i	Name	Duration	Tray	Fixture	Components	Component created	Putting	Mounting	Taking	Moving	Start coord	End coord	Tool needed
1	Take top	5	1		1					1	4,9	4,9	1
2	Put top in fixture	10		1	1		1				8,2	8,2	1
3	Take button	5	2		2				1		5,2	5,2	1
4	Mount button on top	25		1	1,2	6		1			8,2	8,2	1
5	Take top-button from fixture	5		1	6				1		8,2	8,2	1
6	Angle top-button	5		1	6					1	8,2	8,2	1
7	Lift top-button, hold top-button	5			6					1	8,2	7,9	1
8	Lift top-button, support	5			6					1	8,2	7,9	1
9	Turn top-button	20			6					1	7,9	7,9	1
10	Take ring	10	3		3				1		14,9	14,9	1
11	Mount ring on top-button, hold	260			6	7		1			7,9	7,9	1
12	Mount ring on top-button, mount	260			3	7		1			7,9	7,9	1
13	Fixate top-button-ring	15		1	7					1	9,2	9,2	1
14	Put top-button-ring in top-tray	5	1		7		1				4,9	4,9	1
15	Change to bottom-grabber tool	60									8,12	8,12	
16	Take top-button-ring from top-tray	5	1		7				1		4,9	4,9	1
17	Take bottom	5	4		4				1		11,9	11,9	2
18	Put bottom in fixture	10		1	4		1				8,2	8,2	2
19	Take switch	5	5		5				1		12,5	12,5	2
20	Mount switch in bottom	15		1	4,5	8		1			8,2	8,2	2
21	Take bottom-switch	0		1	8				1		8,2	8,2	2
22	Put bottom-switch on table	5			8		1				10,2	10,2	2
23	Mount top-button-ring on bottom-switch	15			7,8	9		1			10,2	10,2	1
24	Change to regular-grabber tool	60									8,12	8,12	

Trays

1. Top tray

2. Button tray

3. Ring tray

4. Bottom tray

5. Switch tray

Fixtures

1. Front fixture

Components

1. Top

2. Button

3. Ring

4. Bottom

5. Switch

6. Top-Button

7. Top-Button-Ring

8. Bottom-Switch

9. Complete

Tools

1. tool1

2. tool2

Tasks that needs to be performed in a certain order

Sets of concurrent tasks

7 Lift top-button, hold top-button

8 Lift top-button, support

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11 Mount ring on top-button, hold

12 Mount ring on top-button, mount

7 Lift top-button, hold top-button

8 Lift top-button, support

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11 Mount ring on top-button, hold

12 Mount ring on top-button, mount

Tools

Tool changes

Task	Tool
15	2
24	1
15	2
24	1

Default tool

Machine	Tool
1	1
2	1