

Engine Room Simulator

ERS M22 10 PC-IV Ferry

MALFUNCTION LIST

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1 DIRECTORY LIST

Page:0200	FO SUPPLY SYSTEM (1)
Page:0201	FO SUPPLY SYSTEM (2)
Page:0600	PURIFIER SYSTEM
Page:0700	MAIN ENGINES - Inj CW SYSTEM
Page:1000	MAIN ENGINE 1 - TBCH/MISC
Page:1100	MAIN ENGINE 1 - CYLINDERS (1)
Page:1101	MAIN ENGINE 1 - CYLINDERS (2)
Page:1200	MAIN ENGINE 1 - LO SYSTEM
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Page:1500	MAIN ENGINE 2 - TBCH/MISC
Page:1600	MAIN ENGINE 2 - CYLINDERS (1)
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Page:1700	MAIN ENGINE 2 - LO SYSTEM
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Page:1800	MAIN ENGINE 2 - JW SYSTEM
Page:1900	MAIN ENGINE 2 - SW SYSTEM
Page:2900	STEERING GEAR SYSTEM
Page:3000	PORT PROPELLER/GEAR SYSTEM
Page:3100	STBD PROPELLER/GEAR SYSTEM
Page:3200	PORT PROPELLER SERVO OIL SYSTEM
Page:3300	STBD PROPELLER SERVO OIL SYSTEM
Page:3400	PORT STERN TUBE SYSTEM
Page:3500	STBD STERN TUBE SYSTEM
Page:3600	COMPRESSED AIR SYSTEM (1)
Page:3601	COMPRESSED AIR SYSTEM (2)
Page:3700	FRESH WATER GENERATOR
Page:3800	BILGE SYSTEM
Page:3900	REFRIGERATION SYSTEM
Page:4000	DIESELGENERATOR 1 - TBCH/DO/LO
Page:4100	DIESELGENERATOR 1 - FW/SW/MISC
Page:4200	DIESELGENERATOR 2 - TBCH/DO/LO
Page:4300	DIESELGENERATOR 2 - FW/SW/MISC
Page:4400	ELECTRIC SYSTEM (1)
Page:4500	ELECTRIC SYSTEM (2)
Page:4600	ELECTRIC SYSTEM (3)
Page:4700	ELECTRIC SYSTEM (4)
Page:5300	STEAM SYSTEM



2 VARIABLE LIST PAGES

2.1 Page:0200 MA02** FO SUPPLY SYSTEM (1)

A: M0201 [0-100] FO BOOSTER PUMP 1 WEAR
B: M0202 [0-100] FO BOOSTER PUMP 2 WEAR
C: M0203 [0-1] FO BOOSTER PUMP 1 MOTOR FAILURE
D: M0204 [0-1] FO BOOSTER PUMP 2 MOTOR FAILURE
E:
F: M0205 [0-100] MAIN FO FILTER 1 DIRTY
G: M0206 [0-100] MAIN FO FILTER 2 DIRTY
H:
I: M0207 [0-100] ME FO HEATER 1 DIRTY
J: M0210 [0-100] ME FO HEATER 2 DIRTY
K:
L: M0211 [0-100] FO VISCO CONTR UNSTABLE
M: M0212 [0-1] FO VISCO CONTR FAILURE
N: M0213 [0-100] FO VISCO CONTR ACTUATOR (slow)
O: M0214 [0-100] FO VISCO CONTR ACTUATOR (stiction)
P:
Q:
R:
S:
T:

2.2 Page:0201 MA02** FO SUPPLY SYSTEM (2)

A: M0301 [0-100] FO SUPPLY PUMP 1 WEAR
B: M0302 [0-100] FO SUPPLY PUMP 2 WEAR
C: M0303 [0-1] FO SUPPLY PUMP 1 MOTOR FAILURE
D: M0304 [0-1] FO SUPPLY PUMP 2 MOTOR FAILURE
E:
F: M0305 [0-100] FO FLOW METER RESTRICTION
G:
H: M0306 [0-100] FO DE-AERATING VALVE MALFUNCTION
I:
J: M0307 [0-100] WATER IN FUEL OIL TO ME
K:
L: M0310 [0-1] ME FO PRESS CONTROL VALVE CLOSED
M: M0311 [0-1] ME FO PRESS CONTROL VALVE OPEN
N:
O:
P:
Q:
R:
S:
T:

2.3 Page:0600 MA06** PURIFIER SYSTEM

A: M0601 [0-1] HFO SEPARATOR 1 SLUDGE DISCHARGE FAIL
B: M0602 [0-1] HFO SEPARATOR 1 MOTOR FAILURE
C: M0603 [0-1] HFO SEPARATOR 1 WATER TRANSDUCER FAULT
D: M0604 [0-1] HFO SEPARATOR 1 HEATER FAILURE
E: M0621 [0-1] HFO SEPARATOR 2 SLUDGE DISCHARGE FAIL
F: M0622 [0-1] HFO SEPARATOR 2 MOTOR FAILURE
G: M0623 [0-1] HFO SEPARATOR 2 WATER TRANSDUCER FAULT
H: M0624 [0-1] HFO SEPARATOR 2 HEATER FAILURE
I:
J: M0605 [0-1] LO PURIFIER LOST SEAL
K: M0606 [0-1] LO PURIFIER MOTOR FAILURE
L: M0607 [0-100] LO PURIFIER HEATER CONTR UNSTABLE
M: M0610 [0-1] LO PURIFIER HEATER FAILURE
N:
O: M0611 [0-1] DO PURIFIER LOST SEAL
P: M0612 [0-1] DO PURIFIER MOTOR FAILURE
Q: M0613 [0-100] DO PURIFIER HEATER CONTR UNSTABLE
R: M0614 [0-1] DO PURIFIER HEATER FAILURE
S:
T:

2.4 Page:0700 MA07** MAIN ENGINES - Inj CW SYSTEM

A: M0701 [0-100] ME 1 Inj CW PUMP 1 WEAR
B: M0702 [0-100] ME 1 Inj CW PUMP 2 WEAR
C:
D: M0703 [0-1] ME 1 Inj CW TEMP CONTROL FAIL
E:
F: M0704 [0-100] ME 1 Inj CW COOLER DIRTY
G: M0705 [0-100] ME 1 Inj CW LEAKAGE HIGH
H:
I:
J:
K: M0711 [0-100] ME 2 Inj CW PUMP 1 WEAR
L: M0712 [0-100] ME 2 Inj CW PUMP 2 WEAR
M:
N: M0713 [0-1] ME 2 Inj CW TEMP CONTROL FAIL
O:
P: M0714 [0-100] ME 2 Inj CW COOLER DIRTY
Q: M0715 [0-100] ME 2 Inj CW LEAKAGE HIGH
R:
S:
T:



2.5 Page:1000 MA10** MAIN ENGINE 1 - TBCH/MISC

A: M1201 [0-100] ME 1 SPEED CONTROLLER GAIN HIGH
B: M1202 [0-100] ME 1 SPEED CONTROLLER GAIN LOW
C: M1204 [0-100] ME 1 SPEED CONTROLLER SENSOR LOW
D:
E: M1206 [0-100] ME 1 TURBOCHARGER 1 DIRTY
F: M1207 [0-100] ME 1 TURBOCHARGER 1 AIRC DIRTY
G: M1210 [0-100] ME 1 TURBOCHARGER 1 AIR FILTER DIRTY
H:
I: M1230 [0-100] ME 1 TURBOCHARGER 2 DIRTY
J: M1231 [0-100] ME 1 TURBOCHARGER 2 AIRC DIRTY
K: M1232 [0-100] ME 1 TURBOCHARGER 2 AIR FILTER DIRTY
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.6 Page:1100 MA11** MAIN ENGINE 1 - CYLINDERS (1)

A: M1334 [0-100] ME 1 FUEL INJECTION TIME EARLY
B: M1335 [0-100] ME 1 FUEL INJECTION TIME LATE
C:
D:
E:
F: M1331 [0-100] ME 1 CYL 1 COMB EFFICIENCY LOW
G: M1332 [0-100] ME 1 CYL 2 COMB EFFICIENCY LOW
H: M1333 [0-100] ME 1 CYL 3 COMB EFFICIENCY LOW
I: M1336 [0-100] ME 1 CYL 4 COMB EFFICIENCY LOW
J: M1337 [0-100] ME 1 CYL 5 COMB EFFICIENCY LOW
K: M1340 [0-100] ME 1 CYL 6 COMB EFFICIENCY LOW
L: M1341 [0-100] ME 1 CYL 7 COMB EFFICIENCY LOW
M: M1342 [0-100] ME 1 CYL 8 COMB EFFICIENCY LOW
N: M1343 [0-100] ME 1 CYL 9 COMB EFFICIENCY LOW
O: M1344 [0-100] ME 1 CYL 10 COMB EFFICIENCY LOW
P:
Q:
R:
S:
T:

2.7 Page:1101 MA11** MAIN ENGINE 1 - CYLINDERS (2)

A: M1301 [0-100] ME 1 CYL 1 INJECTION NOZZLE WEAR
B: M1302 [0-100] ME 1 CYL 1 INJECTION PUMP WEAR
C: M1303 [0-1] ME 1 CYL 1 INJECTION PUMP DAMAGE
D:
E: M1304 [0-100] ME 1 CYL 2 INJECTION NOZZLE WEAR
F: M1305 [0-100] ME 1 CYL 2 INJECTION PUMP WEAR
G: M1306 [0-1] ME 1 CYL 2 INJECTION PUMP DAMAGE
H:
I: M1307 [0-100] ME 1 CYL 3 INJECTION NOZZLE WEAR
J: M1310 [0-100] ME 1 CYL 3 INJECTION PUMP WEAR
K: M1311 [0-1] ME 1 CYL 3 INJECTION PUMP DAMAGE
L:
M: M1312 [0-100] ME 1 CYL 4 INJECTION NOZZLE WEAR
N: M1313 [0-100] ME 1 CYL 4 INJECTION PUMP WEAR
O: M1314 [0-1] ME 1 CYL 4 INJECTION PUMP DAMAGE
P:
Q: M1315 [0-100] ME 1 CYL 5 INJECTION NOZZLE WEAR
R: M1316 [0-100] ME 1 CYL 5 INJECTION PUMP WEAR
S: M1317 [0-1] ME 1 CYL 5 INJECTION PUMP DAMAGE
T:

2.8 Page:1102 MA11** MAIN ENGINE 1 - CYLINDERS (3)

A: M1320 [0-100] ME 1 CYL 6 INJECTION NOZZLE WEAR
B: M1321 [0-100] ME 1 CYL 6 INJECTION PUMP WEAR
C: M1322 [0-1] ME 1 CYL 6 INJECTION PUMP DAMAGE
D:
E: M1350 [0-100] ME 1 CYL 7 INJECTION NOZZLE WEAR
F: M1351 [0-100] ME 1 CYL 7 INJECTION PUMP WEAR
G: M1352 [0-1] ME 1 CYL 7 INJECTION PUMP DAMAGE
H:
I: M1353 [0-100] ME 1 CYL 8 INJECTION NOZZLE WEAR
J: M1354 [0-100] ME 1 CYL 8 INJECTION PUMP WEAR
K: M1355 [0-1] ME 1 CYL 8 INJECTION PUMP DAMAGE
L:
M: M1356 [0-100] ME 1 CYL 9 INJECTION NOZZLE WEAR
N: M1357 [0-100] ME 1 CYL 9 INJECTION PUMP WEAR
O: M1358 [0-1] ME 1 CYL 9 INJECTION PUMP DAMAGE
P:
Q: M1359 [0-100] ME 1 CYL 10 INJECTION NOZZLE WEAR
R: M1360 [0-100] ME 1 CYL 10 INJECTION PUMP WEAR
S: M1361 [0-1] ME 1 CYL 10 INJECTION PUMP DAMAGE
T:



2.9 Page:1200 MA12** MAIN ENGINE 1 - LO SYSTEM

A:	M1401	[0-100]	ME 1 LO TEMP CONTROLLER GAIN HIGH
B:	M1402	[0-100]	ME 1 LO TEMP CONTROLLER UNSTABLE
C:	M1403	[0-1]	ME 1 LO TEMP CONTROLLER FAILURE
D:	M1404	[0-100]	ME 1 LO CONTROL VALVE WEAR (stiction)
E:	M1406	[0-100]	ME 1 MAIN LO PUMP WEAR
F:	M1407	[0-100]	ME 1 AUXIL LO PUMP WEAR
G:	M1410	[0-100]	ME 1 LO FILTER 1 DIRTY
H:	M1411	[0-100]	ME 1 LO FILTER 2 DIRTY
I:	M1414	[0-100]	ME 1 LO COOLER DIRTY
J:	M1415	[0-100]	ME 1 LO CONSUMPTION HIGH
K:	M1420	[0-100]	ME 1 LO DIRTY ENGINE INLET
L:	M1421	[0-100]	ME 1 LO MICRO FILTER DIRTY
M:			
N:	M1212	[0-100]	ME 1 JOURNAL BEARING 1 POOR LUBRICATION
O:	M1213	[0-100]	ME 1 JOURNAL BEARING 2 POOR LUBRICATION
P:	M1214	[0-100]	ME 1 JOURNAL BEARING 3 POOR LUBRICATION
Q:	M1215	[0-100]	ME 1 JOURNAL BEARING 4 POOR LUBRICATION
R:	M1216	[0-100]	ME 1 JOURNAL BEARING 5 POOR LUBRICATION
S:	M1217	[0-100]	ME 1 JOURNAL BEARING 6 POOR LUBRICATION
T:			

2.10 Page:1250 MA12** MAIN ENGINE 1 - ROCKER ARM LO SYSTEM

A:	M1801	[0-100]	ME 1 ROCKER ARM PUMP 1 WEAR
B:	M1802	[0-100]	ME 1 ROCKER ARM PUMP 2 WEAR
C:			
D:	M1803	[0-100]	ME 1 ROCKER ARM FILTER 1 DIRTY
E:	M1804	[0-100]	ME 1 ROCKER ARM FILTER 2 DIRTY
F:			
G:	M1805	[0-100]	ME 1 ROCKER ARM OIL CONSUMPTION HIGH
H:			
I:	M1806	[0-1]	ME 1 ROCKER ARM RELIEF VALVE WEAR (stiction)
J:			
K:			
L:			
M:			
N:			
O:			
P:			
Q:			
R:			
S:			
T:			

2.11 Page:1300 MA13** MAIN ENGINE 1 - JW SYSTEM

A: M1501 [0-100] ME 1 JW TEMP CONTROLLER GAIN HIGH
B: M1502 [0-100] ME 1 JW TEMP CONTROLLER UNSTABLE
C: M1503 [0-1] ME 1 JW TEMP CONTROLLER FAILURE
D: M1504 [0-100] ME 1 JW CONTROL VALVE WEAR (stiction)
E:
F:
G: M1506 [0-100] ME 1 JW PUMP WEAR
H: M1507 [0-1] ME 1 JW PUMP BREAK DOWN
I:
J: M1521 [0-100] ME 1 LEFT BANK JW FLOW RESTRICTION
K: M1522 [0-100] ME 1 RIGHT BANK JW FLOW RESTRICTION
L:
M: M1512 [0-100] ME 1 JW COOLER DIRTY
N:
O: M1514 [0-1] ME 1 JW LEAKAGE
P:
Q:
R:
S:
T:

2.12 Page:1400 MA14** MAIN ENGINE 1 - SW SYSTEM

A: M1601 [0-100] ME 1 SW TEMP CONTROLLER GAIN HIGH
B: M1602 [0-100] ME 1 SW TEMP CONTROLLER UNSTABLE
C: M1603 [0-1] ME 1 SW TEMP CONTROLLER FAILURE
D: M1604 [0-100] ME 1 SW CONTROL VALVE WEAR (stiction)
E:
F: M1606 [0-100] ME 1 SW PUMP 1 WEAR
G: M1607 [0-100] ME 1 SW PUMP 2 WEAR
H: M1610 [0-1] ME 1 SW PUMP 1 MOTOR FAILURE
I: M1611 [0-1] ME 1 SW PUMP 2 MOTOR FAILURE
J:
K: M1614 [0-100] ME 1 SEA CHEST FILTER DIRTY
L:
M: M1620 [0-100] ME 1 SW AIR REC TEMP CONTROLLER GAIN HIGH
N: M1621 [0-100] ME 1 SW AIR REC TEMP CONTROLLER UNSTABLE
O: M1622 [0-1] ME 1 SW AIR REC TEMP CONTROLLER FAILURE
P: M1623 [0-100] ME 1 SW AIR REC CONTROL VALVE WEAR (stiction)
Q:
R:
S:
T:



2.13 Page:1500 MA15** MAIN ENGINE 2 - TBCH/MISC

A: M1701 [0-100] ME 2 SPEED CONTROLLER GAIN HIGH
B: M1702 [0-100] ME 2 SPEED CONTROLLER GAIN LOW
C: M1704 [0-100] ME 2 SPEED CONTROLLER SENSOR LOW
D:
E: M1706 [0-100] ME 2 TURBOCHARGER 1 DIRTY
F: M1707 [0-100] ME 2 TURBOCHARGER 1 AIRC DIRTY
G: M1710 [0-100] ME 2 TURBOCHARGER 1 AIR FILTER DIRTY
H:
I: M1730 [0-100] ME 2 TURBOCHARGER 2 DIRTY
J: M1731 [0-100] ME 2 TURBOCHARGER 2 AIRC DIRTY
K: M1732 [0-100] ME 2 TURBOCHARGER 2 AIR FILTER DIRTY
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.14 Page:1600 MA16** MAIN ENGINE 2 - CYLINDERS (1)

A: M2034 [0-100] ME 2 FUEL INJECTION TIME EARLY
B: M2035 [0-100] ME 2 FUEL INJECTION TIME LATE
C:
D:
E:
F: M2031 [0-100] ME 2 CYL 1 COMB EFFICIENCY LOW
G: M2032 [0-100] ME 2 CYL 2 COMB EFFICIENCY LOW
H: M2033 [0-100] ME 2 CYL 3 COMB EFFICIENCY LOW
I: M2036 [0-100] ME 2 CYL 4 COMB EFFICIENCY LOW
J: M2037 [0-100] ME 2 CYL 5 COMB EFFICIENCY LOW
K: M2040 [0-100] ME 2 CYL 6 COMB EFFICIENCY LOW
L: M2041 [0-100] ME 2 CYL 7 COMB EFFICIENCY LOW
M: M2042 [0-100] ME 2 CYL 8 COMB EFFICIENCY LOW
N: M2043 [0-100] ME 2 CYL 9 COMB EFFICIENCY LOW
O: M2044 [0-100] ME 2 CYL 10 COMB EFFICIENCY LOW
P:
Q:
R:
S:
T:

2.15 Page:1601 MA16** MAIN ENGINE 2 - CYLINDERS (2)

A:	M2001	[0-100]	ME 2 CYL 1 INJECTION NOZZLE WEAR
B:	M2002	[0-100]	ME 2 CYL 1 INJECTION PUMP WEAR
C:	M2003	[0-1]	ME 2 CYL 1 INJECTION PUMP DAMAGE
D:			
E:	M2004	[0-100]	ME 2 CYL 2 INJECTION NOZZLE WEAR
F:	M2005	[0-100]	ME 2 CYL 2 INJECTION PUMP WEAR
G:	M2006	[0-1]	ME 2 CYL 2 INJECTION PUMP DAMAGE
H:			
I:	M2007	[0-100]	ME 2 CYL 3 INJECTION NOZZLE WEAR
J:	M2010	[0-100]	ME 2 CYL 3 INJECTION PUMP WEAR
K:	M2011	[0-1]	ME 2 CYL 3 INJECTION PUMP DAMAGE
L:			
M:	M2012	[0-100]	ME 2 CYL 4 INJECTION NOZZLE WEAR
N:	M2013	[0-100]	ME 2 CYL 4 INJECTION PUMP WEAR
O:	M2014	[0-1]	ME 2 CYL 4 INJECTION PUMP DAMAGE
P:			
Q:	M2015	[0-100]	ME 2 CYL 5 INJECTION NOZZLE WEAR
R:	M2016	[0-100]	ME 2 CYL 5 INJECTION PUMP WEAR
S:	M2017	[0-1]	ME 2 CYL 5 INJECTION PUMP DAMAGE
T:			

2.16 Page:1602 MA16** MAIN ENGINE 2 - CYLINDERS (3)

A:	M2020	[0-100]	ME 2 CYL 6 INJECTION NOZZLE WEAR
B:	M2021	[0-100]	ME 2 CYL 6 INJECTION PUMP WEAR
C:	M2022	[0-1]	ME 2 CYL 6 INJECTION PUMP DAMAGE
D:			
E:	M2050	[0-100]	ME 2 CYL 7 INJECTION NOZZLE WEAR
F:	M2051	[0-100]	ME 2 CYL 7 INJECTION PUMP WEAR
G:	M2052	[0-1]	ME 2 CYL 7 INJECTION PUMP DAMAGE
H:			
I:	M2053	[0-100]	ME 2 CYL 8 INJECTION NOZZLE WEAR
J:	M2054	[0-100]	ME 2 CYL 8 INJECTION PUMP WEAR
K:	M2055	[0-1]	ME 2 CYL 8 INJECTION PUMP DAMAGE
L:			
M:	M2056	[0-100]	ME 2 CYL 9 INJECTION NOZZLE WEAR
N:	M2057	[0-100]	ME 2 CYL 9 INJECTION PUMP WEAR
O:	M2058	[0-1]	ME 2 CYL 9 INJECTION PUMP DAMAGE
P:			
Q:	M2059	[0-100]	ME 2 CYL 10 INJECTION NOZZLE WEAR
R:	M2060	[0-100]	ME 2 CYL 10 INJECTION PUMP WEAR
S:	M2061	[0-1]	ME 2 CYL 10 INJECTION PUMP DAMAGE
T:			



2.17 Page:1700 MA17** MAIN ENGINE 2 - LO SYSTEM

A:	M2101	[0-100]	ME 2 LO TEMP CONTROLLER GAIN HIGH
B:	M2102	[0-100]	ME 2 LO TEMP CONTROLLER UNSTABLE
C:	M2103	[0-1]	ME 2 LO TEMP CONTROLLER FAILURE
D:	M2104	[0-100]	ME 2 LO CONTROL VALVE WEAR (stiction)
E:	M2106	[0-100]	ME 2 MAIN LO PUMP WEAR
F:	M2107	[0-100]	ME 2 AUXIL LO PUMP WEAR
G:	M2110	[0-100]	ME 2 LO FILTER 1 DIRTY
H:	M2111	[0-100]	ME 2 LO FILTER 2 DIRTY
I:	M2114	[0-100]	ME 2 LO COOLER DIRTY
J:	M2115	[0-100]	ME 2 LO CONSUMPTION HIGH
K:	M2120	[0-100]	ME 2 LO DIRTY ENGINE INLET
L:	M2121	[0-100]	ME 2 LO MICRO FILTER DIRTY
M:			
N:	M1712	[0-100]	ME 2 JOURNAL BEARING 1 POOR LUBRICATION
O:	M1713	[0-100]	ME 2 JOURNAL BEARING 2 POOR LUBRICATION
P:	M1714	[0-100]	ME 2 JOURNAL BEARING 3 POOR LUBRICATION
Q:	M1715	[0-100]	ME 2 JOURNAL BEARING 4 POOR LUBRICATION
R:	M1716	[0-100]	ME 2 JOURNAL BEARING 5 POOR LUBRICATION
S:	M1717	[0-100]	ME 2 JOURNAL BEARING 6 POOR LUBRICATION
T:			

2.18 Page:1750 MA17** MAIN ENGINE 2 - ROCKER ARM LO SYSTEM

A:	M1811	[0-100]	ME 2 ROCKER ARM PUMP 1 WEAR
B:	M1812	[0-100]	ME 2 ROCKER ARM PUMP 2 WEAR
C:			
D:	M1813	[0-100]	ME 2 ROCKER ARM FILTER 1 DIRTY
E:	M1814	[0-100]	ME 2 ROCKER ARM FILTER 2 DIRTY
F:			
G:	M1815	[0-100]	ME 2 ROCKER ARM OIL CONSUMPTION HIGH
H:			
I:	M1816	[0-1]	ME 2 ROCKER ARM RELIEF VALVE WEAR (stiction)
J:			
K:			
L:			
M:			
N:			
O:			
P:			
Q:			
R:			
S:			
T:			

