

THE BRITISH ELECTRIC TRACTION CO. LTD.

A

HELICOPTER DEMONSTRATION

1.30 p.m. OCTOBER 20th, 1947

FOR

THE TRINITY HOUSE CORPORATION AND

THE ROYAL NATIONAL LIFEBOAT INSTITUTION,

AT

DUNGENESS.

B.E.T./NJGH.  
13.10.47.  
88, Kingsway, W.C.2.

THE BRITISH ELECTRIC TRACTION COMPANY, LIMITED.

Helicopter Air Communications

October 20th, 1947

"Anything a horse can do -

and it starts by getting men out of trouble!"

Igor Sikorsky, the Engineer responsible for the successful development of the Helicopter bearing his name, used these words when delivering a Lecture in London recently.

---

The object of this demonstration to the Elder Brethren of Trinity House and to the Inspector-in-Chief of the Royal National Lifeboat Institution is to show that not only is the helicopter a practical flying machine but also it is capable of performing a valuable service in coastal and marine rescue work.

The flying demonstration is arranged in three phases.

The first phase is to show the precise degree of control which the Pilot of the Helicopter has at his command. The aircraft will be launched, hovered at a few feet above the ground, flown at low speeds forward, sideward and backward, and, after a short flight at high speed, will return and alight on precisely the same spot from which it left the ground.

The second phase is to demonstrate a method <sup>of</sup> for the relief or provisioning for lighthouse crews in the event of isolation of the site by reason of heavy seas or other causes.

The third phase is to show a method for picking up men from shore, ship, lifeboat or wreck and carrying them to safety. It is hoped that conditions may permit the launching of a lifeboat for this phase of the trials.

It is hoped that within less than twelve months from this date the operators will have taken delivery of a fleet of aircraft of the type demonstrated. These will then be made available for charter hire operations in coastal and other areas of the British Isles, for Trinity House, and the Royal National Lifeboat Institution.

It is realised that the demand for relief and rescue purposes may only be occasional but, when the demand is made, it will be of extreme urgency, and it is the desire of The British Electric Traction Co. Ltd., to make clear that they will be willing to enter into an arrangement which will ensure that an aircraft is readily available for any such emergency.

## AN APPRECIATION.

The aircraft used for this demonstration is of the Westland-Sikorsky Type S.51 shortly to be produced in this country by Westland Aircraft Ltd., and it is here desired to acknowledge that company's ready collaboration with The British Electric Traction Co. Ltd., the operators, in staging these trials at the request of the Elder Brethren of Trinity House.

It is also desired to express the appreciation of both companies to the Elder Brethren of Trinity House for so readily granting permission for the use of the Dungeness site, and to the Royal National Lifeboat Institution for the facilities given for the use of the Lifeboat, and to the Principal Keeper at Dungeness, his staff, and the Lifeboat crew for their co-operation.

### THE WESTLAND-SIKORSKY S.51.

The S.51 Helicopter is designed to seat a pilot and three passengers; it has a top speed of 103 m.p.h., a cruising speed of 90 m.p.h. and hovers in stationary flight at zero. It is equipped with a special type of crane and freight hoist for raising and lowering men and provisions the while it hovers, should conditions prevent an actual landing.

For coastal rescue work rocket line throwing equipment must be developed, and visual and other signalling apparatus will become necessary, and it is hoped to develop such devices at a later date with the collaboration of the Trinity House Corporation and the Royal National Lifeboat Institution.

The officers whose names appear below have expressed a desire to observe the trials.

#### Trinity House.

Sir Arthur Morrell, K.B.E.,  
Deputy Master.  
Capt. C. St.G. Glasson,  
Chairman, The Lights Committee.  
Capt. Curties, M.V.O., R.N.  
Member, The Lights Committee.  
Capt. T.L. Owen, O.B.E.,  
Chairman, Pilotage Committee.  
Capt. Crumplin,  
Member, Pilotage Committee.  
J.P. Bowen Esq., C.B.E.,  
Engineer-in-Chief.  
Capt. Jarrett,  
Chief Superintendent.  
Capt. Williams,  
District Superintendent.  
A.D. Blake, Esq.,  
Principal, Pilotage Dept.  
R.S. McLernon,  
Secretary, Lights Dept.

