


3 10 PM. ADD ARMY'S NEW TRACKED VEHICLE.

THE FIRST HEAVY TRACK VEHICLE TO BE POWERED BY A GAS TURBINE CARRIED OUT AN INITIAL TEST SUCCESSFULLY AT THE DEMONSTRATION THIS AFTERNOON. IT WHINED OUT OF A HIDDEN DEPOT AND DID ONE CIRCUIT OF THE TEST TRACK AT ABOUT TEN MILES PER HOUR.

IT MADE A NOISE LIKE A JET PLANE, AND LOOKED LIKE A TANK WITHOUT A TOP.

THE CREW OF FOUR WAS IN THE CHARGE OF MR A.E. MASTERS, CHIEF ENGINEER OF THE FIGHTING VEHICLES RESEARCH AND DEVELOPMENT ESTABLISHMENT.

THE TEST WAS WATCHED BY LORD BRABAZON AND SIR MILES THOMAS.



2.1. PM. ARMY'S NEW VEHICLE TRACKED VEHICLE.  
KING FEISAL OF IRAQ WAS AMONG MANY OVERSEAS VISITORS AT A  
DEMONSTRATION AT CHERTSEY TODAY OF BRITISH MILITARY TRANSPORT  
VEHICLES.

A SPECIAL FEATURE WILL BE A DEMONSTRATION OF THE FIRST HEAVY  
TRACKED VEHICLE TO BE POWERED BY A GAS TURBINE. IT WILL BE  
DRIVEN ROUND THE TRACK AT THE MINISTRY OF SUPPLY'S FIGHTING VEHICLES  
RESEARCH AND DEVELOPMENT ESTABLISHMENT.

THE VEHICLE IS CAPABLE OF BEING DEVELOPED TO 1,000 HORSE  
POWER.

FEATURES OF THE DEMONSTRATION, ARRANGED BY THE SOCIETY  
OF MOTOR MANUFACTURERS AND TRADERS IN CO-OPERATION WITH THE  
MINISTRY OF SUPPLY, INCLUDE TRACK AND CROSS COUNTRY TESTS AND  
STATIC VEHICLE AND ENGINEERING EXHIBITIONS. NEARLY 100  
DIFFERENT VEHICLES ARE ON VIEW, INCLUDING LIGHT ARMoured CARS,  
SCOUT CARS AND PERSONNEL CARRIERS.

MINISTRY OF SUPPLY

FIGHTING VEHICLES RESEARCH AND DEVELOPMENT ESTABLISHMENT

GAS TURBINE PROJECT

It was decided several years ago that an investigation into the practicability of using a gas turbine for the propulsion of heavy tracked vehicles should be initiated. Messrs. C. A. Parsons of Newcastle were selected to undertake the design and development of the gas turbine unit and the vehicle exhibited to-day represents the first practical stage in this investigation.

This vehicle is no more than a mobile test bed instrumented to provide data for a final assessment of the desirability of developing this form of power unit for heavy military vehicles.

In the form presented the unit is capable of being developed to 1,000 h.p. and consists of:-

- (a) A compressor turbine unit incorporating a single stage centrifugal compressor driven by a single stage axial flow turbine. The design speed of this unit is 17,500 r.p.m.
- (b) A power turbine unit consisting of a two stage axial flow turbine operating at a speed of 9,850 r.p.m. and incorporating built-in reduction gearing, reducing the output speed to 2,800 r.p.m. It is in series with the compressor turbine unit but is not mechanically connected thereto.
- (c) Combustion chambers are arranged two on either side of the engine centreline.
- (d) A synchro-coupling unit, enabling the work turbine to be mechanically connected to the compressor, is introduced in order to prevent the work turbine over-speeding during gear-changing and also to obtain braking effort from the gas turbine.
- (e) The transmission clutch is of conventional design and is servo assisted.
- (f) The vehicle transmission unit supplements the natural high torque characteristics of the turbine and provides for the differential steering requirements of a tracked vehicle.
- (g) The cooling system incorporates a two stage axial compressor which provides cooling air for the gearbox and turbine oil coolers and for the braking system.
- (h) Silencing of the air intake is provided by a series of silencing splitters installed ahead of the cyclone type air cleaner assembly unit.

