

# ON OIL ENGINE MACHINERY.

No. 3394

B.C. vessel.

Received at London Office

When handed in at Local Office

19/11 1949 Port of

Bergen

regue & Florvåg

Date, First Survey

21/6/49 Last Survey

27/6 1949

Number of Visits 4

no vessel "HAVSTRAND" or "LIZZIE BIRREL"

Tons Gross 93.39  
Net 41.98

to be Bucaie

By whom built

unknown

Yard No. ✓

When built 1913

Aalesund

By whom made

Hjelset Motorfabrik

Engine No. 407

When made 1948

ers made at. ✓

By whom made

Boiler No. ✓

When made. ✓

orse Power.

120

Owners

Karsten Daae

Port belonging to

Bergen

A. Power as per Rule

60

Is Refrigerating Machinery fitted for cargo purposes.

no

Is Electric Light fitted. yes

rade for which vessel is intended. Fishing & light cargo

L ENGINES, &c. —Type of Engines

Semi-Diesel

2 or 4 stroke cycle. 2 Single or double acting. single

Maximum pressure in cylinders

24 kgs./sq.cm.

Diameter of cylinders

329 mm

Length of stroke

380 mm

No. of cylinders. 2

No. of cranks. 2

Mean Indicated Pressure

3 kgs./sq.cm.

Ahead Firing Order in Cylinders.

✓

Span of bearings, adjacent to the crank, measured

from inner edge to inner edge.

1001 mm

Is there a bearing between each crank.

no

Revolutions per minute. 340

Flywheel dia.

900 mm

Weight.

1050 kgs.

Moment of inertia of flywheel (16lbs. in<sup>2</sup> or Kg.cm.<sup>2</sup>)

✓

Means of ignition

Hot bulb

Kind of fuel used Diesel oil

Crank Shaft,

Solid forged  
Semi built  
All built

dia. of journals

as per Rule.  
as fitted.

160 mm

Crank pin dia.

180 mm

Crank webs

Mid. length breadth. 260 mm  
Mid. length thickness. 150 x 114 mm

Thickens parallel to axis. ✓  
Thickens around eyehole. ✓

Flywheel Shaft, diameter

as per Rule.  
as fitted.

150 mm at top of cone

Intermediate Shafts, diameter

as per Rule.  
as fitted.

110 mm

Thrust Shaft, diameter at collars

as fitted.  
as per Rule.

120 mm

Tube Shaft, diameter

as per Rule.  
as fitted.

✓

Screw Shaft, diameter

as per Rule.  
as fitted.

110 mm

Is the (tube screw) shaft fitted with a continuous liner

no

Bronze Liners, thickness in way of bushes

as per Rule.  
as fitted.

✓

Thickness between bushes

as per Rule.  
as fitted.

✓

Is the after end of the liner made watertight in the

propeller boss.

✓

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner.

✓

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-

corn.

✓

If two liners are fitted, is the shaft lapped or protected between the liners.

✓

Is an approved Oil Gland or other appliance fitted at the after

end of tube shaft.

no

If so, state type.

✓

Length of bearing in Stern Bush next to and supporting propeller.

450 mm

Propeller, dia.

1400 mm

Pitch

ab. 1000 mm

No. of blades.

2

Material

brass

whether moveable.

yes

Total developed surface

ab. 25 sq. feet

Moment of inertia of propeller (16lbs. in<sup>2</sup> or Kg.cm.<sup>2</sup>)

✓

Kind of damper, if fitted.

✓

Method of reversing Engines

reversible prop.

Is a governor or other arrangement fitted to prevent racing of the engine when declutched.

yes

Means of

lubrication.

Force feed lubricator

Thickness of cylinder liners

30 mm

Are the cylinders fitted with safety valves.

no

Are the exhaust pipes and silencers water cooled

or lagged with non-conducting material.

lagged

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

back to the engine.

✓

Cooling Water Pumps, No.

1

Is the sea suction provided with an efficient strainer which can be cleared within the vessel.

✓

Bilge Pumps worked from the Main Engines, No.

2

Diameter.

70 mm

Stroke.

30 mm

Can one be overhauled while the other is at work.

yes

Pumps connected to the

Bilges Main Bilge Line

No. and size.

1 - 528 gall/h.

How driven.

M.E.

Belt driven from M.E.

Is the cooling water led to the bilges.

no

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements.

✓

Ballast Pumps, No. and size.

✓

Power Driven Lubricating Oil Pumps, including spare pump, No. and size.

1 - 10 run feed lubricator

Are two independent means arranged for circulating water through the Oil Cooler.

no

Suctions, connected to both main bilge pumps and auxiliary

bilge pumps, No. and size:—In machinery spaces.

2 - 1" and 1 - 3" (to hand pump on deck)

In pump room.

✓

In holds, &c. 2 - 1" and 1 1/2" (at after end of hold). Fore peak space: no means of draining provided.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size.

2 - 1" (both connected to M.E. driven plungers bilge pump)

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes.

yes

Are the bilge suction in the machinery spaces led from easily

accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges.

no - strums fitted

Are all Sea Connections fitted direct on the skin of the Ship.

yes

Are they fitted with valves or cocks.

value

Are they fixed

sufficiently high on the ship's side to be seen without lifting the platform plates.

no

Are the overboard discharges above or below the deep water line.

above

Are they each fitted with a discharge valve always accessible on the plating of the vessel.

