



## Rolls-Royce deck machinery and steering gear

### External Technical Overview

Upgrade from Elva monitoring system to Hydcon RT monitoring system.

Upgrade of Tension control – New F122E valve and servo unit.

Upgrade, new IPH load cell on brake arrangement.

A06282 – “Sir Wilfred Grenfell”.

Order number Hydcon RT and Tension control:	16S000375
Order number Loadcell upgrade:	16S000569
Remote Control:	RRM000273131
LP Winch System:	166-460
Piping Diagram:	194-082
Spare parts:	000099688

### In General

#### Hydcon RT

This new system has a PIP31 industrial grade computer mounted on a plate (+BSI) which uses a touch sensitive 15” screen as a graphical user interface.

The vessel has a Elva monitoring system that will be upgraded with Hydcon RT monitoring system. A new Hydcon Interface Cabinet (+HIC) and Bridge System Interface (+BSI) will be installed inside the bridge desk. On the bridge, a new 15” touchscreen for the Hydcon RT will be installed. The monitor will display winch data from the 70 tonne TOW drum. Also positioning of coupling, oil pressure and RPM for the hydraulic motor, oil temperature and alarms will be displayed on the Hydcon monitor. A trackball and a keyboard are also delivered (the keyboard is only to be used during service). In addition it is delivered a junction box with 1 pressure sensor and two pressure switches for motor cell feedback , one new temperature sensor, pressure switches for brake feedback and 2 new proximity switches (PNP) TOW drum length counters. One new WRC 1021D speed control card replacement for the existing speed control card.





## Tension Control

The tension control valve is to be upgraded from F122 to F122E and a new servo unit with proportional valves is to be installed (See drawing 194-082 for details), this servo unit includes a starter cabinet. The starter is to start with the main servo. Tension controller on the bridge is to be replaced with a new one. (See 000237187 page 6 for connection details. Starter cabinet also need a supply cable from the vessel power supply).

## Loadcell

The Tow drum had no loadcell installed previously, Hydcon RT needs this to read tension when the brake is engaged.

New IPH loadcell is to be installed on the brake arrangement and electrically connected to Hydcon RT via a junction box supplied by IPH.



## Upgrade / Reconstruction:

### Monitoring System

The 15" monitor is to be installed on the bridge. The old elva screen was installed in the desk, the new screen may be too large to be installed in the same place. It must be assessed if the screen can be installed in the same place or is to be installed with a bracket (Included in partlist). New cover plate is delivered to replace old plate for elva monitor. The Hydcon RT will show length, tension, wire speed, RPM and oil pressure on the monitor.

New USB connector (item number 000065670) is to be mounted in the bridge desk in a  $\varnothing 22.5\text{mm}$  hole. This is to extract log files.

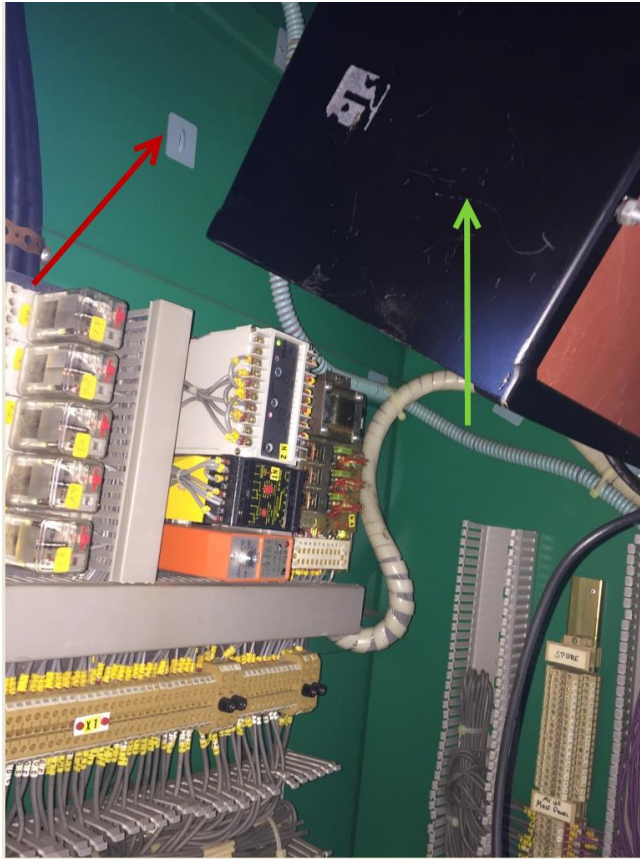
### +HIC (Hydcon Interface Cabinet)

