The British Army Equipment Exhibition

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There was military hardware of all types, from barbed wire to bulldozers and clothing to Chieftains, on display at the British Army's first ever Equipment Exhibition. It was held on a 12,000 sq. metre site at Pegasus Village alongside the Rushmoor Arena at Aldershot on 22 and 23 June last. The exhibition was sponsored by the Ministry of Defence and provided a 'shop window' for ten Royal Ordnance Factories and about one hundred and twenty firms, large and small, engaged in the manufacture of military vehicles, weapons and equipment. The invited guests included senior representatives, many at Chief of Staff level, from eighty countries; they were able to see the items on display, question the officers of the Sales Department of the Ministry and of the firms concerned. Included in the exhibition was a mobility display of many types of army equipment at present in service or about to be introduced into the army. The visitors were given the opportunity of following up anything of interest by going to an Army school or establishment to see the users, and to the makers themselves for further discussions.

Britain's arms sales for the year 1976 to 1977 are already estimated to be in the region of £ 800 million and if this figure is reached she will become the fourth largest exporter of arms in the world. This well organized exhibition should help to increase this valuable contribution to Britain's balance of payments.

It is, perhaps, ironic that it is the so called 'developing countries', especially in the Middle East, who are spending the big money on arms purchases today. For this reason much of the publicity material available at the exhibition was printed in Arabic as well as in the European languages.

The sales leader and the most impressive exhibit was the 55 ton *Chieftain* main battle tank now in its fifth 'mark'. This tank was developed by the *Military Vehicle Engineering Establishment* and *Vickers Limited* and is currently manufactured by the *Royal Ordnance Factories*. In almost every respect Mark V is a very different model from the Mark I. The most recent order is from Iran who are purchasing 1200 of this latest Mark. They will be powered by a completely new 12 cylinder Rolls Royce diesel engine which develops 100 bhp per cylinder. The armament includes the 120 mm gun, a 12.7 mm machine gun and a co-axially mounted 7.62 mm machine gun. *Marconi Space and Defense Systems Ltd.* have developed an extremely effective fire control system for the main armament. This system includes data handling, sighting and sensor subsystems as well as a new gun control equipment. A fully automatic GEC Marconi 12-12 P digital computer is used to process the information gained by the laser rangefinder. So long as the gunner keeps the sight on the target the system will produce the range and the exact target movement rate. The probability of a first round target hit on a moving tank at 2000 m is almost 100%, the accuracy extends to 3000 m on a stationary target. Chieftains being manufactured in the future will incorporate the new 'Chobham' armour, the development of which was announced on 17 June by the Minister of Defence. This armour is claimed to be able to withstand any type of anti-tank ammunition or missiles in service anywhere today, without increasing the weight of the tank. The details of the development have been passed to the United States and Germany and the armour will almost certainly be incorporated in the next generation of tanks presently under discussion by the three countries. 'This armour', said the Minister, 'represents the single most significant development in the design of the tank since World War II'.

The *Scorpion family* of Combat Vehicles Reconnaissance (Tracked) produced by *Alvis (British Leyland)* were prominently displayed and demonstrated. The Scorpion itself is a fast, light (8 ton) armoured tracked vehicle equipped with a 76 mm gun firing HE, HESH, anti-personnel canister and smoke ammunition. Using the same basic vehicle other versions are in service and on offer. They

include the *Striker* mounting Swingfire anti-tank missiles, the *Scimitar* which is armed with the Rarden 30 mm anti-APC cannon, the *Spartan* 7 man APC, the *Sultan* armoured command vehicle, the *Samson* armoured recovery vehicle and the *Samaritan* armoured ambulance which will carry 4 stretcher cases.

This range of CVRs (Tracked) was developed in conjunction with the Belgians and has proved itself effective in all climates and over any terrain. The power is provided by a 4.2 litre Jaguar engine which gives a speed of 50 mph.

The British Royal Armoured Corps have always considered that there is a useful reconnaissance role for a wheeled armoured car. The one on display was the *Fox*; this will soon be in operation in Germany and is also to be used on internal security duties. It is a lightweight vehicle and is armed with a 30 mm Rarden cannon and a 7.62 mm machine gun. It has image intensifier sights for night use. The vehicle is very manoeuvreable in forward and reverse gears, three can be transported in a C 130 aircraft or two can be dropped from the aircraft. The Fox is built by the Royal Ordnance Factories and is powered by the same Jaguar engine as the Scorpion range.

