

The Howie Machine-Gun Carrier

By Captain Wendell G. Johnson, INFANTRY

ALMOST everybody agrees that truck-hauled machine guns give no closer support to attacking riflemen than do mule-towed guns, once they're in action and reduced to hand-hauling. Which is admitting that the front-line mobility of machine guns hasn't been accelerated materially during these lush years of military renovation. Trucks, in fact, because of their size are really worse off than mules, up where grazing fire persuades bay-windowed nomcoms to belly down like worms.

So we still have puffing privates snaking guns along per TR 420-55 from one firing position to another—torment enough with the "thirties," and plain hell with the "fifties." And what is more serious, the muscle power of the best of them isn't up to the task. Whether creeping, crawling, or bounding, machine-gunners can't lug their loads fast enough to get them where needed in time to hold a captured knoll or break up counterattacks. So there we are—right where we've been for years.

But not for many more, it is hoped. There is a growing clamor from from the chorus of speeder-uppers decrying this immobility of supporting weapons on the battlefield, and advocating low-silhouette motorized carriers as the cure. Not baby tanks or tankettes as now used in several European armies, for such vehicles are too costly, too complicated for quantity production, and too conspicuous. What is wanted is merely a gasoline-propelled conveyance not much higher than a man crawling (or is it creeping?), that will be able to carry a one- or two-man crew, a gun, and plenty of ammunition, and scoot from one firing position to another at five to ten miles an hour.

Of course there are many who demand more, and propose a lot of trick characteristics and odd accessories for these scooters. Some would run them on wheels, others on tracks, and still others would make them convertible wheel-and-trackers—and thereby run their weight up into tons. One proponent would make this machine with a sharp nose of ponderous fangs to cut through wire entanglements. Another has it armored against .30-caliber AP, virtually a tank. There are backers of jack-of-all-missions contraptions which would out-rube Goldberg. Their Buck Rogerisms probably could be put on S.D. as lawn mowers and street sweepers in garrison, and might even carry retractable plows for use in company gardens.

The more practical-minded limit their proposals to a simple, lightweight, low-silhouette carrier with no complicating contrivances. This is exactly what we find the

recently constructed Howie Machine-gun Carrier to be.

The building of this vehicle was initiated by Brigadier General Walter C. Short while he was Assistant Commandant The Infantry School.

Of course the Fort Benning salvage pile was put on tap.

General Short specified that a vehicle be constructed for the sole purpose of transporting two men, a caliber-.30 machine gun, tripod, and ammunition. Other requirements were:

The gun not to be mounted for firing from the carrier.

The vehicle to be light enough for four men to lift into a 1½-ton truck and across small obstacles.

To present as low a silhouette as possible—sacrificing ground clearance therefor, if necessary.

Dimensions to be such that it could be carried in the 1½-ton truck issued to machine-gun companies.

Speed no object—as low as 10 mph maximum.

Units to be commercially available as far as possible.

The job of designing and building the carrier was given to Captain Robert G. Howie, then an instructor in the Tank Section, The Infantry School. Another long-time tanker and expert mechanic, Master Sergeant M. C. Wiley, was his partner in production. Assisting in the final assembly was Sergeant G. L. Rush, also of the Tank Section. Work began late in 1936 and ended in April of '37.

Here is part of Captain Howie's report on his fabrication:

It was decided to build a wheeled vehicle. . . . A track vehicle would greatly exceed the weight limitation. It was also decided that, in order to provide a low silhouette, the crew should be placed in the prone position. This should assist in determining the feasibility of this feature for future designs.

Several types of engines were considered. . . . A light air-cooled engine would be ideal. However [it] would require an additional cooling medium inasmuch as it [the carrier] would be run at low vehicle speed a great deal of the time.

The Austin Bantam engine . . . including . . . clutch and transmission, complete without radiator weighs 155 lbs. A new unit was purchased for the job.

The radiator used is the conventional Austin radiator, taken from salvage.

The propeller shaft, universal joints, and rear axle assembly were retrieved from salvage. The shaft was modified by shortening, and the rear axle assembly was reversed in order to provide for the reversal in drive.

In view of the nature of the vehicle, the engine was placed in the rear, the rear axle to form a jackshaft mounted amid-

A simple, lightweight carrier with no complicating contrivances

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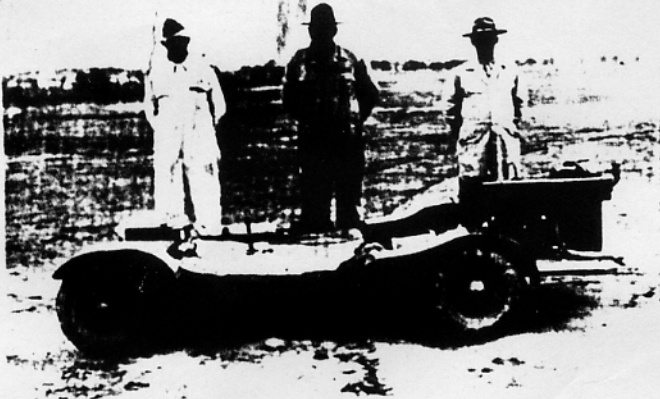


Figure 1. Experimental machine-gun carrier and builders. The motor overhang was necessary because the wheelbase was limited to a length which would fit within body of 1 1/2-ton truck.

ships, a sprocket (11-tooth) fitted to the ends of the shaft upon which to operate a standard motorcycle chain to a motorcycle sprocket (21-tooth) on the rear wheels. This provided for an additional and necessary gear reduction of 2 to 1 An additional wheel may be mounted on each jack-shaft to be either driven or floated.

