

Engine Room Simulator

ERS Sulzer 12RTA84C-III

Malfunction List

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TABLE OF CONTENTS

1	DIRECTORY LIST	1
2	VARIABLE LIST PAGES	3
2.1	Page:0100 MA01** SEA WATER SYSTEM (1/2)	3
2.2	Page:0101 MA01** SEA WATER SYSTEM (2/2)	3
2.3	Page:0200 MA02** WATER BALLAST SYSTEM (1/2).....	4
2.4	Page:0201 MA02** WATER BALLAST SYSTEM (2/2).....	4
2.5	Page:0300 MA03** FUEL OIL BUNKER TANKS (1/2)	5
2.6	Page:0301 MA03** FUEL OIL TRANSFER PUMPS (2/2)	5
2.7	Page:0400 MA04** HFO SETTLING TANKS	6
2.8	Page:0401 MA04** MDO SETTLING TANK	6
2.9	Page:0500 MA05** FUEL OIL SERVICE TANKS	7
2.10	Page:0600 MA06** HFO PURIFIER no 1 (ALCAP)	7
2.11	Page:0700 MA07** HFO PURIFIER no 2 (ALCAP)	8
2.12	Page:0800 MA08** HFO PURIFIER no 3 (Classic)	8
2.13	Page:0900 MA09** DO PURIFIER SYSTEM	9
2.14	Page:1000 MA10** ME LTFW/HTFW SYSTEM (1/3)	9
2.15	Page:1001 MA10** ME LTFW/HTFW SYSTEM (2/3)	10
2.16	Page:1002 MA10** ME LTFW/HTFW SYSTEM (3/3)	10
2.17	Page:1100 MA11** ME FUEL OIL SYSTEM (1/3)	11
2.18	Page:1101 MA11** ME FUEL OIL SYSTEM (2/3)	11
2.19	Page:1102 MA11** ME FUEL OIL SYSTEM (3/3)	12
2.20	Page:1200 MA12** ME LUB OIL SYSTEM (1/2)	12
2.21	Page:1201 MA12** ME LUB OIL SYSTEM (2/2)	13
2.22	Page:1300 MA13** ME TURBOCHARGER no 1 (1/5).....	13
2.23	Page:1301 MA13** ME TURBOCHARGER no 2 (2/5).....	14
2.24	Page:1302 MA13** ME TURBOCHARGER no 3 (3/5).....	14
2.25	Page:1303 MA13** ME AIR RECEIVER / AUX BLOWERS (4/5)	15
2.26	Page:1304 MA13** ME EXHAUST RECEIVER / DUCT (5/5)	15
2.27	Page:1400 MA14** ME TBCH LUB OIL SYSTEM (1/3)	16
2.28	Page:1401 MA14** ME TBCH LUB OIL SYSTEM (2/3)	16
2.29	Page:1402 MA14** ME TBCH LUB OIL SYSTEM (3/3)	17
2.30	Page:1600 MA16** SPARE	17
2.31	Page:1700 MA17** LO PURIFIER no 1	18
2.32	Page:1701 MA17** LO PURIFIER no 2	18
2.33	Page:1702 MA17** LO PURIFIER MISC	19
2.34	Page:1900 MA19** ME VIT/VEC CONTROL SYSTEM ++ (1/4)	19
2.35	Page:1901 MA19** ME SHUT DOWN SENSOR SIGNALS (2/4)	20
2.36	Page:1902 MA19** ME SLOW DOWN SENSOR SIGNALS (3/4).....	20
2.37	Page:1903 MA19** ME SLOW DOWN SENSOR SIGNALS (4/4).....	21
2.38	Page:2000 MA20** ME INDICATOR SIGNALS.....	21
2.39	Page:2100 MA21** ME CYLINDER no 1 (1/4).....	22
2.40	Page:2101 MA21** ME CYLINDER no 1 (2/4).....	22
2.41	Page:2102 MA21** ME CYLINDER no 1 (3/4).....	23
2.42	Page:2103 MA21** ME CYLINDER no 1 (4/4).....	23
2.43	Page:2200 MA22** ME CYLINDER no 2 (1/4).....	24
2.44	Page:2201 MA22** ME CYLINDER no 2 (2/4).....	24
2.45	Page:2202 MA22** ME CYLINDER no 2 (3/4).....	25
2.46	Page:2203 MA22** ME CYLINDER no 2 (4/4).....	25
2.47	Page:2300 MA23** ME CYLINDER no 3 (1/4).....	26
2.48	Page:2301 MA23** ME CYLINDER no 3 (2/4).....	26
2.49	Page:2302 MA23** ME CYLINDER no 3 (3/4).....	27