Continuing world wide terrorist and internal security problems have created a requirement for lightweight mobile armoured vehicles and for various aids to the security forces. *GKN Sankey* showed their *AT 105 APC*, the first British vehicle designed specifically for internal security operations. The vehicle design is based upon experience gained in Northern Ireland. It is rugged, fast and versatile and can carry ten men under armour; this protects them against 5.56 mm and 7.62 mm AP or Ball at close range. The AT 105 has two or four wheel drive and runflat tyres, it can be provided with an observation cupola or a single or twin GPMG turret with smoke dischargers. Other optional extras include barricade removers, searchlights, air conditioning equipments, radio communications etc. Most of the components are taken from normal production line vehicles and therefore maintenance and replacements of parts provide no difficulties. The engine is a General Motors Bedford type 500 diesel with an Allison AT 540 automatic transmission.

The well tried Land-Rover provides the basis for three other Internal Security APCs on view. The *Mongoose,* produced by *Glover Webb and Liversidge*, seats 8 persons, the armour gives protection against normal small arms and a special floor material gives the best underbelly protection against land mines. Gun ports are fitted all round the vehicle and the commander has a roof hatch. The chassis, suspension and axles are strengthened to take the weight of the armour and the vehicle is fitted with the latest electronic detection devices and night vision equipment. *Short Bros and Harland's Shorland Mk 3* and *SB-301 APV* are termed as patrol cars; the former is in service in 20 countries and the latter has recently been introduced. Both are robust vehicles designed to provide mobility and protection and are fitted with the usual gun ports and smoke or cs gas dischargers.

Trevor Davis and Sons have developed and manufactured the *Mamba* mini armoured car. A steel box section chassis gives extra strength to the car which uses standard Ford transmission and a 2 litre engine. Four wheel drive can be provided and a number or armoured hard tops can be fitted. These include a 'two man' body, constructed of 1/4 inch Hotspur super hard steel which is capable of stopping all normal small arms at point blank range. The windows are 20 mm laminated bullet proof glass and the vehicle is air conditioned, the floor is armoured and the petrol tanks cannot explode. The Mamba is available with or without a turret. Other versions include a 4 man APC with slightly less protection. These small armoured cars are designed for police urban patrols, airport perimeter guards, scout or recce cars with communications fitted.

This company specializes in the production of armour for normal civilian cars, riot shields, internally armoured guard huts and fragmentation jackets for body protection. *Galt Glass Laminates Ltd* are other specialists in '*body armour*'. They use glassfibre to produce complete all-over protection. The full suit which includes a jacket, trousers, back apron and breast and pelvic plates weighs 19.2 kg. These suits are in issue to the British Army and their 'discrete waistcoats' are used by diplomats and similar terrorist 'targets' for personnel protection.

Other companies in the internal security sales business at the exhibition included *Shorrock* who produce *microwave security fences* and *intruder alarm systems*. No wire, except that connecting the control box to the scanners at the corners of the area to be protected, is required in the system. Each set of eight scanners can be erected and tested by two men in 30 minutes and will cover a rectangle each side measuring 200 ft; kits can be linked together to cover larger areas as required.

Schermuly, who normally specialize in pyrotechnics, showed a 1.5 inch easily operated *riot gun* for firing CS gas cartridges as used in Northern Ireland.

Perhaps the item which caught the eye of most 'old soldiers', and many present ones, was the *revolutionary barbed wire* on the *Barbed Tape Company's* stand. This is a ribbon of high tensile strength steel, zinc plated for corrosion resistance and durability. Razor sharp barbs which are closely spaced along both sides of the tape provide snag, catch and cutting characteristics far superior to that of standard barbed wire. Its greatest advantage is that it is supplied on a reel which is small, easy to store and carry. The reel fits on a hand carried lightweight dispenser, by pulling the wire off the dispenser it is automatically released and twisted providing a formidable fence with razor sharp barbs pointing in all directions. The wire can also be supplied as concertinas for rapid road blocks etc.

