



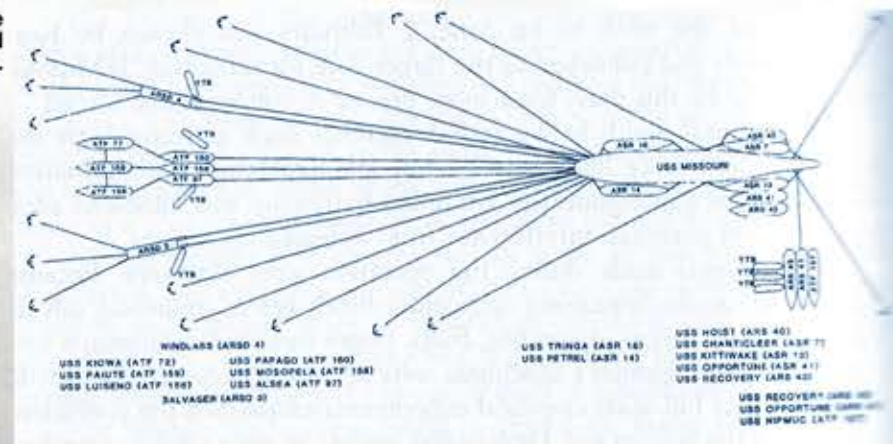
THEIR GUNS WERE ALWAYS READY

BY JAMES THOMPSON

OUR PHOTOGRAPHIC COVERAGE OF THE MIGHTY IOWA-CLASS BATTLESHIPS – THE WORLD'S MOST POWERFUL WARSHIPS. THIS IS THE SIXTH INSTALLMENT COVERING THE USS MISSOURI (BB-63) - PART EIGHTEEN

One of the most embarrassing moments for the USS *Missouri* came when the battleship grounded in the mud on Thimble Shoals, Virginia, on 17 January 1950. Tugs are seen pushing from alongside and pulling from the stern during one of four unsuccessful attempts to free the battleship. Finally, a channel had to be dredged during what became known as Operation *Pull-Off*. The battleship participated in her own freeing by using powerful winches on the deck that hauled on nine cables fanning out from the ship. These were connected to four-ton anchors embedded in the bottom of the bay.

General arrangement drawing of how the *Missouri* was finally freed from the mud that had trapped the warship for weeks.



View of *Missouri's* stern, showing how far it was raised above her normal waterline while grounded at Thimble Shoals. This also presents an excellent view of her aft 40mm weapons. For the final freeing operation on 1 February, two windlass-type beach salvage ships — *Windlass* and *Salvager* — were linked to the *Missouri* by tow cables and hauled against beach gear cables that were anchored astern. Five sea-going tugs, held together by a lead tug and two harbor tugs pressing from opposite sides, worked in a surging or rocking pull.

Prior to this massive effort, the Navy buried large explosive charges in the mud in the hope of freeing the battleship but these did not work. For Project *Pull-Off*, mooring lines were placed from bow to stern to keep the ship from turning out of the dredged channel. Two harbor tugs alternated in pushing against the bow of BB-63 in a "whipsaw" motion to help break the suction grip of the mud. Twenty-one tugs were used in the final effort to move the ship.

