

BUILDER'S NOS. 133 →

M/V TAKAMISAN MARU

( SPARE GEARS )

All spare gears to be supplied according to the Teishinsho's and Lloyd's requirements and tied in place and neatly strapped on convenient places.

a) For Main Engine :-

- 1 - Cylinder head.
- 1 - Pair of crank pin brasses with bolts and nuts.
- 2 - Pairs <sup>of</sup> cross head brasses with key and set screw.
- 1 - Pair of main bearing brasses of each size with studs and nuts.
- 1 - Piston complete with rings and piston pin. & piston cooling pipes.
- 3 - Sets of piston rings for one piston.
- 6 - Exhaust valves with seats, cages, spindles, springs, etc. ready for fitting.
- 3 - Exhaust valve seats.
- 3 - Inlet air valves complete.
- 2 - Starting valves with cage complete.
- 3 - Fuel valves with cage complete.
- 3 - Loose spindles for fuel valves.
- 6 - Loose bottoms for fuel valves.
- 1 - Roller of each size with pins.
- 6 - Off adjusting screw for valve gear.
- 1 - Complete set of all the working parts for one fuel pump.
- 1 - Set of springs complete for one engine.
- 1 - Set of studs with nuts for one cylinder head.
- 1 - Set of leather collars and packings.
- 2 - Spindles for overflow valves.
- 1 - Set of air compressor crank pin brasses with bolts and nuts.
- 1 - Set of air compressor valves with seats and springs.
- 1 - Set of brasses for air compressor main bearing with bolts



- 2 -

and nuts.

- 1 - Set of piston rings of each size for air compressor.
- 1 - Cooling coil for main air compressor.
- 3 - Thermometer pieces for cooling water discharge on exhaust valves.
- 1 - Set of valves with seats for one bilge pump.
- 1 - Set of valves with seats for one sanitary pump.
- 1 - Set of coupling bolts for crank shaft.
- 1 - Set of coupling bolts for intermediate shaft.

b) Auxiliary Machinery :-

- 1 - Set of valves with seats for bilge and sanitary pump.
- 1 - Spring for each size of safety valves.
- 1 - Wing and 2 guide blocks for ballast pump.

c) General Spares :-

- 6 - Glasses for pressure lubricators.
- 1 - Packing of each size for air bottle valves.
- 1 - Pipe length with union for blast air.
- 1 - Pipe length with union for fuel oil.
- 1 - Pipe length with flanges for starting air.
- A quantity of assorted bolts and nuts.

d) Boiler :-

- 1 - Spring for safety valve.
- 1 - Valve for feed check valves.
- 6 - Water gauge glasses and 24 packing rings.
- 1 - Oil burner.

Sufficient number of fire brick.

( TOOLS AND OUTFITS )

a) Engine Room :-

- 1 - Engineer desk.

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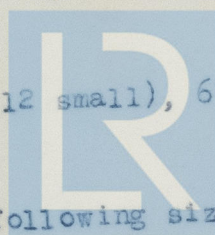
- 1 - 8 day engine room clock.
- 2 - Notice boards.
- 4 - Brass oil cans, each 3 lbs. capacity (i.e. one quart).
- 5 - Brass feeders ( $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1 and  $1\frac{1}{2}$  pint each).
- 4 - Brass feeders with spring bottom ( $\frac{3}{4}$  pint).
- 2 - Brass syringes,  $1\frac{1}{4}$ " x 15".
- 2 - Brass trays for oil cans.
- 1 - Centre bit for oil barrel.
- 2 - 8" brass funnels.
- 2 - Filling cans (one gallon).
- 2 - Fire extinguishers, of approved maker.

b) Lamps, etc. :-

- 2 - Davy's safety lamps.
- 2 - Lamp shears.
- 2 " lbs. lamp wick for hand lamp.
- 1 - Box for lamp wicks (Japaned tin).

c) Lifting Gear, etc. :-

- 2 - 3 ton worm gear pulley blocks.
- 2 -  $1\frac{1}{2}$  ton worm gear pulley blocks.
- 2 - One ton worm gear pulley blocks.
- 4 - Tackles with iron blocks and manila ropes.
- 2 - 3 ton lifting jacks.
- 2 - Crow bars (one large and one small).
- 4 - Beam grabs.
- 6 - Shackles, 1" dia. pin, corresponding with above mentioned blocks.
- 24 - Iron wedges (12 large and 12 small), 6"x3"x $\frac{3}{8}$ " and 4"x2"x $\frac{3}{4}$ ".
- 2 - Eye bolts of each of the following sizes;





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$1/4"$  to  $1\frac{1}{2}"$  rising by  $1/8"$ .

4 - Hard wood wedges.

d) Instruments :-

1 - Planimeter.

1 - Diesel engine indicator with springs, scales and gears.

3 - 10" thermometers, graded to 212°F. in copper frame.

2 - Thermometers (Pole type) 100°C.

2 - Special high graded thermometers for exhaust gas and cooling water discharge, graded to 800°F.

2 - Adjusters for crank shaft fixed on engines.

e) Packing Tools :-

3 - Packing sticks, assorted.

3 - Packing screws, assorted.

4 - Packing knives, assorted.

f) Tools :-

1 - Micrometer.

1 - Metric feeler.

4 - Sets of vice grips (copper).

4 - Sets of vice grips (lead).

12 - Half round files, assorted.

12 - Flat files, assorted.

6 - Square files.

4 - 10" round files.

