5'-3"	11300
		60"	2'-1"	2'-3"	2'-5"	2'-7"	2'-9"	2'-11"	3'-1"	3'-9"	8000
			3'-7"	3'-9"	3'-11"	4'-1"	4'-3"	4'-5"	4'-7"	5'-3"	11300

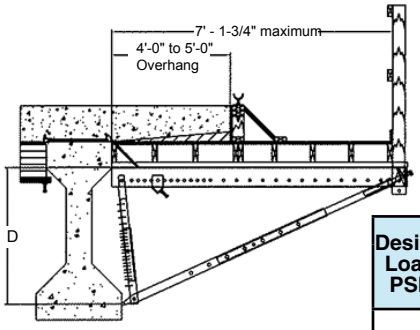
NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.
2) Always check overhang form lumber to make sure it will span the selected bracket spacing.
3) For a nominal charge, Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

DAYTON SUPERIOR

C-89-L Bridge Overhang Bracket and Exterior Hanger Spacing

Over 4'-0" to 5'-0" Overhangs on Precast/Prestressed Concrete Girders



Design Load PSF	Maximum Overhang Thickness	Bracket "D" Dimension	Screed Load Per Bracket = S1								Hanger SWL Range (lbs.)
			2,500 lbs.	2,250 lbs.	2,000 lbs.	1,750 lbs.	1,500 lbs.	1,250 lbs.	1,000 lbs.	0 lbs.	
130	6"	30"	*	*	1'-1"	1'-9"	2'-6"	3'-3"	3'-11"	6'-8"	8000
			*	*	1'-1"	1'-9"	2'-6"	3'-3"	3'-11"	6'-10"	11300
		45"	3'-0"	3'-8"	4'-4"	4'-8"	4'-11"	5'-3"	5'-6"	6'-9"	8000
			3'-0"	3'-8"	4'-5"	5'-2"	5'-11"	6'-7"	7'-4"	8'-0"	11300
		60"	3'-9"	4'-0"	4'-4"	4'-8"	4'-11"	5'-3"	5'-6"	6'-9"	8000
			5'-10"	6'-6"	7'-2"	7'-5"	7'-9"	8'-0"	8'-0"	8'-0"	11300
157	8"	30"	*	*	*	1'-7"	2'-3"	2'-11"	3'-6"	5'-10"	8000
			*	*	*	1'-7"	2'-3"	2'-11"	3'-6"	6'-1"	11300
		45"	2'-8"	3'-4"	3'-9"	4'-0"	4'-3"	4'-6"	4'-9"	5'-10"	8000
			2'-8"	3'-4"	4'-0"	4'-7"	5'-3"	5'-11"	6'-7"	8'-0"	11300
		60"	3'-3"	3'-6"	3'-9"	4'-0"	4'-3"	4'-6"	4'-9"	5'-10"	8000
			5'-2"	5'-10"	6'-2"	6'-5"	6'-8"	6'-11"	7'-2"	8'-0"	11300
184	10"	30"	*	*	*	1'-5"	2'-0"	2'-7"	3'-2"	5'-1"	8000
			*	*	*	1'-5"	2'-0"	2'-7"	3'-2"	5'-6"	11300
		45"	2'-5"	3'-0"	3'-3"	3'-6"	3'-9"	3'-11"	4'-2"	5'-1"	8000
			2'-5"	3'-0"	3'-7"	4'-2"	4'-9"	5'-4"	5'-11"	7'-2"	11300
		60"	2'-10"	3'-1"	3'-3"	3'-6"	3'-9"	3'-11"	4'-2"	5'-1"	8000
			4'-8"	5'-2"	5'-5"	5'-7"	5'-10"	6'-1"	6'-4"	7'-2"	11300
210	12"	30"	*	*	*	1'-3"	1'-10"	2'-4"	2'-11"	4'-6"	8000
			*	*	*	1'-3"	1'-10"	2'-4"	2'-11"	5'-0"	11300
		45"	2'-2"	2'-9"	2'-11"	3'-1"	3'-4"	3'-6"	3'-9"	4'-6"	8000
			2'-2"	2'-9"	3'-3"	3'-9"	4'-4"	4'-10"	5'-4"	6'-5"	11300
		60"	2'-6"	2'-9"	2'-11"	3'-1"	3'-4"	3'-6"	3'-9"	4'-6"	8000
			4'-3"	4'-7"	4'-10"	5'-0"	5'-3"	5'-5"	5'-7"	6'-5"	11300
237	14"	30"	*	*	*	1'-2"	1'-8"	2'-2"	2'-8"	4'-1"	8000
			*	*	*	1'-2"	1'-8"	2'-2"	2'-8"	4'-7"	11300
		45"	2'-0"	2'-5"	2'-8"	2'-10"	3'-0"	3'-2"	3'-4"	4'-1"	8000
			2'-0"	2'-6"	2'-11"	3'-5"	3'-11"	4'-5"	4'-11"	5'-10"	11300
		60"	2'-3"	2'-5"	2'-8"	2'-10"	3'-0"	3'-2"	3'-4"	4'-1"	8000
			3'-10"	4'-2"	4'-4"	4'-6"	4'-8"	4'-11"	5'-1"	5'-10"	11300
264	16"	30"	*	*	*	1'-1"	1'-6"	2'-0"	2'-5"	3'-9"	8000
			*	*	*	1'-1"	1'-6"	2'-0"	2'-5"	4'-2"	11300
		45"	1'-10"	2'-3"	2'-5"	2'-7"	2'-9"	2'-11"	3'-1"	3'-9"	8000
			1'-10"	2'-3"	2'-8"	3'-2"	3'-7"	4'-0"	4'-6"	5'-3"	11300
		60"	2'-1"	2'-3"	2'-5"	2'-7"	2'-9"	2'-11"	3'-1"	3'-9"	8000
			3'-6"	3'-9"	3'-11"	4'-1"	4'-3"	4'-5"	4'-7"	5'-3"	11300
290	18"	30"	*	*	*	1'-0"	1'-5"	1'-10"	2'-3"	3'-5"	8000
			*	*	*	1'-0"	1'-5"	1'-10"	2'-3"	3'-10"	11300
		45"	1'-8"	2'-0"	2'-2"	2'-4"	2'-6"	2'-8"	2'-10"	3'-5"	8000
			1'-8"	2'-1"	2'-6"	2'-11"	3'-4"	3'-9"	4'-2"	4'-10"	11300
		60"	1'-11"	2'-0"	2'-2"	2'-4"	2'-6"	2'-8"	2'-10"	3'-5"	8000
			3'-3"	3'-6"	3'-7"	3'-9"	3'-11"	4'-1"	4'-3"	4'-10"	11300
317	20"	30"	*	*	*	*	1'-3"	1'-8"	2'-0"	3'-1"	8000
			*	*	*	*	1'-3"	1'-8"	2'-0"	3'-7"	11300
		45"	1'-6"	1'-11"	2'-0"	2'-2"	2'-4"	2'-5"	2'-7"	3'-2"	8000
			1'-6"	1'-11"	2'-4"	2'-8"	3'-1"	3'-5"	3'-10"	4'-6"	11300
		60"	1'-9"	1'-11"	2'-0"	2'-2"	2'-4"	2'-5"	2'-7"	3'-2"	8000
			3'-0"	3'-2"	3'-4"	3'-6"	3'-8"	3'-9"	3'-11"	4'-6"	11300

NOTES:

1) Design load calculations for the above bracket spacings are based on a dead load of 160 pcf for the concrete and formwork, a live load of 50 psf for workers, moveable equipment and materials, plus a 75 plf vertical load applied at the outside edge of the deck overhang. A 50 psf live load is also applied to the walkway area.

