1. Duplicate quick index [page v] for the back cover.
2. Page 01-5: for some reason, some numbers are in italics. No need for that.
3. Page 01-7: 4th line from bottom: change conversion factor from 16.02 to 16.018463
4. Page 01-7:bottom of page has asterisk statement for g. Move this to just below mass conversions on page 01-5.
5. Page 01-8 bottom line: replace . 3325 with 6894.72
6. Page 1-9: second line from top (watt-second) is out of place. Belongs at bottom of energy section.
7. Page 01-9: under pressures, add **pound/in2 .3325 Pa**
8. Page 01-9: under energy work, abbreviate Newton-meters to N-m.
9. Page 01-11: 6th line down move decimal to right, next to 01111

Overall statement for section 1.1: the original ordering of each section (volume, energy, etc) was largely driven by space available in the original half- page format. Now that we are less bounded, it would be a good time to rearrange them if we want to. They are currently in the following order.

|  |
| --- |
| Prefix multipliers |
| Angles |
| Angular acceleration |
| Angular velocity |
| Area |
| Density |
| Electrical quantities |
| Energy/ work |
| Force |
| Fuel |
| Illumination |
| Length |
| Linear accel |
| Mass |
| Moment of inertia |
| Power |
| Pressure |
| Temp |
| Time |
| Torque |
| Velocity |
| Viscosity |
| Volume |

I suggest we simply rearrange these alphabetically and include this revised list just below the section 1.1 title. Your thoughts?

1. Page 01-32: the f-18 figure is too scrunched. Please stretch. Also the two black dots on the lower right figure are supposed to be placed over the engine inlets to make it look like we are viewing the aft end of the aircraft (we didn’t have an aft view in our files).
2. Page 01-33: the boxes with the symbols are squished. Can you stretch them so all in on one line?
3. Page 01-37: excessive empty space
4. Page 01-38: excessive empty space
5. Page 01-42: excessive empty space
6. Page 01-47: the next-to bottom line should use greek font () instead of w. Also, the bottom line has the omega dot misplaced.
7. Page 02-6: add the following to bottom of section….

Final value (*FV*) of an investment is a function of the initial principal invested (P), interest rate (*r –*expressed as .05 for *5%, .*1 for 10% etc.), time invested (*Y*- typically years), and compounding periods per year (*n* – typically =1 for yearly or =12 for monthly).

*FV*   =   *P* (1  +  *r* / *n*)*Yn*

1. page 02-13: matrix in center is a bit too large
2. page 02-20: figures are too large
3. page 02-21: text below figure is too large
4. page 02-22: excessive space
5. page 02-23: excessive space
6. page 02-24: text below figure is too large
7. pages 02-28 through - 33: text in some areas is too large
8. page 02-35: text is too large
9. page 02-42: text in some areas is too large
10. page 03-2: add *Hp* = pressure altitude. The pressure associate with geopotential altitude on a standard day.
11. Page 03-7, top line for Gas constant: delete the two “o” and two “o” symbols immediately ahead of R and K.
12. Page 03-7: change density from ”.0023689” to “.0023769” and at end of line, add (at 15° C).
13. Pages 03-9, 10: new figures appear as poor quality (originals were better)
14. Page 03-12: after “pressure altitude” add (*Hp*)
15. Page 03-13: delete all degree symbols (o) ahead of *R* and *K:* they appear on lines beginning with “*To*…” and “*L*…”
16. Page 03-13: 3rd line from top, change density from” .0023689” to “.0023769” and at end of line, add (at 15° C).
17. Page 03-13: 4th line from top, *ao* definition… change to 661.478 KTAS
18. Page 03-13: 1976 U.S. Std atmosphere equation for theta (): replace 6.886 with 6.8755856
19. Page 03-13: center of page, change from *n*=5.25585 to *n*=5.255876.

Also add the following after “*h*= geopotential altitude”… (ft)

1. Page 03-13, line beginning with “Stratosphere” : replace 216.66oK with 216.65 K.
2. Page 03-13, 3rd line from bottom: replace = 0.7519 with 0.751865
3. 2nd line from bottom,replace .29707 with..297076 and 4806 with 48063

Bottom line, replace .223358 with .223361 and 4806 with 48063

1. Page 03-13: add the following to bottom of page… The above relations characterize the standard atmosphere table in this handbook. They may be re-written to solve for pressure altitude (*Hp*) for any ambient pressure. Below the tropopause (ambient pressure greater than 472.683 psf or 22632 Pa) *H*p [ft] = [1-(*Pa/Po*)0.1902632]/[6.8755856 x 10-6]

In the troposphere (ambient pressure between 114.347 and 472.683 psf or between 5475 and 22632.1 Pascal) *H*p [ft] = 36089+[ln(*Pa/Po*)+1.498966]/ 0.000048063

