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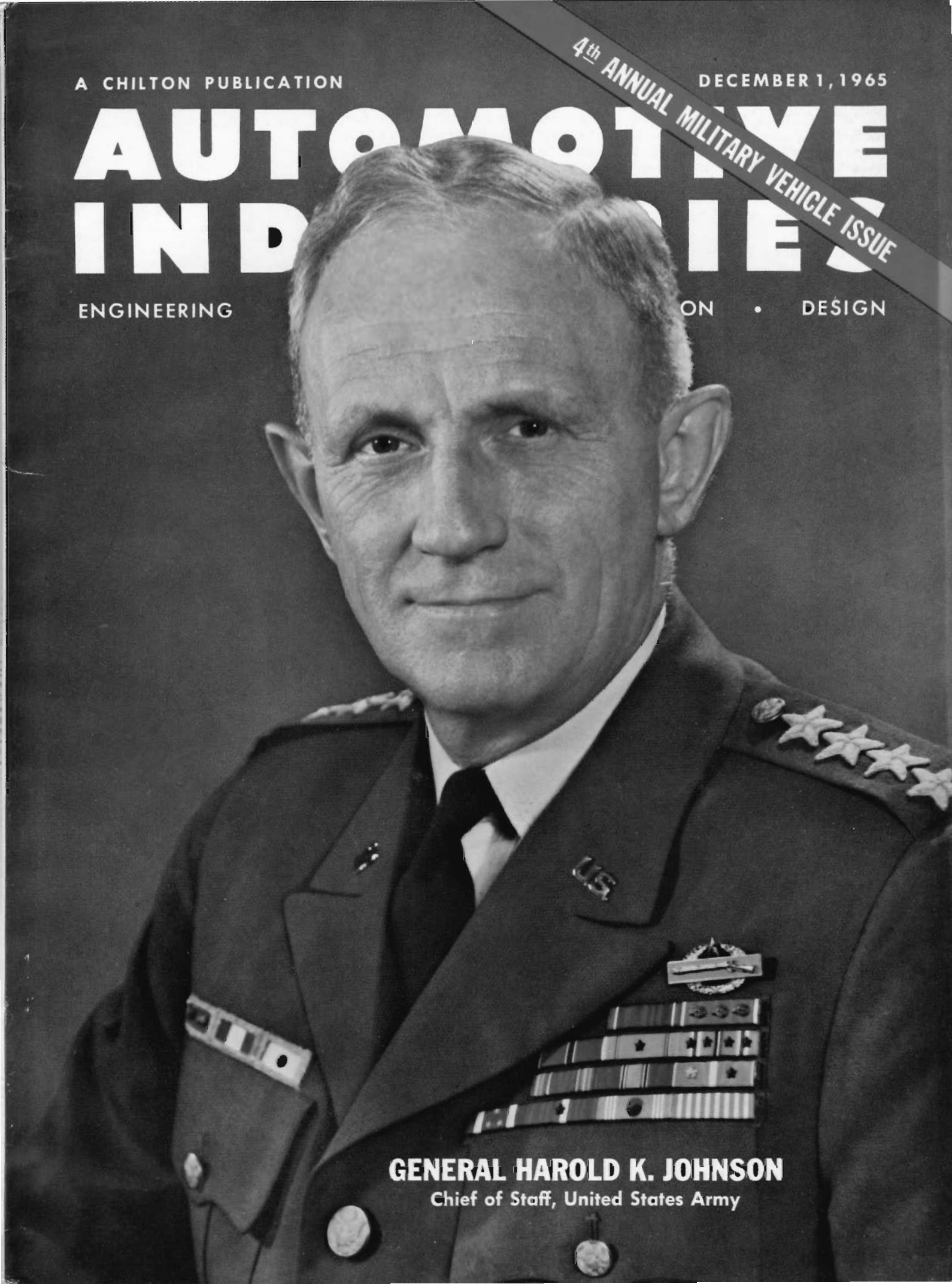
4th ANNUAL MILITARY VEHICLE ISSUE

