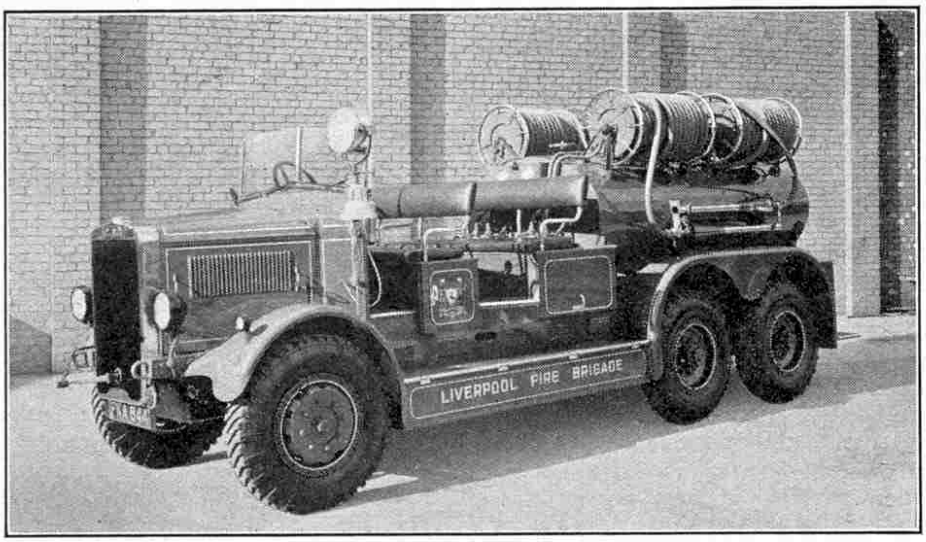



A Leyland "foam-fighter" fire-engine specially designed for fighting fires breaking out in aircraft after a crash. Photographs on this page are reproduced by courtesy of Leyland Motors Ltd., Leyland.

# Fighting Aeroplane Fires

## Foam Engine for Special "Crash" Work

A SPECIAL "foam-fighter" fire-engine has been placed in service at a large airport to deal with fire breaking out in aircraft as a result of a crash. The new engine has been designed by Leyland Motors Ltd. in conjunction with the chief officer of the fire brigade of the area in which the airport is situated, and is shown in the illustrations on this page. The station is staffed with professional firemen, and in addition to the new "crash engine" is equipped with two Leyland fire-engines and a tender.

Although an outbreak of fire does not always follow a crash, there is always the possibility of this further disaster, so the fire-fighting machine and crew must turn out as soon as an aeroplane disaster threatens. In order that the station staff can be warned as soon as an aeroplane seems to be in difficulties over the landing ground, and a crash appears imminent, an alarm and a telephone in the watch-room are connected with the aerodrome control station. The most distant points of the airport are about one mile from the fire station. This means that the fire-engine would take about two minutes to arrive at such a spot and this is about the longest period that can be allowed if there is to be any chance of saving life, assuming fire breaks out immediately the crash occurs.

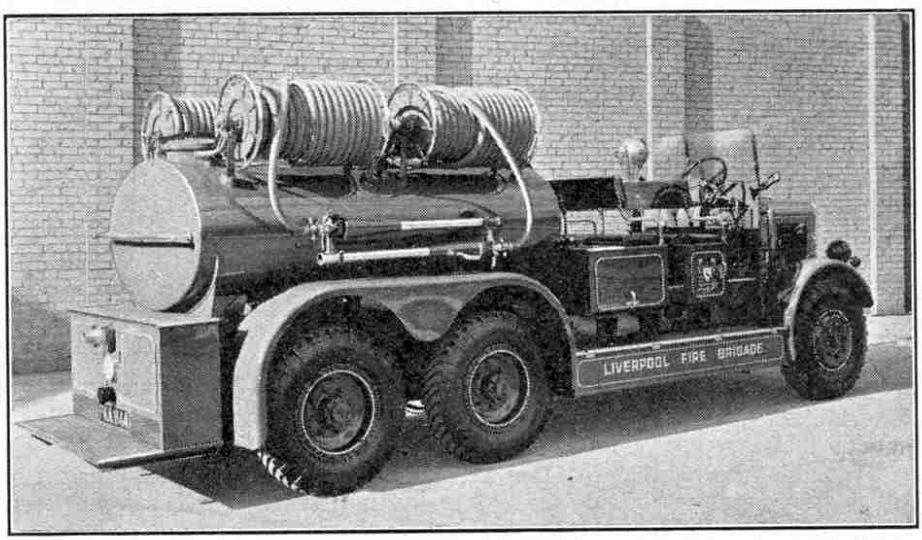
As the surface over which the fire-engine has to travel may become soft in rainy weather a double-drive six-wheeled Leyland Cub chassis is employed. This is equipped with a fully articulated bogie, main and auxiliary gear-boxes giving altogether eight speeds, and Trak-grip tyres all round.

Water-and-air foam is the medium chosen for fighting the petrol-type fires that will be encountered, and as there is no time to waste in conveying water to the engine at the site of a crash, the only alternative is to carry it on the engine itself. The water is stored, together with the foam-making compound, in a 650-gallon tank, the interior of which is lined with bitumen. From this it is pumped by a two-stage 500-700 g.p.m. pump placed amidships. The tank is fitted with four individually-controlled delivery connections direct-coupled to four hose reels, each of which carries 100 ft. of $1\frac{1}{4}$ in. bore non-kinkable hose. Four Pyrene foam "guns," each separately controlled, are mounted two at each side of the tank. Each gun will produce about 600-650 gallons of foam a minute, so making the total delivery capacity of the outfit about 2,500 foam gallons per minute.

The foam guns are kept coupled up to the reels, and as foam-making at the scene of a fire is absolutely instantaneous, the engine is ready for action immediately the guns are lifted from their hangers.

In order to prevent as far as possible delays and breakdowns due to engine trouble, the petrol engine by which the machine is propelled is equipped with both magneto and coil ignition systems and two sets of sparking plugs. To facilitate operations at night an 11 in. searchlight is mounted in front of the windscreen.

In addition to the crash work for which it is specially designed the fire-engine can, of course, also be used without modifications as a first-aid engine for ordinary fires, in which case water is pumped from its tank. It can also be used as an ordinary fire pump working from the mains, and for this purpose provision is made for the attachment of a 4 in. suction inlet to be connected with the nearest hydrant.




Another view of the Leyland "foam" fire-fighter showing at the rear the hydrant connection to the pump for use when the machine is in action as an ordinary fire pump.