TURTLE

FRONT-LINE TRANSPORTER

STUDEBAKER CORPORATION

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TURTLE VEHICLE CONCEPT

Mobility of ground forces and particularly the individual foot-soldier must be increased to meet present and future battle-field conditions, whether in the jungles of Southeast Asia, the mountains of Korea or the tundra and snow of Arctic wastelands. Mobility of the individual front-line soldier has always been a problem, since he can only be as mobile as his equipment and his resupply capability permit. The foot-soldier in combat beyond those points accessible by "jeep" or "mule" must rely on resupply by man-packing by military or indigenous personnel. His movement is impeded and limited by heavy or bulky loads, such as crew-served weapons, ammunition, rations, or communications equipment.

The limited or "brushfire" conflicts, possible in the present political climate, pose especially difficult problems to individual combat operations in view of the particularly adverse environmental and terrain conditions usually encountered. The countries of Southeast Asia present particularly cogent examples of these adverse operational conditions. Information and data concerning the Vietnam and Laotian areas indicates that our allies are operating in areas where, at best, foot trails are the only access routes

and, at times, troops must make their own trails directly through the dense and matted under-growth of the jungle. Under these conditions, the individual soldier must presently rely on resupply by man-packing. Also, the evacuation of wounded creates special problems, and it is not unusual for six to eight combat personnel to be out of action in simply transporting each wounded to the rear.

The Korean area presented conditions where mobility of the individual was degraded considerably because of adverse terrain conditions. The mountainous terrain in many cases prevented jeep travel and supplies had to be man-packed to front-line troops. Further, current training exercises in the Alaskan area reveal that the tundra is extremely difficult to negotiate and that specialized vehicles for resupply are a practical necessity.

The problem then may be briefly summarized as follows:

IMPROVE THE MOBILITY OF THE INDIVIDUAL FOOT SOLDIER AND HIS SUPPORT

Provide the individual soldier with a vehicle to transport his supplies and equipment to any place he may be required to go on foot. Provide him with a lightweight, general-purpose vehicle to support his dismounted operations, particularly those operations in extremely adverse terrain where roads are non-existent

and travel by foot is a necessity: jungles, swamps, rice paddies and mountains. Provide him with a small, extremely maneuverable vehicle as narrow as possible for foot-trail operations, as quiet as possible to prevent detection of his location and as light as possible for ease of handling.

AN ANSWER: TURTLE

The Studebaker Corporation proposes the TURTLE as one answer to this basic problem of increasing the foot-soldier's mobility by making it possible to get sufficient supplies to him under extreme conditions. The basic TURTLE shown on the attached series of photographs is a small, extremely mobile vehicle for use by the individual soldier.

VEHICLE DESCRIPTION

The TURTLE is basically a three-wheeled, self-propelled cargo carrier designed to assist the foot soldier in transporting supplies and equipment in front-line areas. Specific examples of such usage include transportation of the following:

- Ammunition
- Crew-served Weapons
- Rations
- Communication Equipment
- Litter Casualties

