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SMD Operations Procedures Manual

8.1.1.5 OPERATION OF COLLARING PRESS

Text Pages 1 through 6
Attachment(s) 1, 2

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials

Revision No. 01

Approved: Signature on File Division Head _____ Date

Preparer(s): J. Cozzolino

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8.1.1.5 Operation of Collaring Press

1.0 Purpose and Scope

1.1 To provide details on various operations aspects of the Collaring Press System (Press), located in Building 905. Areas addressed are:

1.1.1 function and use of operator controls.

1.1.2 sequential activities necessary to start up, operate, and shut down the Press.

1.1.3 safety features of the Press and how to test them.

1.1.4 maintenance information.

1.2 This information is provided for any person who will operate the controls of the Collaring Press.

2.0 Responsibilities

2.1 Authorized operators (Operators) of the Press will perform the tasks described here. A list of Operators is kept in a controlled location near the Press.

2.2 The Operator shall complete the magnet traveler associated with the cold mass being collared.

2.3 The Operator shall complete any magnet fabrication procedures that require operator input.

2.4 The Operator shall perform a safety test of the emergency stop switches each time the Press is used. The test procedure is described later in this document. The Operator shall complete the Emergency Stop Safety Test check-off sheet (Attachment B) after each test.

3.0 Prerequisites

3.1 Training

3.1.1 Operators shall be instructed by the Cognizant Engineer or his designee before using this procedure.

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3.1.2 Operator shall be a "Responsible Employee" as defined by SBMS ESH Standard 1.5.1, "Lockout/Tagout Requirements".

3.2 Manpower

3.2.1 One Operator and two technicians are required for the collaring process. The Operator controls the operation from the control console. Two technicians stand on either side of the Press and insert the locking keys.

4.0 Precautions

4.1 If access to the inside of the Collaring Press Control Console is required, perform Lockout/Tagout per SBMS ESH Standard 1.5.1. This will include locking and tagging the input disconnect switch FDN I3, located on the column behind the Press, which provides 208VAC, 3 phase, to the Press. If it is necessary to test the system by powering it up while the console is open, then obtain a proper Working Hot Permit. Terminals with a potential of 120VAC to ground will be exposed (Hazard Range B).

4.2 Wear eye protection with splash guards. Operation involves working near hydraulic oil and metal parts under high pressures.

4.3 Exercise caution while the conveyor is moving. Do not wear loose clothing or jewelry.

4.4 Be aware of the location and function of the Emergency Stop button (on the control console) and the Emergency Stop pull cords (along both sides of the conveyor). The function of the button and the pull cords is the same:

A. Cause the conveyor to stop.
B. Put the hydraulic press into OFF after one minute.

Note: *All power to the Press is not disconnected during an Emergency Stop.*

4.5 Check that all guards and cover panels are in place.

4.6 Check that the work area is clear of unauthorized personnel.

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5.0 Procedure

5.1 Detailed step-by-step instructions for coil collaring are documented as part of the applicable Magnet Assembly Procedure (MAP). Refer to the MAP for the type of coil being collared.

5.2 This section provides additional details on start-up, operation, shut-down, safety feature testing, and maintenance of the Collaring Press that may not be documented on the Specifications.

5.3 Before powering up the Press check the following console settings:
- A. Both hydraulic pressure potentiometers set to zero;
- B. Conveyor RUN and JOG speed potentiometers set to zero;
- C. Conveyor ON/OFF toggle set to OFF.

5.4 Power Up the Press

5.4.1 Place Input Disconnect Switch #FDN I3 (located behind the Hydraulic Power Unit), the Console Door Switch, and the POWER key switch in the ON position.

5.4.2 Press RESET. The Press will go into the UP mode automatically. However, since the pressure potentiometers are set to zero, the Platen will not rise. After 60 seconds the pump motor will shut off.

5.5 Set Up the Conveyor

5.5.1 Place the uncollared coil onto the Lower Contact Tool Assembly

5.5.2 Check that the RUN and JOG potentiometers are set to zero.

5.5.3 Set the Conveyor ON/OFF breaker switch to ON.

5.6 Raise the Platen

5.6.1 Press the Hydraulic Pump ON button. The pump motor should turn on. The UP button should light, indicating that the Press is in the UP mode.

