

THE GENESIS OF THE JEEP

Up to the final collapse of the German army in the first World War, practically all of the allied offensive broke down as a result of the inability of supporting weapons to keep pace with the riflemen's advance. In the infantry, the heavy weapons and their ammunition were advanced by animal transport which was both slow and excessively vulnerable. The result was that these weapons exercised little influence on the infantry attack, which was carried out almost exclusively by the riflemen. To restore the offensive power of the infantry, it was necessary to endow the heavy weapons with transport capable of keeping them and the ammunition abreast of the rifle advance and of crossing open spaces at high rates of speed. This obviously called for motor transport.

From the beginning of my administration as Chief of Infantry in 1937, I had taken as a major infantry project the design and development of a weapons-and-ammunition carrier capable of meeting the conditions of infantry combat. My concern on this score was shown in articles written for the Infantry Journal and addresses delivered at the Army War College and the General Staff College during the years 1937-1940.

One of the principal obstacles encountered in the development of a suitable vehicle was a prepossession on the part of some members of the General Staff in favor of a vehicle which could also be used as a troop carrier. In my opinion, this called for a vehicle too heavy and too high in silhouette to meet the conditions of infantry cross-country movement. The experience of our troops in the mud of the Atlas Mountains and the sand of the desert has demonstrated the correctness of the ^{infantry} ~~the~~ infantry view.

The basic requirement for an effective infantry weapons- and ammunition carrier, was, in the infantry opinion, that it should be sufficiently sturdy to meet the conditions of difficult cross-country movement but at the same time light enough to be readily man-handled out of trouble when mired or stalled. This obviously called for a vehicle of too small a capacity to serve as a troop carrier.

During the years 1937-1938 there was developed by the Marmon-Herrington Company, in conjunction with the Infantry Board (a part of my office), a half-ton truck which in numerous tests outperformed all competing forms of motor transport, including track-laying, half-track, and other four-wheeled drive trucks. The Marmon-Herrington was approved by the War Department as the standard for procurement for F.Y. 1940. Thus the current Marmon-Herrington advertisement to the effect that their pick-up truck was the grandfather of the "jeep" is essentially correct.

Unfortunately the Quartermaster Department, in procurement, disregarded the characteristics established by the War Department and procured by contract another vehicle unsuitable for the purposes of an infantry weapons-and-ammunition carrier.

Thus, at the beginning of 1940, after nearly three years of effort by all infantry agencies, but little progress had been made in solving this problem.

At the same time, the problem of replacing the commercial motorcycle by a vehicle more efficient in cross-country movement was under consideration.

This was the situation in the spring of 1940 when contact was established with Mr. Charles H. Payne. He had become interested

in having manufactured in quantity a motor vehicle designed by Major Howie (quite appropriately known as the Howie Kiddy-Kar). This vehicle had a platform not over a foot above the ground, mounting a 30 cal. machine gun, and carrying two men lying prone. It was intended to be an assault vehicle, for use in the front lines, and had no relation, either in function, or design, to the infantry weapons-and-ammunition carrier.. It cannot be too emphatically stated that it had no influence on the design of the vehicle subsequently developed and known as the "jeep" - this for the reason that the claim has been made that conception of the "jeep" was due to the designers of the Howie car. Any connection between the two is purely coincidental.

When Mr. Payne presented himself at the Infantry Office, he appeared to have the understanding that the adoption of the Howie carrier was a settled matter and that he had only to confer with the interested Chiefs of Branches as to details. He was, however, informed by my office that the Howie carrier had been tested by the Infantry Board and found useless for the mission for which it was designed or any other military purpose. After some conference, he became convinced that the infantry would never accept the Howie carrier for any purpose whatever.

At the same time, Mr. Payne was informed that the infantry was vitally interested in the development of a vehicle which would be capable of difficult cross-country movement and which would replace the motorcycle and at the same time serve the purposes of a weapons-and-ammunition carrier and numerous other light-vehicle missions, including reconnaissance. A series of conferences were conducted, on the part of the infantry by Colonel Williams F. Lee, Chief of the Arms Equipment and Finance Section of the Office of the Chief of

Infantry. They included a visit to the factory of the American Bantam Car Co. and the Holabird Motor Depot.

As the result of these conferences, Colonel Lee submitted for my approval the following specifications:

- (a) Maximum height: 36 inches
- (b) Maximum weight unloaded: 2025 lbs.
- (c) Drive: four-wheeled
- (d) Cross-country ability and grade-climbing ability; at least equal to standard vehicles.
- (e) Capacity: at least two men, a machine-gun with accessories, and 3000 rounds of ammunition.

Later, amphibious characteristics were added.

The foregoing characteristics were embodied in a letter of the Office of the Chief of Infantry, which was approved by the War Department as the basis for design and development.

The drafting of these (military) specifications was the exclusive work of Colonel W. F. Lee. To Mr. Payne fell the engineering problem of embodying these characteristics in an engineering design and assembling the appropriate automotive equipment. By reason of his extensive knowledge of the equipment produced by the automotive industry, Mr. Payne was able to select and assemble the various components used in the "jeep" pilot model, which he first demonstrated at Fort Myer in October, 1940. Accordingly, he procured:

The Motor: from the Continental Motor Co.

Transfer case: Warner

Four-wheel drive axles and differentials: Spicer Engineering Co., Toledo, Ohio.

Pins: Bendix

Wheels: Hayes Wheel Co.

Body: York Body Co., York, Pa.

Shock Absorbers: Gabriel and Heidi

Frame: Smith Manufacturing Co.

Radiator: Herrington

Miscellaneous: In all about 27 vendors furnished parts for the "jeep" including those above listed.

I understand Mr. Payne, defrayed all expenses connected with the conferences with the War Department and the assembly of the components of the pilot model, from his own funds.

Throughout this period of development, Mr. Payne was not connected with any company but was acting as an individual in business for himself. It was not until the final changes in the design of the car had been agreed on that he associated himself with the American Bantam Car Co. He then effected contact with the American Bantam Car Co. through the Reconstruction Finance Corporation, and entered into a contract with the former organization.

Following the approval of the pilot model, an order for 1500 "jeeps" was placed by the War Department with the American Bantam Car Co. Subsequently, procurement was opened for bids and proposals, and other companies entered the field of manufacture. They followed the design of the original "jeep" and contributed no new features.

The following facts are especially noteworthy in connection with the development of the "jeep":

1. Credit for the initiative on the military side which finally led to the development of the "jeep" is due entirely to Colonel William F. Lee. He initiated the project, drafted the tactical specifications, and induced the civilian designer to undertake the engineering developments. To him is exclusively due the credit for the amphibious features which were later developed.

2. Exclusive credit must be assigned to Mr. Charles H. Payne for the engineering design and the development of the tactical

conception into an engineering reality. There can be no question that without his collaboration, the "jeep" would never have been developed.

3. To these two personalities, Colonel Lee and Mr. Payne, must be assigned almost total credit for the development of the "jeep". Other agencies took no interest in the project until the development was well advanced. In particular, the Office of the Quartermaster General did not enter the picture until the "jeep" was a completely developed vehicle, and bids and proposals for its manufacture were opened.

4. At the beginning, Colonel Lee was the sole exponent of the amphibious feature which has since become so important an element in our motor transportation. Were there no other achievement to his credit, he would be entitled to especial recognition for this accomplishment. It may be in place to mention here that this fine officer has been twice decorated for gallantry in action.

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