

The Hatteras Lighthouse

(Continued from last issue)

by Jim Anders

Figure 17 shows Jerry Matyiko operating the control panel for the move cylinders. All five cylinders move the same distance simultaneously to assure accurate control of the moving of the lighthouse. The travel cylinders can cause the lighthouse to move six feet, but their stroke is usually limited to five feet. After moving five feet, the center cylinder rod is held in position to prevent motion of the lighthouse, but the four outside cylinders are retracted when the lock cylinder is deenergized. This allows the four locks to be repositioned and re-locked in new positions. When the four locks are energized in their new position, the center cylinder can have its lock deenergized to cause the cylinder rod to pull the lock to its new position aligned with the four outside locks.

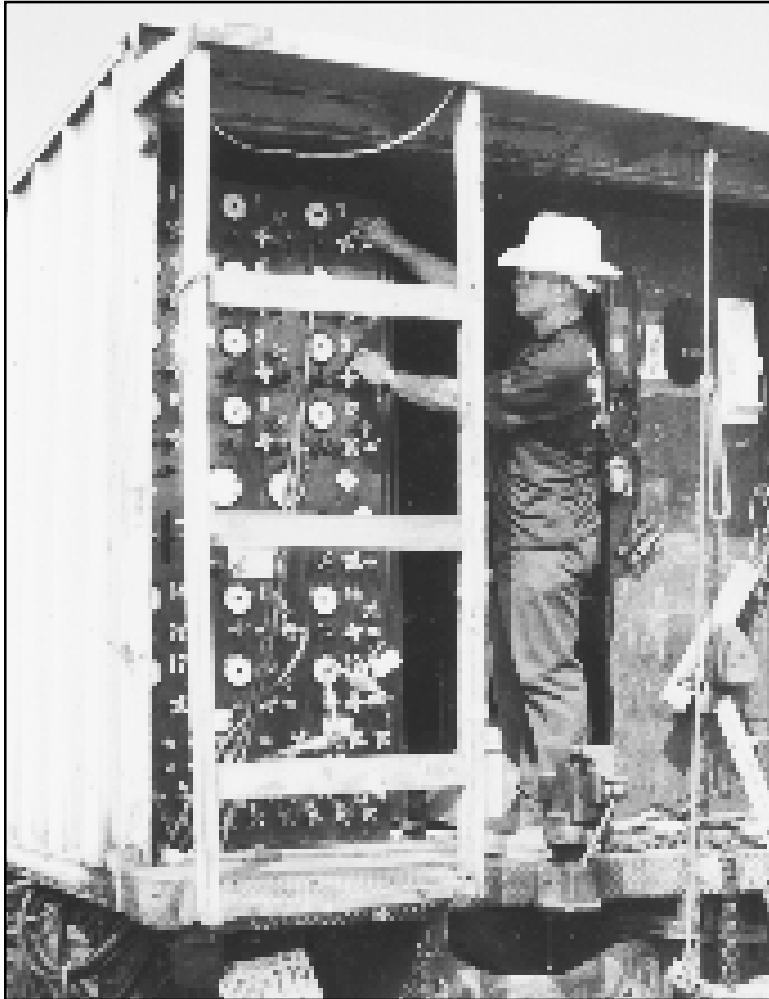
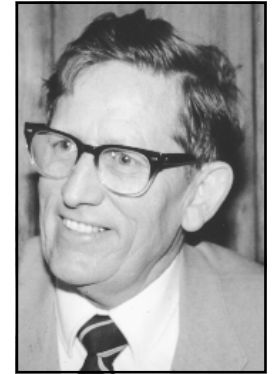


Figure 17. Jerry Matyiko operating moving cylinders at moving valve console.

This approach is done every five feet of lighthouse move until it is finally situated in its new position.

Figure 18 shows a forklift moving cribbing into location on the concrete foundation pad in preparation for cribbing build-up for mounting the travel beams for the final push. Approximately 9,000 pieces of cribbing were required for the lighthouse repositioning. As can be seen in figure 19, the travel beams are located for the final push. (Note the STOP SIGN.) Note the new concrete foundation. A close-up of the cribbing and the travel



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Figure 18. Forklift with pile of cribbing for placement of final travel beams.

beam on the new concrete foundation is shown on figure 20.

When the lighthouse has finally been correctly located, it is necessary to prepare for the lowering process. Figure 21 shows the cribbing required to install the various steel

▶
Figure 19. Getting travel beams ready for final push.



▼ Figure 20. Cribbing over concrete foundation (Note travel beam).



▶
Figure 21. Underneath view showing cribbing on new concrete foundation.

