

YACHT.

Rpt. 13.

No. 13447

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 20 FEB 1929

Date of writing Report 19.2.1929 When handed in at Local Office 19.2.1929 Port of Southampton.
 No. in Survey held at Southampton. Date, First Survey 20.11.28 Last Survey 14.2.1929.
 Reg. Book. on the motor yacht "CRUSADER".
 Built at Southampton By whom built Bampton & Michalsons Ltd Yard No. 361 When built 1919
 Owner: R. Kingsley Macomber Port belonging to New London. Conn. USA.
 Electric Light Installation fitted by Bampton & Michalsons Ltd. Contract No. When fitted 1929.

System of Distribution

Pressure of supply for Lighting 110 / volts, Heating 110 / volts, Power 110 / volts.

Direct or Alternating Current, Lighting Direct, Power Direct.

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes.

Generators, do they comply with the requirements regarding rating Yes, are they compound wound Yes.

are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator.

Where more than one generator is fitted are they arranged to run in parallel Yes, is an adjustable regulating resistance fitted in series with each shunt field Yes.

Are all terminals accessible, clearly marked, and furnished with sockets Yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes.

Are the lubricating arrangements of the generators as per Rule Yes.

Position of Generators Forward end of Engine Room.

is the ventilation in way of the generators satisfactory Yes, are they clear of all inflammable material Yes.

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

and are the generators protected from mechanical injury and damage from water, steam or oil

are their axes of rotation fore and aft Yes.

Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes, are the prime movers and their respective generators in metallic contact Yes.

Main Switch Boards, where placed Aft end of Engine Room. Upper Platform.

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes.

are they protected from mechanical injury and damage from water, steam or oil Yes, if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards

are they constructed wholly of durable, non-ignitable non-absorbent materials Yes, is all insulation of high dielectric strength and of permanently high insulation resistance

Yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework

and is the frame effectively earthed Yes. Are the fittings as per Rule regarding:— spacing or shielding of live parts

Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, proportion of omnibus bars Yes.

individual fuses to voltmeter, pilot or earth lamp Yes, connections of switches Yes.

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

Incident Breaker, and DP switch with equalizer. also protecting fuses.

Instruments on main switchboard 5 ammeters 3 voltmeters 2 Voltmeter synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Lamps.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule

Shipping

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W306-0055 (1/2)

Cables: Single, twin, concentric, or multicore. *Single* are the cables insulated and protected as per Tables IV or V of the Rules. *Yes*.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load. *2.5 volts*.

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets. *Yes*.

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound. *Yes*.

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage. *Yes*.

Support and Protection of Cables, state how the cables are supported and protected. *Casings (wood) + perforated channels (steel)*.

If cables are run in wood casings, are the casings and caps secured by screws. *Yes*, are the cap screws of brass. *Yes*, are the cables run in separate grooves. *Yes*. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII. *Yes*.

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements. *Yes*.

Joints in Cables, state if any, and how made, insulated, and protected. *Soldered terminals, Rubber insulation + lead sheathed.*

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands. *Yes*.

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed. *Yes*, state the material of which the bushes are made. *Steel*.

Earthing Connections, state what earthing connections are fitted and their respective sectional areas. *In metallic contact throughout.*

are their connections made as per Rule. *Yes*.

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule. *Yes*.

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven. *Battery*.

Navigation Lamps, are these separately wired. *Yes*, controlled by separate switch and separate fuses. *Yes*, are the fuses double pole. *Yes*, are the switches and fuses grouped in a position accessible only to the officers on watch. *Yes*, has each navigation lamp an automatic indicator as per Rule. *Yes*.

Secondary Batteries, are they constructed and fitted as per Rule. *Yes*.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight. *Yes*, are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected. *Guards*.

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected. *Yes*.

how are the cables led. *Yes*.

where are the controlling switches situated. *Yes*.

Searchlight Lamps, No. of *1*, whether fixed or portable. *Portable*, are their fittings as per Rule. *Yes*.

Arc Lamps, other than searchlight lamps, No. of *1*, are their live parts insulated from the frame or case. *Yes*, are their fittings as per Rule. *Yes*.

Motors, are their working parts readily accessible. *Yes*, are the coils self-contained and readily removable for replacement. *Yes*, are the brushes, brush holders, terminals and lubricating arrangements as per Rule. *Yes*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material. *Yes*, are they protected from mechanical injury and damage from water, steam or oil. *Yes*, are their axes of rotation fore and aft. *Yes*, if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type. *Yes*, if not of this type, state distance of the combustible material horizontally or vertically above the motors. *Yes*.

