# Orange Auto Part Manufacturer (9)

The plant manager responsible for the OAPM wants to capture more closely the movement of parts from inspection to shipping. The current assumption of unconstrained movement between these two operations is not representative of the actual flow, and the manager wants to capture the activities of the forklift transporting the parts between these two areas. The plant manager is concerned that the single forklift responsible for carrying parts that pass inspection to the shipping department may not be sufficient for the shop. The plant manager has decided that the model should incorporate *the speed and the carrying capacity of the forklift* and has asked you to determine *whether one forklift if sufficient* for the OAPM.

The forklift moves bins of parts from the inspection area to the shipping department at a rate of 350 feet per minute (approximately 4 mhp). The forklift travels in both directions along the different aisles between stations. Distances are as follows:

|  |  |  |
| --- | --- | --- |
| From | To | Distance (feet) |
| Inspection Station | Shipping Station | 600 |
| Shipping Station | Inspection Station | 700 |

The forklift is not requested to transport completed parts to the shipping department until a bin is full. The *bins* are designed to hold 5 parts, and a bin can have both wheel hub and brake rotor in it at the same time.

Run the model for five 8-hour days. The base time units should be minutes.   
Examine the effect of modeling the forklift explicitly on cycle time and part throughput.