

**UNLOADING**

- BRIDGE SECTIONS WILL ARRIVE ON OVER THE ROAD TRUCKING AND BE DELIVERED AS CLOSE TO THE BRIDGE LOCATION AS POSSIBLE. THE CONTRACTOR WILL BE RESPONSIBLE FOR UNLOADING THE BRIDGE AT THE SITE. OCCASIONALLY, IT MAY BE NECESSARY TO UNLOAD OTHER CONTECH MATERIAL TO REACH THE BRIDGE. THE CONTRACTOR WILL NEED TO RELOAD SAID MATERIAL IN THIS EVENT.
- LOOSE ITEMS SUCH AS ELASTOMERIC PADS AND BOLTS WILL ARRIVE WITH THE BRIDGE. THE CONTRACTOR SHOULD MAKE SURE ALL LOOSE ITEMS ARE UNLOADED WITH THE BRIDGE. REFER TO THE BILL OF LADING.

**SPLICING NOTES (WHEN REQUIRED)**

- FLOOR BEAMS, STRINGERS, VERTICAL SPLICE TRUSS DIAGONALS AND BRACE DIAGONALS ARE TYPICALLY SHIPPED LOOSE. LIKE MEMBERS ARE INTERCHANGEABLE. FOR CONNECTION DETAILS, MEMBER LOCATIONS AND BOLT SIZE REFER TO THE SHOP DRAWINGS.
- CHORD SPLICE PLATES WILL ARRIVE LOOSE OR ATTACHED BY WIRE AND SHIPPING BOLTS. LIKE PLATES ARE INTERCHANGEABLE BUT IF THEY ARRIVE ATTACHED, WE RECOMMEND USING THEM IN THE LOCATION WHERE THEY ARE ATTACHED. THE BRIDGE WAS FABRICATED WITH THE PLATES IN THESE LOCATIONS AND USING THEM IN THESE LOCATIONS WILL INSURE THE BEST FIT. SHIPPING BOLTS ARE TO BE REMOVED AND DISCARDED. PLATES ARE THEN TO BE SET IN THE PROPER LOCATION ON THE SPLICE AND BOLTS INSTALLED LOOSE. FOR BOLTED SPLICE DETAILS, PLATE LOCATIONS AND BOLT SIZE REFER TO THE SHOP DRAWINGS.
- THE MOST COMMON PROCEDURE FOR SPLICING BRIDGE SECTIONS TOGETHER:
  - MOST SPLICED BRIDGES ARRIVE IN FOUR TRUSS PIECES (ONE VERTICAL SPLICE LOCATION) WITH FLOOR BEAMS, STRINGERS, BRACING SHIPPED LOOSE. ON THEIR SIDES, PLACE TWO TRUSS HALVES TOGETHER ON A RELATIVELY FLAT SURFACE. INSTALL ALL BOLTS AND VERTICAL SPLICE DIAGONALS TO "TURN OF NUT" AND SET ASIDE. REPEAT FOR SECOND TRUSS.
  - SET ONE TRUSS ON FOUNDATION AND CONNECT TO FOUNDATION. PRIOR TO CRANE RELEASE, THE SINGLE TRUSS MUST BE TEMPORARILY BRACED LATERALLY BY GUY CABLES.
  - POSITION SECOND TRUSS ON FOUNDATION 1"± INSIDE OR OUTSIDE OF ITS INTENDED LOCATION FOR EASE OF CONNECTING FLOOR BEAMS (REFER TO CONTRACT PLANS ON FLOOR BEAM TYPE). DO NOT YET CONNECT TO FOUNDATION.
  - STARTING AT ON END OF THE BRIDGE, PLACE AND INSTALL FLOOR BEAMS TO SNUG TIGHT. IF FLOOR BEAMS ARE NOT INSTALLED IN SEQUENCE THERE MAY BE DIFFICULTY IN INSTALLING INTERIOR FLOOR BEAMS. IF GAP BETWEEN TRUSS AND FLOOR BEAM IS TOO GREAT FOR THE CONNECTION, SLIGHTLY SHIFT SIDWAYS THE TRUSS BEARING FARTHEST AWAY.
  - INSTALL STRINGERS (IF NEEDED, REFER TO SHOP DRAWINGS) TO SNUG TIGHT. NOTE THAT STRINGERS MAY BE MADE FOR SPECIFIC LOCATIONS ON THE BRIDGE WITH HOLES FOR THE LATERAL BRACING. REFER TO SHOP DRAWINGS FOR ALL STRINGER LOCATIONS.
  - ATTACH SECOND TRUSS TO FIXED FOUNDATION.
  - INSTALL LATERAL BRACING TO SNUG TIGHT. REFER TO SHOP DRAWINGS FOR CONNECTION DETAILS.
  - TIGHTEN FLOOR BEAMS, STRINGERS AND LATERAL BRACING BOLTS TO "TURN OF THE NUT" OR AS NOTED ON SHOP DRAWINGS.