The accent of the exhibition was on 'mobility' and visitors were able to examine and see driven many types of vehicles. *Fodens*, *General Motors* and *British Leyland* all produced examples of their ranges of *load carriers*; it was interesting to see that in these days of cost effectiveness many in each range use the same basic vehicle or are able to share interchangeable parts. Foden's *medium mobility trucks* are basic 6 × 6 chassis, 24/26 ton, max speed 54 km/h with a Rolls Royce Eagle 305 six cylinder diesel engine. Used as an artillery tractor it carries either two standard NATO panniers or a pannier and a gun crew compartment both of which can be lifted off the truck by use of its own crane. It can also be fitted as a tanker, recovery vehicle and tipper. This firm's *low mobility trucks* are 10/14 ton 6 × 6 and 8 × 4 chassis. They both have good performance on unsurfaced tracks and are easily maintained. The 6 × 6 has a gross weight of 24 tons and the 8 × 4 of 30 tons. Maximum road speed is 104 kph and the engines are Rolls Royce Eagles 220 six cylinder diesels. The chassis can accept many types of specialist equipment as well as the normal load carrying bodies. These vehicles have been accepted by the British Army as the main stay of the transport in the 1980s.

The ubiquitous *Land-Rover* featured on the British Leyland display. The latest is the 1 ton forward control model especially designed to tow the latest 105 mm light gun coming into service with the Royal Artillery. The power is supplied by a Rover

Fig. 1 Prototype Bedford TM 4-4 four wheel drive 'go anywhere' truck for 8 tons payload class

8 cylinder VS engine which has the added advantage of being capable of coupling to a powered axle *trailer*, also of 1 ton capacity, which gives a high mobility 2 ton cross country unit. This trailer was on display by *Rubery Owen*'s defence equipment division. Leyland's 8 ton CS 4 × 4 *dropside truck* made its debut at the exhibition. It is a multi-role all-wheel-drive truck with a good cross country performance. The gross vehicle weight is 16.25 tons, it is engined by Perkins with a V8-540 diesel giving it a gradient ability of 1 in 3 or 1 in 4 when towing an 8 ton trailer. The road speed maximum is 85.5 km/h and the cross country fuel consumption around 2.68 km/litre. The largest vehicle in their military range is the *Scammel Crusader* 6 × 4 which can cater for gross weights of 44 on and 65 tons off the roads. The main use of these immense vehicles is heavy haulage for the Royal Engineers.

General Motors (Vauxhall) Bedfords are old favourites with the British Army. A development prototype of their latest four wheel drive *'go anywhere' truck* was unveiled at Aldershot (fig. 1). It has a payload of 8 ton and will complement the present line of 4 ton 4 × 4 Bedfords in world wide use. The engine is a turbo-charged version of the Bedford 8.2 litre 500 diesel and delivers 151 kW (202 bhp). The gross weight is 16,300 kg (16.18 tons) and the drive is through a 6 speed synchromesh gearbox. Like the other makes the Bedford can be supplied in many forms using the same basic vehicle.

Engineer equipment, bridging and the speedy hand-

ling of logistics supplies are all vital to the mobility of a mechanized army.

General Motors Scotland is the largest plant building Terex *earthmoving equipment* outside the United States. There were four main types on display, dump trucks of up to 70,000 kg payload, motor scrapers, crawler tractors and wheeled loaders. The Terex 72-51 MWT has recently been accepted by the British Army in its *medium wheeled tractor* role. Its principle attachments include a multi-purpose bucket, a winch and a ripper: the winch can be anchored to either the bucket or ripper, or by both, to develop its full effective pull. The ripper can tear hard or frozen ground so that it can be tackled by the bucket, and the ripper and bucket act together to raise the machine for unditching or wheel changing. The 72-51 is air portable in a C130 and is ideally suited for service with field engineers. Terex's TS-8 *motor scraper* has also been accepted for air portability; this earth remover is well suited for road, airfield and track construction and can also be used to construct field defences and weapon pits. The largest *loader* on show was the 72-71 which has been designed for ease of control and operator comfort (fig. 2). It is recommended for the military role of rapid runway repairs and was therefore fitted with a standard rock bucket of 5.4 m^3 nominal capacity. There are, however, many other fittings provided.