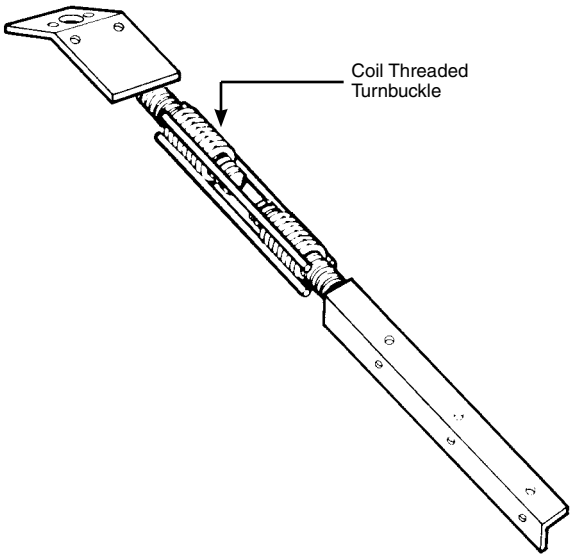
2) Always check overhang form lumber to make sure it will span the selected bracket spacing.

3) For a nominal charge, Dayton Superior Technical Service Department will calculate a recommended bracket spacing when conditions on your specific project vary from those shown.

A-27 Turnbuckle Form Aligner

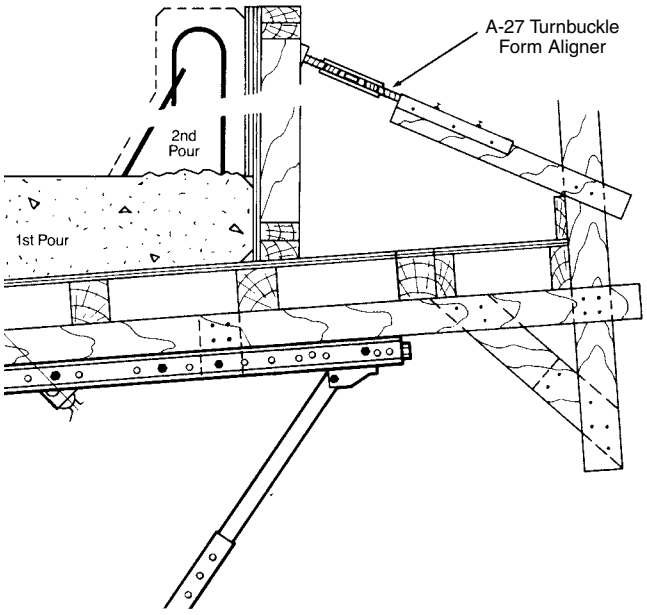
The A-27 Turnbuckle Form Aligner consists of a 1 1/2" x 1 1/2" x 20" angle welded to a 1" diameter turnbuckle assembly. The self-cleaning coil thread offers quick adjustment for plumbing and aligning formwork. Minimum overall length of the aligner is 37". Maximum extended overall length is 40".

Nail holes in the angle allow the unit to be affixed to a length of 2x4 or 2x6 to extend the effective length of the aligner. The nailing plate is furnished with nail holes for attaching to the form and also has a 15/16" hole. The safe working load of the form aligner is limited by the lumber and nailing procedures.



To Order:
Specify: (1) quantity, and (2) name

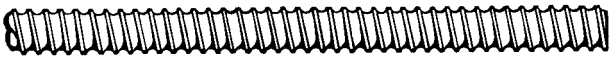
Example:
75 pcs., A-27 Turnbuckle Form Liner



Safety Note:
A-27 Turnbuckle Form Aligner is not designed for use as bracing resisting wind loads.

B-12 Continuous Coil Threaded Rod

B-12 Continuous Coil Threaded Rod is manufactured from high strength cold rolled steel and is available in precut lengths or in 12' lengths for field cutting. Use for supporting interior formwork, overhang brackets and exterior formwork.



Diameter	Tension SWL	Cross Section area
1/2"	9,000 lbs.	0.1385 sq. in.
3/4"	18,000 lbs.	0.3098 sq. in

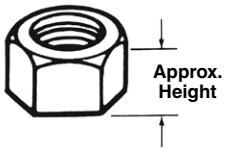
SWL provides a factor of safety of approximately 2 to 1.

To Order:
Specify: (1) quantity, (2) name and (3) diameter

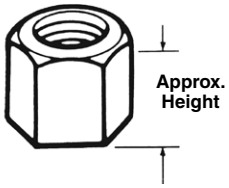
Example:
75 pcs., B-12 Coil Rod, 1/2" diameter

Safety Note:
The user should be aware that there are no industry standards for coil threads and the user should not use coil threaded products supplied by others with a Dayton Superior coil threaded product.

B-13 Coil Nut and B-25 Heavy Coil Nut



B-13 Standard Coil Nut



B-25 Heavy Coil Nut

B-13 and B-25 Coil Nut Selection Chart				
Coil Nut Type	Dia.	Approx. Height	Safe Working Load Tension (lbs.)	
			Using One B-13 Nut	Using Two B-13 Nuts or One B-25 Heavy Nut
B-13	1/2"	7/16"	6,000	9,000
B-25	1/2"	1 3/16"	—	9,000
B-13	3/4"	5/8"	9,000	18,000
B-25	3/4"	1 3/16"	—	18,000

S.W.L. provides a factor of safety of approximately 2 to 1.

The B-13 Coil Nut and B-25 Heavy Coil Nut are manufactured with coil thread and are used in conjunction with other coil threaded products to support bridge deck formwork.

To Order:
Specify: (1) quantity, (2) name, (3) bolt diameter.

Example:
200 pcs. B-13 Coil Nut, 3/4".

