

Procedure to Plug a Plate

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The proper method to plug a plate. Plates are stored in numerical sequence in the large storage rack along the south wall inside the SDSS Support Building.

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CAUTIONARY NOTES:

You must be properly trained to accomplishing this procedure; see [training list](#).

TRIPPING HAZARDS are present. Clear the general work area.

CRUSH HAZARDS are present. Be sure to allow for enough room to accomplish the task.

FALL HAZARDS are present. There is a large trench (5' wide X 6' deep X 15' long) in the cartridge elevator bay - use caution when elevator doors are open.

ERGONOMIC HAZARDS are present, caused by constant repetition involved in plugging. Take a break every 15 minutes, a minimum of 5 minutes, as well as exercises, and relax a few minutes before resuming.

THIS OPERATION CAN BE ACCOMPLISHED BY ONE PERSON; TWO PERSONS ARE REQUIRED IF THERE IS A HEAVY WORKLOAD. NOTE: this procedure requires a lot of repetitive motion and so 2 persons are desired.

SAFETY WEAR: (recommended) rubber-soled shoes

EQUIPMENT INVOLVED IN THIS PROCEDURE

Data cartridge; Location: stored on racks inside elevator bay, plugging station, or mapping station; Appearance: approx 4.5' dia X 3' thick., fiber optic wire interior, plate top, protected sides, top, and bottom; nine total; 400 lbs. each.

Manipulator arm; Location: mounted on a rail both inside and outside, adjacent to the elevator bay; Appearance: grey main body and double-pivot, articulated fork (arm) with two tines; weight supported

Mapping station; Location: mounted on the west wall; Appearance: metal table mounted on swing arms below the window.; two laser heads attached by expandable cords; laser camera and mirror mounted in ceiling directly above table.

Plug plate; Location: stored in racks under work table on south wall ,or recently received freight shipment; Appearance: flat aluminum, approx 4.5' dia. X 1/8" thick, guide holes around outer surface, small guide tab on outer edge, mounting hole in center.

Plugging station; Location: free-standing; Appearance: large, grey, 2-standard mechanism, with turn wheel to raise and lower cartridge clamps.

PROCEDURE: accomplish in numerical order

1. Raise the cartridge on the plugging station until it is about half way to the top.

2. Depress the brake (the handle sticking vertically upwards from the crank), then turning the crank in any direction to flip the cartridge over.

3. Each plate is marked in groups of twenty holes; the fiber optic wires are in bundles of twenty wires. Fibers should fit to a corresponding group on the plate. Be sure no fibers are stretched outside the corresponding marked area.

4. Grasp the metal ferrules on the end of the fiber optic wire. Do not grasp tightly the red optic wire. **This activity should be demonstrated to the technician at least once prior to execution.**

5. An additional eleven guide fiber optic wires (marked with black tape around wire) must be plugged. Guide fibers have special ends on them and will not fit into normal science holes. The guide fibers and guide holes are numbered 1 to

11. Guide fibers must be in specific holes, i.e., fiber #1 must be plugged in guide hole #1, #2 in #2, etc.

6. All 640 fiber optic wires must be plugged.

7. Flip the cartridge to its right side up position.

8. Lower the cartridge on the lift and visually check the topside of the plate for missing and partially plugged (dropped) fibers.

9. Replace only the rear cover on the cartridge (this is the one that fits under the latch).

10. Using the manipulator arm, pick the cartridge off the plugging station and place it on the mapping station.

11. Return the manipulator arm to its stowed position.

END OF PROCEDURE
