



1. Production Method - Perhaps Largest Factor

This is usually dictated by volume, but can also be effected by tolerances, design complexity, base materials and other factors.

In Order of Decreasing Cost (highest to lowest production cost processes)

- Machining
- Metal Fabrication (Laser & Plasma cut / Water jet cut/ Turret Press / Press break).
- Casting
- Stamping

2. Secondary Operations / Secondary Vendors

Are there more than one operation being performed? How can those be combined? (Progressive Tooling -vs. - Single Hit?)

Are the parts being shipped to various vendors or a subcontractor such as a plater or painter ? Can consolidation achieve savings?

Could pre-coated materials meet performance requirements once processed through the manufacturing cycle?

Is Automation a possibility? At what volume would it be viable?

How many human hands touch the part during its manufacturing?

3. Material - Always Ask Why

Determine part performance objectives and select material to match. Some common themes we see are listed below:

- 1050 Steel can often be substituted for HSLA.
- Brass costs less than copper and has very similar properties.
- Are 300 series stainless steels necessary or will less expensive grades meet functional and corrosion considerations?

4. Tolerances - Did defaults populate the title block during print design & engineering?

When looking at performance objectives to determine key characteristics, you may be able to realize cost savings through adjusting tighter than necessary print tolerances. You may be able to adjust Production Method (1), Secondary Operations (2) or Quality Control Costs (5) simply by adjusting tolerances. For instance; sheet steel called out at .060+/-0.001 thick can be significantly more expensive than simply calling out a 16 gage.

5. Quality Control - Include Costs in Estimates

A key costs to be factored in is not just what your supplier is charging you for quality assurance, and what you are paying internally for quality checks; but also the cost of non-conformances. Balancing upfront costs with back end expenses can often change true operating costs.

6. Design Review

Parts often go through many changes from initial design, to prototyping, to full production, to years of use. Review the current design with current performance requirements and Determine what Characteristics or Operations are driving costs. See if any can be eliminated or combined.

7. Similar Parts

Do you have similar components at different vendors or produced from different tools or processes? A combination of similar parts or series of parts can often drive costs down.

8. Lead Time

Are you working with your suppliers for optimum lead times to keep costs down? Often, expediting of raw material needs or ordering in smaller quantities can drive total costs up considerably. Do you know where your suppliers raw material price break are? Kan-Ban / JIT options can be great; but weigh costs paid to supplier for carrying inventory vs. accounting savings of TVM.

9. Packaging /Shipping

Were shipping and packaging taken into consideration during part design? Small changes to design can often effect shipping costs immensely. Packaging requirement can also effect shipping and handling costs. Are you factoring the number of shipments and the times your receiving employees need to touch parts? What is the true ideal refreshment rate of each particular part?

Your suppliers can help you reduce your costs, but they need to know all of the part's functionality and requirements!