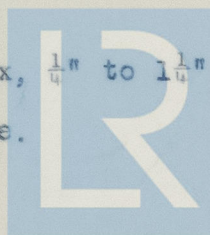
20 - File handles.

1 - Hack saw with six blades.

1 - Set of stocks and dies in box,  $\frac{1}{4}"$  to  $1\frac{1}{4}"$ , whitworth thread and three taps of each size.

1 - Screw plate.

6 - Triangular scrapers.



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- 6 - Flat scrapers.
- 1 - Surface plate (18" x 12").
- 2 - Straight edge (2'-0" and 4'-0").
- 2 - 12" and 24" square.
- 1 - Straight steel rule (inches and metre), one metre long.
- 2 - Pairs of inside callipers, 12".
- 1 - Pair of inside callipers, 4".
- 1 - Gauge for cylinder liner.
- 2 - Pairs of outside callipers, 16".
- 1 - Pair of outside callipers, 4".
- 1 - 36" adjustable bridge gauge for main engine pistons.
- 1 - Pair of dividers, 6".
- 1 - Pair of flat pliers, 6".
- 1 - Pair of round pliers, 6".
- 2 - Pairs of electric pliers, 6".
- 1 - Pair of nippers, 6".
- 4 - Screw drivers, 3", 5", 7" and 10" long.
- 4 - Hand hammers (one 1 lb. and three 1½ lb.).
- 2 - One 10 lbs. sledge hammer, and the other 20 lbs.
- 1 - Forge hammer, 10 lbs. with 36" shaft.
- 1 - Rivetting hammer, 3 lbs.
- 1 - Copper hammer, 10 lbs.
- 1 - Lead hammer, 5 lbs.
- 2 - Muntz metal drifts, 1½" x 12".
- 2 - Tin smith's wooden mallets.
- 10 - Hammer handles, 16"
- 12 - Flat chisels.
- 6 - Half round chisels.
- 12 - Cross cut chisels.



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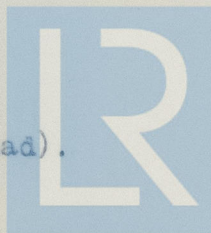


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- 12 - Punches, assorted.
- 2 - Centre punches,  $3/8$ ".
- 1 - Small portable forge with centrifugal blower, 18".
- 1 - Anvil (100 lbs.)
- 1 - Set of smith tool.
- 1 - Melting pot, 12".
- 2 - Soldering iron, 2 lbs.
- 2 - Soldering lamps (one small and the other large).
- 2 lbs. of soldering material.
- 1 - Bottle of soldering liquid.
- 1 - Ratchet<sup>t</sup> brace with 12 bits (14").
- 1 - Ratchet brace with 12 bits (10").
- 1 - Drill knee.
- 1 - Breast drill with 12 spiral drills.
- 1 - Pair of tin man shears.
- 2 - Patent pipe wrenches, (one large and the other small) up to 4" and up to 1".
- 1 - Large chain wrench.
- 2 - Vices,  $5\frac{1}{2}$ " mouth.

g) Joiner's Tools :-

- 1 - Hatchet.
- 1 - 7" screw driver.
- 1 - Crank brace with 6 bits ( $\frac{1}{4}$ " to 1").
- 1 -  $2\frac{1}{2}$ " hand plane.
- 1 - Hand saw 26" long G.S.
- 2 - Chisels ( $\frac{3}{4}$ " and  $1\frac{1}{4}$ ").
- 2 - Gauge ( $1\frac{1}{2}$ " and 1").
- 1 - Wooden mallet (square head).
- 1 - Auger,  $3/4$ ".



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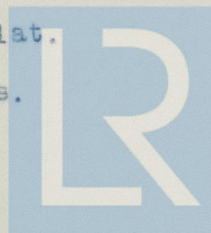
- 1 - Ginlet.
- 1 - Oil stone (8" long in case).

h) Miscellaneous :-

- 6 - Assorted scrapers.
- 1 - Box for emery (Japaned).
- 1 - Box for red lead, 12" square.
- 1 - Box for white lead, 12" square.
- 1 - Box for graphite, 12" square.
- 1 - Box for soap, 12" square.
- 4 - Sweeping brushes.
- 1 - Dust pan.
- 6 - Coir broom and handle.
- 6 - 3" paint pots.
- 12 - Paint brushes (assorted).
- 3 - Galvanized iron buckets.
- 4 - Mats.
- 1 - Benzine can with screw plug (20 lbs. capacity).
- 2 - One gallon American oil measures with brass.
- 2 - Trays for washing filter, 2'-0"x3'-0"x6", with lips.
- 1 - Tallow kettle.
- 1 - Combined stocks and dies, 1/16" to 1/4", in box.
- 4 - Reamers, ample size.
- 2 - Scribes.
- 1 - Set of painting stages for engine room.
- 4 - Steel wire brushes.
- A quantity of iron, round flat.
- A quantity of bolts and nuts.
- 4 - Plates.

i) Boiler Tools :-

- One set of boiler caulking tools.



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One set of scaling tools.

Two salinometers and pots.

6 - Gauge glasses.

3 - Chain slings.

4 - Wire slings.

One Baume Hydrometer with thermometer for oil.

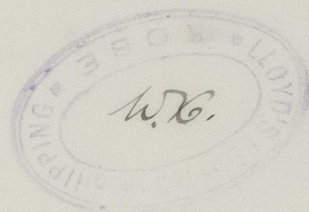
One bellow.

j) Electric Tools :-

One D.C. 300 volt meter (Portable).

One magnet bell.

One ammeter (15 amp.) portable.



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