Lansing Bagnall specialize in the production of *fork lift trucks, reach trucks* and *pallet transporters.* The engine powered FODR 6 (fig. 3) is designed for fast heavy duty outdoor operations in tough conditions and has come through its acceptance trials with flying colours. The rider operated FOER 9 and the pedestrian controlled FOEP I.I are capable of handling up to 1.5 or 4 tons respectively. They are battery operated and are used for indoor and outdoor stacking and lifting. The TOER 4.2 tow tractor is used to move stores and ammunition longer distances in scattered installations and the FRER 5 reach truck is useful for storing goods to ceiling height. All or some of these trucks are in use by the three Services in installations and at sea in ships of the Royal Fleet Auxiliary.

Mobile cranes are an essential requirement in any army. *Coles Cranes* of the Acrow Group are the largest manufacturers of these in Europe. The Coles Hydra Husky 150 T is the accepted *field crane* for the Royal Engineers. An air portable model is currently undergoing trials by the Ministry of Defence.

The Royal Engineers demonstrated their bridge laying capabilities by building the *Laird* (Anglesey)

Fig. 2 Terex 72-71 wheeled loader with multi purpose bucket

Class 16 *lightweight air portable bridge.* This can be assembled as a clearspan bridge, a floating bridge or as a powered raft. The clearspan bridge was assembled over a 15 m gap by 16 men in 29 minutes. A 58 m floating bridge can be built using the same components, the raft assembly is powered by 40 hp outboard motors. The system can be transported by Land-Rovers or lifted by helicopters. The same firm also produces Class 30 and Class 60 *trackway systems* which are assembled from lightweight aluminium alloy planks with interlocking grooved joints to form a continuous non-slip roadway; 32 m can be laid from one vehicle, either a tank, truck or dozer. This trackway is especially useful at the entries and exits from bridges where the ground becomes soft. Trackway can also be used for rapid runway repairs.

The *Medium Girder Bridge* is the follow up to the

Fig. 3 Lansing Bagnall FODR 6 fork truck, designed primarily for fast, heavy duty outdoor operations, undergoing rigorous tests

famous Bailey Bridge in the British Army. It was designed by the *Military Vehicle and Engineering Establishment* and is manufactured by *Fairey Engineering Ltd.* The bridge is easily transportable to the site and can be constructed by hand; it covers the full range of military and emergency requirements. The components are manufactured from a weldable alloy of aluminium, zinc and magnesium which gives both the strength and lightness needed. Seven major components are used in the basic bridge construction and all except two weigh under 200 kg and can be handled by four men, the two heavier parts are six men loads. Up to 31 metres can be built in under one hour by 25 men; little pretraining is required and the bridge has multi-span and floating capabilities with loads up to Class 60. The bridge components are transported in standard 3.5 ton loads on special pallets. The pallets can be unloaded from the trucks by simply anchoring them to the floor and driving the trucks away.

Two effective *mine layers* were on show. The Barmine system developed by the *Royal Ordnance Factories* can be towed behind an APC and is capable of laying between 600 and 700 anti-tank mines per hour into a ditch, dug and covered by its own disc plough. The Ranger complements this system, it can be mounted on the same vehicle and is a multi-barreled launcher which fires a shower of anti-personnel mines either into the minefield as it is laid or while being driven round any other defensive position. The load is 1300 mines and they can be laid in 3 minutes; the dischargers can be rapidly re-loaded. The Ranger is produced by *EMI Electronics.*

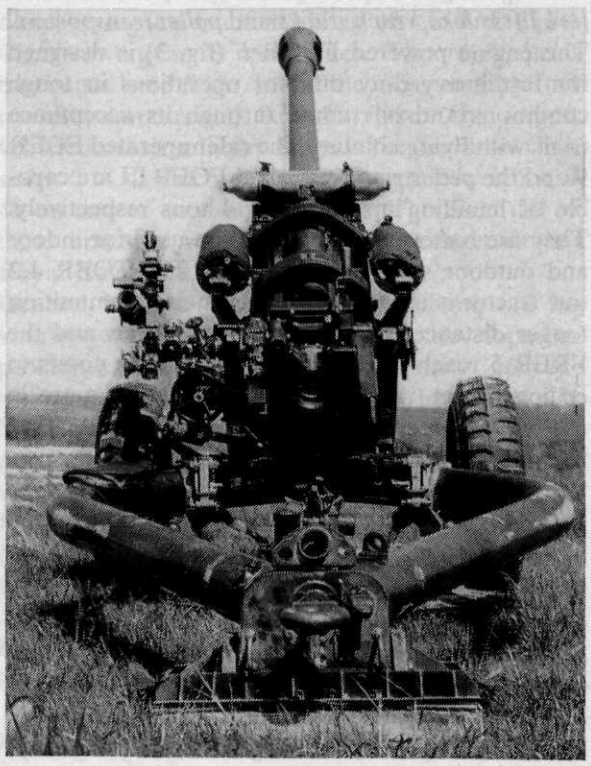
The British *105 light field gun* with a range of 17,000 m (fig. 4) arrived by helicopter lift and showed its capability for rapid fire and ease of deployment. The EMI Cymbeline *counter-mortar radar* is proving itself in service with the Royal Artillery, and attracting export interest. However to an ex-Gunner it is the advances in electronic technology which are most striking. The FACE *field artillery computer* has been standard for some time but now the first salvo effectiveness is being increased by use of the GEC/Marconi/Plessey *artillery meteorological information system* which automatically provides hourly meteo data which are fed into the computer.