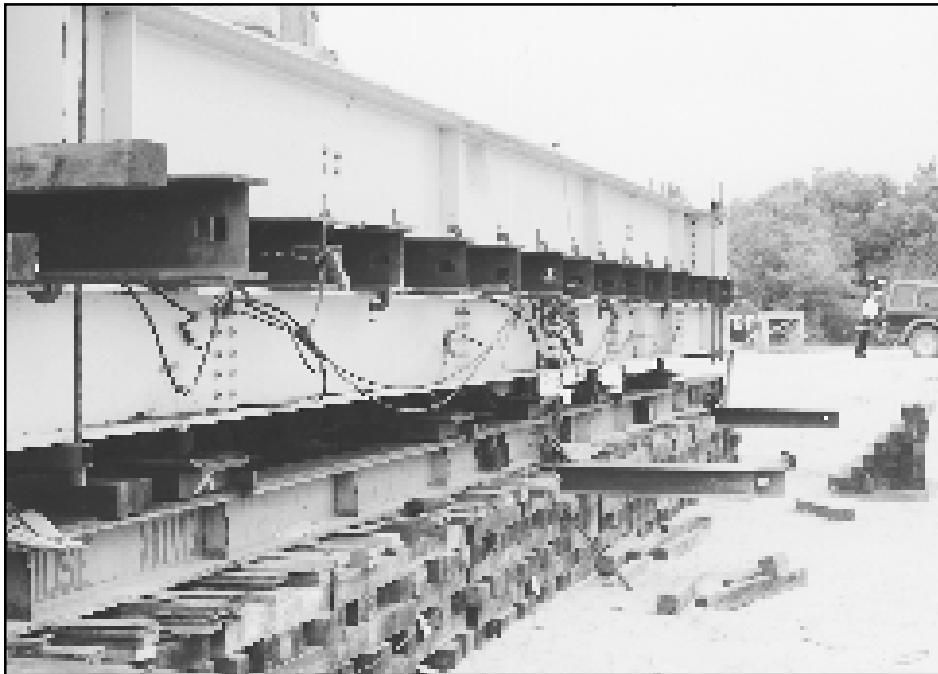


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shoring towers, and to get ready for the removal of the travel beams, travel rollers, and lifting jacks. Figure 22 shows an outer view of the lighthouse with shims inserted in the cribbing as required to assure verticality. Note that the stop sign has been run into, signifying that the lighthouse is at the end of its travel to the final destination.

Figure 23 shows the lifting jacks, travel beam and shoring to be in the final position prior to removal of them. Figure 24 shows a close-up of the stop sign in the bent position showing that the lighthouse has been moved to its final position, ready for lowering.

▶ **Figure 23. Side view of unit (Note concrete under cribbing).**



▲ **Figure 22. Side view showing travel beam, rollers, and stop sign.**



▶ **Figure 24. Close-up of stop sign indicating move has been completed.**



▲ Figure 25. Lifting red cylinders prepared for roller/travel beam jack removal.

Figure 25 shows the steel shoring tower jacks ready for installation to remove the travel beam, rollers, and lifting jacks. It shows five of the lifting jacks on the left and 10 lifting jacks on the right. Figure 26 shows the steel tower cylinders ready for installation of the various braces.

Figure 27 shows the lighthouse in location for lowering onto the steel shoring towers.

Figure 28 shows various steel shoring towers in location with a partially installed main brick wall which is five bricks wide and about 5'4" tall. This wall is across the very center of the base on the main beam.

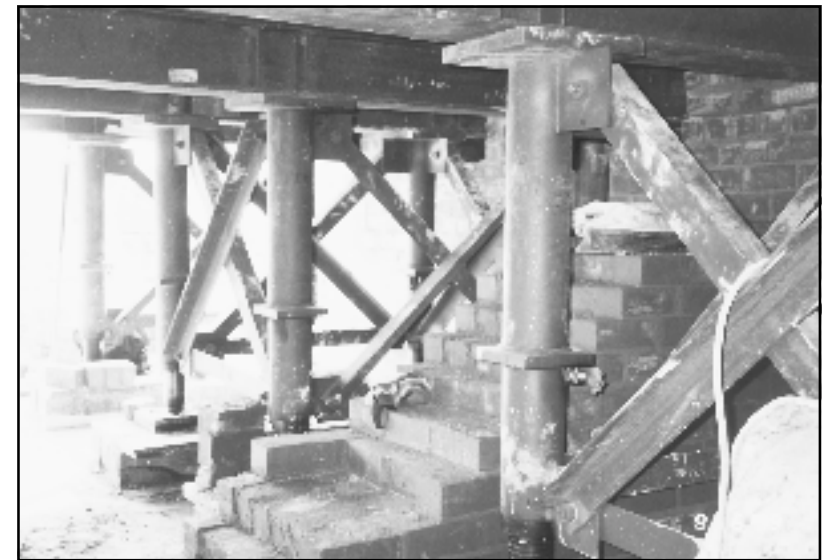
After the rollers and travel beams are removed, the cribbing is built up to about 12 inches below the jack heads. The jacks are then unified-lowered onto the built up cribbing and the process is repeated to within 2 inches of the shoring posts, at which time the shoring posts are



▲ Figure 26. Steel shoring towers in location for removal of rollers/travel beam and jacks.



▲ Figure 27. Lighthouse in final location for lowering onto concrete foundation.



