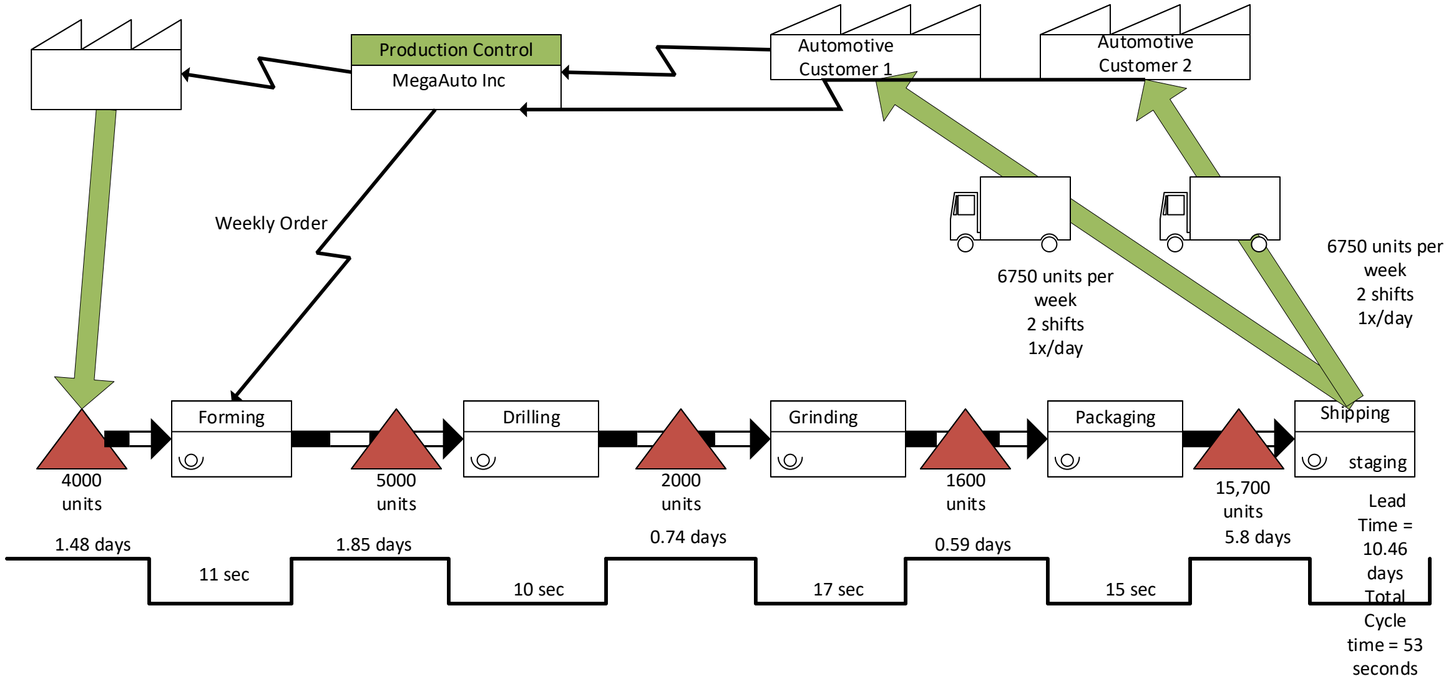
Production Control
MegaAuto Inc
Automotive Customer 1
Automotive Customer 2
Weekly Order
6750 units per week 2 shifts 1x/day
6750 units per week 2 shifts 1x/day
Forming
Drilling
Grinding
Packaging
Shipping
staging
4000 units
5000 units
2000 units
1600 units
15,700 units
5.8 days
1.48 days
11 sec
1.85 days
10 sec
0.74 days
17 sec
0.59 days
15 sec
Lead Time = 10.46 days
Total Cycle time = 53 seconds

1. WIP and cycle time for each process is already given in question
Lead time for each process is calculated by dividing inventory held for each process by daily demand
WIP raw lead time = 1.48 days
WIP lead time between form and drill = (5000/2700)= 1.85 days
WIP lead time between drill and grinding = (2000/2700)= 0.74 days
WIP lead time between grinding and packaging = (16000/2700)= 0.59 days
WIP lead time between packaging and shipping = (15,700/2700)= 5.8 days
total lead time = 1.48 + 1.85 + 0.74+ 0.59+5.8 = 10.46 days
Total cycle time = 11s + 10s +17s + 15s = 53 s

2. tack time = 54000/2700
= 20 seconds

3. production lead time is as follows
WIP raw lead time = 1.48 days
WIP lead time between form and drill = (5000/2700)= 1.85 days
WIP lead time between drill and grinding = (2000/2700)= 0.74 days
WIP lead time between grinding and packaging = (16000/2700)= 0.59 days
WIP lead time between packaging and shipping = (15,700/2700)= 5.8 days

4. total processing time = 11s + 10s +17s + 15s = 53 s

5. capacity at forming = per unit processing time = 11+setup = 3*60 = 180 s
191s

. capacity at drilling = per unit processing time = 10+setup = 2*60 = 120 s
130s
. capacity at grinding = per unit processing time = 17+setup = 0*60 =0 s
17s
. capacity at packaging= per unit processing time = 15+setup = 0*60 = 0 s
15s
Therefore bottlenack = 191s
Availability = 54000 s
Capacity = 54000/191
=282.72 units per day

6. process cycle efficiency = 53/20
=2.65%