

THE BRITISH THOMSON-HOUSTON CO., LTD., RUGBY.

CERTIFICATE OF TEST.

LE COMPOUND, COMPOLE, D.C. MOTOR. 3rd November 1934

HP. 297/ Form CB Phase Cycles Serial No. R.57551
/56
g 125-HP Volts 220 Arm./Rotor R.73701
472 Speed 160/320-RPM Cat. No.
Req. 300018/7000
mer Messrs. J. & E. HALL LTD. S.O. No. H.404919
mer's Order No. Date of Test October 1934

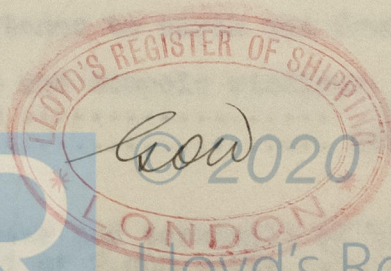
This Certificate covers tests taken on the above machine at Rugby.

The machine is equipped with two Marine type pedestal bearings, shaft with bare extension to take customer's flexible coupling, Drip-Proof canopy over machine.

Sheet 2 - Heat Run.
Insulation Resistance Test.
High Potential Test.

Sheet 3 - Resistances.
Efficiencies.

Certified



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Engineer.

004285-004291-0095'13

31st October. 1934

HEAT RUN for six hours on full load, followed by one hour on 20% overload running as a motor:-

<u>Time</u>	<u>Line Volts</u>	<u>Line Amps.</u>	<u>Sh.fld. current</u>	<u>Speed RPM</u>
1-45 p.m.	220	472	1.786	301
Machine run for six hours on full load.				
7-45 p.m.	220	472	1.775	305
Machine shut down and temperatures taken.				
8-30 p.m.	220	565	1.78	298
Machine run for one hour on 20% overload.				
9-30 p.m.	220	565	1.775	301
Machine shut down and temperatures taken.				

After heat run the main pole gaps were adjusted, after which the following readings were taken:-

	<u>Line Volts</u>	<u>Line Amps.</u>	<u>Sh.fld. current</u>	<u>Speed RPM</u>
Full load field rheostat "all in"	220	472	1.905	320
No-load field rheostat "all out"	220	-	7.48	152

Temperature rise by thermometer in °C. after above heat run:-

	<u>After 6 hours On full load</u>	<u>After 1 hour on 20% overload</u>
Armature core	20.5	27
Armature winding	21.5	32
Commutator	14.5	17
Main spools	13.5	16
Compoles	32.5	44
Air temperature	17.5	17

INSULATION RESISTANCE TEST

The insulation resistance to earth was found to be:-

Armature winding, series and compole windings,
brushgear and terminals 5 megohms hot.
Shunt field winding 100 " "

HIGH POTENTIAL TEST

The windings, brushgear and terminals of the machine withstood a high potential test of 2,000 volts A.C. to earth for one minute, hot.

29F/56 MOTOR No.R.57551

Sheet 3

RESISTANCES

	Resistance in Ohms at 17°C.	Resistance in Ohms hot.
Armature winding	0.0223 (calc).	0.0256 (calc)
Series winding	0.001523 (test)	0.00164 (test)
Compole winding	0.00685 (test)	0.0079 (test)
Shunt field winding	28.1 (test)	29.6 (test)

EFFICIENCIES BY SEGREGATION OF MEASURABLE LOSSES AT 320-RPM

Core loss, windage and friction,
brush friction
Shunt field and rheostat loss

Cat. No. Watts
Req. 7000/7000
S.O. No. 1321
420
Date of Test 1741

Armature C^2R 5750
Compole winding C^2R ... 1770
Series winding C^2R 368
Brush C^2R 944
8832

<u>LOAD</u>	<u>4/4</u>	<u>3/4</u>	<u>2/4</u>
Constant loss	1741	1741	1741
C^2R loss	8832	4970	2208
Total loss	10573	6711	3949
Input	103840	77880	51920
Output	93267	71169	47971
% Efficiency	90	91.5	92.5

—300—



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REG/ELM

Cont'd...

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0096 1/3