AUTOMOTIVE INDUSTRIES

ENGINEERING ... ON • DESIGN



GENERAL HAROLD K. JOHNSON
Chief of Staff, United States Army

AUTOMOTIVE INDUSTRIES

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Passenger Cars • Trucks • Buses • Aircraft • Tractors • Engines • Bodies • Trailers • Road Machinery • Farm Machinery • Parts and Components • Accessories • Production and Processing Equipment • Design • Production • Engineering • Management

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COVER ILLUSTRATION

General Harold K. Johnson was appointed Chief of Staff of the United States Army on July 3, 1964. He is the 24th in line of succession since the inauguration of the Army General Staff in 1903, and the youngest Chief of Staff since General MacArthur. A graduate of the United States Military Academy, Class of 1933, General Johnson is the holder of the Distinguished Service Cross, the Legion of Merit (with three clusters), and the Bronze Star.

A number of the illustrations of military vehicles appearing in this issue of AI are from U. S. Army photographs

Features • •

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The LVHX2 Hydrofoil Landing Vehicle

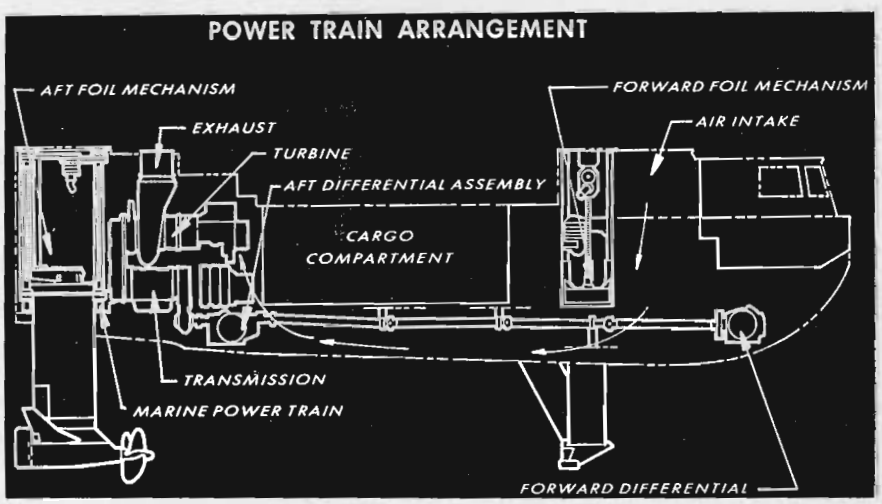
A NEW MILITARY VEHICLE that rides across land and flies over or glides through water has been designed by the FMC Corporation's Ordnance Division, San Jose, Calif., for the U.S. Navy's Bureau of Ships and the U.S. Marine Corps.

Known officially as the LVHX2 hydrofoil landing vehicle, it is equipped with planetary drive-steer axle end assemblies manufactured by Clark Equipment Company's Automotive Division. The Ordnance Division of FMC says that the Model 20,000 axle end assemblies, plus Clark Model 1250 differentials, were easily and reliably adapted to meet the unusual specifications for the hydrofoil's advanced design. According to engineers, these components required only minor modifications.

To fly over choppy seas, the 38-ft-long LVHX2 extends its foils to lift the hull out of the water. An autopilot and self-stabilization system assure a steady, level flight, even in waves five feet high.

As the hydrofoil approaches land, the foils fold into the hull, which then settles in the sea. Once the land-sea craft enters shallow water, wheels are lowered and power is transmitted to them and to the propeller at the same time.

On land the propeller is retracted and all maneuvering of the vehicle and its five-ton payload is through the wheel system. Hydrofoil units are now undergoing extensive tests at Quantico Marine Base, Va., and Camp Pendleton, Calif. ■



Top—
Amphibious hydrofoil extends foils to fly over water. Unit has autopilot and self-stabilization system.

Middle—
On land, hydrofoil uses Clark planetary drive-steer axle end assemblies to help guide and support five-ton payload. All maneuvering is through the wheel system.

Bottom—
Schematic drawing shows hydrofoil's power train design.