Unified Design of Steel Structures, 4th Edition, Errata
p. 45, Equation $2.2-C_{t s}$ should be $C_{t}$
p. 55, Example 2.2 - heading should be "Beam Load Calculation"
p. 74, Problem 26. Integrated Design Project - should be Problem 27
p. 159, Problem 51 - The two homework problems numbered " 51 " should be " 51.1 " and " 51.2 ".
p. 236, Problem 51 - Use A992 steel.
p. 237, Problem 57 - Use A572 Gr. 50 steel instead of A36.
p. 237, Problem 68 - Should refer to Manual Table 4-8.
p. 252, Example 6.4 a - The dead load is 60 psf , in addition to its self weight, and the live load is 80 psf .
p. 253, Example 6.4 b The dead load is 60 psf, in addition to its self weight, and the live load is 80 psf .
p. 286, $2^{\text {nd }}$ paragraph - Should refer to Manual Table 3-22.
p. 327, Problem 46 - There are 7 W6 shapes.
p. 329, Problems 79, 80 - Assume long legs back to back (LLBB) and a separation, $s$, of $3 / 8^{\prime \prime}$
p. 330, Problems 81, 82 - Assume vertical legs are in continuous contact.
p. 330, Problem 90 - Should refer to Problem 24 of Chapter 2.
p. 370, Problem 13 - In the second to last line, "pints" should be "points".
p. 371, Problem 28 - The two homework problems numbered " 28 " should be " 28.1 " and " 28.2 ".
p. 493, Step $14-\operatorname{In}$ the $\mathrm{M}_{\mathrm{n}}$ equation, $\left(\frac{t}{2}\right)$ should be $\left(t-\frac{a}{2}\right)$
p. 495 , Step $23-\operatorname{In}$ the $\mathrm{M}_{\mathrm{n}}$ equation, $\left(\frac{t}{2}\right)$ should be $\left(t-\frac{a}{2}\right)$
p. 527, Problem 46 - In the fifth line, "beck" should be "deck"
p.608, Figure 11.7c, the stress at the bottom of the triangle should be $r_{r m}$.
p. 668, Problem 47 - The two homework problems numbered " 47 " should be " 47.1 " and " 47.2 ".
p. 669, Problem 48 - Should refer to Problem 47.2 instead of Problem 46.

Please see the next two pages for revisions to Sections 6.10 and 6.12.

### 6.10.2 Lateral-Torsional Buckling of Tees

Page 294, the sentence after equation (AISC F9-11) should be revised as follows:

For the stem in compression at any point along the span, whenever the unbaced length is greater than $L_{B}$

This was a misstatement of the requirements, since $L_{p}$ is not actually given in the Specification for this situation. $M_{c r}$ from equation (AISC F9-10) is limited to $M_{y}$, which accomplishes the same thing.

Page 297, Example 6.16 Step 7 opening sentence should be revised as follows:

Determine the nominal moment strength for the limit state of lateral-torsional buckling for this orientation with $L_{b}=5.0 \mathrm{ft}>L_{p}-4.31 \mathrm{ft}$.

### 6.12.2 Lateral-Torsional Buckling of Double Angles

Page 306, the sentence following equation (AISC F9-11) should be revised as follows:

For web legs in compression at any point along the span, whenever the unbraced length is greater than $t_{p}$-the nominal moment strength is determined as it was for single angles, through Equations F10-2 and F10-3.

As was the case for tees, this was a misstatement of the requirements, since $L_{p}$ is not actually given in the Specification for this situation.

Page 307 Example 6.18

For Step 1 add, using properties from Manual Table 1-7, $J=2\left(0.129 \mathrm{in} .{ }^{4}\right)=0.258 \mathrm{in} .{ }^{4}$ and $A=2\left(3.67 \mathrm{in} .{ }^{2}\right)$ $=7.34$ in. $^{2}$ and $I_{y}=r_{y}{ }^{2} A=44.8$ in. ${ }^{4}$

For Step 3 revise as follows:

Step 3: Determine the nominal moment strength for the limit state of lateraltorsional buckling. First determine the unbraced length beyond which lateral torsional buckling must be considered, $L_{p}$, based on Equation F9-8.


Since $L_{b}=8.0 \mathrm{ft}=96.0 \mathrm{in}$.< 105 in . lateral torsional buckling does not need to be checked.

Determine $B$ from Equation F9-12 since the stem is in tension. Thus,

$$
B=-2.3\left(\frac{d}{L_{b}}\right) \sqrt{\frac{I_{y}}{J}}=-2.3\left(\frac{6.0}{8(12)}\right) \sqrt{\frac{44.8}{0.258}}=-1.89
$$

and from Equation F9-10

$$
\begin{aligned}
& M_{c r}=\frac{1.95 E}{L_{b}} \sqrt{I_{y} J}\left(B+\sqrt{1+B^{2}}\right) \\
& M_{n}=M_{c r}=\frac{1.95(29,000)}{8.0(12.0)} \sqrt{44.8(0.258)}\left[-1.89+\sqrt{1+(-1.89)^{2}}\right] \\
& =497 \mathrm{in} .-\mathrm{kips}
\end{aligned}
$$

Determine the appropriate equation to use to determine $M_{n}$. From Equation F9-3,

$$
M_{y}=F_{y} S_{x}=50(2(2.95))=295 \mathrm{in} .-\mathrm{kips}
$$

Since $M_{y} / M_{c r}=295 / 497=0.594<1.0$, use Equation F10-2

$$
\begin{aligned}
& \quad M_{n}=\left(1.92-1.17 \sqrt{\frac{M_{y}}{M_{c r}}}\right) M_{y} \leq 1.5 M_{y} \\
& M_{n}=(1.92-1.17 \sqrt{0.594})(295) \leq 1.5(295) \\
& =300 \leq 443 \text { in-kips }
\end{aligned}
$$

Thus, for the limit state of lateral-torsional buckling the nominal strength is

$$
M_{n}=300 \mathrm{in.-kips}
$$