2.50	Page: 2303 MA23**	ME CYLINDER no 3 (4/4)	27
2.51	Page: 2400 MA24**	ME CYLINDER no 4 (1/4)	28
2.52	Page: 2401 MA24**	ME CYLINDER no 4 (2/4)	28
2.53	Page: 2402 MA24**	ME CYLINDER no 4 (3/4)	29
2.54	Page: 2403 MA24**	ME CYLINDER no 4 (4/4)	29
2.55	Page: 2500 MA25**	ME CYLINDER no 5 (1/4)	30
2.56	Page: 2501 MA25**	ME CYLINDER no 5 (2/4)	30
2.57	Page: 2502 MA25**	ME CYLINDER no 5 (3/4)	31
2.58	Page: 2503 MA25**	ME CYLINDER no 5 (4/4)	31
2.59	Page: 2600 MA26**	ME CYLINDER no 6 (1/4)	32
2.60	Page: 2601 MA26**	ME CYLINDER no 6 (2/4)	32
2.61	Page: 2602 MA26**	ME CYLINDER no 6 (3/4)	33
2.62	Page: 2603 MA26**	ME CYLINDER no 6 (4/4)	33
2.63	Page: 2700 MA27**	ME CYLINDER no 7 (1/4)	34
2.64	Page: 2701 MA27**	ME CYLINDER no 7 (2/4)	34
2.65	Page: 2702 MA27**	ME CYLINDER no 7 (3/4)	35
2.66	Page: 2703 MA27**	ME CYLINDER no 7 (4/4)	35
2.67	Page: 2800 MA28**	ME CYLINDER no 8 (1/4)	36
2.68	Page: 2801 MA28**	ME CYLINDER no 8 (2/4)	36
2.69	Page: 2802 MA28**	ME CYLINDER no 8 (3/4)	37
2.70	Page: 2803 MA28**	ME CYLINDER no 8 (4/4)	37
2.71	Page: 2900 MA29**	ME CYLINDER no 9 (1/4)	38
2.72	Page: 2901 MA29**	ME CYLINDER no 9 (2/4)	38
2.73	Page: 2902 MA29**	ME CYLINDER no 9 (3/4)	39
2.74	Page: 2903 MA29**	ME CYLINDER no 9 (4/4)	39
2.75	Page: 3000 MA30**	ME CYLINDER no 10 (1/4)	40
2.76	Page: 3001 MA30**	ME CYLINDER no 10 (2/4)	40
2.77	Page: 3002 MA30**	ME CYLINDER no 10 (3/4)	41
2.78	Page: 3003 MA30**	ME CYLINDER no 10 (4/4)	41
2.79	Page: 3100 MA31**	ME CYLINDER no 11 (1/4)	42
2.80	Page: 3101 MA31**	ME CYLINDER no 11 (2/4)	42
2.81	Page: 3102 MA31**	ME CYLINDER no 11 (3/4)	43
2.82	Page: 3103 MA31**	ME CYLINDER no 11 (4/4)	43
2.83	Page: 3200 MA32**	ME CYLINDER no 12 (1/4)	44
2.84	Page: 3201 MA32**	ME CYLINDER no 12 (2/4)	44
2.85	Page: 3202 MA32**	ME CYLINDER no 12 (3/4)	45
2.86	Page: 3203 MA32**	ME CYLINDER no 12 (4/4)	45
2.87	Page: 3300 MA33**	ME RING MONITOR SYSTEM	46
2.88	Page: 3400 MA34**	SPARE	46
2.89	Page: 3500 MA34**	SPARE	47
2.90	Page: 3800 MA38**	ME MAIN BEARING SENSORS (1/4)	47
2.91	Page: 3801 MA38**	ME CRANK BEARING SENSORS (2/4)	48
2.92	Page: 3802 MA38**	ME CROSSH BEARING SENSORS (3/4)	48
2.93	Page: 3803 MA38**	ME OIL MIST DETECTOR (4/4)	49
2.94	Page: 3900 MA39**	ME MAIN BEARING FRICTION (1/4)	49
2.95	Page: 3901 MA39**	ME CRANK BEARING FRICTION (2/4)	50
2.96	Page: 3902 MA39**	ME CROSSH BEARING FRICTION (3/4)	50
2.97	Page: 3903 MA39**	ME OIL MIST GENERATION (4/4)	51
2.98	Page: 4000 MA40**	SHIP VENTILATION SYSTEMS	51
2.99	Page: 4100 MA41**	AIR CONDITIONING PLANT (1/3)	52
2.100	Page: 4101 MA41**	AIR CONDITIONING PLANT (2/3)	52
2.101	Page: 4102 MA41**	AIR CONDITIONING PLANT (3/3)	53
2.102	Page: 4500 MA45**	SEWAGE TREATMENT PLANT	53
2.103	Page: 4600 MA46**	INCINERATOR PLANT (1/2)	54



