MIXED MODEL CALCULATIONS WORKSHEET

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MODEL	A	B	C	D
MODEL QTY				
TIME AVAILABLE	SECONDS	TOTAL DEMAND, TOTAL QTY (A + B + C + D)		

STEP	DESCRIPTION	CALCULATION	RESULT
1	Determine GCD	Largest number that divides evenly into all MODEL QTYs	
2	Total Operator Cycle Time	Time observe each model. Record time in seconds.	A B C D
3	Get Sequence Qtys	Divide MODEL QTY by GCD (step 1). Repeat each letter starting with longest by the sequence qty. if D = 4, C = 2, DDDDCC….	A B C D MIXED MODEL SEQUENCE
4	Takt Time (TT)	Time Available / Total Demand	
5	Average Weighted Cycle Time (AWCT)	Average cycle time weighted by demand. Sum of WCT by Model is AWCT.	

Model	Qty	% (Qty / SUM of Model Qty)	CT (from step 2)	WCT (% * CT)
A				
B				
C				
D				

6	# of Operators	AWCT / TT	
7	Line Speed	AWCT / # of Operators (round to the nearest whole number)	
8	Determine OCT for each model	Model CT / # of Operators	A B C D
9	Determine pitch	Distance between units. Measured in inches.	
10	Determine inches / second	Pitch (inches) / Line Speed (seconds)	
11	Determine Zone Size	Loop through each model to determine where the operator will end. The largest number is zone size – circle it. Length of travel OCT (step 8) * inches/second (step 10).	

Model	OCT	Model Start	Model End
D		0	
D			
D			
C			
B			
B			
A			
D		0	

LINE DESIGN SETTINGS						
TAKT TIME	LINE SPEED	# OF OPERATORS	WORK ZONE SIZE	LINE SIZE	PITCH	SEQUENCE (DDCCB…)