

20 Tips for Reducing Manufacturing Cost

In today's modern manufacturing environment, we need to stay ahead of the competition not only to develop but also to survive. Applying the following tips while designing your new product can save you money when it comes to producing the part.

1. Try and keep the design simple – the less the number of working parts, the less can go wrong.
2. Do not go overboard with surfaces, nice sweeping lines and curves mean it may need to be machined on a costly CNC.
3. Design for Manufacture, design the parts with the manufacturing process in mind – know the limitations.
4. Make the parts strong but use new lightweight materials such as laminates to keep the build weight down.
5. Keep internal radii to a nominal size, the more special the radii, the more costly the tool to produce it becomes
6. When designing plastic parts, keep the wall thicknesses uniform
7. When designing pressed parts, remember the materials tear's and stretches on cropped edges
8. When designing machined parts, design them around a one-hit process to ensure lower costs
9. When designing consumer products, remember the ergonomical implications
10. Use proprietary items where possible
11. Keep the tooling cost low by designing in standard sections and extrusions
12. Ensure it can be produced quickly
13. Use 3D software to check interference on bearing surfaces
14. Use 3D software to check the FEA
15. Use 3D software to get the mass properties of the assembly or parts
16. Build prototypes to prove the unit works
17. Build prototypes to check commercial viability
18. Build prototypes to re-evaluate the design
19. Ensure you are within your build timescale by having regular project meetings
20. If the design is on target and within cost, go back to number one and complete again – there is always more cost to come out