PRESS RELEASE



THE SOCIETY OF MOTOR MANUFACTURERS AND TRADERS

LIMITED

148 PICCADILLY, LONDON, W.1

TELEGRAMS:  
MOVENDUM, AUDLEY, LONDON

TELEPHONE:  
GROSVENOR 4040

PRESS AND PUBLIC RELATIONS DEPARTMENT

THE HEADQUARTERS OF THE BRITISH MOTOR INDUSTRY

DATE 28th SEPTEMBER, 1954.

IMMEDIATE  
FOR RELEASE  
REFERENCE No. 430

A DEMONSTRATION OF BRITISH MILITARY VEHICLES FOR HOME AND EXPORT SALE

F.V.R.D.E., Chertsey Thursday the 30th September 1954

NOT FOR RELEASE BEFORE 10.30 A.M. THURSDAY 30th SEPTEMBER, 1954.

Many hundreds of visitors from this country and overseas will attend a special and unique demonstration of British military vehicles at the Fighting Vehicles Research and Development Establishment (F.V.R.D.E.) at Chertsey, Surrey, on Thursday the 30th September.

Staged primarily to promote sales in this special channel of our export trade, the display will include little short of 100 different vehicles giving an immense compass of usage. Load and personnel carrying motor vehicles from 5cwt. to 30 tons carrying capacity, workshop lorries, mobile cranes, tankers, trailers up to 60 tons for tank transportation, and even armoured cars are among the exhibits to be seen either on the display centre, or taking part in spectacular demonstrations of their qualities on test circuits.

One special feature of the day will be the first appearance of the first gas turbine tracked vehicle, developed and made in this country.

The event has been organised jointly by the Ministry of Supply, to whose specifications the vehicles are built, and by the Society of Motor Manufacturers and Traders, certain of whose members are responsible for the carrying out of the production programme. The event has been timed to coincide with the Society's

Commercial Motor Show now running at Earls Court which itself attracts a large number of overseas visitors.

Many of the vehicles to be seen at Chertsey are ideally suited to the numerous specialised tasks required of motor vehicles to-day throughout the world, particularly those assignments demanding the use of exceptional mechanical power and strength.

Some of the special test apparatus used in the development of the vehicles on show will be on view - and explained to those with a technical interest - in an ancillary display.

The joint organisers have planned a varied and eventful programme for the day in support of the main exhibits. Tracked vehicles, including tanks, will be demonstrated on a cross country circuit, and trucks and carriers will be seen driven over a special rough road area. Visitors themselves will have the opportunity of riding in various vehicles on test tracks surrounding the display area.

Another item of the programme, which is sure to arouse considerable interest, is a "wading" demonstration in which vehicles are driven through a tank of water 6 feet deep.

Those who want to see still more of the testing and proving background to the development of British Military Vehicles will be able to do so in the Establishment's cinema; performances will be given during the day of a 30 minute colour film showing vehicles being tested both on the local site and in various other parts of the country.

Invitations to the event have been sent out to trade interests and government circles all over the world. It is anticipated that the guests will include a number of high ranking representatives of foreign governments from overseas as well as diplomats accredited to Her Majesty's Government in this country.

C. V. FORD,  
PRESS OFFICER,  
S.M.M.T.  
148, Piccadilly,  
LONDON, W.1.

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Copies of photographs, as follows, can be obtained on application to the Press and Public Relations Department of the S.M.M.T. at the Press Room at the Commercial Motor Show, Earls Court Exhibition Building, Warwick Road, S.W.5. Telephone Fulham 1234.

- (1) General view of Exhibition site with vehicles.
- (2) Composite photograph depicting a selection of wheeled vehicles on various terrain.
- (3) Photographs of typical vehicles on display.
- (4) Action shots on test circuits.
- (5) Interior of Engineering Exhibition.

