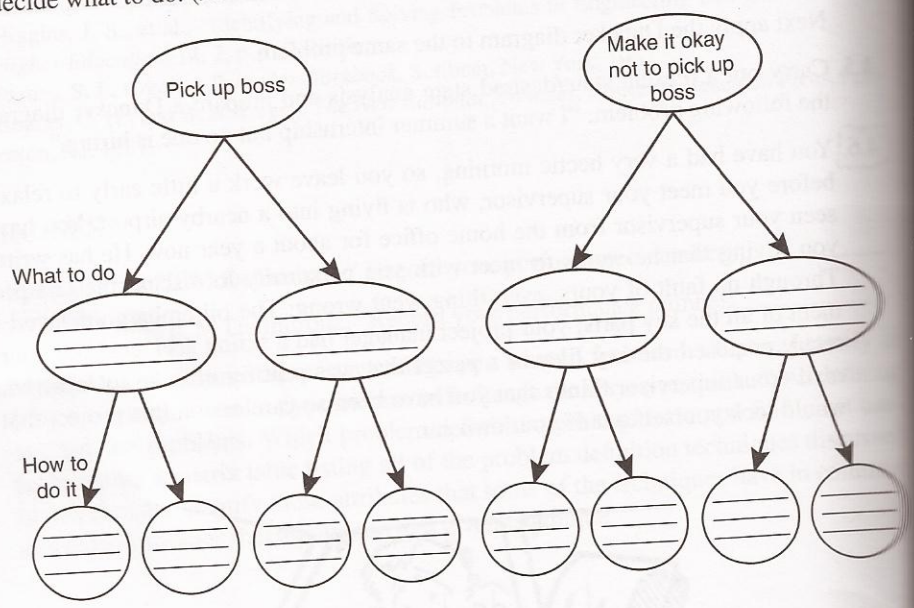
into the park, absentmindedly get out and lock the car, and stroll by the stream. When you return, you find that you have locked the keys inside the car. The road to the airport is not the usual route; cars pass through about every 10 to 15 minutes. The airport is 9 kilometers away; the nearest house (with a telephone) is 1 kilometer away. The plane is due to arrive in 20 minutes. Your car, which is not a convertible, is such that you cannot get under the hood or into the trunk from the outside. All the windows are up and secured.

Apply the Duncker diagram and one other problem-solving technique to help you decide what to do. (Problem courtesy of D. R. Woods, McMaster University.)



4.7. You are driving from Cambridge to London on the M11 motorway (expressway). You are scheduled to give a very important slide presentation at 1 P.M. The drive normally takes 1.5 hours, but this morning you left at 10:30 A.M. to ensure you have sufficient time. Suddenly your car stalls on the motorway halfway between Cambridge and London. What do you do? Apply two or more problem definition techniques to help answer this problem. (Problem courtesy of J. Higgins and S. Richardson, Imperial College, London.)

4.8. Sodium azide is used as the propellant in an air bag system. This chemical is mixed with an oxidizing agent and pressed into pellets, which are then hermetically sealed into a steel or aluminum can. Upon impact, ignition of the pelletized sodium azide generates nitrogen gas that inflates the air bag. Unfortunately, if the sodium azide contacts acids or heavy metals (e.g., lead, copper, mercury, or their alloys), it forms toxic and sensitive explosives. Consequently, at the end of an automobile's life,