

COPY.

# Lloyd's Register of Shipping.

GLASGOW REPORT No 50737

C. 2399

Port

MANCHESTER.

8th February, 1930.

This is to Certify that

J.F. CAMPBELL, and J. McL. REID,

the undersigned Surveyor<sup>s</sup> to this Society did at the request of Messrs. Fiat British Auxiliaries Ltd., Glasgow attend at the works of Messrs. Mitchell, Shackleton & Co. Ltd., Patricroft, Manchester, on the 17th December, 1929, and subsequently, for the purpose of inspecting and testing one - three throw Crankshaft and eight bolts, made to the order Nos. 1872 and 3737 of the former firm. Samples cut from the forgings were mechanically tested in the presence of one of the undersigned with the following results:-

Forging No.	Test Piece from.	Yield. Tons per sq. inch.	Ult. Tensile Stress. Tons per sq. inch.	Elong. %	Bend Test. Angle without Fracture.
146	End longitudinal	23.0	35.8	29	180 degrees.
13	Across web	18.4	32.8	26	135 "
	Along web	28.0	36.8	27	180 "
158	---	20.4	36.0	33	180 "

The shaft was also examined in its finished condition and found so far as could be seen, sound.

The bolts were examined in the rough forged state and found, so far as could be seen, sound.

The finished diameter of the crank shaft pins and journals was 180 m/m. The black forged bolts 1 $\frac{1}{4}$ ".

They are stamped "LLOYDS and F" for identification.

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J.F. Campbell & J. McL. Reid,  
Surveyors to Lloyd's Register of Shipping

This Certificate is issued upon the terms of the Rules and Regulations of the Society, which provide that: Shipp

"While the Committee use their best endeavours to ensure that the functions of the Society are properly executed, it is to be understood that neither the Committee nor the Society are under any circumstances whatever to be held responsible for any inaccuracy in any report or certificate issued by the Society or its Surveyors, or in any entry in the Register Book or other publication of the Society, or for any error of judgment, default, or negligence of the Surveyors, or other Officers or Agents of the Society."