2.104	Page: 4601 MA46**	INCINERATOR PLANT (2/2)	54
2.105	Page: 5000 MA50**	CATHODIC PROTECTION SYSTEM	55
2.106	Page: 5100 MA51**	MARINE GROWTH PROTECTION SYSTEM	55
2.107	Page: 5300 MA54**	PROPELLER SERVO SYSTEM	56
2.108	Page: 5400 MA54**	STERN TUBE SYSTEM	56
2.109	Page: 5600 MA56**	SHIP PROPULSION	57
2.110	Page: 5700 MA57**	SHIP LOADING	57
2.111	Page: 5800 MA58**	STEERING GEAR SYSTEM	58
2.112	Page: 5900 MA59**	FIRE DETECTION SYSTEM	58
2.113	Page: 6000 MA60**	COMPRESSED AIR SYSTEM (1/2)	59
2.114	Page: 6001 MA60**	COMPRESSED AIR SYSTEM (2/2)	59
2.115	Page: 6100 MA61**	DISTILLING PLANT	60
2.116	Page: 6200 MA62**	BILGE WELL SYSTEM	60
2.117	Page: 6300 MA63**	BILGE SEPARATOR	61
2.118	Page: 6400 MA64**	REFRIGERATION SYSTEM (1/3)	61
2.119	Page: 6401 MA64**	REFRIGERATION SYSTEM (2/3)	62
2.120	Page: 6402 MA64**	REFRIGERATION SYSTEM (3/3)	62
2.121	Page: 6500 MA65**	SPARE	63
2.122	Page: 7000 MA70**	ELECTRIC GENERATORS (1/4)	63
2.123	Page: 7001 MA70**	ELECTRIC GENERATORS (2/4)	64
2.124	Page: 7002 MA70**	ELECTRIC GENERATORS (3/4)	64
2.125	Page: 7003 MA70**	ELECTRIC GENERATORS (4/4)	65
2.126	Page: 7100 MA71**	DIESELGENERATOR no 1 (1/2)	65
2.127	Page: 7101 MA71**	DIESELGENERATOR no 1 (2/2)	66
2.128	Page: 7200 MA72**	DIESELGENERATOR no 2 (1/2)	66
2.129	Page: 7201 MA72**	DIESELGENERATOR no 2 (2/2)	67
2.130	Page: 7300 MA73**	DIESELGENERATOR no 3 (1/2)	67
2.131	Page: 7301 MA73**	DIESELGENERATOR no 3 (2/2)	68
2.132	Page: 7400 MA74**	DIESELGENERATOR no 4 (1/2)	68
2.133	Page: 7401 MA74**	DIESELGENERATOR no 4 (2/2)	69
2.134	Page: 7500 MA75**	ELECTRIC DISTRIBUTION (1/5)	69
2.135	Page: 7501 MA75**	ELECTRIC MOTOR BUTION (2/5)	70
2.136	Page: 7502 MA75**	ELECTRIC DISTRIBUTION (3/5)	70
2.137	Page: 7503 MA75**	ELECTRIC DISTRIBUTION (4/5)	71
2.138	Page: 7504 MA75**	ELECTRIC DISTRIBUTION (5/5)	71
2.139	Page: 7600 MA76**	REEFER CONTAINER SYSTEM	72
2.140	Page: 7700 MA77**	SPARE	72
2.141	Page: 7800 MA78**	EMERGENCY GENERATOR	73
2.142	Page: 7900 MA79**	DC24V EMERG BUS / BATTERY SYSTEM	73
2.143	Page: 8000 MA80**	STEAM GENERATION PLANT	74
2.144	Page: 8100 MA81**	OIL FIRED BOILER	74
2.145	Page: 8200 MA82**	EXHAUST BOILER	75
2.146	Page: 8500 MA85**	STEAM CONDENSER	75
2.147	Page: 8600 MA86**	TURBO GENERATOR	76



