



SPARE GEAR FOR ENGINE NO. 973.

Athelbeach

(Messrs. J.G. Kincaid & Co's Engine No.K.60/A).

D.O. = Drawing Office
E.S. = Engine Shop & Stores.
B.S. = Boiler Shop & Stores.

NOTE:-

All sparegear to be tried in place in Works.



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SPARE GEAR

SHEET (1).

Gear supplied by Messrs. J.G. Kincaid & Co. Ltd.

<u>Q. off</u>	<u>Description</u>	<u>Drg.No.</u>	<u>Patt.No.</u>
pair	Connecting Rod Bushes Lower End	37649	42722-3
pair	" " " Upper End	"	34499-34500
	Bottom End Bolts and Nuts	"	34437-11818
	Top " " " "	"	34501-11811
pair	Main Bearing Bushes	27770	33599
	Main Bearing Bolts	To suit amended Bedplates K.2089.	
	Separate Links complete with Pins and Rollers for Camshaft Driving Chain.		
	Cylinder Cover, without Valves	37156	42589
	Cylinder Liner, complete	27340	32702
	Cylinder Jacket, complete	"	K.1606
Set	Studs and Nuts for Valves in one Cyl. Cover		
2	Screws for Cylinder Liners	27340	32704
	Caps	"	26480
	Safety Valves (complete)	4286	30271 etc.
	" " Seat	"	30271
	Fuel Valves, complete with Ball Screw	27227	33474 etc.
	" " spindles.	"	33343
	" " Safety Caps	7005	66367
Sets	" " Spindle Packing		
	Cam Roller with Pin and Nut	24380	32936-32939.

NOTE:- Cylinder Cover, Liner and Water Jacket to be fitted up complete ready for fitting to place.

Fuel Cam Toe Pieces.	27780	32853
Loose End Seats for Fuel Valve	27227	33191

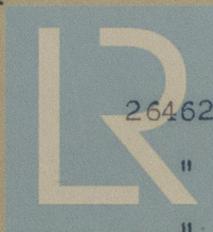
EXHAUST VALVES

Exhaust Valves complete with Ball Screw	7029	70799 etc.
" " spindle	"	32727
Seats for spindle	"	32728
Nuts for Seats	"	32729

SPARE GEAR

SHEET (2).

<u>ff</u>	<u>Description</u>	<u>Drg.No.</u>	<u>Patt.No.</u>
<u>HAUST VALVES (Contd)</u>			
	Loose Seats	7029	32726
	Cam Roller with Pin and Nut	24380	32934-32937
<u>LET VALVES</u>			
	Inlet Valve complete with Ball screw	35652	70792 etc.
	Cam Roller with Pin and Nut.	24380	32934-32937
<u>ARTING VALVE</u>			
	Starting Valves complete with Ball & screws.	23127	32776 etc.
	" " spindle..	"	32779
	Rings for Spindle	"	30419
	Safety Caps	25700	65321 etc
	Cam Roller with Pin and Nut	24380	32935-32938
	Piston Rod	32005	34489
	Piston without Rings	27617	33522
	Piston Rings Top	"	33985
	Piston Rings Intermediate	"	33986
	Scraping Rings	27617	33987
	Telescope Pipe	27556	33717
	Guide	"	33720
	Ring for Guide Seating	"	33721
	Inlet Pipe to Rod	"	33723
	Gore Pipe fitted in Spare Rod	"	33724
	Fuel Pump Plungers	26462	29442
	" " " Sleeves	"	29441
	Suction Valves	"	30657
	Delivery Valves	"	30656
	Hand Pump Plungers	31842	56117
	Set Working parts for one Fuel Pump		
	Plunger, viz:-		
	1 Fuel Pump Plunger	26462	29442
	1 Delivery Valve	"	30656
	1 Suction Valve	"	30657



SPARE GEAR

SHEET (3).

<u>No. off.</u>	<u>Description</u>	<u>Drw. No.</u>	<u>Patt. No.</u>
	1 Regulating Lever	26462	29442
	1 Nut for Plunger Sleeve	"	33671
	1 Spherical Cap	"	33673
	1 " Ring	"	33674
	All to be fitted to Plate.		
14	H.P. Piston Rings	29247	33963
2	H.P. Scraper Rings	"	33964
5	M.P. Piston Rings	"	33966
1	M.P. Scraper Ring	"	33967
4	L.P. Piston Rings	"	33965
2	H.P. Discharge Valves complete	27490	67186 etc.
2	H.P. Suction Valves complete	"	"
4	H.P. Valves only	"	4928
1	Distance Piece	5922	31024
2	M.P. Discharge Valve complete	27489	66415 etc.
2	" Suction " "	"	"
4	M.P. Valves only	"	4170.A
1	Distance Piece M:P Suction Valve	5823	7474.
1	" " " Discharge "	"	4959
4	L.P. Suction Valve complete	27489	66415 etc.
4	L.P. Discharge Valve complete	"	"
6	L.P. Valves only	"	4169.A
1	Distance Piece L.P. Delivery Valves	5823	4933
24	Elastic Discs	27489	4173
24	Elastic Discs	"	4815.A
1	Safety Valve complete	3651.A.	6035 etc.
6	H.P. Cooler Tubes		
6	M.P. Cooler Tubes		
6	L.P. Cooler Tubes		
2	A.C. Bottom End Bushes.	37940	33401-2.
2	" Top " "	"	42150-1.
2	" Bottom end bolts and nuts	"	33403-11809



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SPARE GEAR.

