



Online Ethics Center  
FOR ENGINEERING AND SCIENCE

# Shortage of Components

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## Year

1992

## Description

Ruskin Manufacturing has guaranteed Parker Products that it will deliver the complete order of small machines by the 10th of the month, a Friday. Parker had already extended its deadline once. This time, it insists, the date must be met. Tim Vinson, head of quality control, had been confident the deadline would be met. But on the 8th he learns that a new component of the machines is in short supply.

## Abstract

This case is one of thirty-two cases which address a wide range of ethical issues that can arise in engineering practice provided by the Center For the Study of Ethics in Society, Western Michigan University.

## Body

I

Ruskin Manufacturing has guaranteed Parker Products that it will deliver the complete order of small machines by the 10th of the month, a Friday. Parker had

already extended its deadline once. This time, it insists, the date must be met. Tim Vinson, head of quality control, had been confident the deadline would be met. But on the 8th he learns that a new component of the machines is in short supply. He thinks of several options:

1. Approve breaking up and regrinding the remaining supply of the old component that was being replaced. This could probably be accomplished in time, but the speed at which it would have to be done raises concerns about impurities in the process.
2. Approve using the old component in place of the new one. The product would still function well, and it would be unlikely that Parker would ever detect the difference. Although Parker would not be getting exactly what it ordered, the product would meet minimal safety and durability standards.
3. Discuss the problem with the design engineer and see what he suggests. Which of these options would you recommend? Can you think of any other options that might be preferable?

## II

Tim decides to consult with Chuck Davidson, the chief design engineer for this product. Chuck says, "I don't have a good answer for you. There's no time to come up with a completely satisfactory alternative. You could regrind, but given the time frame you might get a lot of impurities. Or you could just use the old components. But I'm not going to advise either of those. I don't want this hanging over my head. Maybe you should call Arnold." Arnold Peterson is Vice President of Product Engineering. Years ago, like Tim Vinson, Arnold served as head of quality control. Tim is somewhat uneasy about calling Arnold for two reasons. First, Tim feels responsible for not seeing the problem earlier, and he is reluctant to admit failure to the Vice President of Product Engineering. Second, he wonders if Arnold would really want to be bothered by something like this. He might simply tell Tim that the problem is his to solve -- somehow. Still, Tim is not comfortable with the idea of just resolving the problem by himself. What should Tim do next?

## III (Version 1)

Hesitant to take matters in his own hands, Tim calls Arnold. Consider three possible scenarios:

- a. Arnold says, "You're supposed to take care of these things yourself, Tim. I don't want to hear about stuff like this. Just meet the deadline. I used to have to deal with this kind of problem all the time. Management made it very clear to me that it doesn't want bad news--it wants results." What should Tim do now?
- b. Arnold says, "Look Tim, you haven't been at this very long. Parker doesn't want to hear about this. If something goes wrong with the product, they don't want to have to tell their customers that they knew about the problem. They'll want to point the finger at us. They also made it very clear that we've had it if we don't meet the deadline this time. I don't like this kind of situation, but we've got to take a little risk here. Just get the stuff over there somehow." What should Tim do now?
- c. Tim learns that Arnold is out of town until next week and cannot be reached. What should Tim do now?

### **III (Version 2)**

Tim decides not to call Arnold. He thinks Arnold would not want to be bothered by this problem and would simply tell Tim that it is up to him to resolve it in such a way that a major customer is not disappointed. So, he approves substituting the old component in place of the new one. Several weeks later Arnold learns from an internal source that Tim substituted the old component. He calls Tim into his office and asks for an explanation. What should Tim say?

### **IV Following III (Version 1)**

Tim approves substituting the old component, and the order is met on time. However, several months later Parker returns to Ruskin several of the machines from the order Tim completed. Parker complains that the machines in this part of the order are not functioning as efficiently as the others. When a Parker technician disassembled several of the less efficient machines and compared them with one that was working well, she discovered that each of the less efficient ones has a key component that differs from the well functioning machine. Parker asks for an

explanation. Word now comes to Tim that he is expected to appear at a meeting with Arnold Peterson and a Parker representative. What should he be prepared to say at the meeting?

## V

Suppose Tim substitutes the old component for the new one, and neither Parker nor anyone else outside of Ruskin ever finds out. All parties are satisfied. Does it follow that Tim acted appropriately?

### Notes

originally titled: *The Deadline*

Case study originally published in "Teaching Engineering Ethics: A Case Study Approach," by Michael Pritchard. Center for the Study of Ethics in Society, Western Michigan University, 1992.

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Engineering

**Publisher**

Online Ethics Center

Authoring Institution

Center for the Study of Ethics in Society at Western Michigan University