2.19 Page:1800 MA18** MAIN ENGINE 2 - JW SYSTEM

A: M2201 [0-100] ME 2 JW TEMP CONTROLLER GAIN HIGH
B: M2202 [0-100] ME 2 JW TEMP CONTROLLER UNSTABLE
C: M2203 [0-1] ME 2 JW TEMP CONTROLLER FAILURE
D: M2204 [0-100] ME 2 JW CONTROL VALVE WEAR (stiction)
E:
F:
G: M2206 [0-100] ME 2 JW PUMP WEAR
H: M2207 [0-1] ME 2 JW PUMP BREAK DOWN
I:
J: M2221 [0-100] ME 2 LEFT BANK JW FLOW RESTRICTION
K: M2222 [0-100] ME 2 RIGHT BANK JW FLOW RESTRICTION
L:
M: M2212 [0-100] ME 2 JW COOLER DIRTY
N:
O: M2214 [0-1] ME 2 JW LEAKAGE
P:
Q:
R:
S:
T:

2.20 Page:1900 MA19** MAIN ENGINE 2 - SW SYSTEM

A: M2301 [0-100] ME 2 SW TEMP CONTROLLER GAIN HIGH
B: M2302 [0-100] ME 2 SW TEMP CONTROLLER UNSTABLE
C: M2303 [0-1] ME 2 SW TEMP CONTROLLER FAILURE
D: M2304 [0-100] ME 2 SW CONTROL VALVE WEAR (stiction)
E:
F: M2306 [0-100] ME 2 SW PUMP 1 WEAR
G: M2307 [0-100] ME 2 SW PUMP 2 WEAR
H: M2310 [0-1] ME 2 SW PUMP 1 MOTOR FAILURE
I: M2311 [0-1] ME 2 SW PUMP 2 MOTOR FAILURE
J:
K: M2314 [0-100] ME 2 SEA CHEST FILTER DIRTY
L:
M: M2320 [0-100] ME 2 SW AIR REC TEMP CONTROLLER GAIN HIGH
N: M2321 [0-100] ME 2 SW AIR REC TEMP CONTROLLER UNSTABLE
O: M2322 [0-1] ME 2 SW AIR REC TEMP CONTROLLER FAILURE
P: M2323 [0-100] ME 2 SW AIR REC CONTROL VALVE WEAR (stiction)
Q:
R:
S:
T:

**2.21 Page:2900 MA29** STEERING GEAR SYSTEM**

A:	M4120	[0-1]	RUDDER COMMAND (remote control) FAILURE
B:			
C:	M1580	[0-1]	STEERING GEAR PUMP 1 MOTOR FAILURE
D:	M1581	[0-1]	STEERING GEAR PUMP 2 MOTOR FAILURE
E:			
F:	M1582	[0-100]	STEERING GEAR PUMP 1 WEAR
G:	M1583	[0-100]	STEERING GEAR PUMP 2 WEAR
H:			
I:	M1584	[0-100]	STEERING GEAR SUMP 1 LEAKAGE
J:	M1585	[0-100]	STEERING GEAR SUMP 2 LEAKAGE
K:	M1586	[0-100]	STEERING GEAR PUMP 1 LEAKAGE
L:	M1587	[0-100]	STEERING GEAR PUMP 2 LEAKAGE
M:			
N:	M1588	[0-100]	STEERING GEAR FILTER 1 DIRTY
O:	M1589	[0-100]	STEERING GEAR FILTER 2 DIRTY
P:			
Q:	M1590	[0-1]	STEERING GEAR SAFEMATIC VALVE FAILURE
R:			
S:	M1591	[0-1]	STEERING GEAR BYPASS VALVE 1 FAILURE
T:	M1592	[0-1]	STEERING GEAR BYPASS VALVE 2 FAILURE

2.22 Page:3000 MA30 PORT PROPELLER/GEAR SYSTEM**

A:	M3601	[0-100]	PORT PROPELLER GEAR MAIN LO PUMP WEAR
B:	M3602	[0-100]	PORT PROPELLER GEAR AUXIL LO PUMP WEAR
C:			
D:	M3603	[0-100]	PORT PROPELLER GEAR LOC DIRTY
E:			
F:			
G:	M3605	[0-100]	PORT PROPELLER GEAR LO FILTER 1 DIRTY
H:	M3606	[0-100]	PORT PROPELLER GEAR LO FILTER 2 DIRTY
I:			
J:	M3607	[0-100]	PORT PROPELLER FORE GEAR BEARING POOR LUBRI
K:	M3610	[0-100]	PORT PROPELLER AFT GEAR BEARING POOR LUBRI
L:	M3612	[0-100]	PORT PROPELLER FORE PINION BEARING POOR LUBRI
M:	M3613	[0-100]	PORT PROPELLER AFT PINION BEARING POOR LUBRI
N:	M3611	[0-100]	PORT PROPELLER THRUST BEARING POOR LUBRI
O:			
P:			
Q:			
R:			
S:			
T:			

2.23 Page:3100 MA31** STBD PROPELLER/GEAR SYSTEM

A: M3701 [0-100] STBD PROPELLER GEAR MAIN LO PUMP WEAR
B: M3702 [0-100] STBD PROPELLER GEAR AUXIL LO PUMP WEAR
C:
D: M3703 [0-100] STBD PROPELLER GEAR LOC DIRTY
E:
F:
G: M3705 [0-100] STBD PROPELLER GEAR LO FILTER 1 DIRTY
H: M3706 [0-100] STBD PROPELLER GEAR LO FILTER 2 DIRTY
I:
J: M3707 [0-100] STBD PROPELLER FORE GEAR BEARING POOR LUBRI
K: M3710 [0-100] STBD PROPELLER AFT GEAR BEARING POOR LUBRI
L: M3712 [0-100] STBD PROPELLER FORE PINION BEARING POOR LUBRI
M: M3713 [0-100] STBD PROPELLER AFT PINION BEARING POOR LUBRI
N: M3711 [0-100] STBD PROPELLER THRUST BEARING POOR LUBRI
O:
P:
Q:
R:
S:
T:

2.24 Page:3200 MA32** PORT PROPELLER SERVO OIL SYSTEM

A: M4001 [0-100] PORT PROPELLER MAIN SERVO LO PUMP WEAR
B: M4002 [0-100] PORT PROPELLER AUXIL SERVO LO PUMP WEAR
C:
D: M4003 [0-100] PORT PROPELLER SERVO LOC DIRTY
E:
F:
G: M4005 [0-100] PORT PROPELLER SERVO LO FILTER 1 DIRTY
H: M4006 [0-100] PORT PROPELLER SERVO LO FILTER 2 DIRTY
I:
J: M4007 [0-1] PORT PROPELLER SERVO CONTROLLER FAILURE
K:
L: M4010 [0-100] PORT PROPELLER FORE SHAFT BEARING POOR LUBRI
M: M4011 [0-100] PORT PROPELLER AFT SHAFT BEARING POOR LUBRI
N:
O: M4012 [0-100] PORT PROPELLER DAMAGE
P: M4013 [0-1] PORT PROPELLER LOST
Q:
R:
S:
T:



2.25 Page:3300 MA33** STBD PROPELLER SERVO OIL SYSTEM

A: M4101 [0-100] STBD PROPELLER MAIN SERVO LO PUMP WEAR
B: M4102 [0-100] STBD PROPELLER AUXIL SERVO LO PUMP WEAR
C:
D: M4103 [0-100] STBD PROPELLER SERVO LOC DIRTY
E:
F:
G: M4105 [0-100] STBD PROPELLER SERVO LO FILTER 1 DIRTY
H: M4106 [0-100] STBD PROPELLER SERVO LO FILTER 2 DIRTY
I:
J: M4107 [0-1] STBD PROPELLER SERVO CONTROLLER FAILURE
K:
L: M4110 [0-100] STBD PROPELLER FORE SHAFT BEARING POOR LUBRI
M: M4111 [0-100] STBD PROPELLER AFT SHAFT BEARING POOR LUBRI
N:
O: M4112 [0-100] STBD PROPELLER DAMAGE
P: M4113 [0-1] STBD PROPELLER LOST
Q:
R: M3721 [0-100] SHIP HULL FOULING
S:
T:

2.26 Page:3400 MA34** PORT STERN TUBE SYSTEM

A: M3651 [0-1] PORT STERN TUBE LO PUMP 1 FAILURE
B: M3652 [0-1] PORT STERN TUBE LO PUMP 2 FAILURE
C: M3653 [0-100] PORT STERN TUBE LO COOLER DIRTY
D: M3654 [0-100] PORT STERN TUBE FORE BEARING LUBRI LOW
E: M3655 [0-100] PORT STERN TUBE AFT BEARING LUBRI LOW
F: M3656 [0-100] PORT STERN TUBE AFT SEAL RING WEAR
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.27 Page:3500 MA35** STBD STERN TUBE SYSTEM

A: M3751 [0-1] STBD STERN TUBE LO PUMP 1 FAILURE
B: M3752 [0-1] STBD STERN TUBE LO PUMP 2 FAILURE
C: M3753 [0-100] STBD STERN TUBE LO COOLER DIRTY
D: M3754 [0-100] STBD STERN TUBE FORE BEARING LUBRI LOW
E: M3755 [0-100] STBD STERN TUBE AFT BEARING LUBRI LOW
F: M3756 [0-100] STBD STERN TUBE AFT SEAL RING WEAR
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.28 Page:3600 MA36** COMPRESSED AIR SYSTEM (1)

A: M4401 [0-100] START AIR COMPR 1 WEAR
B: M4402 [0-1] START AIR COMPR 1 FAILURE
C: M4403 [0-100] START AIR COMPR 1 COOLW FLOW LOW
D: M4404 [0-100] START AIR COMPR 1 LO PUMP WEAR
E: M4405 [0-100] START AIRC 1 WATER CONTENT HIGH
F:
G: M4406 [0-100] START AIR COMPR 2 WEAR
H: M4407 [0-1] START AIR COMPR 2 FAILURE
I: M4410 [0-100] START AIR COMPR 2 COOLW FLOW LOW
J: M4411 [0-100] START AIR COMPR 2 LO PUMP WEAR
K: M4412 [0-100] START AIRC 2 WATER CONTENT HIGH
L:
M: M4413 [0-100] SERVICE AIR COMPR WEAR
N: M4414 [0-1] SERVICE AIR COMPR FAILURE
O: M4415 [0-100] SERVICE AIR COMPR COOLW FLOW LOW
P: M4416 [0-100] SERVICE AIR COMPR LO PUMP WEAR
Q: M4417 [0-100] SERVICE AIRC WATER CONTENT HIGH
R:
S:
T:



2.29 Page:3601 MA36** COMPRESSED AIR SYSTEM (2)

A: M4421 [0-100] START AIR LEAKAGE HIGH
B: M4422 [0-100] CONTROL AIR LEAKAGE HIGH
C:
D: M4425 [0-100] START AIR RECEIVER 1 WATER CONTENT
E: M4426 [0-100] START AIR RECEIVER 2 WATER CONTENT
F: M4427 [0-100] SERV AIR RECEIVER WATER CONTENT
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.30 Page:3700 MA37** FRESH WATER GENERATOR

A: M4501 [0-100] FRESH W GEN EVAPORATOR DIRTY
B: M4502 [0-100] FRESH W GEN CONDENSER DIRTY
C: M4503 [0-100] FRESH W GEN EJECTOR PUMP WEAR
D: M4504 [0-100] FRESH W GEN DISTIL PUMP WEAR
E: M4505 [0-100] FRESH W GEN SW FEED FILTER DIRTY
F: M4506 [0-100] FRESH W GEN SW LEAKAGE (condenser)
G: M4507 [0-100] FRESH W GEN AIR LEAKAGE (condenser)
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.31 Page:3800 MA38** BILGE SYSTEM