Recommended placement for +HIC on the port wall inside the desk where there will be sufficient space, 57 cm wide 65 cm high (+HIC is 50x50x21 cm). If the old cables are to be used, they will reach +HIC in this location.



## +BSI (Bridge System interface)

Recommended placement for +BSI is over the existing +X1 plate. We didn't have measurements to confirm that +BSI (45x46 cm) will fit in the recommended location but from the pictures it appears seemingly sufficient. The metal box marked by the green arrow will be removed when the plate for the elva screen is replaced.





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## +X1/ Control panel

New cover plate is supplied to replace the existing plate where the to be replaced Elva monitor is mounted.



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## F122 valve to be replaced with F122E



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## Temperature sensor to be replaced



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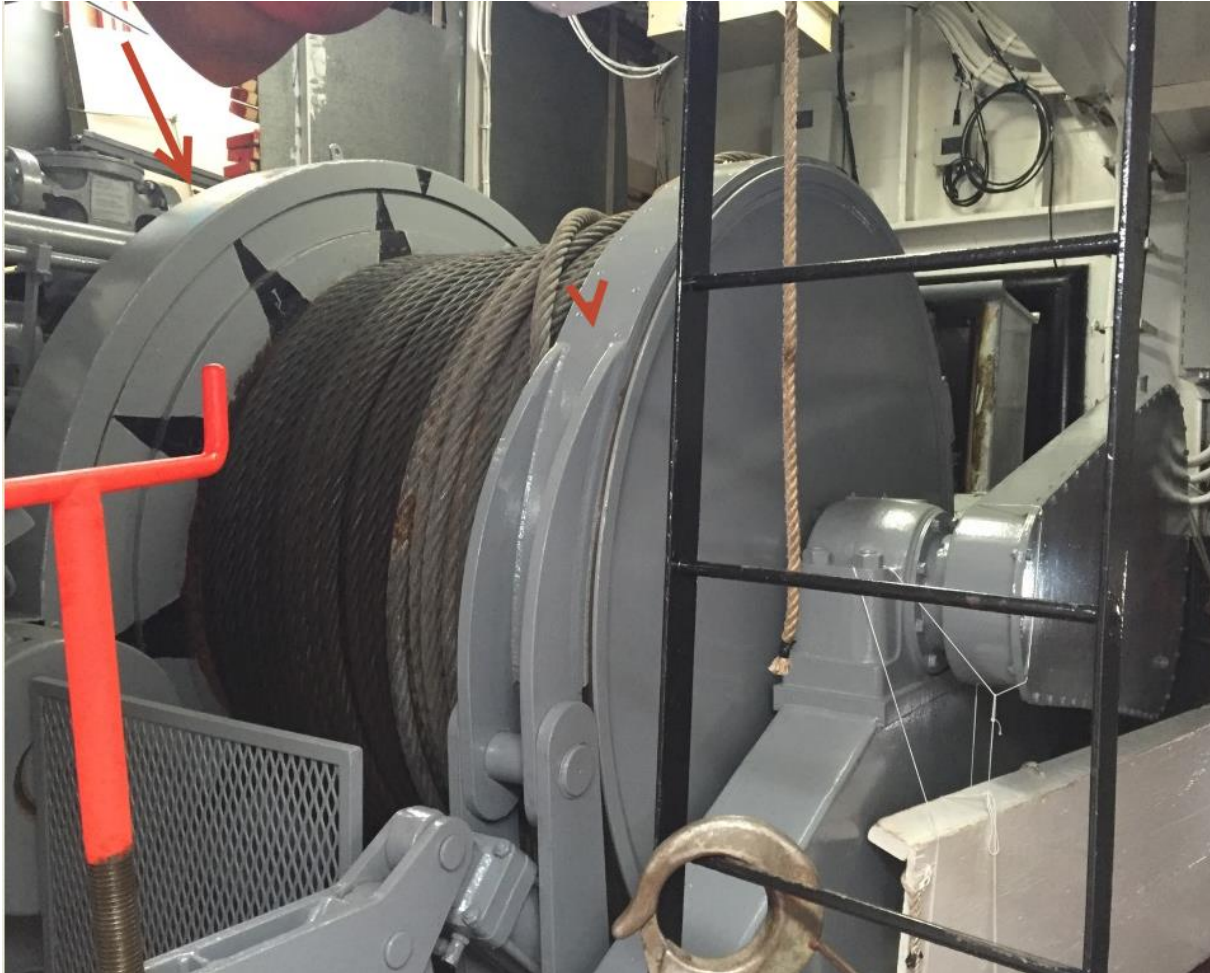
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New proximity switches is to be installed on gear cover



