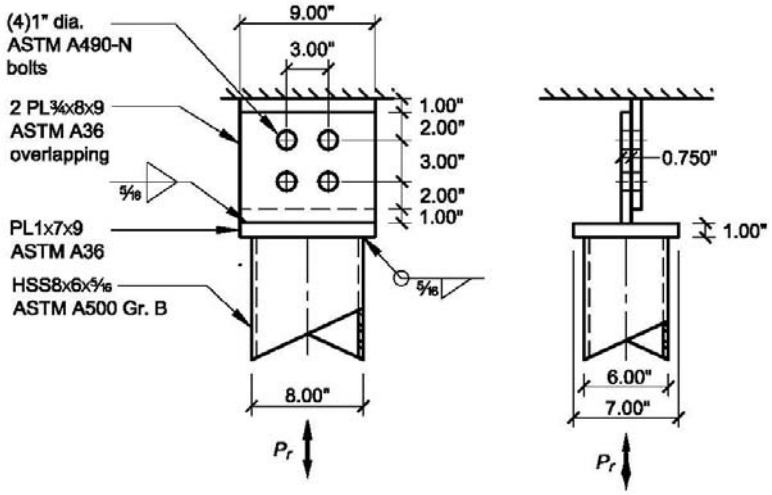
**Revisions and Errata List**
**AISC Steel Design Guide 24, 1st Printing (Printed Copy)**
**October 15, 2012**

The following list represents corrections to the first printing of AISC Design Guide 24, *Hollow Structural Section Connections.*

| Page(s) | Item |
|---|---|
| 10 | The reference to the equation $R_n = F_w A_w$ should be "*Spec.* Eq. J2-3" instead of "*Spec.* Eq. I2-3." |
| 53 | Equation 5-16 should be revised as follows to correct the denominator: $$w \geq \frac{P_r \sqrt{2}}{2BF_{wc}}$$ |
| 53 | Equation 5-21 should be revised so that alpha cannot be taken as negative. Replace Equation 5-21 with the following: $$\alpha = \frac{K(P_r / n)}{t_p{}^2} - 1 \geq 0$$ |
| 55 | Figure 5-9 should be revised so that the connection plate dimensions are as shown in the figure below: |




| | |
|---|---|
| 59 | In the middle of the page, the corrected calculations should read: For the end bolts $L_c = 2.00 - 1\frac{1}{16}\text{ in.}/2$ $= 1.47\text{ in.}$ and therefore, the left side of the inequality in Equation J3-6a is: |

$$1.2L_c tF_u = 1.2(1.47 \text{ in.})(0.750 \text{ in.})(58 \text{ ksi})$$
$$= 76.7 \text{ kips}$$

The right side of the inequality in Equation J3-6a is:

$$2.4dtF_u = 2.4(1.00 \text{ in.})(0.750 \text{ in.})(58 \text{ ksi})$$
$$= 104 \text{ kips}$$
$$76.7 \text{ kips} < 104 \text{ kips}$$

Therefore, use $R_n = 76.7$ kips

60 Replace the first calculation box with the following:

| LRFD | ASD |
|---|---|
| For the end bolts<br>$\phi = 0.75$<br>$\phi R_n = 0.75(76.7 \text{ kips})$<br>$= 57.5$ kips | For the end bolts<br>$\Omega = 2.00$<br>$\frac{R_n}{\Omega} = \frac{76.7 \text{ kips}}{2.00}$<br>$= 38.4$ kips |
| For the interior bolts<br>$\phi_v r_n = 101$ kips per inch of thickness<br>$\phi R_n = 101 \text{ kips/in.}(0.750 \text{ in.})$<br>$= 75.8$ kips | For the interior bolts<br>$\frac{r_n}{\Omega_v} = 67.4$ kips per inch of thickness<br>$\frac{\phi_n}{\Omega} = 67.4 \text{ kips/in.}(0.750 \text{ in.})$<br>$= 50.6$ kips |
| For the 4 bolts<br>$\phi R_n = 2(57.5 \text{ kips}) + 2(75.8 \text{ kips})$<br>$= 267$ kips | For the 4 bolts<br>$\frac{R_n}{\Omega} = 2(38.4 \text{ kips}) + 2(50.6 \text{ kips})$<br>$= 178$ kips |

