



1. Beacons are portable and temporarily set up at each jobsite.
2. Mower can communicate with beacon A, B wirelessly.
3. Beacons emit a scanning infrared or laser beam.
4. Mower can detect the beacons' scanning beam.
5. From basic trig,  $\tan a = CD/AD$  and  $\tan b = CD/BD$ . Length  $AD = 100 - DB$ .
6. So we have two equations:  
 $\tan b \cdot DB = CD$  and  $\tan a \cdot AD = CD$   
 substitute in the second equation:  $\tan b \cdot DB = \tan a (100 - DB)$
7. Say the angles are resolved to  $b = 47$  deg and  $a = 20$  deg  
 $\tan 47 \cdot DB = \tan 20 \cdot (100 - DB)$   
 $DB = 71.9$  feet and  $CD = \tan b \cdot DB = 77$  feet
8. So, mower(x,y) = ( 77, 100-71.9) or ( 77, 28.1)
9. Steer mower so x is constant for each strip mowed.

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<b>Non-GPS location calculation</b>		
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