NOTE: THESE PROCEDURES ARE RECOMMENDATIONS ONLY. THE JOB SITE WILL DETERMINE WHICH IS PREFERABLE. THESE PROCEDURES CAN BE USED FOR SIMPE SPANS AS WELL AS MULTIPLE SPAN STRUCTURES. LIFTING WEIGHTS ARE LOCATED ON THE SHOP DRAWINGS.

- ALL BOLTS ARE HIGH STRENGTH STRUCTURAL BOLTS. THE COMMON BOLT SIZES ARE 3/4" AND 1" DIAMETER. THE PROPER SOCKET SIZES ARE 1 1/4" AND 1 5/8" RESPECTIVELY. ALL BOLTS SHOULD BE INSTALLED LOOSE AND THEN TIGHTENED FROM THE CENTER OF THE SPLICE FIRST AND THEN WORK OUTWARD.
- TIGHTENING OF THE BOLTS SHALL BE IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" BY RCSC USING THE TURN-OF-NUT PROCEDURE DESCRIBED BELOW:

BRING ALL BOLTS TO A 'SNUG TIGHT' CONDITION TO INSURE THAT THE PARTS OF THE JOINT ARE BROUGHT INTO GOOD CONTACT WITH EACH OTHER. SNUG TIGHT IS DEFINED AS THE TIGHTNESS ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. FOLLOWING THIS INITIAL OPERATION, ALL BOLTS SHALL THEN BE TIGHTENED ADDITIONALLY BY THE APPLICABLE AMOUNT OF NUT ROTATION AS SPECIFIED IN THE TABLE BELOW, WITH THE TIGHTENING PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT TO ITS FREE EDGES. DURING THIS OPERATION, THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH.

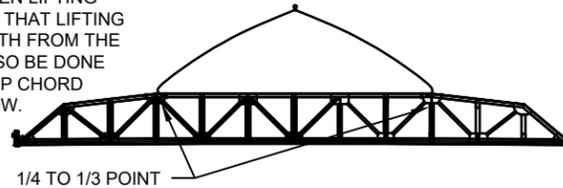
BOLT LENGTH (AS MEASURED FROM UNDERSIDE OF HEAD TO EXTREME END OF POINT)	DISPOSITION OF OUTER FACES OF BOLTED PART
NOT MORE THAN 4 DIAMETERS	BOTH FACES NORMAL TO BOLT AXIS
MORE THAN 4 DIAMETERS BUT NOT MORE THAN 8 DIAMETERS	1/3 TURN
MORE THAN 8 DIAMETERS BUT NOT MORE THAN 12 DIAMETERS	1/2 TURN
MORE THAN 12 DIAMETERS	2/3 TURN

NUT ROTATION IS RELATIVE TO BOLT, REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR BOLTS INSTALLED BY 1/2 TURN AND LESS, THE TOLERANCE SHOULD BE PLUS OR MINUS 30°; FOR BOLTS INSTALLED BY 2/3 TURN AND MORE, THE TOLERANCE SHOULD BE PLUS OR MINUS 45°.

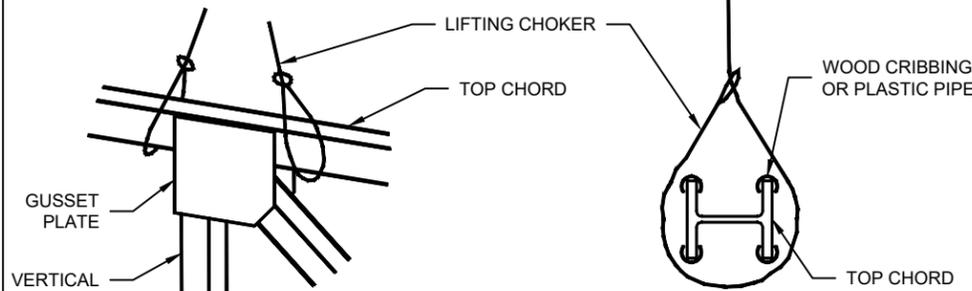
- IF BOLTS DO NOT SMOOTHLY ENGAGE UP TO SNUG-TIGHT THERE MAY BE AN OBSTRUCTION WITHIN THE TREADS. THE BOLT SHOULD BE REMOVED, THE THREADS ON THE BOLT AND NUT CLEANED AND RE-TAPPED IF NECESSARY TO ALLOW SMOOTH INSTALLATION OF THE BOLTS.