SHEET NO. 4.

<u>Description</u>	<u>DRG. No.</u>	<u>Pat. No.</u>
1/4" Palmetto Packing		
Assorted Bolts & Nuts		
Ahead Michell Thrust Block Pads.		
Rubber Ring Cylinder Jackets	27340	32707
" " " "	"	26484
" " " "	"	26483
" " " "	"	33397
H.P. Compressor Rubber Rings		
Rubber Rings for Exhaust Valves	7029	32949
" " " Inlet "	35652	30689
Pipes with Cones & Nuts for Cyl. Lubricating.		
Pipes with Cones & Nuts for Fuel to Fuel.		
Valves longest length.		
Pipes with Cones & Nuts for Blast Air to Fuel Valves.		
H.P. Air Pipe from Compressor to Blast Bottle.		
Length H.P. Air Pipe for Blast Air Line to Cylinders.		
Top parts complete Blast Air Pipe		
Bottom " " " " "		
Crankshaft Coupling Bolt	7237	33430
" " "		K.2013.
Cone and Nut	24D.	94 & 94A.
" " "	"	5 & 5A.
" " "	"	2 & 2B
" " "	"	4 & 4C
" " "	"	2 & 2D

LINE DRIVEN PUMPS.

(2 halves) Crankpin Bushes with Bolts and Nuts.
Valves only for Lubricating Pump.
Spring for Relief Valve for Lubricating Pump.

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SPARE GEAR

SHEET (5).

<u>No. off.</u>	<u>Description.</u>	<u>Drg. No.</u>	<u>Patt. No.</u>
<u>ENGINE DRIVEN PUMPS (Contd)</u>			
1 Set	Valves only for Cooling Water Pump.		
1	Connecting Rod Gudgeon Pin Bush.		

PISTON LUBRICATORS.

24	Pressure Glasses (Glass)		
6	" " (Celluloid)		
3	Sight Glasses.		
6	Guide Wires.		
12	Jointing Rings.		
6	Pistons		
6	Springs		
3	Ratchet Pawls.		

SPARE LOOSE SPRINGS.

6	Fuel Valve	27227	30076
6	Inlet Valve (Coils to be right-handed)	23119	32730
6	" " (Coils to be left-handed)	"	32731
6	Exhaust Valve (Coils to be right-handed)	23092	32730
6	" " (Coils to be left-handed)	"	32731
6	Starting Valve	23127	30413
6	Starting Valve	"	30417
4	Safety Valve for Cylinder Cover.	4286	30275
6	Fuel Pump Suction Valve.	26462	30659
6	Fuel Pump Delivery Valve	"	30658
6	Fuel Pump Relief Valve	1424	12586
4	A.C. H.P. Suction & Delivery Valves	27490	4850A
6	A.C. H.P. Suction & H.P. & L.P. Delivery Valves.	27489	4172A
6	A.C. L.P. Suction Valves.	"	4171A.



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SPARE GEAR

SHEET (6).

Gear Supplied By MESSRS. CAMMELL LAIRD & CO. LTD.

For Steam Centrifugal Circulating Pump (Drysdale).

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- . 1 pair - Crosshead brasses and bolts.
- . 1 pair - Crankpin " " "
- . 1 set - Piston rings, two in number
- . 2 - Spring for Cylinder Relief Valve.
- . 1 - Spring for oil Relief Valve.
- . 1 - Impeller.
- . 1 - Manganese bronze pump spindle.

For Steam Rotary Forced Lubrication Pump (Stothert & Pitt Ltd)

- . 1 set - Piston rings, two in number.
- . 1 - Inspection cover bush.
- . 1 - Gland cover bush.
- . 1 pair - Crankpin brasses and bolts.
- . 1 pair - Crosshead " " "
- . 1 - Spring for pump relief valve.
- . 1 - Spring for engine relief valve.

For Steam Duplex Bilge Pump (Dawson & Downie).

- . 1 set - Suction and delivery valves.
- . 1 set - Piston rings.
- . 1 set - Pump bucket rings.

For Steam Duplex Ballast Pump (Dawson & Downie).

- . 1 set - Suction and delivery valves.
- . 1 set - Piston rings.
- . 1 set - Pump bucket rings.

