hilly country, sand, mud, soft marshes, jungle swamps, muskeg, deep snow, unfrozen tundra, and inland waterways under all seasonal conditions in arctic, temperate and tropic zones. The low weight of the vehicle enables the front and rear units to be transported by medium helicopter. The front unit contains seats for the driver and assistant driver, the power plant, and the controls and instruments, leaving the rear unit clear for cargo. When used as a personnel carrier, the vehicle will accommodate eight passengers and a crew of two. The seats for the passengers are stored under the rear unit main floor panel when not in use. The front and rear units can be uncoupled or coupled in a minimum amount of time by two men without special tools. When necessary, the front unit may be operated as a single unit, using the secondary steering system.

b. Definition of Locational Terms. The terms "right", "left", "front", and "rear" are used in this manual to designate areas or sides of the vehicle, and the items installed on it, as viewed when standing at the rear of the rear unit facing forward. All areas of the vehicle and items installed on it conform to these directions.

c. Hulls. The hulls of the front and rear units are of similar design and construction utilizing major castings and aluminum plate riveted and reinforced to accommodate the power train, suspension system and other components. A bilge pump and a fuel tank are installed in each unit. The front unit hull mounts a winch and a bumper. A planing board is installed on the bumper for amphibious operations. Towing eyes are provided on the front of the hull and a towing pintle is provided at the back of the rear unit.

d. Bodies. The bodies of both units are constructed of aluminum balsa sandwich panels attached and sealed to the hull to form a watertight structure. The complete power plant is readily accessible for either removal or servicing. The power train of each unit is covered by removable floor panels. Hinged track shrouds are fitted each track to improve amphibious operation. Lifting eyes are mounted on the four corners of each body box for helicopter lift. The body boxes are drilled to accept the various kits and accessories.

e. Power Train.

(1) General. The power train consists of the engine, a transmission, two hypoid gearboxes, an articulated joint, and associated drive-shafts and universal joints.

(2) Engine. The engine is a six-cylinder, horizontally opposed, air-cooled engine of 164 cubic inch capacity that develops 70 net brake horsepower at 3600 rpm. The engine lubrication system is a full-pressure type. Belt-driven engine accessories are the alternator, the hydraulic steering pump and the cooling blower.

(3) Power Train Components - Front Unit. The transmission consists of a four-speed gearbox coupled with an integral two-speed transfer assembly each with a separate shift lever. The transmission is the constant-mesh type, and all eight forward speeds are synchronized. Reverse is not synchronized. A drop box at the bottom of the gearbox housing provides drive-shaft attachment on the rear face, and a power take-off for a winch on the forward face. A drive-shaft transmits the power from the transmission to the drive-through hypoid gearbox housed in the rear of the carrier hull. An output shaft, running through the hypoid gearbox, powers the right and left clutch-brake assemblies, and sprocket drive assemblies transmit the power to the carrier drive sprockets. The drive-through shaft provides power for the rear unit through the hypoid gearbox to the dog clutch at the vehicle disconnect point.

(4) Power Train Component - Rear Unit. From the disconnect point at the dog clutch, an intermediate drive-shaft powers the constant velocity universal joint housed in the articulated joint and two drive-shafts, in series, complete the drive to the hypoid gearbox mounted in the rear of the rear unit hull. The rear unit sprocket drive assemblies link the hypoid gearbox to the drive sprockets which engage the center guides on the tracks.