**LIFTING INSTRUCTIONS**

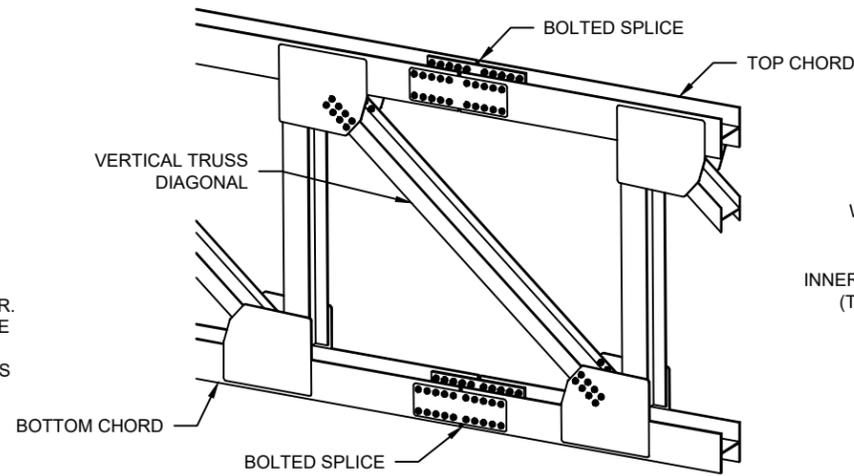
USE A MINIMUM OF (2) LIFTING POINTS WHEN LIFTING ANY SINGLE TRUSS. IT IS RECOMMENDED THAT LIFTING POINTS BE 1/4 TO 1/3 OF THE TRUSS LENGTH FROM THE ENDS OF THE TRUSS. LIFTING SHOULD ALSO BE DONE FROM BOTH SIDES OF A VERTICAL AND TOP CHORD LOCATION AS SHOWN IN THE DETAIL BELOW.



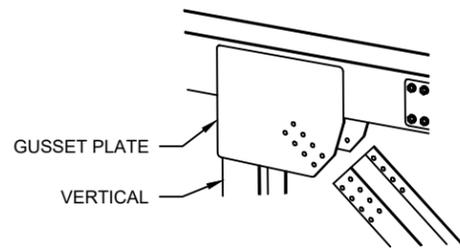
- WHEN LIFTING TRUSSES, IT IS RECOMMENDED THAT FLANGES OF TOP CHORD BE PROTECTED FROM DAMAGE BY WOOD BLOCKING BETWEEN FLANGES.
- WHEN LIFTING PAINTED BRIDGES IT IS RECOMMENDED THAT STRAPS BE USED WITH PADDING PLACED BETWEEN THE STRAP AND BRIDGE ELEMENTS TO KEEP THE STRAP FROM POTENTIALLY DAMAGING THE PAINTED FINISH.