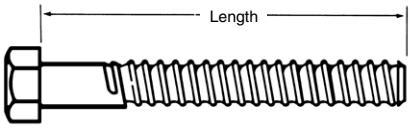
B-14 Coil Bolt
B-14-A Adjustable Coil Bolt

The B-14 Coil Bolt has an integral forged head and is available in 1/2” and 3/4” diameters and lengths as required. The B-14 is used with interior and exterior hangers to suspend bridge deck formwork.

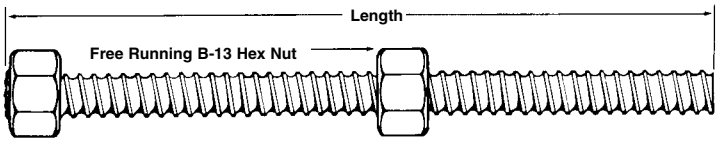
The B-14-A Adjustable Coil Bolt consists of a length of coil rod with a welded head (Coil Nut) and a free-running Coil Nut. The B-14-A is available in 1/2" and 3/4" diameters and in 12", 16", 18", 20" and 24" standard lengths. Custom lengths are available on request.

B-14-A Adjustable Coil Bolts are especially recommended for use with bridge deck formwork, as one B-14-A Adjustable Coil bolt can take the place of several different lengths of B-14 Coil bolts. This is accomplished by adjusting the free running nut to compensate for changes in the needed “form grip”.

SWL listed provides a factor of safety of approximately 2 to 1.



B-14 Coil Bolt



B-14-A Adjustable Coil Bolt

Type	Diameter	Head Type	Length	Tension SWL	Type Nut on Opposite End	Minimum Coil Penetration
B-14	1/2"	Forged	6" and over	9,000 lbs.	B-13	1"
B-14-A	1/2"	Welded	All	6,000 lbs.	B-13	2"
B-14	3/4"	Forged	All	20,050 lbs.	B-13	1"
B-14-A	3/4"	Welded	All	9,000 lbs.	B-13	2-1/4"
B-14-A	3/4"	Welded	All	18,000 lbs.	B-25	2-1/4"

To Order:
Specify: (1) quantity, (2) name, (3) diameter, and (4) length.

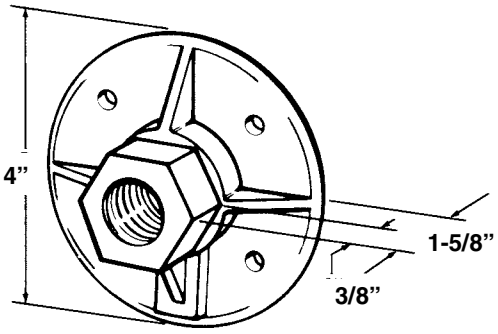
Example:
150 pcs. B-14-A Adjustable Coil Bolt, 1/2" diameter x 24" long.

B-27 Coil Nut Washer

The B-27 Coil Nut Washer is uniquely designed, one-piece ductile casting that combines the advantages of a washer and nut into one part. Nail holes are provided to secure the washer to lumber forms, when needed.

Available in 1/2” and 3/4” coil thread diameters. Distance across flats of the nut portion is 1 3/8” for both diameters.

Safe working load for the 1/2” diameter is 4,500 lbs. and 9,000 lbs. for the 3/4” diameter. SWL provides for approximately a 2 to 1 factor of safety.

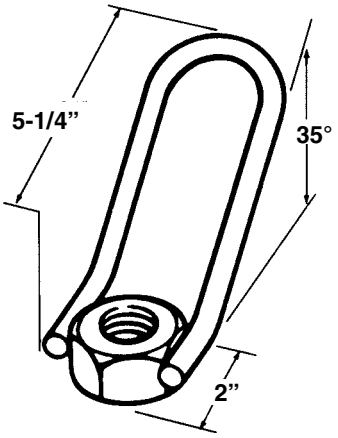


B-32 Handle Coil Nut

The B-32 Handle Coil Nut is fabricated by welding a wire loop to a B-13 Coil Nut. The handle eliminates the need to use a wrench to tighten the nut and aids in speeding up both installation and stripping procedures.

Hammer a nail into the form lumber close to the B-32 nut. Then loop a tie wire around the nail and through the handle, which will keep the nut from loosening due to vibrating the concrete.

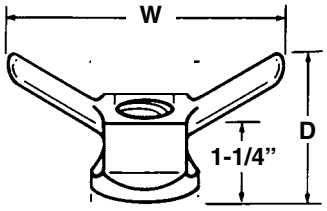
Available in 1/2” or 3/4” coil thread diameters. Safe working load for the 1/2” diameter is 4,500 lbs. and 9,000 lbs. for the 3/4” diameter. SWL provides for approximately a 2 to 1 factor of safety. lbs. and 9,000 lbs. for the 3/4” diameter. SWL provides for approximately a 2 to 1 factor of safety.



B-39 Coil Wing Nut

The B-39 Wing Nut is available in 1/2” and 3/4“ coil thread diameters for use hanging bridge deck form work.

Ideal for use with bridge form work, as a sharp “blow” from a hammer will loosen the wing nut sufficiently, allowing removal of the wing nut by hand. Eliminates the need to use a wrench when in an awkward working position beneath the form work.

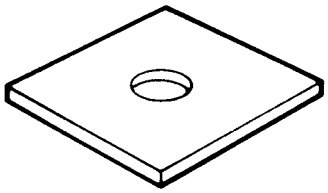


Safety Note:
There are no industry standards for coil threads and the user should not use coil threaded products supplied by others with a Dayton Superior coil threaded product.

Diameter	D	W	SWL
1/2"	2-3/8"	5"	9,000 lbs.
3/4"	2-5/8"	5-3/4"	18,000 lbs.

SWL provides a factor of safety of approximately 2 to 1.

B-11 Flat Washer



Flat washers are fabricated from 1/4” or 3/8” thick flat steel plate and are available in the sizes shown in the chart.

For best results, the washer should be positioned so that the washer’s length runs parallel to the walers and the gap between the walers does not exceed the bolt diameter plus 1/4".

SWL provides a factor of safety of approximately 2 to 1.