Ferranti have produced a *position and azimuth determining system* (PADS) which solves the survey problems. PADS is an inertial navigation platform which can be fitted with ease into a Land-Rover. So long as the vehicle is started from a known position and this and the azimuth is fed into the 'box', and it is halted for ten seconds every ten minutes driving time for a 'velocity update', PADS will provide the grid reference of the vehicle on demand. This is presented on the display panel, the bearing is passed by means of an optical unit to a gun director or laser ranger.

The same firm has developed a *laser target marker* for use by artillery forward observers. This small instrument provides the range when directed onto the target. The laser marks the target for laser seeker equipped ground support aircraft or missiles. The third aid is the Ferranti PACER *muzzle velocity measuring equipment.* This small measuring instrument is set up on the gun position and provides the muzzle velocity of the gun within two seconds of its firing. The instrument operates from a 24 volt vehicle battery and can be deployed by one man.

The British Army's three important guided missiles are the *Rapier* and *Blowpipe* surface-to-air systems and the *Swingfire* long range anti-tank wire controlled missile. The Rapier is effective against aircraft from tree top level to over 3000 m and is fully operational with the Army and Royal Air

Fig. 4 The new British 105 mm light field gun



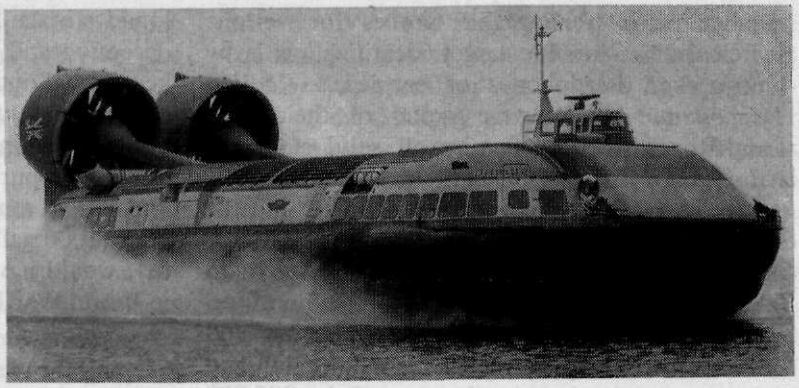


Fig. 5 The prototype VT2 hovercraft on trials in the Solent

Force as well as in Iran, the Middle East and Africa. It has now been ordered by Australia. The whole system is highly mobile and can be lifted by current medium capacity helicopters. It is extremely accurate using optical and radar tracking. A self-propelled tracked version has been developed for Iran, it is being installed in the armoured US M 548 tracked cargo carrier built by FMC Corporation of California. The Blowpipe was a private development by *Short Bros* but was taken over by the *Ministry of Defence*. It is a one man shoulder fired supersonic SAGW, based upon a command link guidance system. The whole system only weighs 18 kg and can be carried by the operator; it only takes 10 seconds to bring into action and the missile is guided visually onto the target. In the British Army it is to be an artillery weapon and will be allocated to battle groups. The crew is carried in the Spartan APC. The Swingfire, like the Rapier, is produced by the *British Aircraft Corporation*. The missile has an effective range of from under 150 m to 4000 m. The controller can be sited away from the launcher which can be man carried, mounted on an FV 438 GM vehicle, on the Ferret Scout Car and shortly will be on the Striker when this enters British service. At the exhibition a *four missile launcher* was shown, mounted on the tiny 'beach buggy' type vehicle, the *Argocat*. This intriguing buggy is amphibious, it only weighs 318 kg but has a payload of 450 kg. The engine is a 28 hp 2 cylinder air cooled two stroke which gives a road speed of 55 km/h. The wide tyres give the Argocat an excellent cross sand or bog capability. BAC have also produced a new variant of the Swingfire called the *Hawkswing* to be used from helicopters such as the Westland/Aerospatiale Lynx; this missile can be rapidly 'buttoned on' to the helicopter. The 4000 m range gives the helicopter a good stand off capability.