5.6.2 Adjust lift pressure by adjusting the Lift Cylinder potentiometer until the Platen rises (> 2000 psi). Monitor pressure on the Lift Cylinder digital readout.

5.6.3 When the desired height is reached, press the Vertical Stop button.

5.7 Run the Conveyor

5.7.1 **Note:** If there is pressure in the Platen Cylinders or Side Cylinders, the Pressure Disable light will go on and the conveyor will not move.

5.7.2 Set the FWD/REV switch to the desired setting:
A. FWD for right to left motion (westward).
B. REV for left to right motion (eastward).

5.7.3 Set the RUN/JOG switch to the desired setting:
A. In the RUN mode, pushing the OPERATE button momentarily will cause continuous motion of the conveyor; the conveyor is stopped by pressing the STOP button.
B. In the JOG mode, the conveyor will move only while the OPERATE button is depressed.

5.7.4 Adjust the RUN or JOG potentiometer upward from zero until the desired conveyor speed is reached.

5.8 Test the Emergency Stop Switches Each Time the Press is Used

5.8.1 Refer to the Emergency Stop Switch Safety Test check-off sheet (Attachment B) for the test locations.

5.8.2 With the Platen raised and the conveyor moving, press the Emergency Stop button on the console.

5.8.3 Verify that the conveyor stops and the hydraulic system goes into the UP and OUT mode (check the lighted switches on the console). The Reset light should turn on.

5.8.4 Press RESET; the Reset light will turn off.

5.8.5 Repeat steps 5.8.2 thru 5.8.4 for each of the remaining test locations (both ends and middle positions of the four pull cords).

5.8.6 Date, check off, and initial the Safety Test check-off sheet.

5.9 Operate the Hydraulic Press

5.9.1 Raise the Platen per step 5.6.

5.9.2 Run the conveyor until the uncollared coil assembly is in place.

5.9.3 Lower the Platen by slowly reducing the lift cylinder pressure.

5.9.4 When the Platen is at rest, press the Vertical Stop button.

5.9.5 To exert downward force on the coil assembly, push the DOWN button. Check the downward pressure on the Platen digital readout.

5.9.6 Adjust the pressure using the INCREASE/DECREASE control.

5.9.7 Insert the locking keys partway.

5.9.8 With the Side Cylinder potentiometer set to zero, press the IN button to activate the Side Cylinders.

5.9.9 Slowly increase the potentiometer setting until the piston action of the Cylinders pushes the keys into the keyways.

5.9.10 Press the Vertical STOP and Horizontal STOP buttons.

5.9.11 Press the UP and OUT buttons.

5.9.12 Wait two to three minutes for the oil to be pumped out of the Platen Cylinders.

5.9.13 Raise the Platen using the Lift Cylinder potentiometer (at >2000 psi).

5.10 For long coils, advance the collared section of the coil assembly and repeat the collaring operation on the uncollared section.

5.11 <u>Shut Down the Press</u>

5.11.1 Move the coil assembly out from under the Platen.

5.11.2 Turn the SPEED potentiometer to zero.

5.11.3 Flip the Conveyor ON/OFF switch to OFF.

5.11.4 Lower Platen by reducing Lift Cylinder pressure slowly, until the Platen comes to rest.

5.11.5 Turn the hydraulic pressure potentiometers to zero.

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5.11.6 Press the Hydraulic Pump OFF button.

5.11.7 Turn the POWER keyswitch to OFF.

5.12 Maintenance Procedure

5.12.1 Oil filter on the Hydraulic Power Unit must be changed when the "Change Filter" light is lit.

5.12.2 Check the operation of the thermostatically-controlled radiator fan periodically. Set the thermostat to a low temperature to turn the fan on.