▲ Figure 28. Travel beams, rollers, and lifting jacks removed from under lighthouse. (Shows steel shoring towers in place and brick wall started under main beam).

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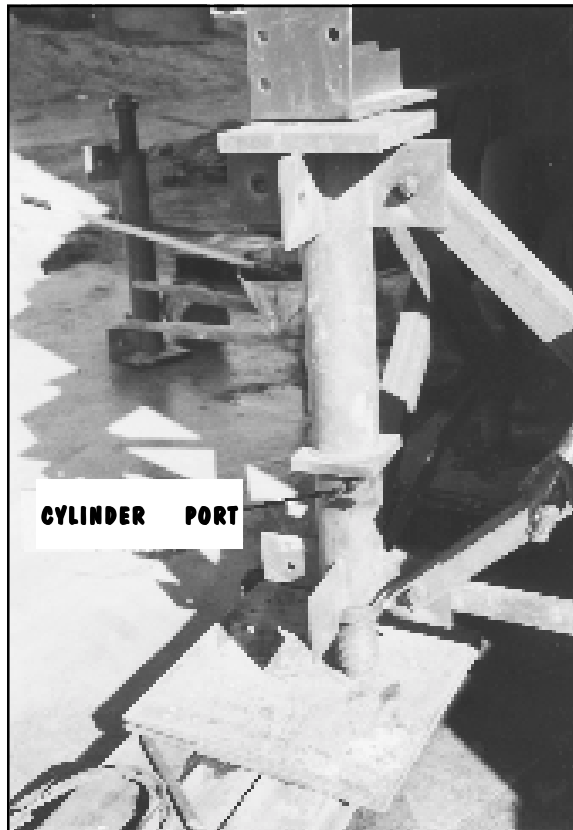
removed. When the shoring posts are removed, the cribbing under them is also removed.

Figure 29 shows the steel shoring tower's cylinder assembled with the adjustable screw for leveling the base unit. Note the single cylinder port identified by the arrow. Each of the steel shoring towers makes use of four of these cylinders.

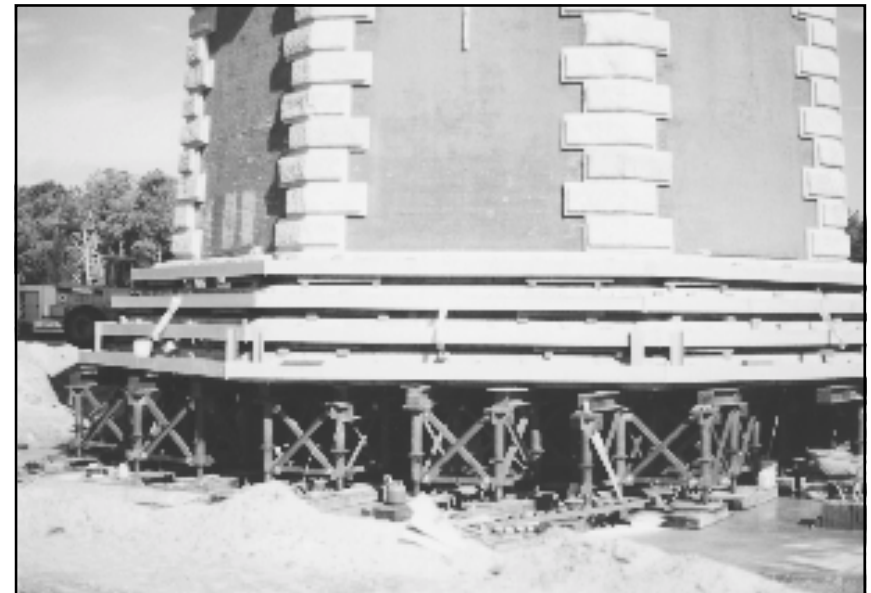
Figure 30 shows a view of one side of the lighthouse with its steel shoring towers. When enough of the foundation brick walls are installed to within one inch of the steel shoring towers to be supportive of the load, the shoring towers will be removed, but only after tests of the mortar prove that the strength is adequate to hold the load, which is about three days after the mortar has been set. Tests of the mortar strength are done frequently enough to assure that the walls can carry the load. When this state is reached, the steel shoring towers are removed, and the balance of the openings are filled with additional brick walls. The spaces between the shoring towers and the brick walls are filled with mortar before the final lowering process is done.

Figure 31 shows Jerry Matyiko, president of Matyiko Brothers Movers, Jim Anders, the author, and Peter Friesen, patent holder of the moving method.

The balance of the work on the lighthouse consists of beautification of the foundation area including walkways, foundation planting, parking facilities, and installation of the lighting mechanisms.



▲ Figure 29. Steel shoring tower cylinder assembly. The screw thread on the jack piston has a locking collar (nut) that holds the load so that the hydraulic jack can have the pressure released and the hose removed.



▲ Figure 30. View of some of the external steel shoring towers. Note spaces between them where additional brick walls will be built.



▶ Figure 31. Jerry Matyiko, president of Matyiko Brothers, Jim Anders, author, and Peter Friesen, patent holder of moving method.