1. Pages 3-15 through 16: table is stretched too wide and difficult to read. See my attachment for a suggested replacement.
2. Page 04-3: after the first equation for calibrated airspeed (*Vc*), add the following equation



The second equation for calibrated airspeed should have “1479” instead of “1478”

1. Page 04-8: next to “Equivalent airspeed” title, add (valid if qc/Pa >0.892929158) Next to “Calibrated airspeed” title, add (valid if Vc>ao)
2. Page 04-9: part of text is over-written by a floating ”*Ti*” symbol. Line should read “During position error flight testing, measure *Ti”*
3. page 04-9: equation in figure is squished too tight.
4. Page 04-10: delete letter “A” in figure or replace with “Example”
5. Page 04-11: change 4.7.1 title from “Tower Fly by” to “Fly by.” Below title add the following text. As depicted below, the flyby method originally used some sort of viewing platform with surveyed distances and a grid or other device for determining the aircraft’s relative angle above the platform’s altimeter. This information combined to give the aircraft’s actual pressure altitude. Modern methods replace the tower system with a radar altimeter or GPS unit to determine tapeline height above the flyby line (*Hg*). This geometric height is converted to a pressure altitude change using a temperature correction. When added to the aircraft’s pressure altitude on the runway, this change provides the actual pressure altitude during the flyby (Actual *Hc* = runway pressure altitude + *Hg*(*Ts*/*Tt*).
6. Pages 04-16 and 17: excessive empty space
7. Page 04-19: equations at too scrunched. Also as part of the wind velocity equation, insert the following footnote attached to the +/- symbol: whichever works
8. Page 04-19: After the last equation, add the following text The “Windbox” method consists of flying four legs instead of three. The extra leg provides a fourfold increase in wind calculations to improve result confidence. The “Orbis” method extends this advantage by collecting data at every heading throughout a level turn.
9. Page 05-5: crazy font changes. Also, delete line stating “Dividing the above by 2 equates the flow’s density & velocity to kinetic energy”
10. Page 05-7: weird spacing, please make tighter. Can you make fonts more consistent? The word “constant” got clipped just a bit.
11. Page 05-26: top title is unnecessarily split into two lines. Arrow pointing to graph is out of place.
12. Page 06-2: globe seems too large for new format.
13. Page 06-3: add the following after the last equation: For cases where the z axis is defined positive upward (typical for normal-axis accelerometers)

xb = xscos + zssin

zb = zscos - xssin

1. Page 07-2: take advantage of wider page to avoid definitions taking more than one line.
2. Page 07-17: just above figure, the p/r term is misplaced. It should be adjacent to “ vs.”
3. Page 08-2: following  = n , add = /[1-2].5
4. Page 08-4: equations on this page seem to have small font compared to others. Can you increase just a little?
5. Page 08-14: font seems a little too big.
6. Page 08-31: let’s see if we can find a better graphic This one is a bit grainy.
7. Page 09-8: the greek symbol  is missing from the second to last line. It should read “*E* is the Young’s Modulus of the material,  is Poisson’s ratio for the material.”
8. Page 10-3: can you move the bullets to the right so they are approx in line with other indented text?
9. Page 10-5: text is squished laterally.
10. Page 10-11: middle of page…”theoretica l” can you squish it back together?
11. Page 10-13: figure seems much too large. Can’t you fit 3a and 3b into same page?
12. Page 11-4: prop blade profile show two hollow squares adjacent to  symbol. Can you delete these?
13. Page 11-14: In-flight thrust equation that should be at bottom of page slipped up to interrupt text.
14. Page 11-15: axis values are just a little bit clipped.
15. Page 11-17: last equation should have the “D” in numerator, not denominator.
16. Page 12-2: use full page width for *BSFC* description
17. Page 12-6: top equation should use *Tat* in denominator, not *Tas*
18. page 12-7: all of equation 12.7 is wrong. I previously submitted correction.
19. Page 12-9: equation 12.14 add a *W* ahead of the sinrw term
20. Page 12-9: Rm definition should state “main wheel”, not “nose wheel”
21. Page 12-9: Lt definition should state “horizontal tail”, not “main wing”
22. Page 12-11: bottom equation is too stretched and a bit too large
23. Section 12 overall: margins seem too big, making text too narrow
24. Page 12-18: “Eq’n 1228” got cut off.
25. Page 13-6: line 32 needs indent for 1st value
26. Page 15-5: figure & font seem overly large
27. Section 17: delete red text stating approved for pubic released (this is a repeat comment).
28. Page 17-4: figures are unacceptable blurry (repeat comment).
29. Pages 17-9, 11, 12, 19, 20: equations are unacceptable blurry (repeat comment).
30. Pages 17-13, 14, 15, 16: figure x-axis titles are unacceptable blurry (repeat comment).
31. Page 16-6 is out of place and completely blank ( I think this is a repeat comment).

I found a std atmosphere calculator at

http://www.digitaldutch.com/atmoscalc/