The chairman of the air sub-committee of the Conservative Party defence committee in the House of Commons (session 1960-61) is Sir Arthur Vere Harvey and the vice-chairman Mr R. Collard. The hon. secretary is Mr John Eden.

BMW announce that, by switching to direct injection, they are increasing the rating of the flat-six piston engines made under licence from BMW, nominally from 250 to more than 300 b.h.p., and that they are currently engaged in the design of a miniature by-pass turbo unit weighing 220lb and giving a thrust of 660lb.

Mr Jack Davison, managing director of Hawker de Havilland (Pty) Ltd, distributors for the Hawker Siddley Group in South Africa, says that the cushion would support most of the vehicles involved. In the latter case, the cushion would support most of the weight. Various types of powerplant have been considered, and it is likely that the most efficient type will be employed in any size of vehicle (a larger vehicle merely having a larger mass flow for the curtain). Possibly a better arrangement would be achieved by employing larger engines which could be employed in smaller vehicles.

Mr Maurice J. Brennan, formerly chief designer of Saunders-Roe and responsible for that company's rocket/jet interceptors and (with the inventor, Mr C. S. Cockerell) for the original Hovercraft, joined Folland Aircraft as chief engineer. By that time a member of the group, Folland were perfectly placed to become the Hawker Siddley hovercraft company, and work was at once started in exploring the fundamentals of these craft, culminating in the construction of a series of GERM (ground-effect research machines). In the current issue of Hawker Siddley Review the first sketches are given of the manner in which Folland are attacking the problem of achieving the optimum lift and propulsion.

Lift Although simple plenum-chamber vehicles have been built in America, all Folland's work is being directed towards improvement of the curtain type of vehicle, which appears to be commercially feasible and useful owing to its greater hover height. Only the curtain vehicle can operate over rough ground or open water. The arrangement adopted in the earliest ground-effect vehicles of building the whole craft around the powerplant and duct system is operationally unattractive. It seemed logical to Folland to put the curtain system round the edge, leaving the interior unobstructed for the payload.

Using this approach, the company has been testing a number of arrangements, all of which lend themselves to curtain recirculation in order to reduce power consumption. The largest sketch shows a novel linear-fan arrangement, in which the moving blades are carried on flexible belts operating in a duct continuous round the edge of the vehicle. This arrangement can be applied equally well to rectangular or oval hulls, and has shown itself better able than a conventional fan to withstand impact damage.

The smallest sketch shows a system which, although apparently simple and attractive, "poses a number of problems in design and manufacture on a large scale." The idea is that the compressor should be discharge through narrow injector slots to entrain a much larger mass flow for the curtain. Possibly a better arrangement (third sketch) is for the engine to drive through flexible shafts to small fans distributed around the periphery of the vehicle. Operating at high r.p.m., these fans appear to pose few development problems, could readily be serviced or replaced and could be employed in any size of vehicle (a larger vehicle merely having more fans). All the above systems should achieve adequate hover height with a thrust of the order of 10 per cent of vehicle weight.

Propulsion For the most difficult types of operation propulsion and manoeuvring forces demand power requirements quite as large as those needed for lift. For operations over smoother surfaces, considerable economies can be effected by employing surface contact, in the form of immersed sidewalls and a marine propeller or water jet, or for land operations, low-pressure tyres or tracks. In the latter case, the cushion would support most of the weight. Various types of powerplant have been considered, and for vehicle weights greater than about 20 tons gas turbines appear essential.

After practical experience with GERM, possibly in remote parts of the world, a series of commercial vehicles will be produced. The first Hovertruck will carry five tons of freight at up to 30 m.p.h. over land or reasonably smooth water, and if necessary will operate all day without refuelling. Future Hovercoaches are envisaged for amphibious operation, carrying 20 tons or 150 passengers at 80kts, and having a range of 600 n.m.