✓

Are the blow off cocks fitted with a spigot and brass covering plate.

✓

What pipes pass through the bunkers.

✓

How are they protected.

✓

What pipes pass through the deep tanks.

✓

Have they been tested as per Rule.

✓

Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times.

yes

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery

spaces, or from one compartment to another.

no

Is the shaft tunnel watertight.

no

Is it fitted with a watertight door.

✓

worked from.

✓

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork.

none

Main Air Compressors, No.

Air receivers charged by compressed air from M.E. cylinders

No. of stages.

✓

diameters.

✓

stroke.

✓

driven by.

✓

Auxiliary Air Compressors, No.

✓

No. of stages.

✓

diameters.

✓

stroke.

✓

driven by.

✓

Small Auxiliary Air Compressors, No.

✓

No. of stages.

✓

diameters.

✓

stroke.

✓

driven by.

✓

What provision is made for first charging the air receivers first charged by compressed air from cyl. of cargo winch patrol engine

Scavenging Air Pumps, No.

✓

diameter.

✓

stroke.

✓

driven by.

✓

Auxiliary Engines crank shafts, diameter

as per Rule.  
as fitted.

none

Position.

✓

Is a report sent herewith.

✓

Have the auxiliary engines been constructed under special survey.

✓

Lloyd's Register Foundation

1510-H0400-50464-0151



**AIR RECEIVERS:**—Have they been made under survey

Is each receiver, which can be isolated, fitted with a safety valve as per Rule.

Can the internal surfaces of the receivers be examined and cleaned

Injection Air Receivers, No. ☒ Cubic capacity of each

Is a drain fitted at the lowest

Seamless, welded or riveted longitudinal joint

Material

Range of tensile strength

Work

Starting Air Receivers, No. 2

Total cubic capacity

200 lbs

Internal diameter

288 mm

thickness

Seamless, welded or riveted longitudinal joint

welded

Material

steel

Range of tensile strength

Working pressure

**IS A DONKEY BOILER FITTED**

no

If so, is a report now forwarded

Is the donkey boiler intended to be used for domestic purposes only

batch of plans received from Glasgow is returned herewith under sep. cover

PLANS. Are approved plans forwarded herewith for shafting

(If not, state date of approval)

Receivers yes (not yet appd) Separate fuel tanks

Donkey boilers

☒

General pumping arrangements

yes (not yet appd)

Pumping arrangements in machinery space

yes (not yet appd)

Oil fuel burning arrangements

☒

Have Torsional Vibration characteristics been approved

☒

Date of approval

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied

For short voyages yes

State the principal additional spare gear supplied

The foregoing is a correct description,

Manufacturer.

Dates of Survey

while building

During progress of work in shops - -

During erection on board vessel - -

21/6, 22/6, 24/6 & 27/6.49.

Total No. of visits

4

Dates of examination of principal parts—Cylinders

24/6

Covers

24/6

Pistons

24/6

Rods

☒

Connecting rods

24/6

Crank shaft

24/6

Flywheel shaft

24/6

Thrust shaft

24/6

Intermediate shafts

24/6

Tube shaft

☒

Screw shaft

22/6

Propeller

22/6

Stern tube

22/6

Engine seatings

24/6

Engine holding down bolts

24/6

Completion of fitting sea connections

☒

Completion of pumping arrangements

☒

Engines tried under working conditions

27/6

Crank shaft, material

steel

Identification mark

K.V. 6884.1.11

Flywheel shaft, material

steel

Identification mark

N.V. No. 387

Thrust shaft, material

steel

Identification mark

N.V. No. 387

Intermediate shafts, material

steel

Identification marks

6.7.48 M.A.T.

Tube shaft, material

☒

Identification mark

☒

Screw shaft, material

steel

Identification mark

Identification marks on air receivers

Both marked: B.C. 23-9-48. R.F.

Welded receivers, state Makers' Name

Hjelset Motofabrik, Alesund

Is the flash point of the oil to be used over 150°F

yes

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

no

Description of fire extinguishing apparatus fitted

Have connection on deck

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo

no

If so, have the requirements of the Rules been complied with

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery duplicate of a previous case

no

If so, state name of vessel

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

This semi-diesel engine was constructed and fitted under supervision of Norwegian "Sjofartskontor" at Alesund and it is stated that materials for shafting have been tested by Det Norske Veritas Surveyors.

Workmanship and materials as far as could be ascertained are good.

Plans in duplicate of starting air receivers and intermediate shaft and plan in triplicate of pumping arrangement are forwarded herewith under separate cover.

The Machinery of this vessel is eligible in our opinion to be classed MBS and t.s.d. G.49, subject to O.F. bunker fittings and pumping arrangement being altered to B.C. Rule requirements and air receivers being provided with fusible plugs before the end of December, 1949.

The amount of Entry Fee ... KR. 50.-

Special

☒

:

When applied for

26/7 1949

Donkey Boiler Fee...

☒

:

When received

13/8 1949

Travelling Expenses (if any)

KR. 5.-

above fees etc. included in

Apr. 9.

Committee's Minute

Assigned

Lee minute on

Bgn 3422

S. A. Eide B. D. Witkowski  
Engineer Surveyor to Lloyd's Register of Shipping



Lloyd's Register  
Foundation

Certificate (if required) to be sent to  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)