A: M4601 [0-100] ER AFT BILGE WTR LEAKAGE
B: M4602 [0-100] ER AFT BILGE OIL LEAKAGE
C:
D: M4603 [0-100] ER STBD BILGE WTR LEAKAGE
E: M4604 [0-100] ER STBD BILGE OIL LEAKAGE
F:
G: M4605 [0-100] ER PORT BILGE WTR LEAKAGE
H: M4606 [0-100] ER PORT BILGE OIL LEAKAGE
I:
J: M4607 [0-100] ER FWD BILGE WTR LEAKAGE
K: M4610 [0-100] ER FWD BILGE OIL LEAKAGE
L:
M: M4612 [0-1] AFT SW LEAKAGE (small hull damage)
N: M4613 [0-1] FWD SW LEAKAGE (big hull damage)
O:
P: M4614 [0-1] BILGE SEPARATOR HEATER FAILURE
Q:
R:
S:
T:

2.32 Page:3900 MA39** REFRIGERATION SYSTEM

A: M4701 [0-100] REFRIG CONDENSER DIRTY (SW-side)
B: M4702 [0-100] REFRIG CONDENSER DIRTY (vapor-side)
C: M4717 [0-100] REFRIG CONDENSER INERT GAS
D: M4705 [0-100] REFRIG COMPR WEAR
E: M4706 [0-100] REFRIG COMPR REDUCED LO COOLING
F: M4707 [0-100] REFRIG COMPR HIGH OIL SEP RESISTANCE
G: M4710 [0-100] REFRIG COMPR LOW OIL SEP EFFICIENCY
H: M4713 [0-100] REFRIG COMPR POOR BEARING LUBRICATION
I: M4714 [0-100] REFRIG COMPR LO COOLER DIRTY
J: M4715 [0-100] REFRIG COMPR LO FILTER DIRTY
K: M4712 [0-100] REFRIG LIQUID HIGH LEAKAGE
L: M4703 [0-100] REFRIG EXP VALVE 1 ICE (low flow)
M: M4704 [0-100] REFRIG CARGO HOLD EVAP DIRTY (vapor-side)
N: M4711 [0-100] REFRIG CARGO HOLD LOW HEAT INSULATION
O: M4716 [0-100] REFRIG CARGO HOLD EVAP SURFACE ICE
P: M4720 [0-100] REFRIG EXP VALVE 2 ICE (low flow)
Q: M4721 [0-100] REFRIG PROV STORE EVAP DIRTY (vapor-side)
R: M4722 [0-100] REFRIG PROV STORE LOW HEAT INSULATION
S: M4723 [0-100] REFRIG PROV STORE EVAP SURFACE ICE
T:



2.33 Page:4000 MA40** DIESELGENERATOR 1 - TBCH/DO/LO

A: M5001 [0-100] DG 1 TURBOCHARGER DIRTY
B: M5002 [0-100] DG 1 TURBOCHARGER AIRC DIRTY
C: M5003 [0-100] DG 1 TURBOCHARGER AIR FILTER DIRTY
D: M5006 [0-100] DG 1 DO PUMP WEAR
E: M5007 [0-100] DG 1 DO FILTER 1 DIRTY
F: M5010 [0-100] DG 1 DO FILTER 2 DIRTY
G: M5014 [0-100] DG 1 LO PUMP WEAR
H: M5015 [0-100] DG 1 LO FILTER 1 DIRTY
I: M5016 [0-100] DG 1 LO FILTER 2 DIRTY
J: M5017 [0-100] DG 1 LO COOLER DIRTY
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.34 Page:4100 MA41** DIESELGENERATOR 1 - FW/SW/MISC

A: M5101 [0-100] DG 1 SPEED CONTROLLER GAIN HIGH
B: M5104 [0-100] DG 1 CYL EFFICIENCY LOW
C: M5106 [0-100] DG 1 FW PUMP WEAR
D: M5107 [0-100] DG 1 FW FLOW RESISTANCE HIGH
E: M5110 [0-100] DG 1 FW COOLER DIRTY
F: M5112 [0-100] DG 1 FW LEAKAGE
G: M5114 [0-100] DG 1 SW FILTER DIRTY
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.35 Page:4200 MA42** DIESELGENERATOR 2 - TBCH/DO/LO

A: M5201 [0-100] DG 2 TURBOCHARGER DIRTY
B: M5202 [0-100] DG 2 TURBOCHARGER AIRC DIRTY
C: M5203 [0-100] DG 2 TURBOCHARGER AIR FILTER DIRTY
D: M5206 [0-100] DG 2 DO PUMP WEAR
E: M5207 [0-100] DG 2 DO FILTER 1 DIRTY
F: M5210 [0-100] DG 2 DO FILTER 2 DIRTY
G: M5214 [0-100] DG 2 LO PUMP WEAR
H: M5215 [0-100] DG 2 LO FILTER 1 DIRTY
I: M5216 [0-100] DG 2 LO FILTER 2 DIRTY
J: M5217 [0-100] DG 2 LO COOLER DIRTY
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.36 Page:4300 MA43** DIESELGENERATOR 2 - FW/SW/MISC

A: M5301 [0-100] DG 2 SPEED CONTROLLER GAIN HIGH
B: M5304 [0-100] DG 2 CYL EFFICIENCY LOW
C: M5306 [0-100] DG 2 FW PUMP WEAR
D: M5307 [0-100] DG 2 FW FLOW RESISTANCE HIGH
E: M5310 [0-100] DG 2 FW COOLER DIRTY
F: M5312 [0-100] DG 2 FW LEAKAGE
G: M5314 [0-100] DG 2 SW FILTER DIRTY
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

**2.37 Page:4400 MA44** ELECTRIC SYSTEM (1)**

A:	M5401	[0-100]	DG 1 VOLT CONTROLLER GAIN HIGH
B:	M5402	[0-100]	DG 2 VOLT CONTROLLER GAIN HIGH
C:			
D:	M5411	[0-100]	DG 1 MAGNETIZATION UNBALANCE
E:	M5412	[0-100]	DG 2 MAGNETIZATION UNBALANCE
F:			
G:	M5404	[0-100]	SG 1 VOLT CONTROLLER GAIN HIGH
H:	M5405	[0-100]	SG 2 VOLT CONTROLLER GAIN HIGH
I:			
J:	M5420	[0-1]	ELECTRIC EARTH LEAKAGE
K:	M5421	[0-1]	SHORT CIRCUIT - BUSBAR 1
L:	M5422	[0-1]	SHORT CIRCUIT - BUSBAR 2
M:	M5423	[0-1]	SHORT CIRCUIT - BUSBAR 3
N:			
O:			
P:	M5523	[0-1]	ELECTRIC EARTH LEAKAGE (R - ACCOM LIGHT)
Q:	M5524	[0-1]	ELECTRIC EARTH LEAKAGE (S - DECK LIGHT)
R:	M5525	[0-1]	ELECTRIC EARTH LEAKAGE (T - ER LIGHT)
S:			
T:			