62 Replace the calculations beginning at the top of the page with the following:

where

$A_{gv} = 2L_{gv}t_s$

$L_{gv} = 3.00 \text{ in.} + 2.00 \text{ in.}$
$= 5.00 \text{ in.}$

$A_{gv} = 2(5.00 \text{ in.})(0.750 \text{ in.})$
$= 7.50 \text{ in.}^2$

$A_{nv} = A_{gv} - 2(1.5)(d_h + 1/16 \text{ in.})t_s$
$= 7.50 \text{ in.}^2 - 2(1.5)(1 1/16 \text{ in.} + 1/16 \text{ in.})(0.750 \text{ in.})$
$= 4.97 \text{ in.}^2$

$A_{nt} = t_s[3.00 - (d_h + 1/16)]$
$= 0.750 \text{ in.}[3.00 - (1 1/16 \text{ in.} + 1/16 \text{ in.})]$
$= 1.41 \text{ in.}^2$

$U_{bs} = 1.0$ since tension is uniform

The left side of the inequality given in AISC *Specification* Equation J4-5 is:

$$0.6F_u A_{nv} + U_{bs} F_u A_{nt} = 0.6(58 \text{ ksi})(4.97 \text{ in.}^2) + 1.0(58 \text{ ksi})(1.41 \text{ in.}^2)$$
$$= 255 \text{ kips}$$

The right side of the inequality given in Equation J4-5 is

$$0.6F_y A_{gv} + U_{bs} F_u A_{nt} = 0.6(36 \text{ ksi})(7.50 \text{ in.}^2) + 1.0(58 \text{ ksi})(1.41 \text{ in.}^2)$$
$$= 244 \text{ kips}$$

Because $255 \text{ kips} > 244 \text{ kips}$, use $\phi R_n = 244 \text{ kips}$.

The available strength of the tee stem for the limit state of block shear rupture is:

| LRFD | ASD |
|---|---|
| $\phi = 0.75$<br>$\phi R_n = 0.75(244 \text{ kips})$<br>$= 183 \text{ kips}$ | $\Omega = 2.00$<br>$\frac{R_n}{\Omega} = \frac{244 \text{ kips}}{2.00}$<br>$= 122 \text{ kips}$ |

93 In the left column, first complete paragraph, the second to last sentence beginning with "In the case shown in Figure 8-3(b)…" should be revised to read, "In the case shown in Figure 8-3(c)…."

94 In Figure 8-3(b), the upward vertical load on the chord, $0.2P_r$, should be replaced with $0.2P_r \sin\theta$.

110 In Figure 8-9, the axial loads on the branch members i and j should be given as $P_L$ = 69.0 kips and $P_D$ = 23.0 kips.

113 Replace the 5th line from the bottom with:

$$25\% \le O_v = 5.5\% \le 100\% \qquad \textbf{o.k.}$$

114 The calculation boxes should be replaced with the following:

| LRFD | ASD |
|---|---|
| For compression branch and tension branch,<br>$P_u = 1.2(23.0 \text{ kips}) + 1.6(69.0 \text{ kips})$<br>$= 138 \text{ kips}$ | For compression branch and tension branch,<br>$P_a = 23.0 \text{ kips} + 69.0 \text{ kips}$<br>$= 92.0 \text{ kips}$ |

115 The calculation boxes at the top of the page should be replaced with the following:

| LRFD | ASD |
|---|---|
| For tension (overlapping) branch, | For tension (overlapping) branch, |

| | |
|---|---|
| $\phi P_n = 0.95(159 \text{ kips})$<br>$= 151 \text{ kips}$<br>$151 \text{ kips} > 138 \text{ kips}$ **o.k.**<br><br>For compression (overlapped) branch,<br>$\phi P_n = 0.95(248 \text{ kips})$<br>$= 236 \text{ kips}$<br>$236 \text{ kips} > 138 \text{ kips}$ **o.k.** | $\frac{P_n}{\Omega} = \frac{159 \text{ kips}}{1.58}$<br>$= 101 \text{ kips}$<br>$101 \text{ kips} > 92.0 \text{ kips}$ **o.k.**<br>For compression (overlapped) branch,<br>$\frac{P_n}{\Omega} = \frac{248 \text{ kips}}{1.58}$<br>$= 157 \text{ kips}$<br>$157 \text{ kips} > 92.0 \text{ kips}$ **o.k.** |

137 In Figure 9-4, the HSS16×12×½ should be an HSS 16×12×⅝. The three rectangular HSS members should be labeled as ASTM A500 Gr. B.