1 DIRECTORY LIST

Page:0100	SEA WATER SYSTEM	(2 pages)
Page:0200	WATER BALLAST SYSTEM	(2 pages)
Page:0300	FUEL OIL TRANSFER SYSTEM	(2 pages)
Page:0400	FUEL OIL SETTLING TANKS	(2 pages)
Page:0500	FUEL OIL SERVICE TANKS	(1 page)
Page:0600	HFO PURIFIER no 1	(1 page)
Page:0700	HFO PURIFIER no 2	(1 page)
Page:0800	HFO PURIFIER no 3	(1 page)
Page:0900	DO PURIFIER SYSTEM	(1 page)
Page:1000	ME LTFW/HTFW SYSTEM	(3 pages)
Page:1100	ME FUEL OIL SYSTEM	(3 pages)
Page:1200	ME LUB OIL SYSTEM	(2 pages)
Page:1300	ME TURBOCHARGERS (1)	(5 pages)
Page:1400	ME TURBOCHARGERS (2)	(3 pages)
Page:1600	spare	(1 page)
Page:1700	ME LO PURIFIER SYSTEM	(3 pages)
Page:1900	ME CONTROL/SAFETY SYSTEM	(4 pages)
Page:2000	ME INDICATOR SIGNALS	(1 page)
Page:2100	ME CYLINDER no 1	(4 pages)
Page:2200	ME CYLINDER no 2	(4 pages)
Page:2300	ME CYLINDER no 3	(4 pages)
Page:2400	ME CYLINDER no 4	(4 pages)
Page:2500	ME CYLINDER no 5	(4 pages)
Page:2600	ME CYLINDER no 6	(4 pages)
Page:2700	ME CYLINDER no 7	(4 pages)
Page:2800	ME CYLINDER no 8	(4 pages)
Page:2900	ME CYLINDER no 9	(4 pages)
Page:3000	ME CYLINDER no 10	(4 pages)
Page:3100	ME CYLINDER no 11	(4 pages)
Page:3200	ME CYLINDER no 12	(4 pages)
Page:3300	ME RING MONITOR SYSTEM	(1 page)
Page:3400	spare	(1 page)
Page:3500	spare	(1 page)
Page:3800	ME BEARING SYSTEM (1)	(4 pages)
Page:3900	ME BEARING SYSTEM (2)	(4 pages)
Page:4000	SHIP VENTILATION SYSTEMS	(1 page)
Page:4100	AIR CONDITIONING PLANT	(3 page)
Page:4500	SEWAGE TREATMENT PLANT	(1 page)
Page:4600	INCINERATOR PLANT	(2 pages)
Page:5000	CATHODIC PROTECTION	(1 page)
Page:5100	MARINE GROWTH PROTECTION	(1 page)
Page:5300	PROPELLER SERVO SYSTEM	(1 page)
Page:5400	STERN TUBE SYSTEM	(1 page)
Page:5600	SHIP PROPULSION	(1 page)
Page:5700	SHIP LOADING	(1 page)
Page:5800	STEERING GEAR SYSTEM	(1 page)
Page:5900	FIRE DETECTION SYSTEM	(1 page)
Page:6000	COMPRESSED AIR SYSTEM	(2 pages)
Page:6100	DISTILLING PLANT	(1 page)
Page:6200	BILGE WELL SYSTEM	(1 page)