#### Royal National Lifeboat Institution

Commander the Earl Howe C.B.E.  
Deputy Chairman.  
Commander Vaux,  
Chief Inspector, Lifeboats.  
Col. A.D. Burnett Brown, M.C.  
Major Stewart <sup>Secretary</sup>  
Watson <sup>Deputy Secretary</sup>

PROGRAMME.

1. At 1.30 p.m. the Helicopter will be available for inspection by those present.

---

2. At 1.45 p.m. the Pilot, Mr. Alan Bristow, will give a demonstration of the handling characteristics of the S.51 with emphasis on the sensitivity of the control system and close quarters manoeuvring.

---

3. At 2.15 p.m. a method of lifting a live load from the ground to the Lighthouse gallery, and from the gallery to the roof of the Low Light Engine house.

---

4. At 2.45 p.m. a method of picking up men from shore, ship, lifeboat or wreck and conveying them to safety. If weather and other conditions permit a lifeboat will be put off shore for this part of the programme.

---

The Helicopter is not perhaps an elegant aircraft in appearance, but following his rescue from wild country in Labrador a man once said that he "thought it the most beautiful thing he had ever seen in the sky!"

---

aircraft in magnesium, the fuselage and wings can be of pure monocoque construction, so that the total number of parts required is reduced to the very minimum, and a structure weight of about 25 per cent of the all-up weight can be obtained. Again, this aircraft, which has no bulbous projection for a windscreen as the upper portion of the nose is made of Perspex, gives minimum drag and maximum view. The new magnesium materials which have been developed, such as the magnesium zirconium alloy, not only have considerably increased the physical properties of the previous alloys but, at the same

lavatory.

Lastly, I would like to say that I believe a twin-engine aircraft, designed on the lines I have mentioned above, could be designed for an all-up weight of less than 5,000 lb to cruise at 200 m.p.h. on less horse power than given by Sir Roy Fedden. It would carry four passengers and pilot, with 200 lb of baggage, at a price that would make it a commercial proposition to large firms requiring this means of transport for the use of their executives.

What I want now, to do this job, is a suitable engine at a reasonable price and a reasonable specific consumption of fuel.

## HELICOPTER RESCUE TRIALS

**E**ARLY last week the British Electric Traction Company, Ltd., in co-operation with Westland Aircraft, Ltd., staged a helicopter demonstration at Dungeness for the Elder Brethren of Trinity House and the Committee of Management of the Royal National Lifeboat Institution. The demonstration was divided into three phases, designed to show that the helicopter is not only a practical flying machine, but that it is capable of performing sterling service in coastal and marine rescue work.

Mr. Alan Bristow, flying a Westland-Sikorsky S.51 (top speed 103 m.p.h.), first showed the handling characteristics of the machine, and the precise degree of control with which it can be operated, by hovering a few feet above the ground, flying forward, backward and sideways, and lastly by alighting upon the same spot from which he had left the ground.

The second and third phases of the trials were more spectacular. Mr. Norman Hill, of the British Electric Traction Company, acted as a live load and was lifted from the ground and



*The transfer of Mr. Norman Hill from the lighthouse gallery to a waiting lifeboat. Data for a new type of harness were collected.*

transferred to the Dungeness lighthouse gallery and from the gallery to the roof of the Low Light engine house. A method of picking up men from lighthouses, shore, ship or wreck, and conveying them to safety was demonstrated in the third part of the display when Mr. Hill was lifted from the lighthouse gallery, as our picture shows, and lowered into a lifeboat standing by in choppy seas below.

It is emphasized that the trials, which were highly successful, were part of a serious experimental programme and were not performed as a publicity stunt. Valuable data for the design of a suitable harness have been collected from the trials.

The British Electric Traction Company hopes to take delivery of a fleet of Westland-Sikorsky S.51s within less than twelve months. These will be made available for charter hire operations in coastal and other areas of the British Isles, for Trinity House, and the Royal National Lifeboat Institution. It is realized that the demand for relief or rescue purposes may be only occasional, but when a demand is made, however, it will be of extreme urgency, and the Company is willing to enter into an arrangement which will ensure that an aircraft is available.