Type	Bolt Diameter	Safe Working Load	Sizes
B-11 Standard	1/2"	6,750 lbs.	3" x 4" x 1/4"
B-11 Heavy	1/2"	8,750 lbs.	4" x 5" x 1/4"
B-11 Standard	3/4"	14,000 lbs.	4" x 5" x 3/8"
B-11 Heavy	3/4"	14,000 lbs.	5" x 5" x 3/8"
B-11 Standard	1"	18,500 lbs.	5" x 5" 1/2"
B-11 Heavy	1"	38,000 lbs.	7" x 7" x 3/4"
B-11 Standard	1 - 1/4"	22,750 lbs.	5" x 5" x 5/8"
B-11 Heavy	1 - 1/4"	50,750 lbs.	7" x 7" x 3/4"
B-11 Standard	1 - 1/2"	26,250 lbs.	5" x 5" x 3/4"
B-11 Heavy	1 - 1/2"	41,500 lbs.	7" x 7" x 3/4"

To Order:
Specify: (1) quantity, (2) name, (3) diameter, (4) type and (5) size

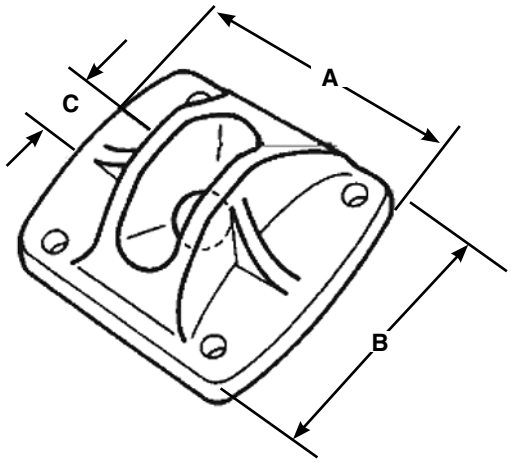
Example:
150 pcs. B-11 Flat washer, 1/2" Heavy, 4" x 4" x 1/4"

B-42 Batter Washer

The B-42 Batter Washer is available for use with in 1/2” and 3/4” coil bolts.

The B-42 washer is designed to swing freely to any desired angle up to 45° which allows for proper bearing of a bolt head.

Nail holes are provided to secure the washer to lumber ledgers. Multiple raised ridges or “lumber grips” are designed in on the underside of the washer, which with the nails work to prevent washer slippage under angular loading conditions.



Diameter	A	B	C	SWL
1/2"	3-7/8"	3-1/2"	1"	9,000 lbs.
3/4"	4-3/4"	4-3/4"	1-1/2"	18,000 lbs.

W-Series High Strength Threaded Bars

Dayton Superior offers high strength continuously threaded bars in Grade 75 (W6) per ASTM A615 and 150 ksi (W3) per ASTM A722. Threaded bars are available in #6 to #28 sizes in any lengths up to 60 feet long in plain, greased, epoxy-coated or hot dip galvanized finish. Accessories can include nuts, jam nuts, washers, bevel washers, spherical washers, couplers, bearing plates.

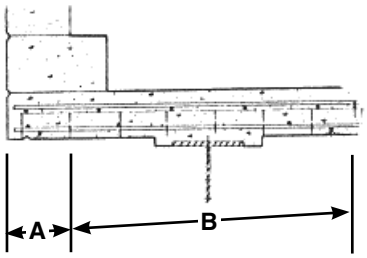
To Order:
Specify: (1) quantity, (2) diameter, (3) steel grade, (4) length and (5) required accessories

Example:
100 pcs, #10, W-6 Grade 75, 30' long, nuts

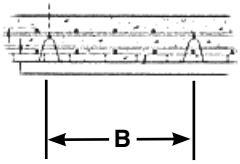
Bar Supports for Reinforcing Steel

Dayton Superior manufactures a complete line of wire and plastic bar supports for use in supporting reinforcing steel. All Dayton Superior bar supports are manufactured to the recommendations and specifications of the Concrete Reinforcing Steel Institute (CRSI). Dayton Superior bar supports are shipped in convenient cartons, bundles or skids and are clearly identified by size.

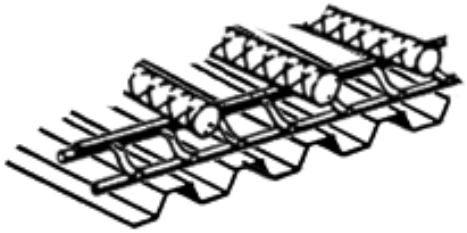
Bar Support Spacing



Overhang of Bridge



Interior of Bridge



Metal Decking

When the project plans do not specify a spacing for bar supports, Dayton Superior recommends the following:

Condition A:
When using continuous bar supports (SB and CHC) to support both the bottom and top mat of reinforcing steel:

- Dimension “A” equals 1’-0” maximum and dimension “B” equals 4’-0” maximum.

Condition B:
When using continuous bar supports (SB) to support the bottom mat and individual chairs (HC) supporting the top mat of reinforcing steel

- Dimension “A” equals 1’-0” maximum and dimension “B” equals 4’-0” maximum.

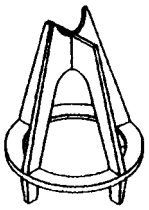
Condition C:
When using continuous bar supports (SB) to support the bottom mat and an upper bar support (SBU or CHC) to support the top mat of rebar:

- Dimension “A” equals 9” maximum and dimension “B” equals 3’-0” maximum.

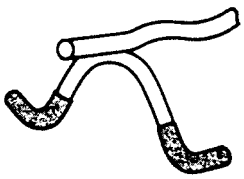
For metal decking, it is recommended to use an SBU or CHCU to span across the decking.

Corrosion Protection

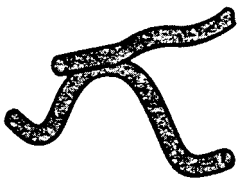
Bar supports are available as all plastic or from wire that is either bright basic, plastic dipped, epoxy coated, plastic tipped or stainless steel to meet the various corrosion protection specified by the state DOTs.



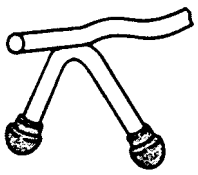
All Plastic



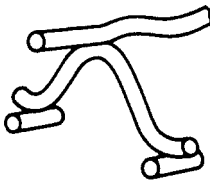
Plastic Dipped



Epoxy-Coated

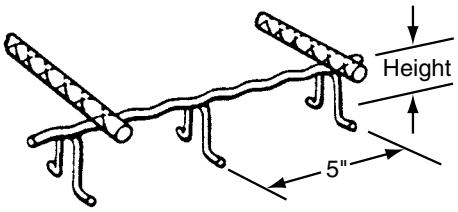


Plastic Tipped



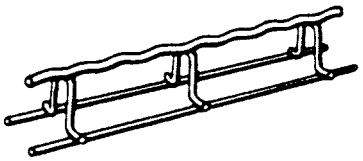
SS Tipped

Wire Bar Supports



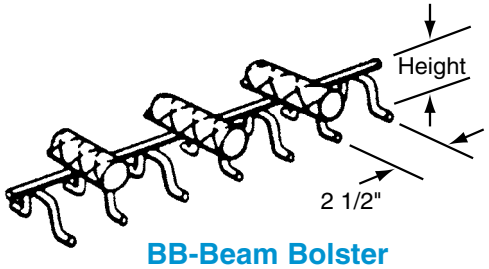
SB-Slab Bolster

Available in heights of 3/4" to 3" in increments of 1/4"