For Steam Duplex Oil Fuel Transfer Pumps (Dawson & Downie).

- . 1 set - Suction and delivery valves.
- . 1 set - Piston rings.
- . 1 set - Pump bucket rings.
- . 1 - Spring for relief valve.



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SPARE GEAR

SHEET (7).

Ordered
by: -

For Steam Duplex Purified Oil Fuel Transfer Pump (Dawson &
Downie)

- D.O. 1 set - Piston rings.
D.O. 1 set - Pump bucket rings.

For Steam Feed Pumps (G. & J. Weir Ltd.)

- D.O. 1 set - Pump bucket rings for one pump.
D.O. 1 set - Piston rings for one pump.
D.O. 1 set - Group valves, suction and delivery for one pump.

For Evaporator (Caird & Rayner).

- D.O. 1 - Spring for Safety Valve.

For Oil Fuel Bunning System (White Patent Oil Burning Co. Ld)

- D.O. 1 - Suction filter basket.
D.O. 1 - Discharge filter basket.
D.O. 2 - Group valves for each pump.
D.O. 2 - Group valve springs for each pump.
D.O. 2 sets - Steam piston rings.
D.O. 1 - Spring for pump relief valve.
D.O. 2 - Patent burners.
D.O. 14 - Patent burner tips (Two for lighting up).
D.O. 2 - Flame controls.
D.O. 4 - Burner springs.
D.O. 1 - Burner spanner.
D.O. 1 - Oil pot and torch.
D.O. 2 - Brass cased thermometers.

For Steam Duplex Molasses Pump (J.P. Hall & Son Ltd.)

- D.O. 1 set - Cast Iron Steam Piston rings.
D.O. 1 set - Pump bucket rings, sufficient for two buckets.
D.O. 1 Piston and pump rod with coupling.
D.O. 1 Set - Valves and pins, no seats.



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SPARE GEAR
SHEET (8).

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For Forced Draught Fan and Engine (J. Howden & Co.Ltd.)

- 1 set - Piston rings.
- 2 - Springs for cylinder relief valves.
- 1 - Spring for oil relief valve.
- 1 pair - Crankpin brasses and bolts.
- 1 pair - Crosshead pin brasses and bolts.

For Vickcen Oil Purifiers (British Separators Ltd).

- 1 set - Brushes for motor.
- 1 - Marine Pattern bowl, type 80

The following to be supplied with each purifier:-

- 1 pair - Rollers for footstep bearing
- 1 - Sprindle for footstep bearing
- 1 - Spring for footstep plunger.
- 1 - Footstep plunger and pin.
- 5 - Bowl joint rings.
- 5 - Disc joint rings.
- 2 - Quart cans "Vickcen" oil.
- 1 - Bowl driving tongue and pin.
- 2 - Brake Faces.

For Steam Driven Air Compressor (P. Brotherhood Ltd).

- 1 set - H.P., M.P. and L.P. suction and delivery valves complete with seats, guards and springs etc.
- 2 sets - Piston rings for air cylinders, each stage.
- 20% - Inter-cooler and after-cooler tubes.
- 1 set - Tube expanders.
- 1 set - Crankpin brasses and bolts for compressor.
- 1 set - " " " " " engine.
- 1 set - Crosshead pin brasses and bolts for compressor.
- 1 set - " " " " " engine.
- 1 set - Main bearing brasses and bolts for compressor.
- 1 set - " " " " " engine.
- 2 sets - Steam piston rings.



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SPARE GEAR

SHEET (9).

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For Tyfon Whistle.

- D.O. 1 - Diaphragm disc.
- D.O. 1 - Light spanner for unscrewing diaphragm disc.
- D.O. 1 - Spring for reducing valve (if fitted).

For Shafting.

- D.O. 1 - Propeller shaft complete with liner, nut and key.
- D.O. 6 - Coupling bolts and nuts.
- D.O. 1 - Cast Iron Propeller, solid, right hand, four blades.

For Boiler.

- D.O. 1 - Spring for Safety Valve.
- D.O. 1 - Spring for Safety Valve
- D.O. 6 - Plain boiler tubes.
- D.O. 2 - Feed check valves.
- D.O. 12- Water Gauge glasses.
- D.O. 24- Packing rings for water gauge glasses.

Miscellaneous.

- D.O. 1 set-Brushes for workshop motor.
- D.O. 6 -Condenser tubes.
- D.O. 50 -Condenser ferrules.
- D.O. 1 set-Filtering material for filter and float tank.

For Lubricating Oil Filter.

- D.O. 2 sets-Internal Filtering Parts.

Springs etc. for Reducing & Relief Valves.

- D.O. 1 Diaphragm, 1 spring for reducing valve and 1 spring for Relief valve, for each reducing valve.

Aux. Steam in Engine Room E.S.3, E.S.38, E.S.59.

Aux. Steam in Boiler Room E.S.9, B.D.10.



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