



**CONDITION A-FULL SIZE RIVET HEAD**

**CONDITION B-MINIMUM UNCONDITIONALLY ACCEPTABLE**

**CONDITION C-MINIMUM UNCONDITIONALLY ACCEPTABLE**

**RIVET REPLACEMENT CRITERIA**

SCALE 1"=1'-0"  
(FIGURES IN PARENTHESIS ARE FOR 1" DIA RIVETS)

**RIVET REPLACEMENT NOTES:**

- REMOVAL OF RIVETS FOR THE PURPOSE OF MAKING VARIOUS STRUCTURAL STEEL REPAIRS INDICATED ON THE PLANS OR AS ORDERED BY THE ENGINEER ARE NOT INCLUDED IN THE CRITERIA.
- DETERIORATED RIVETS NOT COVERED UNDER NOTE 1 ABOVE WILL BE INSPECTED BY THE ENGINEER, WHO WILL ORDER THAT SPECIFIC RIVETS BE REPLACED WITH 7/8" DIA. HIGH-STRENGTH BOLTS IN ACCORDANCE WITH FOLLOWING GUIDELINES.
- RIVETS (CATEGORY B) WITH DIMENSIONS OF BOTH HEADS MEETING OR SURPASSING EACH OF THE MINIMUM REQUIREMENTS SHOWN FOR CONDITION B MAY BE LEFT IN PLACE SUBJECT TO CONDITIONS DESCRIBED IN NOTES 6 AND 7.
- RIVETS (CATEGORY C) NOT MEETING THE REQUIREMENTS OF CONDITION B, BUT HAVING DIMENSIONS WHICH MEET OR SURPASS OF BOTH HEADS EACH OF THE MINIMUM REQUIREMENTS SHOWN FOR CONDITION C MAY BE LEFT IN PLACE SUBJECT TO THE FOLLOWING CONDITIONS:
  - THERE IS NO PRYING ACTION FROM APPLIED STRESS OR CREVICE CORROSION (SEE NOTE 7) WHICH TENDS TO SEPARATE THE CONNECTED PARTS.
  - RIVETS HEADS DO NOT HAVE ADDITIONAL LOSSES DESCRIBED IN NOTE 6.
  - RIVETS MAY BE LEFT IN PLACE TO THE EXTENT THAT THEIR NUMBER DOES NOT EXCEED 20% OF CONNECTION OR 50% OF STITCH RIVETS IN ANY ONE PORTION OF A MEMBER.
  - WHERE THE ABOVE PERCENTAGES ARE EXCEEDED THE NUMBER OF RIVETS OVER THE PRESCRIBED PERCENTAGE SHALL BE REPLACED WITH 7/8" DIA. HIGH-STRENGTH BOLTS.
- WHEN SELECTING RIVETS FOR REPLACEMENT TO MEET THE ABOVE PERCENTAGE REQUIREMENTS, THE WORST RIVETS IN ANY GROUP OR CONNECTION SHALL BE SELECTED FOR REPLACEMENT.
- RIVETS (CATEGORY D) NOT MEETING THE REQUIREMENTS OR CONDITION C AT EITHER HEAD SHALL BE REPLACED BY 7/8" DIA. H.S. BOLTS.
- REPLACEMENT WILL ALSO BE REQUIRED FOR ANY RIVET EXHIBITING ADDITIONAL LOSS IN THE FORM OF PITS OR GOUGES AT THE EDGES OF EITHER HEAD PROJECTING BEYOND THE SHANK WHERE SUCH LOSS REDUCES THE SECTION BELOW THE LIMITS SHOWN FOR CONDITION B.
- WHERE CREVICE OR INTERFACE CORROSION BETWEEN CONNECTED PARTS IS PRESENT THE RIVETS ADJACENT TO THAT AREA SHALL BE REPLACED AFTER CLEANING BETWEEN THE PARTS REGARDLESS OF THE CONDITION OF THE RIVETS.
- DIMENSIONS SHOWN ON THESE SKETCHES FOR CONDITIONS B AND C ARE MINIMUM REQUIREMENTS FOR BOTH DRIVEN AND MANUFACTURED HEADS. THE MINIMUM HEIGHT OF HEAD IS MEASURED TO THE CENTER OF THE RIVET. THE MINIMUM DIAMETER APPLIES TO THAT DIRECTION IN WHICH IT IS THE SMALLEST.
- ALL HIGH-STRENGTH BOLT CONNECTION SHALL BE ASSEMBLED WITH A HARDENED WASHER UNDER BOTH THE BOLTED HEAD AND NUT. WHERE NECESSARY WASHERS MAY BE CLIPPED ON ONE SIDE TO A POINT NOT CLOSER THAN 7/8" OF THE BOLT DIAMETER FROM THE CENTER OF THE WASHER.
- IF REMAINING IS REQUIRED TO DRESS UP THE RIVET HOLES, AND IF AFTER REMAINING THE HOLES EXCEED THE TOLERANCES SHOWN IN THE SPECIAL PROVISIONS THE CONTRACTOR SHALL INSTALL THE NEXT LARGER SIZED BOLT.

**NOTES:**

- THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS FOR ALL REPAIRS PRIOR TO FABRICATION.
- ALL BOLTS SHALL BE 7/8" DIA ASTM A325 HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.
- THE REST AREAS SHALL BE CLEANED AND ANY DEPRESSIONS, PITS OR HOLES SHALL BE FILED WITH SPLASH ZONE COMPOUND.
- REMOVAL OF RIVETS AND REPLACEMENT WITH H.S. BOLTS SHALL CONFORM WITH REQUIREMENTS OF ITEM 586.05.

**SOUTHBOND BRIDGE RIVET REPLACEMENT**

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