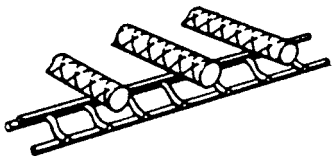
SBU-Slab Bolster Upper

Available in heights of 3/4" to 3" in increments of 1/4"



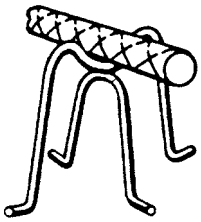
BB-Beam Bolster

Available in heights of 3/4" to 5" in increments of 1/4"



BBU-Beam Bolster Upper

Available in heights of 3/4" to 5" in increments of 1/4"

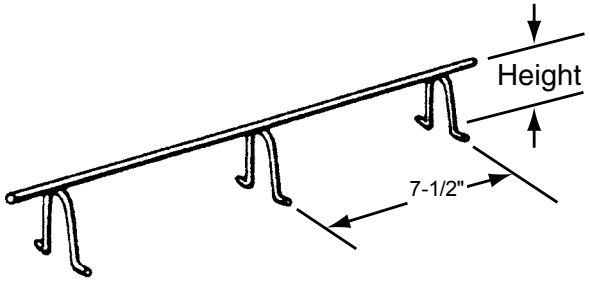


HC-Individual High Chair

Available in heights of 2" to 12" in increments of 1/4"

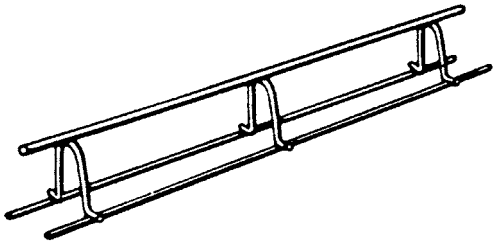
BC-Bar Chair

Available in heights of 3/4" to 2" in increments of 1/4"



CHC-Continuous High Chair

Available in heights of 2" to 9-3/4" in increments of 1/4"

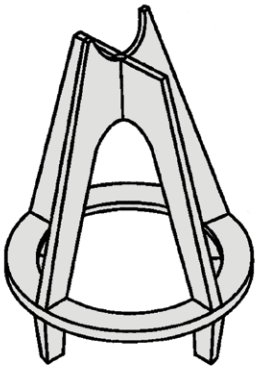


CHCU-Cont. High Chair Upper

Available in heights of 2" to 7" in increments of 1/4"

NOTE: Standard length for SB, BB, BBU, CHC and CHCU is 5'-0"

Plastic Bar Supports

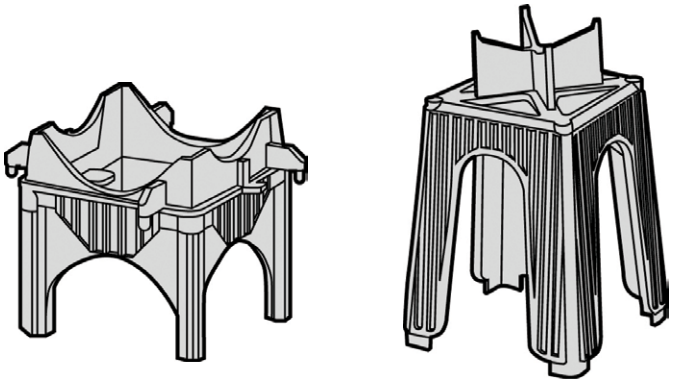


EZ Chair
Patent #D334,133

Available in heights of 3/4" to 6"
in 1/4" increments

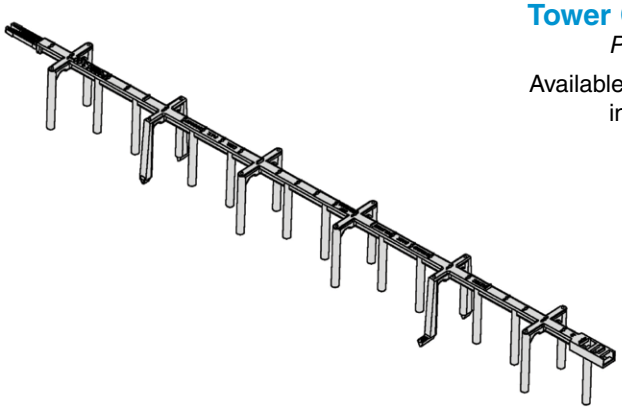
Straddle Chair
Patent Pending

Available in heights of 3" to 7-3/4"
in 1/4" increments



Tower Chair™ / Bar Chair
Patent #D428,501

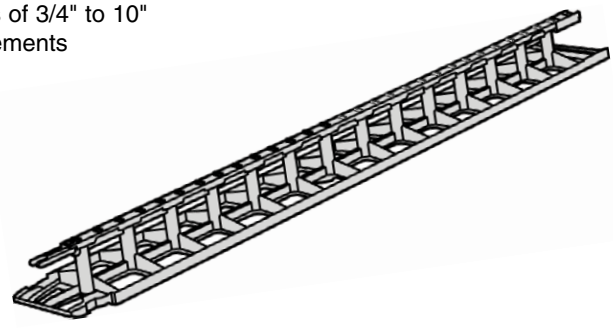
Available in heights of 3/4" to 10"
in 1/4" increments



Strongback Slab / Beam Bolster™
Patent #D393,997

Available from 3/4" to 5"
in 1/4" increments

Can be used individually in 2'-6" lengths or
locked together to create any length.



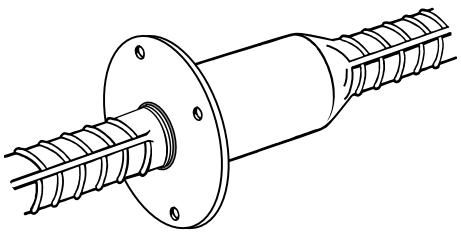
Slab Bolster Upper
Patent #D6,948,291

Heights from 1" to 3-1/4"
in 1/4" increments

Can be used individually in 2'-6" lengths or
locked together to create any length.

Notes and Sketches

Dowel Bar Splicing System



*U.S. Patent No. 4,619,096

This system is a two-piece system consisting of male and female threaded rebars that have been upset on the threaded end. Available in reinforcing bar sizes #4 through #11 meeting ASTM A 615 Grade 60 requirements in plain or epoxy finishes.

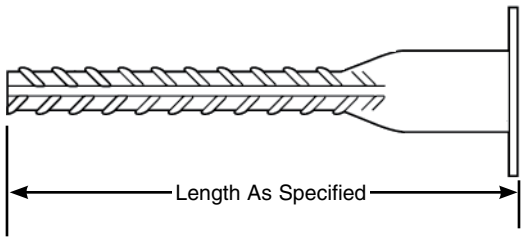
The manufacturing process ensures that no reduction occurs in the cross-sectional area of the projects specified rebar. It also allows the complete splice to achieve 160% of the rebars 60,000 psi yield strength and develop the full ultimate strength of the specified rebar.

