



STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
Title: Operation of 45 Station Compression Machine (Cadpress D Tooling)	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

1.0 OBJECTIVE:

To lay down a procedure for Operation of 45 station Compression Machine (Cadpress D Tooling).

2.0 SCOPE:

This procedure is applicable for Operation of 45 station Compression Machine (Cadpress D Tooling) in Compression area.

3.0 RESPONSIBILITY:

Production: Technical Associate/Officer /Executive/Assistant Manager.

Head Production: To ensure execution & compliance.

Head QA: To ensure the compliance.

4.0 PROCEDURE:

4.1 Ensure that the area is cleaned.

4.2 Replace the “UNDER CLEANING” status label with “CLEANED” with date and signature of the production officer as per SOP.

4.3 Setting for round shape punches:

4.3.1 Ensure the upper, lower punches and dies are cleaned.

4.3.2 Fix the dies in die cavities with the help of Die rod.

4.3.3 Ensure that the die is fixed at the same level with the turret.

4.3.4 Tighten the die locking screws using Allen key.

4.3.5 Place lower punches in lower punch bores through lower punch lock hole by opening slot.

4.3.6 Place anti turning Teflon plugs and tighten the tension plates.

4.3.7 Place upper punches in upper punch bores and fix the oil cups and then fix the upper punch guard.

4.3.8 Ensure that the punch should move freely inside the punch bore during the fixing of upper and lower punches.

4.3.9 Fit the weight adjustment dial after the last punch has been fitted.



STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
Title: Operation of 45 Station Compression Machine (Cadpress D Tooling)	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

4.4 Setting for Other than round shape punches:

- 4.4.1 Ensure the upper, lower punches and dies are cleaned.
- 4.4.2 Remove the take off piece from the cam track.
- 4.4.3 Ensure that the upper punch stem is moving freely in the individual die.
- 4.4.4 Place the upper punch in upper punch bore and hold it by hand. Align the stem of the punch with the respective die and tap gently with the upper punch to position the die in the cavity.
- 4.4.5 Remove the upper punch and fit the die to the die cavity so that the die should be at the same level with the turret and place the same upper punch in the upper punch bore.
- 4.4.6 Tighten the die locking screw. Ensure that the punch should move freely inside the individual die.
- 4.4.7 Rest the upper punch on cam track. Turn the flywheel and set all the dies and punches in same way.
- 4.4.8 Remove upper punch near the take off piece slot and fix the take off piece. Place the upper punch back to the upper punch bore and fix the oil cups and tighten the upper punch guard.
- 4.4.9 Place lower punches in lower punch bores through lower punch lock slot.
- 4.4.10 Fix the anti turning Teflon plugs by tightening the tension plates.
- 4.4.11 Fit the weight adjustment dial after the last punch has been fitted.

4.5 Fitting of force feeder :

- 4.5.1 Mount the tablet ejecting scrapper at the front side of the force feeder.
- 4.5.2 Mount the force feeder on feeder support platform and clamp it in position with quick release clamp and tight the locking knobs.
- 4.5.3 Connect the feeder housing to feeder drive shaft by feeder coupling assembly.
- 4.5.4 Push feeder jog switch and ensure the correct fitting of force feeder.

4.6 Fitting of Y-chute , hopper and connector :

- 4.6.1 Fit y-chute to the inner pipe with clamp and silicon bellow.
- 4.6.2 Fit the hopper on its place by screwing the bolt at the top.
- 4.6.3 Fit the Powder level sensors by screwing the bolts.
- 4.6.4 Fit the butterfly valve in the hopper connector to regulate the flow of powder.



STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
Title: Operation of 45 Station Compression Machine (Cadpress D Tooling)	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

4.6.5 Fit one end of silicon bellow on the inlet pipe on the top of feeder bowls and the other end of the silicon bellow to the hopper spout.

4.6.6 Fit the tri-clover clamp between the silicon bellow and hopper spout to prevent disturbance of the connectors.

4.7 Operation:

4.7.1 After line clearance from Q.A., put the “UNDER PROCESS” label on the machine as per SOP.

4.7.2 Enter the start time in equipment sequential log sheet as per SOP.

4.7.3 Switch on the “Main” the PLC shows manufacturer address and



4.7.4 Press login Key the display will show

	<input type="text" value="Operator"/>
Cad mach	<input type="text" value="Supervisor"/>
	<input type="text" value="Manager"/>