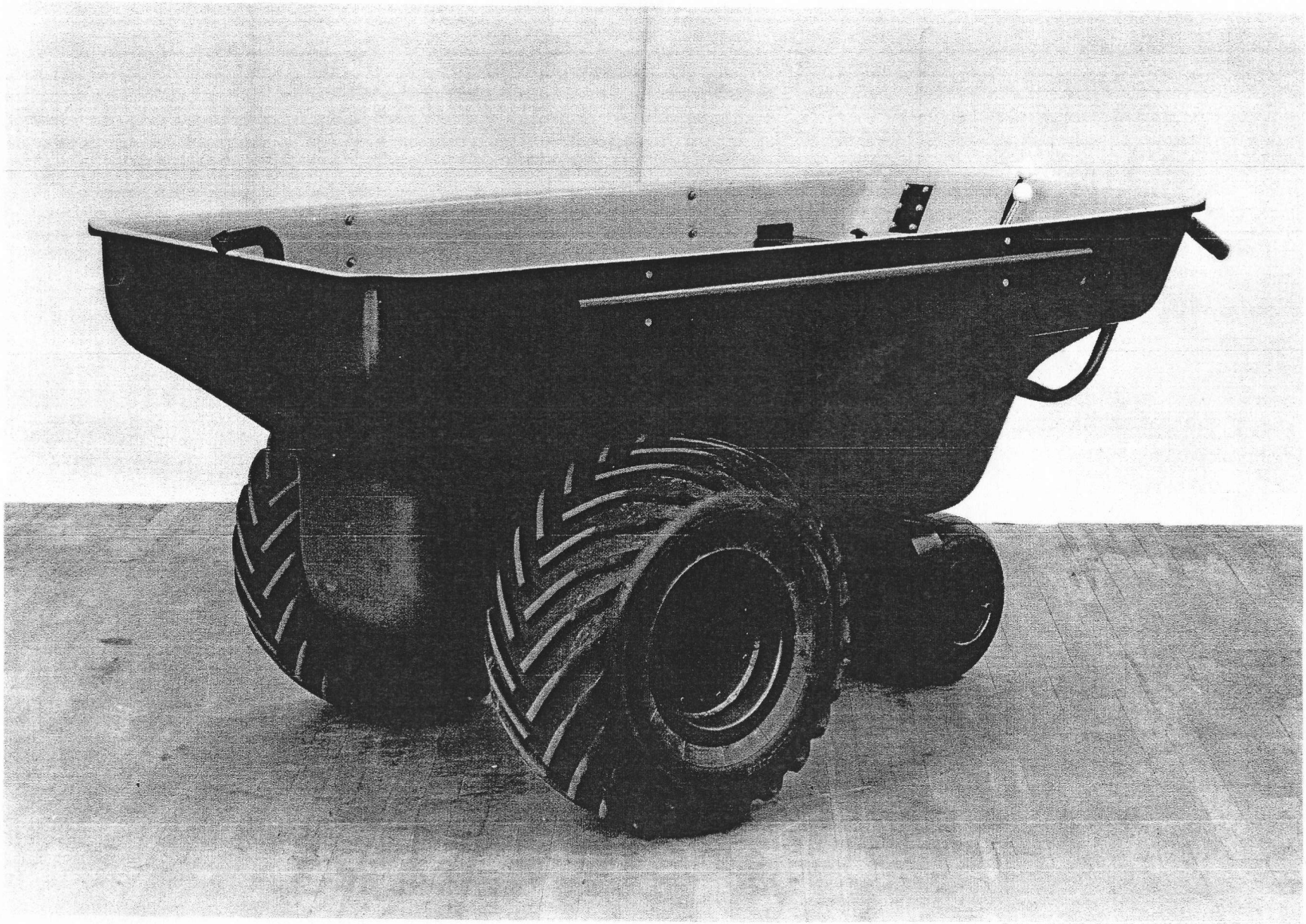
In rear areas, the TURTLE could be used to advantage in transporting materials and stores at depots and direct support units.

The TURTLE is small - only 72" long, 35-1/2" wide, and 35" high. However, its cargo capacity is large - nominally 600 pounds, although 1,000 pounds can be accomodated in most situations. The vehicle is powered by an 8 hp, 2 cycle gasoline engine, driving through a hydrostatic transmission, and will operate at a normal 4-5 mph under load. The "Expanded Royalite" hull is water-tight, allowing the vehicle to swim at 2 mph. The large "Terra Tires" provide excellent off-road mobility, viz., 60% forward slope and 40% side-slope capability.

With this vehicle, one man can easily accomplish the tasks formerly requiring 5-10 men. The operation of the vehicle is uniquely simple, and whenever possible its operation can be accomplished by indigenous labor.

VEHICLE DATA

HULL:	Expanded Royalite (fibre impregnated rubber compound of U. S. Rubber Company)
ENGINE:	8-1/2 hp (at 10,000 rpm), Homelite Model K100, 2 cycle.
TRANSMISSION:	Hydrostatic (Weatherhead & Char-Lynn)
SUSPENSION:	Terra Tires
CONTROLS:	Variable displacement pump to wheel drive motors.
BRAKES:	None – vehicle stopped by placing transmission in neutral position.
WEIGHT (Empty):	436 pounds.
PAYLOAD:	600 pounds nominal 1000 pounds maximum
SPEED:	Maximum: 10 mph Normal: 4-5 mph In Water: 2 mph
GRADEABILITY:	60% forward slope 40% side slope



TURTLE FRONT-LINE TRANSPORTER - BASIC CONFIGURATION

OFF-ROAD RESUPPLY MISSION

FLOTATION AND SWIMMABILITY CHARACTERISTICS