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule. *Yes*.

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule. *Yes*.

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings. *Yes*.

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office. *Yes*.

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	45 each	110	408	480	Gardner Engine.	Crude oil	Above 150° F.
AUXILIARY	1	26	110	146	480	- do -	- do -	- do -
EMERGENCY	1	13	110/135	118	500	Start main engine shafting	- do -	- do -
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2 each	.7435	91	.103	408	168	V.I.R.	Lead.
	EQUALISER CONNECTIONS	1	- do -	- do -	- do -	- do -	- do -	- do -	- do -
	AUXILIARY GENERATOR	3	.4064	61	.093	146	176	- do -	- do -
	EMERGENCY GENERATOR	2	.1168	37	.064	118	72	- do -	- do -
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.01046	7	.044	12	60	- do -	- do -
	BOILER ROOM								
	ACCOMMODATION								
	Officers + crew.	2	.01463	7	.052	10	380	- do -	- do -
	Navigation	2	.0146	7	.044	5	270	- do -	- do -
	Crew's Mess	2	.02214	7	.064	12	176	- do -	- do -
	- do - aft.	2	.02214	7	.064	15	182	- do -	- do -
	Heating. fwd.	2	.1478	37	.072	85	144	- do -	- do -
	- do - aft.	2	- do -	- do -	- do -	180	140	- do -	- do -
	- do - No.	2	.01046	7	.044	9	30	- do -	- do -
	" Officers	2	.02214	7	.064	28	136	- do -	- do -
	WIRELESS	2	.02214	7	.064	28	240	- do -	- do -
	SEARCHLIGHT	2	.2960	19	.082	10	270	- do -	- do -
	MASTHEAD LIGHT	2	.02299	3	.036	1	140	- do -	- do -
	SIDE LIGHTS	2	- do -	- do -	- do -	- do -	50	- do -	- do -
	COMPASS LIGHTS	2	- do -	- do -	- do -	13	40	- do -	- do -
	POOP LIGHTS								
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS	1	.03920	19	.052	60	68	V.I.R.	Lead.
	GENERAL SERVICE PUMP	1	.02840	19	.044	53	84	- do -	- do -
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS	1	.3024	37	.103	195	108	- do -	- do -
	AIR COMPRESSOR	1	.1168	37	.064	98	96	- do -	- do -
	FRESH WATER PUMP	1	.02214	7	.064	27.3	152	- do -	- do -
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP	1	.02840	19	.044	53	84	- do -	- do -
	WINDLASS	1	.3024	37	.103	195	300	- do -	- do -
	WINCHES, FORWARD								
	WINCHES, AFT	1	.2465	37	.093	160	216	- do -	- do -
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR	1	.46	19	.064	44	200	- do -	- do -
	WORKSHOP MOTOR	2	.02214	7	- do -	14	120	- do -	- do -
	VENTILATING FANS	2	.0146	- do -	.044	21	240	- do -	- do -
	Oil Separator	1	.0070	- do -	.036	6.9	66	- do -	- do -
	Gas Compass	1	- do -	- do -	- do -	6	42	- do -	- do -
	Bank Alarm	1	.1168	37	.064	101	116	- do -	- do -
	Refrigerator	1	.1964	37	.082	160	140	- do -	- do -

All Conductors are of annealed copper conforming to British Standard Specification No. 7.
The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.
The foregoing is a correct description.

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass

14 ft.

Distance between electric generators or motors and steering compass

20 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 20 Ampères 32 feet from standard compass 36 feet from steering compass.

A cable carrying 10 Ampères 10 feet from standard compass 6 feet from steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

The maximum deviation due to electric currents was found to be degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

PER PRO
CAMBER & NICHOLSON & LTD.

Builder's Signature.

Date

19 February
1929

Is this installation a duplicate of a previous case 20 If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

This installation has been fitted in accordance with Rule requirements, the materials & workmanship are sound & good. It has been tested under working conditions and found efficient and is in my opinion eligible for the notation "ELECTRIC LIGHT".

It is submitted that
this vessel is eligible for
THE RECORD.

Elec Light

5/3/29

Total Capacity of Generators 129 Kilowatts.

The amount of Fee ...

£32

When applied for,

19/2/1929

When received,

21/2/29

Travelling Expenses (if any) £

Committee's Minute

Assigned

Surveyor to Lloyd's Register of Shipping.



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