6.0 Documentation

6.1 Magnet Travelers.

6.2 Various MAPs requiring operator input.

6.3 Emergency Stop Switch Safety Test check-off sheet.

7.0 References

7.1 SBMS ESH Standard 1.5.1, "Lockout/Tagout Requirements"

8.0 Attachments

1. Collaring Press Control Panel
2. Emergency Stop Switch Safety Test Check-off Sheet

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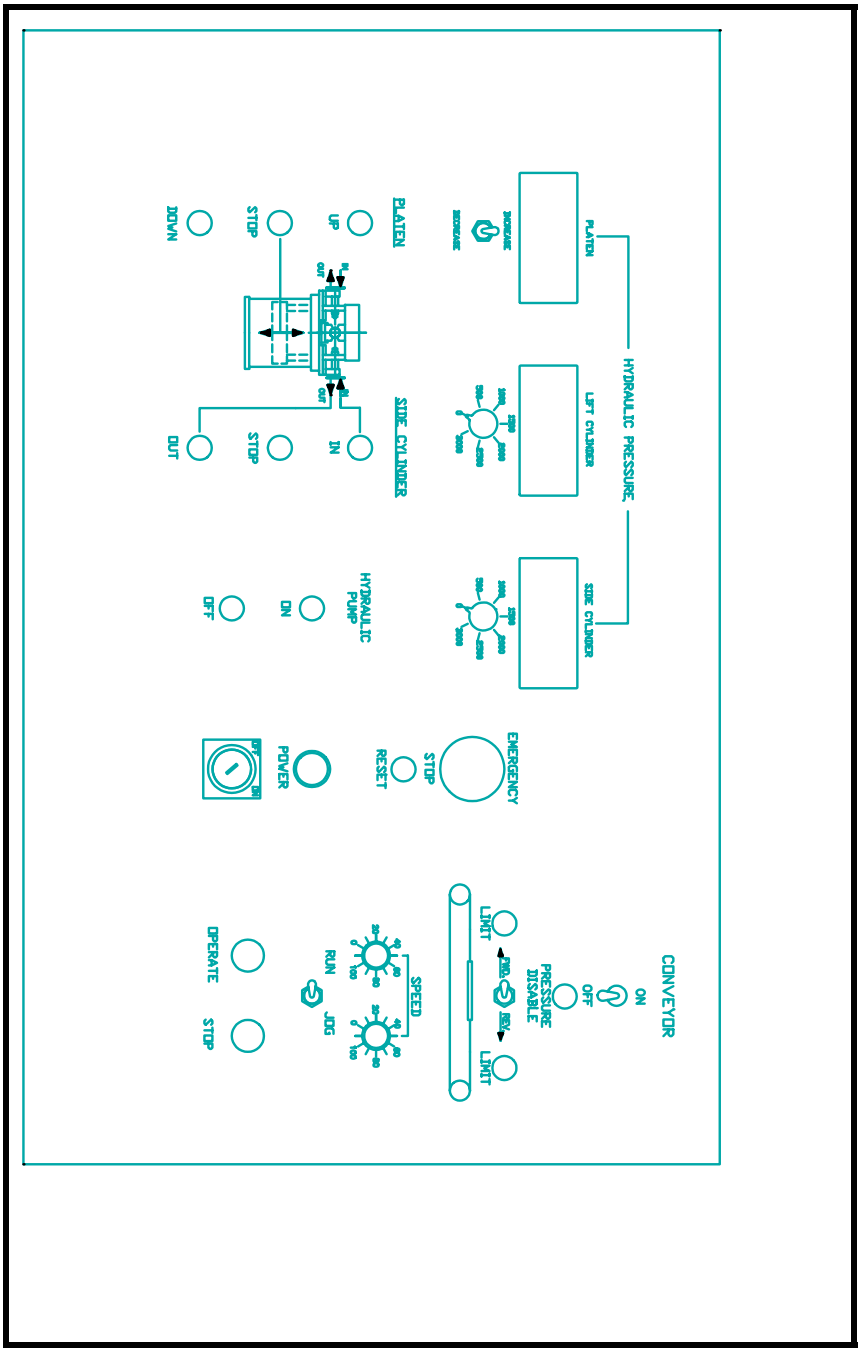
Attachment 1

Collaring Press Control Panel



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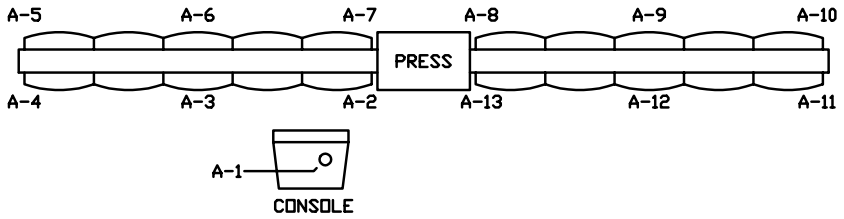
Attachment 2

COLLARING PRESS REV. 12/92

EMERGENCY STOP SWITCH SAFETY TEST

DATE	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	INIT