30/9/54

# A DEMONSTRATION OF BRITISH MILITARY TRANSPORT VEHICLES

*PRÉSENTATION DE VÉHICULES DE  
TRANSPORT MILITAIRES BRITANNIQUES*



**FIGHTING VEHICLES RESEARCH AND DEVELOPMENT ESTABLISHMENT  
CHERTSEY**

**1954**

## OBJECT OF THE DEMONSTRATION

**W**ITH the co-operation of the Ministry of Supply, the Society of Motor Manufacturers and Traders are exhibiting transport vehicles and equipment which have been developed by member firms of the Society and the Ministry of Supply especially to meet the demands of the British Armed Forces.

These vehicles are subject to very exacting uses for which special designs and techniques have proved necessary. This makes a great number of the vehicles particularly suitable for civilian work calling for exceptional demands upon strength, power, and ease of handling.

The object of the Demonstration is to show these special features to those who may have a need for vehicles capable of exceptional performance under difficult conditions.

## BUT DE LA PRÉSENTATION

**E**N collaboration avec le Ministry of Supply, la "Society of Motor Manufacturers and Traders" présente une exposition des véhicules de transport et du matériel réalisés par les firmes membres de cette Société, et par le Ministry of Supply, pour répondre aux besoins des Forces Armées britanniques.

Ces véhicules sont destinés à des servitudes d'emploi très rigoureuses, ce qui a exigé pour leur réalisation des études et des techniques spécialisées. Il en résulte que plusieurs d'entre eux s'adaptent, d'une façon admirable, à des applications civiles nécessitant, dans une très grande mesure, des véhicules résistants, puissants et faciles à manier.

La présentation a pour but de porter ces caractéristiques avantageuses à la connaissance de tous ceux qui pourraient demander des véhicules capables d'une performance exceptionnelle dans des conditions difficiles.







## TYPES OF VEHICLES TO BE DEMONSTRATED

**A** LARGE selection of vehicles will be shown ranging from  $\frac{1}{4}$ -ton four-wheel-drive to 30-ton six-wheel-drive cargo trucks. There will also be light armoured vehicles in the form of Armoured Cars, Scout Cars, and Personnel Carriers.

Many of the vehicles shown have been developed for special purposes, such as ambulances, workshop lorries, mobile cranes, refuellers, etc.

In the trailer section the exhibits will include all sizes from  $\frac{1}{2}$ -ton cargo trailers to 60-ton tank transporters. There will also be low-loader trailers for machinery transport and special designs for the carriage of pontoons, etc.

## TYPES DE VÉHICULES EXPOSÉS

**U**N grand nombre de véhicules est exposé depuis le  $\frac{1}{4}$  tonne  $4 \times 4$  jusqu'au camion cargo 30 tonnes  $6 \times 6$ . Il y a aussi des véhicules blindés légers, tels que des chars blindés, des chars de reconnaissance, et des transporteurs de personnel.

Beaucoup des véhicules exposés ont été réalisés dans un but spécial pour servir, par exemple, d'autos-ambulances, de camions-ateliers, de grues mobiles, de ravitailleurs en combustible, etc.

Parmi les remorques se trouvent des véhicules de toutes dimensions, depuis les remorques cargo  $\frac{1}{2}$  tonne jusqu'aux transporteurs de chars 60 tonnes. Sont également exposés des remorques à plate-forme basse destinés au transport de machines aussi bien que des véhicules étudiés tout particulièrement pour servir de transporteurs de pontons.

## NATURE OF THE DEMONSTRATION

**I**N addition to a static display of vehicles there will be a demonstration of vehicles running on the road-test circuit and a cross-country and rough-road demonstration.

There will also be an Engineering Exhibition to show some of the special test apparatus used in the development of cross-country vehicles, together with a number of the more interesting mechanisms employed in them.

## CARACTÈRE DE LA DÉMONSTRATION

**E**N dehors de l'exposition statique, il y aura une démonstration de la tenue de véhicules sur un circuit d'essais (route) ainsi qu'à travers terrain difficile et routes mauvaises.

Il y aura aussi une exposition de génie, pour montrer quelques-uns des appareils spéciaux d'essai employés pour le développement de véhicules capables de surmonter les terrains difficiles, ainsi que plusieurs des plus intéressants mécanismes installés dans ces véhicules.

