

**Errata to**  
**Fundamentals of Air System Design Self-Directed Learning Course, I-P Edition (2008)**  
**July 18, 2019**

*Shaded items have been added since the previously published errata sheet dated July 27, 2017.*

---

---

**Page 1-6:** The sentence beginning “Air behaves as a perfect gas” should read: “Air behaves as a perfect gas and the change in density is **inversely** proportional to the absolute temperature.”

**Page 6-25:** The equation and nomenclature formerly read: “If the duct is rectangular, the equivalent duct diameter is calculated by:

$$D = \sqrt{\frac{4HW}{\pi}}$$

where:

$D$  = equivalent duct diameter, in.

$H$  = rectangular duct height, in.

$W$  = rectangular duct width, in.”

But should read: “If the duct is rectangular, the equivalent duct diameter is calculated by:

$$D_h = \frac{4HW}{2(H + W)}$$

where:

$D_h$  = equivalent duct diameter, in.

$H$  = rectangular duct height, in.

$W$  = rectangular duct width, in.

**Page 7-25** The equation at the top of page 7-25, under “*Answer:* Using *Equation 1-8*, we determine that the velocity pressure is 0.39 in. wg” formerly read

$$“ p_v = \left(\frac{V}{4005}\right)^2 = \left(\frac{2500}{4500}\right)^2 = 0.39 \text{ in. wg } ,”$$

**but should read**

$$“ p_v = \left(\frac{V}{4005}\right)^2 = \left(\frac{2500}{4005}\right)^2 = 0.39 \text{ in. wg } ”$$

**Page 7-29:** In number 3, section c, the equation currently reads  
0.359 in. wg  $\times 2 = 0.072$  in. wg but should read  
0.359 in. wg  $\times 0.2 = 0.072$  in. wg.

**Page 9-3:**

The last sentence of the last paragraph currently reads “The parameter  $a$  in both figures is the ratio of the system pressure drop to the drop across the damper at maximum (fully open) flow” but should read “The parameter  $a$  in both figures is the ratio of **the pressure drop across the fully open damper at design flow to the total sub-system pressure drop, including fully open control damper pressure drop.**”

**Page 10-2:**

“Typical hearing range is from 200 to 20,000 cycles per second” should read “Typical hearing range is from **20** to 20,000 cycles per second”

**Answer and Work** The image below Skill Development Exercise 7-1 should be replaced with the following image (which also appears on page 7-34):  
**Exercises, 7-1**