Westland Gazelle, Lynx and Sea King helicopters are already well known and the details of their performance have been in many journals. Less well known is the *Commando*, a development from the Sea King. It is a land based medium support chopper with a typical payload of 28 fully armed troops over a range of 600 km. For casualty evacuation it can carry a range of machine guns and rockets. Special emphasis has been given to low maintenance requirements which has made it popular in Middle East countries.

Westland's British Hovercraft Company advertized their military hovercraft. There were scale models on display of the 50 knot 17 ton *SRN 6 Mk 6* in the gunship and logistic roles and the 55 ton *BH 7 Mk 4* which is in service with the Imperial Iranian Armed Forces. A 'spin off' from the development of the hovercraft skirt material are the flexible containers which are suitable for storage of water, fuel and other liquids as well as flotation aids for military equipment.

Vosper Thornycroft also advertized a hovercraft, the *VT 2* (fig. 5), which can carry loads of 32 tons over dry land and rough seas at speeds of up to 60 knots. This load is equivalent to a company of infantry with their light vehicles and equipment. The vehicle width is 16.5 feet, 9.5 feet high and 70 feet long with a full width door and ramp at the bow and an 8 ft stern door and ramp. The VT 2 is presently undergoing trials sponsored by the Royal Navy.

The many products of the electronic industry on display are too numerous and technical to describe in this article. *Decca* featured their well proven Type 71 Doppler *navigation radar* which is constructed entirely in solid-state form with a high content of integrated circuits and no moving parts. *Plessey*, amongst their many exhibits, showed a high performance *metal detector* of rugged construction. It is in use with the Army and has a

number of interchangeable probes for various search duties. Audible target identification is by loudspeaker, headphones or earpieces. *Redifon Telecommunications* were proud of their new, Land-Rover fitted, 400 watt all solid state HF *radio station* for tactical and strategic roles. It is the most powerful station yet built to fit into the standard Land-Rover. There are no valves or thermal delay devices to warm up so that the radio is ready for use immediately it is switched on. Frequency synthesis for rapid frequency setting and broadband techniques which eliminate tuning and loading procedures mean that any of the 285,000 channels can be changed in seconds.

Driver training today is expensive, especially in the teaching of armoured fighting vehicle drivers. The *Link-Miles* driving simulator therefore is of great interest to the Army. Initial instruction, conversion and continuation practice over all types of terrain and in al kinds of weather can be covered. The simulator can produce the performance of any wheeled or tracked vehicle. The system is extremely cost effective, it can be used continually, no driving areas or vehicles are required, its running costs are 20% of a real vehicle and it releases vehicles for other tasks. Roll, pitch and yaw are provided by the motion system and the driving compartment is an exact reproduction of the actual vehicle.

The *Royal Ordnance Factories* reported that the British *81 mm lightweight mortar* has proved a considerable success. The mortar has a range of 5600 m and is very accurate; in fact some infantrymen say 'too accurate'. Its weight is 35.44 kg and it divides into three one man loads. A rate of fire of 15 rds per minute can be sustained indefinitely. A *51 mm mortar* has been developed to replace the 2″ mortar. Although lighter than its predecessor it has a range of 800 m and fires HE, smoke and illuminating ammunition, the latter is most useful to assist the firing of other infantry weapons at night. The recently demonstrated 4.84 mm range of small arms to be offered to NATO were not on show but were much in the minds of the representatives of the small arms factories. These are indeed a great leap forward in small arms design.

