Thickness of Flates River Hole So Planeter of Efficiency Pitch Pit	O SWINSTER			TA	BLE 6—(	QUADRUPLE	RIVETED	BUTT	JOINTS*				t
of Plate of Strap Rivet Hole	Thickness	Thickness	Diameter of	Efficiency					D	C	D	E	F
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	of Plate	of Strap	Rivet Hole	%								21/8"	21/4"
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				A STATE OF THE PARTY OF THE PAR		COLUMN TOWNS TO SERVICE AND ADDRESS OF THE PARTY OF THE P							21/4"
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	9/32"			The second second second second									
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$							the same of the same of the same of the						
$\begin{array}{cccccccccccccccccccccccccccccccccccc$							The second second second						23/4"
$\begin{array}{cccccccccccccccccccccccccccccccccccc$							A STATE OF THE PARTY OF THE PAR		The state of the s				23/4"
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		5/16"		The state of the s							AND MADE AND ADDRESS OF THE PARTY NAMED IN		31/16"
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	7/16"										The state of the s		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$											The state of the s	Control of the Contro	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				M DODGES COMPANY	THE DESCRIPTION OF THE PERSON			The second secon					
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				The second second			THE THE PARTY NAMED IN				The state of the s		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$							4.7	A CONTRACTOR OF THE PARTY OF TH	NO DESCRIPTION OF THE PERSON O				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				A CONTRACTOR OF THE PARTY OF TH			St. College of the State of	1					
$\begin{array}{cccccccccccccccccccccccccccccccccccc$							STATE OF THE PARTY		Sec. 1972 Telepolitical and	and the second s			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$							THE RESERVE TO BE STORY OF THE PARTY OF THE						
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	21/32"	1/2"			The second second							All the second second	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	11/16"	1/2"		A STATE OF THE PARTY OF THE PAR	A STATE OF THE STA								
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	23/32"	1/2"		THE RESERVE TO STATE OF THE PARTY OF THE PAR									
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3/4"		13/16"	THE RESERVE TO SERVER.	The second secon								
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	25/32"	%6"	15/16"	The state of the s					A TANK THE PARTY OF THE PARTY O				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	13/16"	9/16"	15/16"	92.3								Market Company of the	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	27/32"	%16"	15/16"	91.8		CONTRACTOR OF THE PARTY OF THE	The state of the s					THE RESERVE TO SERVE	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		5/8"	15/16"	91.2	110	The second secon			The state of the s				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		5/8"	15/16"	90.5								UNION DE LA COMPANION DE LA CO	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			15/16"	90.1		THE RESERVE OF THE PARTY OF THE				Land Control of the C		The Control of the Co	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		11/16"	15/16"	89.5			A PROPERTY OF THE PARTY OF THE						
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		3/4 "	17/16"	90.2		The second second					AND REAL PROPERTY OF THE PARTY	A CONTRACTOR OF THE PARTY OF TH	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	11/32"		17/16"	89.6								The second second second	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				89.0	19"							AND RESIDENT AND THE	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		3/4"		88.5	19"	91/2"							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				, 88.0	19"	Company of the last of the las		1 / Section 2 and 1				The second secon	No. of Concession, Name of Street, or other Designation, Name of Street, or other Designation, Name of Street,
13/6" 13/6" 17/6" 87.7 20" 10" 5" 30%" 14½" 23/6" 2½ 3.44 49/6				87.5	19"				The state of the s				
		The second secon		87.7	20"	10"	The same of the sa	The state of the s				The state of the s	
174 o" 174 o" 174 o" 87.2 20" 10" 5" 30% 14½ 2716 2% 374 4716				87.2	20"	10"	5"	30 %"	141/2"	23/16"	27/8"	3%4"	45/16"
1\frac{1\frac{1}{6}}{1\frac{1}{4}"} \frac{1\frac{1}{6}}{7\text{8}"} \frac{1\frac{1}{16}}{1\frac{1}{6}"} \frac{86.8}{86.8} \frac{20"}{10"} \frac{5"}{5"} \frac{30\frac{1}{8}"}{30\frac{1}{8}"} \frac{14\frac{1}{2}"}{2\frac{1}{6}"} \frac{2\frac{1}{8}"}{3\frac{3}{4}"} \frac{4\frac{1}{6}"}{4\frac{1}{6}"}			The second secon	86.8	20"	10"	5"	30 %"	141/2"	23/16"	2 1/8"	3%	4%16