4.7.5 Enter password as per level and display will show

Main Menu

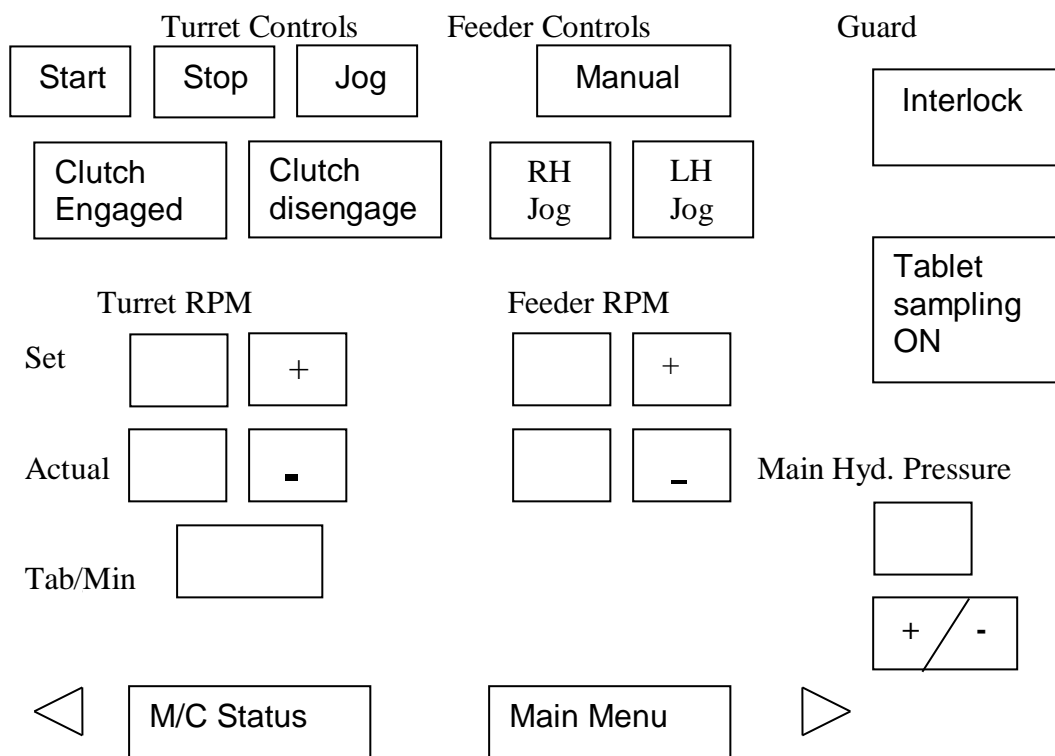
- | | |
|----------------------|-------------------|
| Machine Control | Machine Status |
| Turret Control | Recipe Management |
| Feeder Control | Batch Data |
| Main Hyd. Sys. Press | Technical Data |
| Lubrication controls | Change Password |



STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
Title: Operation of 45 Station Compression Machine (Cadpress D Tooling)	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

4.7.6 Press “Machine Control” Key the display will show as
Machine Control



To set the machine press “Jog” key the machine run, Set the parameter.

Set the machine speed by using “+” and “-“key as per BMR.

Set the hydraulic pressure by using “+/-“key as per BMR.

Press “start” key the main Compression motor “ON” then press the “Clutch Engaged” key the turret starts to rotate.



STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
Title: Operation of 45 Station Compression Machine (Cadpress D Tooling)	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

4.7.7 Press “Turret Control” Key the display will show as

Turret Controls

Turret Motor current Amp

Manual

Motor Control

Clutch Controls

Set Actual Init. Tab. Reject

Turret

RPM

To start the motor use “Start” key, to stop the motor use “Stop” key & use “Jog” key for jogging the motor.

At clutch control use “Engage” & “Dis- engage” keys to control the clutch.

Set the Turret RPM by using “+” & “-“keys.

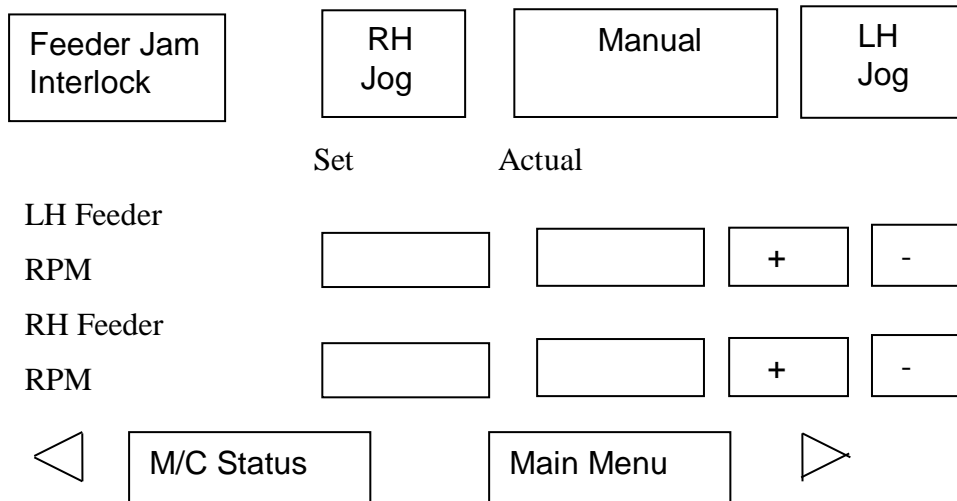


STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
Title: Operation of 45 Station Compression Machine (Cadpress D Tooling)	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

4.7.8 Press “Feeder Control” Key the display will show as

Feeder Controls



For jogging right hand side feeder use “RH jog” key, For jogging left hand side feeder use “LH Jog” key. Set the Feeder RPM by using “+” & “-“keys.



STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
Title: Operation of 45 Station Compression Machine (Cadpress D Tooling)	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

4.7.9 Press “Main Hyd. Sys. Press.” Key the display will show as
Hyd. Sys. Press. Controls.

Manual

I-----I-----I-----I-----I
0 25 50 75 100

Main Hyd. System Pressure

Main Hyd. System Pressure Lower Upper
Control limits (KN)

◀ ▶

Set the main hydraulic system pressure by using “+” & “-“keys.



STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
Title: Operation of 45 Station Compression Machine (Cadpress D Tooling)	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

4.7.10 Press "Lubrication Controls." Key the display will show as

Lubrication Controls

AUTO

JOG

Set Actual

On Time (Sec)

Off Time (sec)



M/C Status

Main Menu



Set the lubrication On Time and Lubrication Off time by using respective "+" and "-" keys



STANDARD OPERATING PROCEDURE

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Title: Operation of 45 Station Compression Machine (Cadpress D Tooling)	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

4.7.11 Press “Recipe Management ” Key the display will show as,
Recipe code & product name

Recipe code	Product Name
Machine parameter -	Tablet parameter-
Turret speed (RPM)	Shape
Feeder speed(RPM)	Size(mm)
Main Hyd. Sys. Pressure KN	Diameter
Depth of die fill (mm)	Oblong narrow side
Tablet cyc	oblong long side
Height (mm)	Thickness (mm)
U.P. Pene (main comp.)(mm)	Hardness (N)
	Weight (mg)



Main Menu



Set all the parameters In manager level login.



STANDARD OPERATING PROCEDURE

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Supersedes: Nil	Review Date:
Issue Date:	Page No.:

4.7.12 Press “Batch Data ” Key the display will show as,

Date

Equipment no.

Operator code

Recipe code

Product name

Batch no.

Batch size

Total tablets produced



Batch Reset

Main Menu



Set all the parameters.

For reset of Total tablets produced after completion of batch use “Batch Reset “key.

4.7.13 Fill the hopper with blend to be compressed.

4.7.14 Keep the machine in manual mode and fill the force feeder by pressing the jog key in “Feeder Control” on PLC.

4.7.15 Control the speed of force feeder by pressing the “+” & “-“ in “feeder control” on PLC :

To increase the speed of force feeder : Press “+” key.

To reduce the speed of force feeder : Press “-“key.

4.7.16 Operate clutch by pressing “Clutch Engage” key in “machine control” on PLC.

4.7.17 Discard initial few tablets of few rotations.

4.7.18 Adjust the weight of tablet by weight adjusting dial .

4.7.19 a) To increase weight : Rotate clock wise.

b) To reduce the weight : Rotate anti clock wise



STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
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Supersedes: Nil	Review Date:
Issue Date:	Page No.:

4.7.20 If the tablet weight is satisfactory apply pressure by pressure adjusting dial which is located at the front panel of the machine on both side as per BMR.

a) To increase thickness and reduce hardness: Rotate clockwise.

b) To reduce thickness and increase hardness: Rotate anti clockwise.

4.7.21 Check the parameters as per mentioned in BMR.

4.7.22 After completion of the activity switch "OFF" the mains from electrical panel.

4.7.23 Enter the completion time in equipment sequential log as per SOP.

4.7.24 Affix "TO BE CLEANED" label on the machine.

4.8 Precaution :

4.8.1 Ensure that no granules are left in the hopper and force feeder at the end of the day's activity.

4.8.2 Ensure that all oil cups filled with oil for proper lubrication.

5.0 ANNEXURE (S):
Nil

6.0 REFERENCE (S):
SOP: Preparation, approval, Distribution control, Revision and destruction of Standard Operating Procedure (SOP).
SOP: Status labeling in production department.
SOP: Procedure for area line clearance.

7.0 ABBREVIATION (S) /DEFINITION (S):

BMR : Batch Manufacturing Record

Q.A. : Quality Assurance

SOP : Standard Operating Procedure

S.S : Stainless Steel

IPA : Iso Propyl Alcohol

PLC :Programmable Logical Control



PHARMA DEVILS
PRODUCTION DEPARTMENT

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Department: Production	SOP No.:
Title: Operation of 45 Station Compression Machine (Cadpress D Tooling)	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

REVISION CARD

S.No.	REVISION No.	REVISION DATE	DETAILS OF REVISION	REASON (S) FOR REVISION	REFERENCE CHANGE CONTROL No.
1	00	---	----	New SOP	----