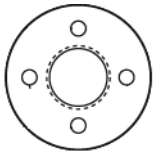
The Dowel-Bar Splicer System offers the contactor many advantages, including eliminating drilling of holes in the forms so rebars can pass through, eliminating any rebar protruding from the concrete and greatly reduces injuries from rebar protruding from the concrete.

Dowel Bar Splicer

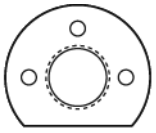
The Dowel Bar Splicer can be furnished straight, with a 90˚ or 180˚ hooked end or double-ended. The splicer can also be special-ordered with a reduced diameter washer flange or with the washer flange clipped (in more than one direction, if required) to provide adequate concrete cover or to avoid interference.

The Double-Ended Dowel Bar Splicer can be used to establish a direct load path through a concrete section, thus avoiding multiple hooked rebar and eliminating rebar congestion. The doubled-ended unit can be configured in a “U” shape for special applications.

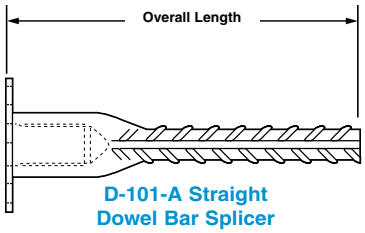




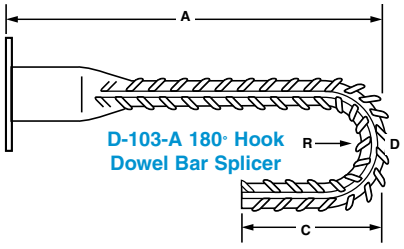
Standard Flange



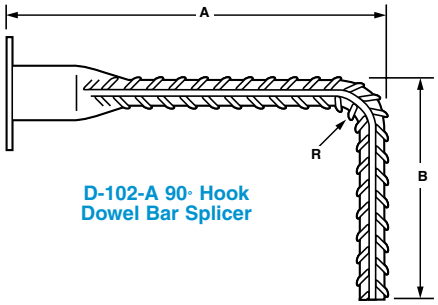
Clipped Flange



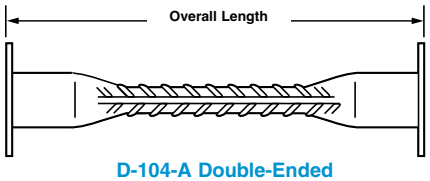
D-101-A Straight
Dowel Bar Splicer



D-103-A 180˚ Hook
Dowel Bar Splicer



D-102-A 90˚ Hook
Dowel Bar Splicer



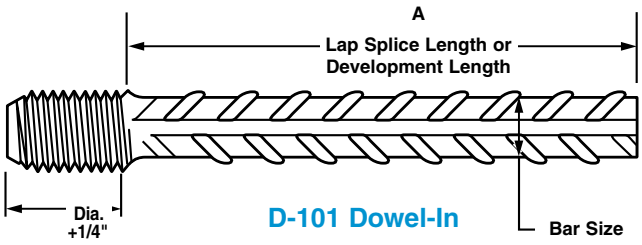
D-104-A Double-Ended
Dowel Bar Splicer

To Order:
Specify (1) quantity, (2) name, (3) rebar number, which is the same number as on project plans, 4) A, B and C dimensions as required and 5) finish

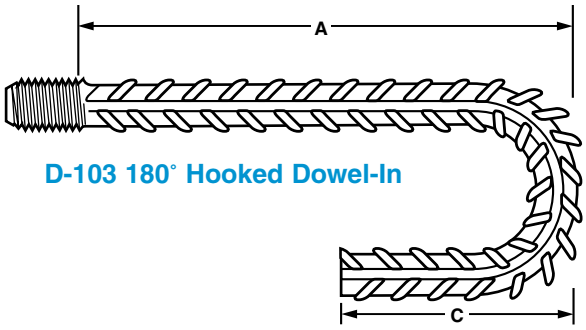
Example:
800 psc. DA 101-A Straight Dowel Bar Splicer, #4 x 36” long, Epoxy Coated.

Dowel Bar Splicer Dowel-In

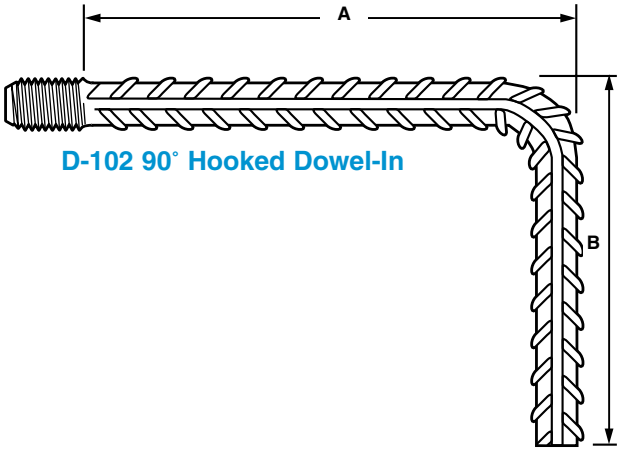
The Dowel-In is the male portion of the Dowel Bar Splicer System and is also available straight, with a 90˚ or 180˚ hooked end or double-ended.



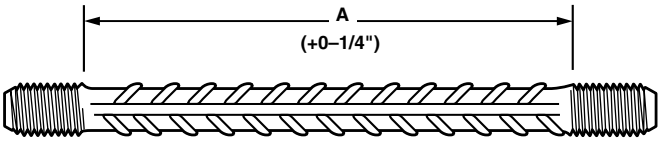
D-101 Dowel-In



D-103 180˚ Hooked Dowel-In



D-102 90˚ Hooked Dowel-In



D-104 Double-Ended Dowel-In

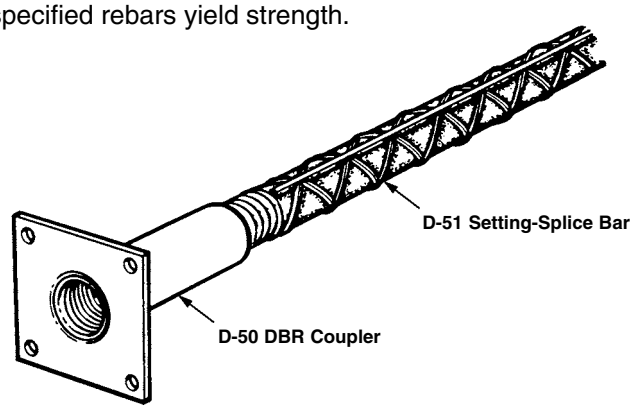
For complete information on the Dowel Bar Splicing System, request your free copy of the Dayton Superior *Rebar Splicing Handbook (DS3)*.