TYPICAL CHOKER ATTACHMENT



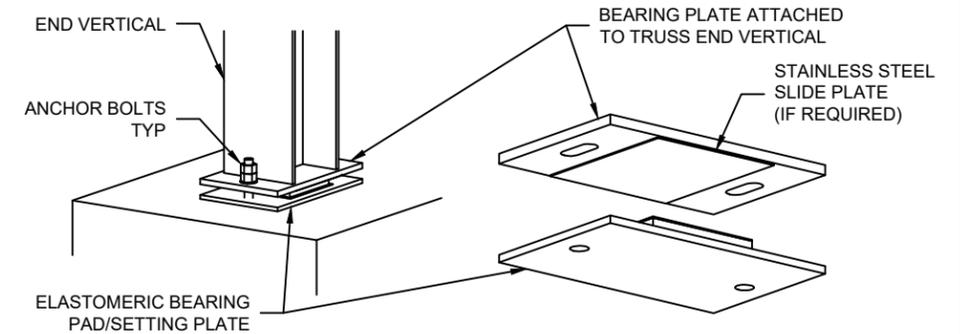
TYPICAL TRUSS SPLICE



TYPICAL DIAGONAL SPLICE

**BEARING FOUNDATION**

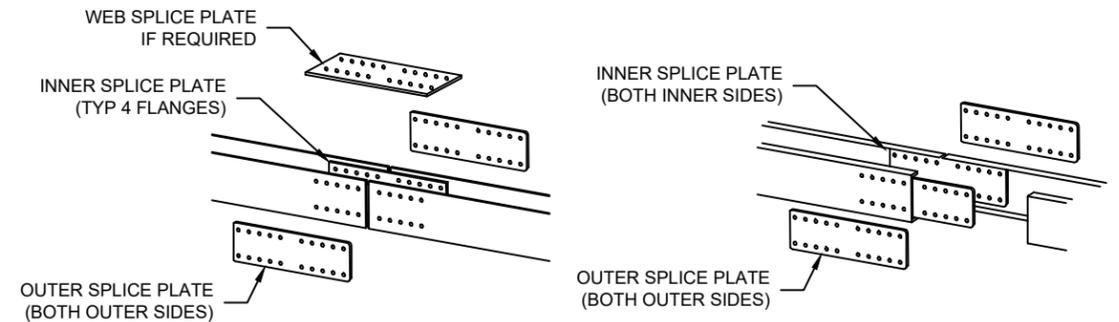
- ELASTOMERIC PADS, WHEN REQUIRED, WILL BE SHIPPED WITHOUT ANCHOR BOLT HOLES AND ATTACHED TO SETTING PLATES.



LAYERED ELASTOMERIC PAD DETAIL

**SETTING INSTRUCTIONS**

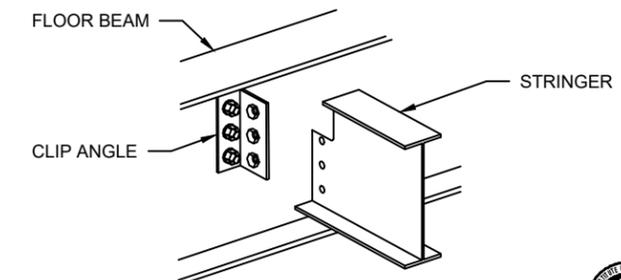
- TRUSSES SHALL BE SET ON FOUNDATIONS AND ADJUSTED SO THAT SPACING IS EQUAL BETWEEN TRUSS AND FOUNDATION BACKWALL OR AS DIRECTED IN NOTES ON THE SHOP DRAWINGS. **NOTE: IF THE BRIDGE HAS AN ELEVATION DIFFERENCE, BE SURE TO SET THE HIGH END OF THE BRIDGE ON THE HIGHER FOUNDATION PER THE SHOP DRAWINGS. REFER TO THE SHOP DRAWINGS FOR CORRECT ALIGNMENT. BRIDGES WITH AN ELEVATION DIFFERENCE WILL HAVE A WELDED MARK - (H) FOR HIGH, (L) FOR LOW - LOCATED ON THE OUTSIDE FACE OF THE CORRESPONDING END FLOOR BEAM.**
- EACH ANCHOR BOLT WILL RECEIVE (1) WASHER AND (2) NUTS. ONE END OF THE BRIDGE IS DESIGNED TO BE *FIXED* AND THE NUTS ARE TO BE INSTALLED TIGHT. THE *EXPANSION END* WILL HAVE THE FIRST NUT TIGHTENED FINGER TIGHT TO THE WASHER PLACED ON THE BEARING PLATE. THE SECOND NUT WILL BE INSTALLED TIGHT TO THE FIRST. REFER TO THE SHOP DRAWINGS TO DETERMINE WHICH END OF THE BRIDGE IS TO BE THE FIXED OR EXPANSION END.
- WHEN INSTALLING PAINTED BRIDGES CARE MUST BE TAKEN TO MINIMIZE DAMAGE TO THE FINISH DURING INSTALLATION. PADDING SHOULD BE USED TO PROTECT THE PAINT FROM CHAIN, CHOKER OR SLING. IT WILL BE THE RESPONSIBILITY OF THE ONSITE CONTRACTOR TO PERFORM ALL TOUCH UP PAINTING AS NECESSARY. A NOMINAL AMOUNT OF TOUCH UP PAINT WILL BE SUPPLIED. THIS IS OFTEN AN EPOXY SYSTEM AND ATTENTION WILL NEED TO BE GIVEN TO MIXING THE PAINT. TOUCH UP MUST BE APPLIED TO BLEND WITH FACTORY APPLICATION AS MUCH AS POSSIBLE.



TYPICAL W-SHAPE CHORD SPLICE

TYPICAL CHANNEL CHORD SPLICE

SEE DRAWINGS FOR BOLT SIZE AND TYPE



TYPICAL STRINGER SPLICE

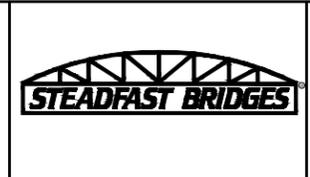
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# VEHICULAR TRUSS INSTALLATION GUIDE