Page:6300	BILGE SEPARATOR	(1 page)
Page:6400	REFRIGERATION SYSTEM	(3 pages)
Page:6500	spare	(1 page)
Page:7000	ELECTRIC POWER PLANT	(4 pages)
Page:7100	DIESELGENERATOR no 1	(2 pages)
Page:7200	DIESELGENERATOR no 2	(2 pages)
Page:7300	DIESELGENERATOR no 3	(2 pages)
Page:7400	DIESELGENERATOR no 4	(2 pages)
Page:7500	ELECTRIC DISTRIBUTION	(5 pages)
Page:7600	REEFER CONTAINER SYSTEM	(1 page)
Page:7700	spare	(1 page)
Page:7800	EMERGENCY GENERATOR	(1 page)
Page:7900	DC24V EMERGENCY SYSTEM	(1 page)
Page:8000	STEAM GENERATION PLANT	(1 page)
Page:8100	OIL FIRED BOILER	(1 page)
Page:8200	EXHAUST BOILER	(1 page)
Page:8500	STEAM CONDENSER	(1 page)
Page:8600	TURBO GENERATOR	(1 page)

2 VARIABLE LIST PAGES

2.1 Page:0100 MA01** SEA WATER SYSTEM (1/2)

A:
B: M0101 [0-100] SW pump 1 wear
C: M0102 [0-100] SW pump 2 wear
D: M0103 [0-1] SW pump 1 motor failure
E: M0104 [0-1] SW pump 2 motor failure
F:
G: M0105 [0-100] SW temp contr unstable
H: M0106 [0-1] SW temp contr failure
I: M0107 [0-100] SW temp contr actuator wear (back lash)
J: M0108 [0-100] SW temp contr sensor bulb dirty
K:
L: M0111 [0-100] Low suction Sea Chest filter dirty
M: M0112 [0-100] High suction Sea Chest filter dirty
N:
O:
P: M0191 [0-100] Main SW fire pump no.1 wear
Q: M0192 [0-100] Main SW fire pump no.2 wear
R: M0193 [0-1] Main SW fire pump no.1 failure
S: M0194 [0-1] Main SW fire pump no.2 failure
T:

2.2 Page:0101 MA01** SEA WATER SYSTEM (2/2)

A:
B:
C: M0150 [0-100] SW temp sensor (contr) calibration low
D: M0151 [0-100] SW temp sensor (contr) calibration high
E:
F: M0152 [0-100] SW temp sensor (alarm) calibration low
G: M0153 [0-100] SW temp sensor (alarm) calibration high
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:



2.3 Page:0200 MA02** WATER BALLAST SYSTEM (1/2)

A:			
B:	M0201	[0-100]	Water Ballast pump 1 wear
C:	M0202	[0-100]	Water Ballast pump 2 wear
D:	M0203	[0-100]	Water Ballast pump 3 wear
E:			
F:	M0205	[0-100]	Water Ballast Sea Chest dirty
G:	M0206	[0-100]	Water Ballast Filling line blocked
H:			
I:			
J:			
K:	M0210	[0-1]	Anti Heeling pump 1 fail
L:	M0211	[0-100]	Anti Heeling pump 1 wear
M:	M0212	[0-1]	Anti Heeling pump 2 fail
N:	M0213	[0-100]	Anti Heeling pump 2 wear
O:			
P:	M0214	[0-1]	Anti Heeling pump 1 auto fail
Q:	M0215	[0-1]	Anti Heeling pump 2 auto fail
R:			
S:	M0216	[0-1]	Anti Heeling sensor direction error
T:			

2.4 Page:0201 MA02** WATER BALLAST SYSTEM (2/2)

A:			
B:	M0221	[0-100]	Stbd WB tank no 1 outlet valve leakage
C:	M0222	[0-100]	Stbd WB tank no 2 outlet valve leakage
D:	M0223	[0-100]	Stbd WB tank no 3 outlet valve leakage
E:	M0224	[0-100]	Stbd WB tank no 4 outlet valve leakage
F:	M0225	[0-100]	Stbd WB tank no 5 outlet valve leakage
G:	M0226	[0-100]	Stbd WB tank no 6 outlet valve leakage
H:			
I:	M0231	[0-100]	Port WB tank no 1 outlet valve leakage
J:	M0232	[0-100]	Port WB tank no 2 outlet valve leakage
K:	M0233	[0-100]	Port WB tank no 3 outlet valve leakage
L:	M0234	[0-100]	Port WB tank no 4 outlet valve leakage
M:	M0235	[0-100]	Port WB tank no 5 outlet valve leakage
N:	M0236	[0-100]	Port WB tank no 6 outlet valve leakage
O:			
P:	M0241	[0-100]	Fore WB tank outlet valve leakage
Q:	M0242	[0-100]	Aft WB tank outlet valve leakage
R:			
S:			
T:			