D-50 DBR Coupler System

The D-50 DBR Coupler System is comprised of three parts, a coupler and two lengths of threaded rebar. The coupler is fabricated from high quality steel satisfying ASTM A-108. DBR Couplers accommodate rebar sizes #4 through #11 and have an internal positive stop to ensure proper thread engagement.

Due to the threads being cut into the rebar, the user must up size one bar number from that specified on the projects plans.

This rebar splicing system is designed to meet codes requiring the rebar splice to develop 125% of the specified rebars yield strength.



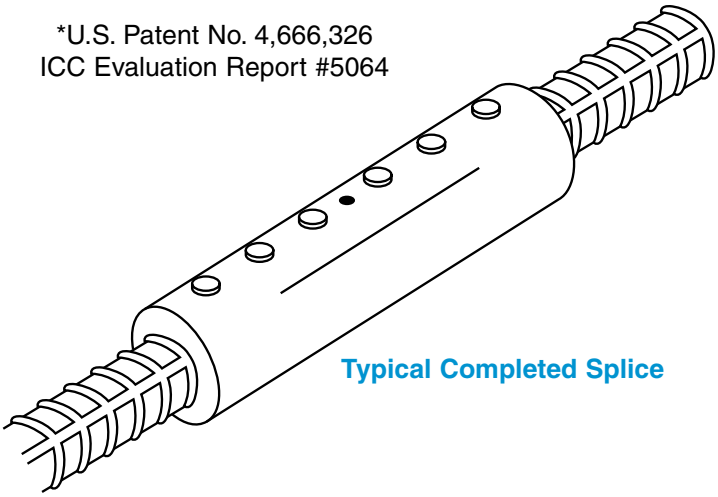
The Setting-Splice Bars are available as:

- D-51 DBR Straight Bar threaded on one end,
- D-52 DBR 90° Hook Bar threaded on one end,
- D-53 DBR 180° Hook bar threaded on one end,
- D-54 DBR Straight Bar threaded on both ends.

For complete information on the D-50 DBR Coupler System, request your free copy of the Dayton Superior *Rebar Splicing Handbook (DS3)*.

D-250 Bar-Lock Coupler

*U.S. Patent No. 4,666,326
ICC Evaluation Report #5064



Typical Completed Splice

The Bar Lock Coupler provides a quick, cost effective method for use when rehabbing a bridge, as they allow the users to connect an existing rebar to a new rebar. Couplers are available in two styles, Series S/CA and L-Series, and may be used with plain or deformed bars in sizes #4 - #18.

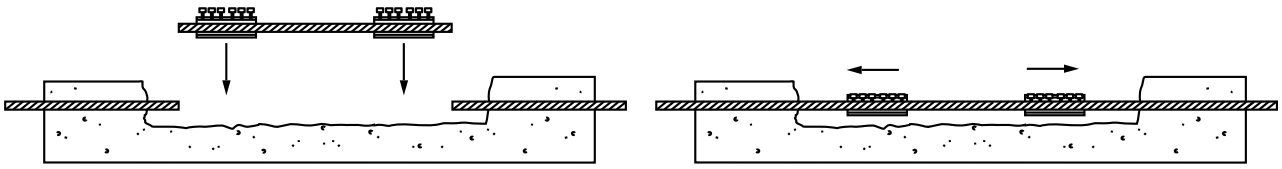
When using the Bar-Lock S/CA-Series Coupler to connect two rebars, the spice will develop 135% of the specified bars yield strength.

When using the Bar-Lock L-Series Coupler to connect two rebars, the spice will develop 160% of the specified bars yield strength. Bar-Lock couplers are approved for use by most state DOTs.

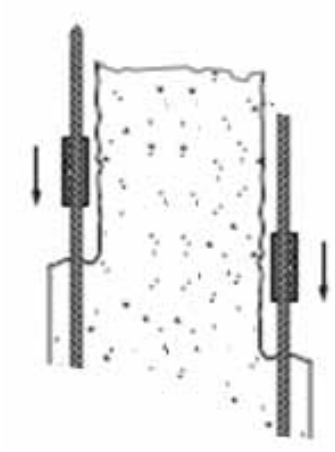
Recognized as an ICC Type 2 Seismic Splice.

For complete information and installation instructions on the D-250 Bar-Lock Coupler, request a free copy of the Dayton Superior *Rebar Splicing Handbook (DS3).*

Replacement of Corroded Bridge Reinforcing Steel



Typical Bridge Deck Repair

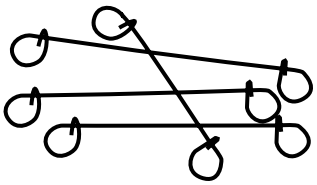


Typical Pier Repair

D-42 Bag Ties

The D-42 Bag Ties are 16 gauge annealed loop-ended wire ties used for tying rebar and many other non-construction items such as bags and carpet rolls. Bag ties are stocked in 4", 5", 6", 7", 8", 10" and 12" lengths. Other lengths and gauges are available on special order. 4" through 8" bag ties are packaged in coils of 1,000 pieces, five coils per bag. 10" and 12" bag ties are packaged 2,500 pieces per bag.

D-42 Bag Ties



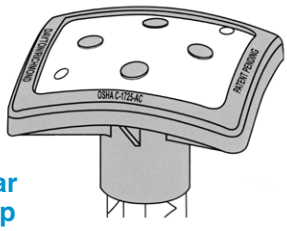
To Order:
Specify: (1) quantity (sold by bag and/or skid only), (2) name, (3) length.

Example:
5 bags, D-42 Bag Ties, 6" long.

D-45 Rebar Safety Cap

- Protects workers from protruding rebar
- Impalement protection
- One size fits #4 through #9 rebar
- Safety orange color
- Fully tested and approved (OSHA #C-1725-AC)
- Meets Cal OSHA max. drop test requirements
- Complies with Cal OSHA, Section 1712

D-45 Rebar Safety Cap



Patent #6,857,235

D-46 Tie Wire

The D-46 Tie Wire is 16 gauge, black annealed wire used to tie reinforcing steel. This soft, pliable wire is available in 3.5 pound coils with 385 feet of wire in each coil. Packaged twenty coils per carton and 48 cartons per skid.

D-46 Tie Wire

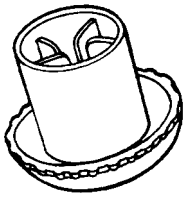
To Order:
Specify: (1) quantity (sold by carton and/or skid only), (2) name.

Example:
5 cartons, D-46 Tie Wire.

D-48 Sure-Guard Rebar Protective Cap

The D-48 Sure-Guard Rebar Protective Caps have been developed to protect workmen from the hazards of protruding rebar. The D-48 cap is available in all rebar sizes, and packaged in bags of 50.

