

MIXED MODEL CALCULATIONS WORKSHEET

DEMAND INFORMATION, TOTAL QTY =				
MODEL				
MODEL QTY				

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. Organize shortest to longest.	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 = 3, C = 1, DDDCBB....	A	B	C	D
4	Takt Time (TT)	Time Available / Sold Units Time Available = 5 min for production Sold Units = Sum of MODEL QTY				
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	WCT (% * CT)	
6	# of Operators	AWCT / TT				
7	Line Speed	AWCT / # of Operators (seconds)				
8	Determine OCT for each model	Model CT / # of Operators (round to nearest second)	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	<p>Loop through each model to determine where the operator will end. The largest number is zone size – circle it.</p> <p>The length of travel is CT * inches/second. For example, 15 seconds * (3 inches/second) = 45 inches.</p> <p>The operator moves 45 inches while building that model.</p>	Model	CT	Model Start	Model End
			D		0	
			D			
			D			
			C			
			B			
			B			
			A			~0

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