Finally a few other items which caught the eye of your reporter. *Airborne Industries Ltd* showed some very large inflatable buildings which can be erected rapidly and used as hangars, hospitals and stores. The same firm makes inflatable tanks for liquid storage and inflatable dummy vehicles for deception and target purposes. They are also makers of balloons for industrial and meteorological tasks; apparently balloons are used in the logging and civil engineering trades. *Stellars* produce mobile water purification units which can be fitted into a 1/4 ton trailer, these can treat 4.5 m^3 per hour (1000 gallons/h); they, and their smaller models would have been a great help in the Far East in World War I!

Driclad have developed an excellent system of keeping the water out. It is based upon the complete enclosure of the equipment in a flexible plastic cover. The air inside is controlled either by mechanical dehumidification or by desiccant. A special closure, Drilock, is incorporated and can be engaged by a patented slider. Dricland permits reserve or front line weapons and equipment to be stored for long or short periods without fear of corrosion and deterioration; it is already in use by the Services and many firms, including Rolls Royce, for engine storage.

The medical profession were not forgotten. Driclad also showed their inflatable Inflasplints. These splints are light, compact and easy to carry, they are simple to fit being wrapped around the limb, joined by Velcro touch and close fasteners and inflated. They can be used over clothing and immediately immobilize a fracture. A great asset to personnel on independent missions.

Blood today is a military commodity. Its storage and transport in the field is a problem. *Aish Ltd* have solved this by making a blood storage cabinet. This holds 72,500 ml Fenwal bags of whole blood and by means of heaters and coolers can keep it at the correct temperatures for weeks on end. The loaded cabinet can be carried and operated from a trailer and is air transportable up to 30,000 ft in an unheated and unpressurized aircraft.

The vast British Army Equipment Exhibition left the visitor somewhat breathless, there was so much to see and hear that it is not possible to provide a full record. Undoubtedly it was a success and one side effect is that a *British Defence Manufacturers Association* has been established to represent the interests of a wide range of British firms, large and small, concerned with the defence industry. The BDMA provides an information centre for customers and members; in this way advise can be given to help customers to identify those firms which can best meet their needs and to enable members to identify prospective markets. Some firms and organizations, such as the Royal Ord-

nance Factories, are at pains to point out that they have a very thorough customer advisory service and can undertake the provision of technical information to overseas governments and organizations acting on their behalf. Information can be supplied on organization, factory lay-outs, plant specifications etc.; the service is backed by the full resources of the ROFs.

Millbank Technical Services is a wholly owned subsidiary of the Crown Agents for Overseas Governments and Administrations. They work entirely for the public sector in overseas countries, not for the private sector. The activities are divided into three categories: supply, support and project management. MTS are able to act as purchasing agents, for almost any types of military and civilian material and provide the management of large schemes overseas. In 1975 MTS supplied equipment valued at £ 120 million and presently has contracts in hand worth over £ 1000 million. Armaments are certainly big business today!

In fact it is such big business and so expensive in development and production costs that it is becoming impossible for any one country to develop major new weapons and equipment. The trend is towards co-operation and standardization at least within the NATO alliance. The early NATO dreams of complete fifteen Nation agreements in this field have virtually been abandoned but multinational or binational agreements are becoming more common. Examples are the Anglo-French helicopters, the FH-70 155 m gun, the Scorpion series of CVRs and the present discussions on the requirements for the next main battle tanks. This necessary co-operation was stressed by representatives of the Ministry and of many of the larger firms; however it was pointed out that sometimes equipment which is suitable for use in Central Europe does not meet the requirements of non NATO nations. British firms therefore attempt to develop variants to suit their customers, like the APC carried Rapier for Iran, or to build to fill a known demand. Vickers Ltd considered that there was a requirement for a Main Battle Tank which puts fire power and mobility above protection. They therefore built the Mk 3 with a basic weight of 38.7 tonnes, with a General Motors 12.71 T 750 power pack giving a maximum speed of 50 km/h and a road range of 483 km. The main armament is the well proved 105 mm gun with a rate of fire of 10 to 12 rpm, it has a co-axial 7.62 mm mg and another in the commanders cupola; the range finding system incorporates a laser in the gunners sight. The Vickers Mk 3 is a tough, all round battle tank with world wide potentiality.

The British Army Equipment Exhibition showed that British industry has not lost its ingenuity or inventiveness. It is unlikely that it will ever be possible to quantify the results of the display in financial terms but there is no doubt that it succeeded in its object of providing a relatively compact shop window for a tremendous variety of defence equipment.