D-48 Sure-Guard Rebar Protector



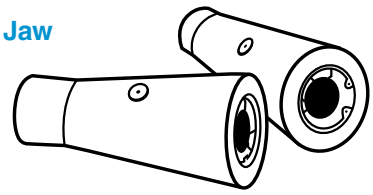
To Order:
Specify: (1) quantity, (2) name, (3) bar size.

Example:
600, D-48 Sure-Guard Rebar Protective Caps for #6 rebar.

D-49 Magna Jaw

The D-49 Magna Jaw is designed to speed Dowel-In or splice bar installation time. The D-49 Magna Jaw fits a 3/4" drive impact wrench and accommodates #4 through #8 rebar and 1/2" through 1" threaded bars. The tool automatically grips the bar and spins it into place, eliminating hand or wrench turning and greatly reducing installation time.

D-49 Magna Jaw



To Order:
Specify: (1) quantity, (2) name.

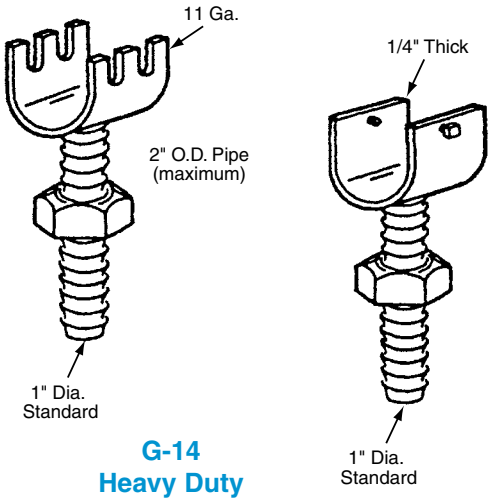
Example:
6, D-49 Magna Jaws.

G-14 Heavy Duty Screed Holders

The G-14 Heavy Duty Screed Holders consist of a rolled steel plate welded to a length of 1" diameter coil rod. This screed holder is used with a free-fit screed base to support screed pipe of various sizes.

The “open style” is fabricated from 11 gauge steel and is limited to 2" O.D. or smaller, pipe. The “closed style” is fabricated from 1/4" steel and is fitted with two 3/8" diameter set screws.

The closed style holder can accommodate screed pipe up to 3“ O.D. Both styles are available in 4-1/4", 6-3/4" and 9-3/4" lengths with one Coil Nut included with each holder.

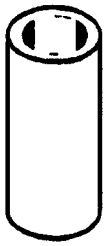


G-14 Heavy Duty Screed Holders

G-15 Heavy Duty Screed Support

The G-15 Heavy Duty Screed Support is available in 1" and 1-1/4" diameters in 3", 4" and 6" heights. They are welded to a steel beam to provide a receptacle for a screed holder to support the screed pipe.

Vertical adjustment is accomplished by turning the jam nut on the Screed holder.

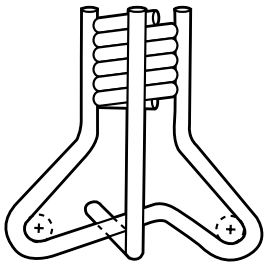


G-16 Heavy Duty Screed Chair Base

The G-16 Heavy Duty Screed Chair Base is a rigid support designed for heavy vibratory screed applications. Available in two styles, 1" or 1-1/4" coil and 1" or 1-1/4" free-fit.

Standard heights are 4-1/2", 5-1/2", 7-1/2" and 10".

The G-16 will have a Safe Working Load in compression of 1,500 lbs. at a 2 to 1 factor for safety, with a maximum 1/10" deflection.



G-16 Heavy Duty Screed Chair Base Coil Style

WARNING

Improper Use of Bridge Deck Accessories May Cause Property Damage, Serious Injury or Death.

The user must read, understand and follow the information and instructions in this handbook before using any Dayton Superior bridge deck accessory.

When in doubt about proper use or installation, immediately contact the nearest Dayton Superior Technical Service Department or Sales Service Center for clarification. See back cover for the nearest location and phone number.

Definitions

- Dead load is the actual weight of the concrete plus the weight of the formwork per square foot of form contact area.
- Design load is the combined weight, per square foot of form contact area, of dead load and live load.
- Factor of safety is a term denoting the theoretical reserve capability of a product. It is determined by dividing the ultimate load by the safe working load. This is expressed as a ratio: for example 2 to 1.
- Form anchor is a devise used to secure formwork to previously placed concrete of adequate strength.
- Form hanger is a device used to suspend formwork from structural steel beams, fabricated steel plate girders, precast concrete girders or other members.
- Impact load is a dynamic load such as the loads resulting from the motion of machinery, dumping of concrete or similar moving forces. An impact load may be several times the design load.
- Live load is a load imposed during the construction process, such as material storage, workers and equipment.
- Safe working load is the maximum load that should be applied to a product.
- Ultimate load is the average load at which a product will no longer support a load or will fail.

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REBAR SUPPORTS
- Concrete Dobies
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- Paving Chairs
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- Adjustable Joist Hangers
- Bridge Overhang Brackets
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- Screed Supports

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- Epoxies
- Floor Levelers
- Form Release Agents
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- Hardeners / Industrial Toppings
- Liquid Densifiers
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- Ganged Formwork
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- Handset Formwork
- Highway Forms
- Jump Forms
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- One Sided Frames
- Self Spanning Forms
- Steel Frame Shoring

CONCRETE PAVING PRODUCTS
- Dowel Bar Expansion Caps
- Dowel Bar Retrofit System
- Elastomeric and Hot Pour Joint Seal
- Metal Keyway Form Systems
- Tie Bar Assemblies
- Transverse Bar Assemblies
- Welded Dowel Assemblies
- Wire Baskets w/o Dowels

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- Anchors & Lift Systems
- Coil / Ferrule Inserts
- Core Plugs
- Magnets
- Precast Forms
- Rustications/Chamfers
- Sandwich Panel Connector
- Shear Connectors
- Slotted Inserts

FORMLINER PRODUCTS
- ABS Plastic
- Polystyrene Plastic
- Precision Cut Foam
- Solid Urethane
- Urethane-Skinned Foam

GEOTECHNICAL PRODUCTS
- Ground Anchors
- Wind Turbine Foundation Anchors

REBAR SPLICING PRODUCTS
- Forged Dowel Bar Couplers
- Lockshear Bolt Couplers
- Shear Resistance Products
- Straight Thread Couplers
- Taper Thread Couplers

TIES AND ACCESSORIES
- Modular Form Ties
- Single Waler System
- Ties and Accessories

PRODUCTS FOR TILT-UP CONSTRUCTION
- Braces and Brace Anchors
- Helical Ground Anchors
- Setting Plugs
- Strongback System
- Tilt-Up Anchors & Lifting Systems

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DS4 06/11
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