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## New items to be delivered



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### Hydcon RT

1 pcs.	Hydcon Interface Cabinet	RRM000273155
1 pcs.	Spare parts	000099688
1 pcs.	Monitoring system	RRM000273132

#### Consisting of:

1 pcs.	Bridge system interface	RRM000273133
1 pcs.	15" Monitor	000061514
1 pcs.	Bracket	818-272-00
1 pcs.	USB socket	000065670
1 pcs.	Active USB cable w/adapter	000092672
1 pcs.	Active USB cable	000092661
1 pcs.	Trackball	814-218
1 pcs.	Keyboard	000017431
1 pcs.	Power plug for monitor	814-375
1 pcs.	VGA Cable	801-275-02
1 pcs.	Serial cable	801-784-03
1 pcs.	Additional parts	RRM000273157

#### Consisting of:

1 pcs.	Junction box	+JB0	000000826
1 pcs.	M25 plug	+JB0	801-937-04
3 pcs.	M20 plug	+JB0	801-937-03
1 pcs.	Temperature sensor	+TMP	814-015
2 pcs.	Proximity switch	+JB1	000011230
1 pcs.	Mounting bracket	+JB1	IPH215134
1 pcs.	Junction box	+JB1	000053095
1 pcs.	Amplifier WRC1021D	-N1	229-082
1 pcs.	Tension controller	-R5	226-189-01
4 pcs.	Relay DKR DK5	K10-K12, K20	000003711
2 pcs.	End plate AP DK5	K10-K12, K20	000003715
1 pcs.	Pressure switch	+S45	814-110
1 pcs.	Pipe coupling T12	+S45	801-065-13
1 pcs.	Pipe coupling GE12	+S45	801-093-13
4 pcs.	Blind plug M22	H3,H4,H11,H12	805-078-19
1 pcs.	R8 renewal kit		403-732-00



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## Servo

1 pcs.	Servo pump unit	RRM000211938
1 pcs.	Starter cabinet	RRM000213730

## F122E

1 pcs.	F122E pilot valve	220-379
2 pcs.	Pipe coupling GE20	801-062-29
2 pcs.	Pipe coupling GE12	801-062-13
1 pcs.	Bleed plug M27x2	108-126-05
1 pcs.	Seal washer	801-038-19

## Loadcell

1 pcs.	Loadcell link IPH114822	RRM000276195
1 pcs.	Junction box	IPH820-204



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