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CIRCULATE

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Schenectady, April 5, 1954

**Mr. R. E. Fountain
DEPARTMENT**

On January 20 I attended a meeting in the Gas Turbine Department at which a number of specific and major cost reductions were reviewed. They were startling. Here are a few paragraphs on some of them.

1. In stretch forming, a part which was costing \$2700 each as a machine part from a heavy forging is now stretch formed and the equivalent part is now stretch formed for \$185.

2. A punching operation required holes punched through a material much thicker than the diameter of the hole so of course it was commonly thought it couldn't be done. However, it is successfully being done and the time went from 48 hours to one hour for the hole-making operation.

3. Tolerances. A full-scale layout showed that in five locations, although finished machining was called for, there was no material left to be machined.

4. Movable plates were mounted by machining a hole through them, then putting a shaft through which extended out both ends and acted as a pivot. Someone reasoned that it makes little sense to machine all of the steel out of the hole at great cost, then immediately insert steel again in the form of a shaft, so the machining was omitted and the necessary protruding pivot ends are provided by other means. The saving was \$45,000 per year.

5. One small spacer was used repeatedly in construction so that quantities were fairly large. It was so irregular that it required much machining. It cost in the neighborhood of \$1. The Manufacturing Manager said he wanted someone who had the courage to work on the job of producing it for 5¢. He convinced them he meant what he said and got a volunteer. The result was that they now make it by cold forming. They had a press available. They make two of them together which gives them a certain amount of symmetry, then mill the two apart. The present cost is 8¢.

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6. A lip ring was being made for the purpose of supporting and mounting weldments at a cost of 162 hours per unit. By changing to roll formed liners instead, the same function is accomplished in eighteen minutes per unit instead of 162 hours.

7. Tubing was cut and welded into one of the assemblies requiring five hours per unit. It was changed. Now thimbles are pressed in instead and the time is reduced from five hours to five minutes per assembly.

; 8. Class C purchase items (the large number of items which have the very small amount of money tied up) are purchased once per year.

We have on file a report which shows more details of these changes. I am attaching it to Roy's copy. He will arrange to have it filed and available for all.

L. D. Miles/M