Total Machine Time

All mold machining times were rounded up to the nearest second				
	Mold Machining Time (hr)	**Process Optimization (hr)**	**Final Production Run (hr)**	**Total Time (hr)**
Cover (thermoform)	0.011	1	2.5	3.511
mold front lathe	0.011			
centerdrill mill	0.002			
boring back lathe	0.008			
Retaining Ring (black)	0.698	1	2	3.698
cavity mold lathe	0.034			
cavity mold mill	0.601			
core mold lathe	0.063			
ejector pin mill	0.028			
Body (orange)	0.477	1	2	3.477
cavity mold lathe	0.025			
core mold lathe	0.055			
core mold mill	0.397			
ejector pin mill	0.056			
runner mill	0.009			
Total Minutes	77.983	180	390	647.983
Total Hours	1.300	3	6.5	10.800

It will take around 11 hours total to manufacture our yo-yo. The total time excludes the time needed to make the lasercut pieces, which we know will consume relatively little time, and it excludes the time needed to assemble the yo-yos. The total time does include the time needed to machine each mold, process optimization time, and time needed to produce 100 of each yo-yo part. The mold machining times on the chart are the times taken from the respective mastercam file for that part, rounded up to the nearest second. It is assumed that we will make 5 batches of 8 prototyped parts for each component for optimization. The optimization times do not include the 30 minutes cooling time per piece and measurement/analysis time. The process optimization times and final production run times were decided with the help of recommendations from Dave on the “estimating time” document in the course locker.

The chart helps us conclude that we should make three 1-hour, two 2-hour, and one 2.5-hour production appointments. We should also make two 1-hour lathe appointment (one for each snap fit piece and for the thermoform mold) and one 1-hour mill appointment (for both snap fit pieces) for machining the molds.