It is a pleasure to acknowledge the helpful advice I have received from Major-General G. T. L. Archer, Dr. W. d’A. Maycock and Lieut.-Colonel P. D. Stewart, R.A.M.C., in the preparation of this article. My thanks are also due to Captain R. M. Atkinson, R.A.M.C., for the diagram.

REFERENCES


AMBULANCE LÉGERE

BY

Lieut.-Colonel J. C. WATTS, M.C., F.R.C.S.
Royal Army Medical Corps

Simplicate and add more lightness.—RIED RAILTON
Weight is of value solely to the designer of a steam roller.—UFFA FOX

As chief instructor and medical officer to the Services’ Ski-ing Leave Camp at Troodos in the Olympus Mountains of Cyprus, it was forcibly brought home to the writer that there is at present no suitable ambulance car for the evacuation of wounded over snowbound mountainous roads. Only two ambulance cars are at present in use, the Car, 5 cwt. 4×4 stretcher and the Ford “Thames” car ambulance. The former provides no weather protection and the patients suffer from cold and exposure, but it had perforce to be used as the latter could not be manœuvred on the steep and winding tracks of Mount Olympus.

Marshal Larrey, Napoleon’s Chief Medical Officer, was a man of parts as, in addition to his organising ability, professional skill (he was the first to realise that gas gangrene occurred only in devitalised muscle) and administrative talents, he was of an inventive turn of mind, designing the “Ambulance Légère,” a light stretcher-carrying phaeton capable of rapid and comfortable evacuation of the wounded. In this respect he was more fortunate than his British opposite number, Dr. McGrigor, who was reprimanded by the Duke of Wellington when he commandeered the returning forage waggons to serve the same purpose.

Stimulated by his experiences at Troodos, the writer has given some thought to the design of a suitable light ambulance, and carried out a few experiments. The expensive débâcle of the “Champ” suggested that the fate of a design de novo would be macabre and that the modification of an existing vehicle presented a more practicable proposition. Fortunately a suitable vehicle exists in the long chassis Land-Rover, and an additional advantage is that the normal Land-Rover is already used by the Army and therefore servicing presents no problems. The only modifications required to the long chassis Land-Rover are:

(a) Lengthening the body eight inches by shifting the rear panels and tailboard back; this is to allow for the handles of the stretcher;

(b) Fitting troughs for the lower stretcher runners;
(c) Fitting “Flint” or similar stretcher gear for the two upper stretchers; and finally

(d) Weatherproofing the vehicle.

Unfortunately a long chassis Land-Rover was not available for the experiment, so a normal production station waggon was used; this, of course, is not suitable for deep mud or cross-country work in wet weather because of the lack of front wheel drive and the low ground clearance, but it did enable a few tentative trials to be carried out.

The relevant data of the vehicles are shown in Table 1. Plate II shows front, back, and side views and is self-explanatory. Only three stretcher cases could be loaded into the station waggon as the fourth interfered with the driver, but the additional length of the long chassis Land-Rover would permit a fourth to be loaded, thus giving it the capacity of the Ford ambulance car, and twice the capacity of the Car, 5 cwt. 4 × 4.

It must be remembered that the ambulance car journey is the most shocking event in a wounded man’s progress back to health, and the increased comfort of the lighter, better-sprung vehicle, coupled with the shortening of the time of evacuation achieved by the smaller, faster vehicle, contributes materially to the well-being of the patient. Some comments by the experimental victims illustrate this:

Private W.: “I could go to sleep in the station waggon, but the ambulance made me feel sick.”

Corporal T.: “Far less jolting in the station waggon, and the journey took only half the time” (in fact a saving of only 20 per cent was achieved, but the greater comfort made it seem shorter).

Sapper B.: “Smashing radio in the station waggon.” This comment may appear irrelevant, but music is most helpful in soothing the patient and distracting him from his discomfort; in addition, provision of a receiving wireless in an ambulance would permit re-routing it while under way, and a two-way wireless would enable the orderly to report on the patient’s condition and obtain radio assistance in emergency.

The apparent objection to the smaller ambulance is, of course, the lack of space in the vehicle compared with the present juggernaut, but if only two cases are taken there is still sufficient room to examine and attend to them, and it is rare for the present ambulance to be used to capacity when carrying serious cases. In convoy evacuation it is unlikely that the cases will need much attention en route, and the disadvantage of lack of space is to some extent overcome by having the patients, attendant and driver in the same compartment, so that any alteration in the condition can be instantly observed. Furthermore, the driver can inform the patients of changes in road surface, corners and hills, so that they do not have to meet these shifts unaware. Good body sealing with an adequate heater of the constant flow type (not the recirculating or “fugstirrer” model) should be a sine qua non; it is noteworthy that, on the station waggon used, the body sealing is such that closure of the doors is difficult when all the windows are closed.
SUMMARY

There is a need for a light all-weather ambulance for service use.

A suitably modified long chassis Land-Rover would form a suitable vehicle. Experiments with a normal station waggon have shown that such a vehicle is speedier and more comfortable than either of the present service ambulance cars.

As such a vehicle can do all that the present vehicles can do, and is only one-third the cost of the present ambulance, with running costs in proportion, it could probably replace the latter vehicle altogether.

I should like to express my thanks to Lieut.-Colonel J. N. Hamill, R.A.M.C., and Major S. R. Farmer, R.A.O.C., for their help, and to Major J. Brodribb, F.F.R., R.C.S., R.A.M.C., for taking the photographs.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Ford Thames Ambulance</th>
<th>Land-Rover</th>
<th>Station Waggon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>£2,300</td>
<td>£636</td>
<td>£570</td>
</tr>
<tr>
<td>Weight</td>
<td>10,875lb.</td>
<td>3,300lb.</td>
<td>2,400lb.</td>
</tr>
<tr>
<td>Fuel consumption</td>
<td>8-12 m.p.g.</td>
<td>16-24 m.p.g. (petrol)</td>
<td>32 m.p.g.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-45 m.p.g. (diesel)</td>
<td></td>
</tr>
</tbody>
</table>

HÆMOGLOBIN LEVELS AND HELMINTHIASIS IN MALAY RECRUITS

BY

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ANÆMIA in the tropics is much more prevalent than in the United Kingdom, particularly amongst the indigenous inhabitants. It was therefore decided to investigate the hæmoglobin levels of a group of Malay recruits. These men had previously lived in Malay villages and entered the Army direct from civilian life. It was considered important to correlate the incidence of ancylostomiasis and other helminth infestations with the hæmoglobin levels of the recruits. In addition it was decided to try to determine any relationship between helminth infestations and peripheral blood eosinophilia. Investigations were carried out before and after initial training to correlate the effect of Army dietary changes and training on the hæmoglobin levels of the recruits.

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