2.38 Page:4500 MA45 ELECTRIC SYSTEM (2)**

A:	M5501	[0-100]	DG 1 MISADJUSTED RETURN POWER RELAY
B:	M5502	[0-100]	DG 2 MISADJUSTED RETURN POWER RELAY
C:	M5504	[0-100]	SG 1 MISADJUSTED RETURN POWER RELAY
D:	M5505	[0-100]	SG 2 MISADJUSTED RETURN POWER RELAY
E:			
F:	M5506	[0-100]	DG 1 MISADJUSTED OVERLOAD RELAY
G:	M5507	[0-100]	DG 2 MISADJUSTED OVERLOAD RELAY
H:	M5511	[0-100]	SG 1 MISADJUSTED OVERLOAD RELAY
I:	M5512	[0-100]	SG 2 MISADJUSTED OVERLOAD RELAY
J:			
K:	M5513	[0-1]	DG 1 EXITATION FAILURE
L:	M5514	[0-1]	DG 2 EXITATION FAILURE
M:	M5516	[0-1]	SG 1 EXITATION FAILURE
N:	M5517	[0-1]	SG 2 EXITATION FAILURE
O:			
P:	M5508	[0-1]	EG MISADJUSTED UNDERVOLTAGE RELAY
Q:	M5518	[0-1]	EG MISADJUSTED RETURN POWER RELAY
R:	M5519	[0-1]	EG MISADJUSTED OVERLOAD RELAY
S:	M5520	[0-1]	EG AUTO-START FAILURE
T:			

2.39 Page:4600 MA46** ELECTRIC SYSTEM (3)

A:	M5701	[0-1]	DECK MACHINERY 1 MOTOR EARTH LEAKAGE
B:	M5730	[0-1]	DECK MACHINERY 2 MOTOR EARTH LEAKAGE
C:	M5702	[0-1]	BOW THRUSTER MOTOR EARTH LEAKAGE
D:	M5731	[0-1]	STERN THRUSTER MOTOR EARTH LEAKAGE
E:			
F:	M5703	[0-1]	MAIN SW PUMP 1 MOTOR EARTH LEAKAGE
G:	M5704	[0-1]	MAIN SW PUMP 2 MOTOR EARTH LEAKAGE
H:			
I:	M5705	[0-1]	ME 1 SW PUMP 1 MOTOR EARTH LEAKAGE
J:	M5706	[0-1]	ME 1 SW PUMP 2 MOTOR EARTH LEAKAGE
K:	M5707	[0-1]	ME 2 SW PUMP 1 MOTOR EARTH LEAKAGE
L:	M5710	[0-1]	ME 2 SW PUMP 2 MOTOR EARTH LEAKAGE
M:			
N:	M5711	[0-1]	FO BOOSTER PUMP 1 MOTOR EARTH LEAKAGE
O:	M5712	[0-1]	FO BOOSTER PUMP 2 MOTOR EARTH LEAKAGE
P:	M5713	[0-1]	FO SUPPLY PUMP 1 MOTOR EARTH LEAKAGE
Q:	M5714	[0-1]	FO SUPPLY PUMP 2 MOTOR EARTH LEAKAGE
R:			
S:			
T:			

2.40 Page:4700 MA47** ELECTRIC SYSTEM (4)

A:	M6001	[0-1]	DECK MACHINERY 1 CABLE EARTH LEAKAGE
B:	M6020	[0-1]	DECK MACHINERY 2 CABLE EARTH LEAKAGE
C:	M6002	[0-1]	BOW THRUSTER CABLE EARTH LEAKAGE
D:	M6021	[0-1]	STERN THRUSTER CABLE EARTH LEAKAGE
E:			
F:	M6003	[0-1]	MAIN SW PUMP 1 CABLE EARTH LEAKAGE
G:	M6004	[0-1]	MAIN SW PUMP 2 CABLE EARTH LEAKAGE
H:			
I:	M6005	[0-1]	ME 1 SW PUMP 1 CABLE EARTH LEAKAGE
J:	M6006	[0-1]	ME 1 SW PUMP 2 CABLE EARTH LEAKAGE
K:	M6007	[0-1]	ME 2 SW PUMP 1 CABLE EARTH LEAKAGE
L:	M6010	[0-1]	ME 2 SW PUMP 2 CABLE EARTH LEAKAGE
M:			
N:	M6011	[0-1]	FO BOOSTER PUMP 1 CABLE EARTH LEAKAGE
O:	M6012	[0-1]	FO BOOSTER PUMP 2 CABLE EARTH LEAKAGE
P:	M6013	[0-1]	FO SUPPLY PUMP 1 CABLE EARTH LEAKAGE
Q:	M6014	[0-1]	FO SUPPLY PUMP 2 CABLE EARTH LEAKAGE
R:			
S:			
T:			



2.41 Page:5300 MA53** STEAM SYSTEM

A: M6501 [0-100] BOILER FEEDW PUMP 1 WEAR
B: M6502 [0-100] BOILR FEEDW PUMP 2 WEAR
C:: M6503 [0-100] BOILER STEAM LOSS HIGH
E:
F: M6504 [0-100] BOILER OIL FIRED SECTION DIRTY
G: M6505 [0-100] BOILER EX FIRED SECTION DIRTY
H:
I: M6506 [0-1] BOILER FLAME DETECTOR FAULT
J:
K: M6510 [0-1] BOILER LEVEL CONTR FAILURE
L: M6511 [0-100] BOILER LEVEL CONTR UNSTABLE
M:
N: M6512 [0-1] BOILER PRESS CONTR FAILURE
O: M6513 [0-100] BOILER PRESS CONTR UNSTABLE