A salvaged Austin steering gear was used. It was modified by shortening, mounting crosswise, and the installation of a crank [like a tiller] instead of a steering wheel.

Inasmuch as no springs were provided for the vehicle, and to take advantage of a standard commercial product, it was decided to use a 6.00 x 9 tractor tire with a ground-grip tread. . . . A tractor-type cast-iron wheel was purchased. A [lighter] wheel which weighs 16 to 20 pounds can be obtained.

Standard motorcycle brake-drum assemblies were mounted on the rear wheels and operated mechanically through linkage to a conventional foot pedal.

Frame 1/2x1 1/2x3/16-inch channel steel. . . . Aluminum alloy . . . is more expensive . . . and steel was used to reduce cost.

DIMENSIONS:

Height, over all (radiator cap)	33 1/4 inches
Width, over all	61 3/4 inches
Length, over all	124 inches
Tread	49 3/4 inches
Wheelbase	75 inches
[Ground] clearance	7 3/4 inches
Weight (less machine gun and equipment)	1,015 pounds
Speed (maximum)	28 mph.
Climbing ability (with traction)	45 degrees

That, in words and figures, is the Howie carrier.

Now let's see what it has done in a few of the tests made by Lieutenant Charles R. Kutz and personnel of Company D, 29th Infantry.

They found that although this puddle-jumper wouldn't jump puddles, it could run through them without balking or stalling. Its light weight and broad tires carried it skimming in high or second over the top of sand in which other vehicles would sink or wallow. It charged through light underbrush in a fashion that made even designer Howie's eyes pop. Everywhere it had ample power to climb up or plow through, provided it could get traction. Where it was stopped, as by a ditch, the two men forming the crew usually could lift it out, over, or through.

The two-man crew could dismount the gun from the

carrier and set it up on the ground as rapidly as a three-man crew could do it from a Matthew's Mount.

It was able to carry the 81-mm. mortar, its bipod, and 20 rounds of ammunition; likewise the .50-caliber machine gun, and the 37-mm. gun. The 37-mm. gun also was easily towed by the carrier.

A pedestal was constructed on the front end of the carrier, and from it the caliber 0.30 machine gun fired with remarkably accurate results, both in stationary and moving fire. The slick feature in firing from the carrier was the ability to fire a while from one chassis-defilade position, back up when simulated enemy fire came close, and pull up again into another firing position. Moreover, this was done in far less time than normally is required to go out of action from one ground position and set up again elsewhere.

Of all the admirable features of the Howie carrier, the one that was outstanding in the tests was its invisibility even on flat terrain with little vegetation to provide cover. Given a modicum of grass, weeds, or ground furrows, this midget was easily concealed from even closer observation.

Here's what a machine gunner of the 29th Foot said on seeing the carrier perform: "Jees, she's lower'n the grass. You can't hardly see her even when she's going."

As would be expected, driving belly-buster without benefit of sponge-rubber cushions has a tendency to trade tail troubles for tummy aches. But after a little practice one soon finds a reasonable degree of comfort by turning the body so as to rest on the side, rather than on the stomach. In this position the manipulation of the foot pedals aft, and of the gear shift lever and the tiller forward, is soon mastered. At least that is what an experienced automobile driver should find

All in all, the testing people—and most of the observers who have chanced to see it—consider this unpretentious looking little cruiser a pretty swell job.



Figure 2. Front view of carrier, crew, and equipment.

Not that they rate it superior either as a road or cross-country vehicle. That couldn't be expected in an experimental machine, especially one that was designed largely to determine the feasibility of building such a vehicle.

And, naturally enough, containing plunder from salvage piles, they have found bugs in it. But what new product comes out of Flint or Detroit without a few bugs?

So it is not intended to hold up this carrier as the ideal in motor mounts. Perhaps it should be stronger, larger, faster, more suited to long moves, so as to eliminate the 1½-ton truck. Or possibly it should be even smaller, lighter, and slower. Maybe it should have an armor shield for frontal protection. Maybe.

Many, many other questions remain to be answered in the difficult task of determining how to move heavier-

than-can-be-handily-handled infantry weapons. Merely to pronounce "motor mounts" as the panacea isn't enough.

This machine and its modifications, other types of motor driven vehicles, truck-carried hand carts, all have to be tested to ascertain just what is wanted—and also what is practicable from a procurement viewpoint—for caliber .30 guns, for heavier guns, and for mortars. Of course it would be ideal if a vehicle similar to this could be produced with characteristics that would fit it for general utility with all infantry supporting weapons, both on the road and in action. But that is asking almost too much.

At any rate, just as the early tanks were a beginning in the field of armored fighting vehicles, so is the Howie Machine-gun Carrier a start in the field of support-weapon carriers. And, judging from its early achievements, a mighty good start too.