the third row and shearing the rivets in the outer two rows. This also applies to the joint for ¾" plate. All other joints in the above table fail by tearing the plate between rivet holes in the outer row. For convenience in driving rivets, any of the dimensions for back-pitch (dimensions D, E and F) may be increased, if desired, without affecting the joint efficiency, but they should not be decreased.

\*Joints for plate thickness from 27/32" to 11/4" (both inclusive) fail by tearing the plate between rivet holes in

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90,234.
    A = Ptf = 3.75 \times 0.4375 \times 55,000
    B = (P-d)tf =
                (3.75 - 0.9375) \times 0.4375 \times 55,000
                                                        = 67,677.
    C = nsa = 3 \times 44,000 \times 0.6903
                                                            99,120.
    D = ndtc = 3 \times 0.9375 \times 0.4375 \times 95,000
                                                        = 116,689.
     e = B/A = 0.75 = 75\%.
Second trial: Assume the same diameter of rivet and a pitch of 3\% ins. Then P=3.625 ins., and
     A = Ptf = 3.625 \times 0.4375 \times 55,000
                                                        = 87,338.
     B = (P-d)tf =
                                                        = 64,669.
                (3.625 - 0.9375) \times 0.4375 \times 55,000
                                                        = 99,120.
     C = nsa = 3 \times 44,000 \times 0.6903
     D = ndtc = 3 \times 0.875 \times 0.4375 \times 95,000
                                                         = 109,102.
     e = B/A = 0.74 = 74\%
     Third trial: Assume the same diameter of rivet and
a pitch of 3\% ins. Then P = 3.875 ins., and
     A = Ptf = 3.875 \times 0.4375 \times 55,000
                                                             93,242.
     B = (P-d)tf =
                 (3.875 - 0.9375) \times 0.4375 \times 55,000 =
                                                             70,684.
                                                             91,120.
     C = nsa = 3 \times 44,000 \times 0.6903
```

D	=	ndtc	=	$3 \times 0.875 \times 0.4375 \times 95,000$	***	=	109,112.
				0.758 = 75.8%.			

From the above, it is seen that by increasing the pitch of the rivets, an increase in the efficiency of the joint is

TABLE 8—RANG VARIOUS	GE OI	PLA	TE T	HICKN F RIVE	ESSES	FOR	
Diameter of rivet, inches	5/8	3/4	7/8	1	11/8	11/4	11/8
Minimum thickness of plate, inches.	1/4	5/16	3/8	3/8	7/16	7/16	1/2
Maximum thickness of plate, inches	1/2	5/8	3/4	7/8	1	11/8	11/4

However, the pitch of the rivets is limited to that which will permit water-tight caulking. In this case the pitch should not exceed 3% ins. (see Table 7), and hence

the maximum efficiency attainable with a %-in. rivet is 75%.

The process should be repeated, using different sizes of rivets and various pitches That combination of rivet diameter and pitch that gives the greatest efficiency, and + me does not exceed the maximum rivet spacing prescribed in Table 7, is the most desirable.

"unle riveted butt and double strap joint for 34-in. plate:-(Concluded on page 209)

TABLE 7-MAXIMUM LIMITING PITCHES FOR LAP JOINTS 7/8" 1" 11/8" 11/4" 13%" 3/4" Diameter of Rivet .. 5%" 13/16" 15/16" 17/16" 13/16" 15/16" 11/16" " "Hole .. 11/16" Plate Thickness 

 14"
 27/16"

 15/16"
 27/16"

 38"
 2½"

 7/16"
 27/16"

 1½"
 23/8"

 33/16" 33/4" 31/2" 41/16" 33/4" 4%6" 413/16" 45/16" 4%6" 413/16" 51/8" 35/16"