Lego Lean Simulation Instructions for Day 1 - All Teams

Day 1 - Build in Batches of 5

The Sky-View Airplane Company (SVAC) has the reputation of producing high quality airplanes for customers around the world. The company is in the process of negotiating a large contract and will be awarded the business only if deliveries can be guaranteed.

SVAC has been considered a "traditional" manufacturing operation, using quarterly sales forecasts that drive their MRP system. A Master Production Schedule (MPS) is generated through the available information and weekly spreadsheet schedules are prepared and delivered to Workstation #2 and Workstation #4. As situations change in the plant, daily adjustments to the schedule are made.

Daily orders are received from customers and a daily shipping schedule is given to the shipping department who must ship an average of 10 airplanes per day.

Expeditors conduct daily checks at Workstations 2, 3 and 5, to ensure parts are available for customer's requirements. The information gathered is fed back to the scheduler.

Sky-View Industries (SVI) is a division of and the main supplier of parts to SVAC.

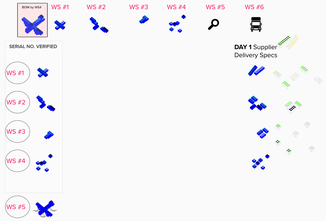
SVAC gives Sky-View Industries a monthly forecast of their requirements and sends them purchase orders that will cover them for the following weeks production. Sky-View Industries is within 5 miles of SVAC and can deliver any day of the week. SVAC decided that it would take deliveries of parts on Mondays.

SVAC has decided to adopt a "Lean Thinking" strategy to try to improve their deliveries and reduce their cost of running the company. The following additional information is available:

- It is assumed that all of the critical components required to build the aircraft are brought into the plant from Sky-View Industries.
- At this point SVAC has decided to concentrate its initial efforts on their assembly plant.
- The parts coming in to the plant are spot checked for conformance to specifications.
- The plant operates on a one-shift basis of 12 hours with a 30-minute lunch break and two 10-minute coffee breaks. At present a lack of appropriate skilled people has prevented them from operating additional shifts.
- There are four assembly operations, one inspection operation and a shipping operation:

1. Assembly of Primary Wing/Airframe Section
2. Assembly of Two Wing Sections
3. Assembly of Large Section of the Tail
4. Assembly of Nose, Fuselage, Cockpit, Tail and Wheels
5. Inspection and Quality Control
6. Information Gathering and Shipping

- A "Set-up" or "Changeover" is required at Assembly Operation #3
- Plant Effectiveness = 80%
- Customer Requirements = 24 aircraft/day



Note: This simulation is designed to be able to be physically replacement- if you can **not** do it physically it's **not** allowed. No sub-assemblies allowed. The supplier delivers parts as requested, however there must be space between the parts delivered. All parts **must** be assembled in sets.

Hints: ❶ lock and unlock assets as necessary ❷ make sure the table is "sent to back" ❸ There are 15 nameplates (inspected by...) for the blue plane and 1 for the white plane to the right side (as your sitting down) of WS#5 ❹ ask to be followed if you are having problems ❺ **do not** group, or lock any lego parts, at risk of re-prioritizing (and not fitting together) ❻ **Ctrl-z will undo** ❼ ❽ ❾

Watch Video:

PHYSICAL WORKSPACE EXPLANATION: https://www.youtube.com/watch?v=En4xq6d-7UY&list=PLceBuhwYy2hmBJ4vyvHBwd7-3uT3K3sck&index=18

WATCH VIDEO

1. Assembly of Primary Wing/ Airframe Section
2. Assembly of Two Wing Sections
3. Assembly of Large Section of the Tail
4. Assembly of Nose, Fuselage, Cockpit, Tail and Wheels
5. Inspection and Quality Control
6. Information Gathering and Shipping

The Different Requirements:

USE STICKIES TO DESCRIBE STEPS

	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8
WORK STATION #1	CLICK IN WORKSTATION	1	2	3	4	5		
WORK STATION #2								
WORK STATION #3								
WORK STATION #4								
WORK STATION #5								
WORK STATION #6								

WATCH THESE VIDEOS FOR SURE!

What to do at: WS-1 | WS-2 | WS-3 | WS-4 | WS-5 | SHIPPING

What if there is scrap?

- 16-pin piece
- 8-pin piece
- 4-pin piece
- WS#5 Inspection Plate - white airplane
- WS#5 Inspection Plate - blue airplane
- Blue Airplane Fixture
- White Airplane Fixture