2.5 Page:0300 MA03** FUEL OIL BUNKER TANKS (1/2)

A:
B: M0311 [0-100] Aft Bunker tank FO temp low
C: M0312 [0-100] Aft Bunker tank FO steam restriction
D: M0313 [0-100] Aft Bunker tank FO steam contr fault
E:
F:
G: M0321 [0-100] Port Bunker tank FO temp low
H: M0322 [0-100] Port Bunker tank FO steam restriction
I: M0323 [0-100] Port Bunker tank FO steam contr fault
J:
K:
L: M0331 [0-100] Stbd Bunker tank FO temp low
M: M0332 [0-100] Stbd Bunker tank FO steam restriction
N: M0333 [0-100] Stbd Bunker tank FO steam contr fault
O:
P:
Q: M0341 [0-100] Fwd Bunker tank FO temp low
R: M0342 [0-100] Fwd Bunker tank FO steam restriction
S: M0343 [0-100] Fwd Bunker tank FO steam contr fault
T:

2.6 Page:0301 MA03** FUEL OIL TRANSFER PUMPS (2/2)

A:
B: M0305 [0-1] HFO transfer pump 1 failure
C: M0306 [0-1] HFO transfer pump 2 failure
D: M0307 [0-100] MDO transfer pump failure
E:
F: M0301 [0-100] Spill oil tank level high
G: M0302 [0-100] Spill oil tank level overflow (fire)
H:
I: M0303 [0-100] HFO Overflow tank level high
J: M0304 [0-100] MDO Overflow tank level high
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:



2.7 Page:0400 MA04** HFO SETTling TANKS

A:
B:
C: M0411 [0-100] Settling tank 1 FO temp low
D: M0412 [0-100] Settling tank 1 FO steam restriction
E: M0413 [0-1] Settling tank 1 FO steam contr fault
F:
G: M0414 [0-100] Settling tank 1 FO level low
H: M0415 [0-100] Settling tank 1 water level high
I: M0416 [0-100] Settling tank 1 drain valve leakage
J:
K:
L:
M: M0421 [0-100] Settling tank 2 FO temp low
N: M0422 [0-100] Settling tank 2 FO steam restriction
O: M0423 [0-100] Settling tank 2 FO steam contr fault
P:
Q: M0424 [0-100] Settling tank 2 FO level low
R: M0425 [0-100] Settling tank 2 water level high
S: M0426 [0-100] Settling tank 2 drain valve leakage
T:

2.8 Page:0401 MA04** MDO SETTling TANK

A:
B:
C: M0431 [0-100] Settling tank 3 FO temp low
D: M0432 [0-100] Settling tank 3 FO steam restriction
E: M0433 [0-100] Settling tank 3 FO steam contr fault
F:
G: M0434 [0-100] Settling tank 3 FO level low
H: M0435 [0-100] Settling tank 3 water level high
I: M0436 [0-100] Settling tank 3 drain valve leakage
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.9 Page:0500 MA05** FUEL OIL SERVICE TANKS

A:
B:
C: M0511 [0-100] HFO Service tank FO temp low
D: M0512 [0-100] HFO Service tank FO steam restriction
E: M0513 [0-100] HFO Service tank FO steam contr fault
F:
G: M0514 [0-100] HFO Service tank FO level low
H: M0515 [0-100] HFO Service tank water level high
I: M0516 [0-100] HFO Service tank drain valve leakage
J:
K:
L:
M: M0521 [0-100] MDO Service tank FO temp low
N: M0522 [0-100] MDO Service tank FO steam restriction
O: M0523 [0-100] MDO Service tank FO steam contr fault
P:
Q: M0524 [0-100] MDO Service tank FO level low
R: M0525 [0-100] MDO Service tank water level high
S: M0526 [0-100] MDO Service tank drain valve leakage
T:

2.10 Page:0600 MA06** HFO PURIFIER no 1 (ALCAP)

A:
B: M0601 [0-1] HFO Purifier 1 sludge discharge fail
C: M0602 [0-1] HFO Purifier 1 motor failure
D: M0603 [0-1] HFO Purifier 1 water transducer fault
E: M0604 [0-1] HFO Purifier 1 heater failure
F: M0610 [0-100] HFO Purifier 1 operating water leakage
G: M0611 [0-100] HFO Purifier 1 operating water low
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:



2.11 Page:0700 MA07** HFO PURIFIER no 2 (ALCAP)

A:
B: M0701 [0-1] HFO Purifier 2 sludge discharge fail
C: M0702 [0-1] HFO Purifier 2 motor failure
D: M0703 [0-1] HFO Purifier 2 water transducer fault
E: M0704 [0-1] HFO Purifier 2 heater failure
F: M0710 [0-100] HFO Purifier 2 operating water leakage
G: M0711 [0-100] HFO Purifier 2 operating water low
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.12 Page:0800 MA08** HFO PURIFIER no 3 (Classic)

A:
B:
C: M0810 [0-100] HFO Purifier 3 supply pump wear
D: M0811 [0-1] HFO Purifier 3 supply pump fail
E:
F: M0815 [0-1] HFO Purifier 3 heater contr unstable
G: M0816 [0-1] HFO Purifier 3 heater failure
H:
I: M0820 [0-1] HFO Purifier 3 lost seal
J: M0828 [0-100] HFO Purifier 3 disc stack dirty
K: M0824 [0-100] HFO Purifier 3 gravity ring small
L: M0825 [0-100] HFO Purifier 3 gravity ring large
M:
N: M0830 [0-100] HFO Purifier 3 drive friction high
O: M0831 [0-100] HFO Purifier 3 motor failure
P:
Q: M0840 [0-100] HFO Purifier 3 operating tank leakage
R: M0842 [0-100] HFO Purifier 3 operation water low
S:
T:

2.13 Page:0900 MA09** DO PURIFIER SYSTEM

A:
B: M0901 [0-1] DO Purifier lost seal
C: M0902 [0-1] DO Purifier motor failure
D: M0903 [0-100] DO Purifier heater contr unstable
E: M0904 [0-1] DO Purifier heater failure
F: M0910 [0-100] DO Purifier operating water leakage
G: M0911 [0-100] DO Purifier operating water low
H:
I: M0914 [0-100] DO Purifier gravity ring small
J: M0915 [0-100] DO Purifier gravity ring large
K:
L: M0920 [0-100] DO Purifier rotational friction high
M: M0921 [0-100] DO Purifier drive gear clutch wear
N:
O: M0912 [0-100] DO Purifier disc stack dirty
P:
Q:
R:
S:
T:

2.14 Page:1000 MA10** ME LTFW/HTFW SYSTEM (1/3)

A:
B: M1001 [0-100] HTFW pump 1 wear
C: M1002 [0-100] HTFW pump 2 wear
D: M1003 [0-1] HTFW pump 1 motor failure
E: M1004 [0-1] HTFW pump 2 motor failure
F:
G: M1005 [0-100] LTFW pump 1 wear
H: M1006 [0-100] LTFW pump 2 wear
I: M1007 [0-1] LTFW pump 1 motor failure
J: M1008 [0-1] LTFW pump 2 motor failure
K:
L: M1020 [0-100] HTFW drain valve leakage
M: M1021 [0-100] HTFW vent valve leakage
N: M1030 [0-100] LTFW pump 1 water leakage
O: M1031 [0-100] LTFW pump 2 water leakage
P:
Q: M1085 [0-100] Central FW cooler 1 leak (SW to FW)
R: M1086 [0-100] Central FW cooler 2 leak (SW to FW)
S:
T:



2.15 Page:1001 MA10** ME LTFW/HTFW SYSTEM (2/3)

A:
B: M1080 [0-100] Central FW cooler 1 dirty (FW side)
C: M1081 [0-100] Central FW cooler 1 dirty (SW side)
D: M1082 [0-100] Central FW cooler 2 dirty (FW side)
E: M1083 [0-100] Central FW cooler 2 dirty (SW side)
F:
G: M1011 [0-100] HTFW contr unstable
H: M1012 [0-1] HTFW contr failure
I: M1013 [0-100] HTFW contr actuator wear (back lash)
J: M1014 [0-100] HTFW contr temp sensor bulb dirty
K:
L: M1015 [0-100] LTFW contr unstable
M: M1016 [0-1] LTFW contr failure
N: M1017 [0-100] LTFW contr actuator wear (back lash)
O: M1018 [0-100] LTFW contr temp sensor bulb dirty
P:
Q: M1040 [0-1] HTFW steam condensate pot blocked
R: M1041 [0-1] HTFW steam controller failure
S:
T:

2.16 Page:1002 MA10** ME LTFW/HTFW SYSTEM (3/3)

A:
B:
C:
D: M1061 [0-100] HTFW slave contr unstable
E: M1062 [0-1] HTFW slave contr failure
F: M1064 [0-100] HTFW slave contr sensor bulb dirty
G:
H:
I: M1050 [0-100] HTFW temp sensor (contr) calibr. low
J: M1051 [0-100] HTFW temp sensor (contr) calibr. high
K: M1070 [0-100] HTFW temp sensor (alarm) calibr. low
L: M1071 [0-100] HTFW temp sensor (alarm) calibr. high
M:
N: M1052 [0-100] LTFW temp sensor (contr) calibr. low
O: M1053 [0-100] LTFW temp sensor (contr) calibr. high
P: M1072 [0-100] LTFW temp sensor (alarm) calibr. low
Q: M1073 [0-100] LTFW temp sensor (alarm) calibr. high
R:
S: M1075 [0-1] ME HTFW system gas detector fault
T:

2.17 Page:1100 MA11** ME FUEL OIL SYSTEM (1/3)

A:
B: M1101 [0-100] FO Booster pump 1 wear
C: M1102 [0-100] FO Booster pump 2 wear
D: M1103 [0-1] FO Booster pump 1 motor failure
E: M1104 [0-1] FO Booster pump 2 motor failure
F:
G: M1105 [0-100] ME FO bypass filter dirty
H: M1106 [0-100] ME FO back flush filter dirty
I:
J:
K: M1107 [0-100] ME FO heater 1 dirty
L: M1108 [0-100] ME FO heater 2 dirty
M:
N: M1120 [0-100] FO heating steam reduction sp low
O:
P: M1160 [0-100] Fuel to ME high water content
Q: M1161 [0-100] Fuel to ME low cetan number
R:
S:
T:

2.18 Page:1101 MA11** ME FUEL OIL SYSTEM (2/3)

A:
B: M1141 [0-100] FO Supply pump 1 wear
C: M1142 [0-100] FO Supply pump 2 wear
D: M1143 [0-1] FO Supply pump 1 motor failure
E: M1144 [0-1] FO Supply pump 2 motor failure
F:
G: M1145 [0-100] FO flow meter restriction
H:
I: M1146 [0-100] FO Venting tank deaerating valve stuck
J: M1148 [0-100] FO Venting tank drain valve leakage
K:
L: M1150 [0-1] ME FO press control valve closed (stuck)
M: M1151 [0-1] ME FO press control valve open (stuck)
N: M1152 [0-100] ME FO press control valve sp low
O: M1153 [0-100] ME FO press control valve sp high
P:
Q: M1155 [0-100] ME FO circulation line restriction
R:
S:
T:

**2.19 Page:1102 MA11** ME FUEL OIL SYSTEM
(3/3)**

A:
B:
C: M1111 [0-100] FO visco contr unstable
D: M1112 [0-1] FO visco contr failure
E: M1115 [0-100] FO visco contr sensor dirty
F: M1113 [0-100] FO visco contr actuator slow
G: M1114 [0-100] FO visco contr actuator stiction
H:
I: M1116 [0-100] FO slave contr unstable
J: M1117 [0-100] FO slave contr failure
K: M1118 [0-1] FO slave contr sensor dirty
L:
M: M1122 [0-100] FO visco sensor (contr) calibration low
N: M1123 [0-100] FO visco sensor (contr) calibration high
O:
P: M1124 [0-100] FO visco sensor (alarm) calibration low
Q: M1125 [0-100] FO visco sensor (alarm) calibration high
R:
S:
T:

2.20 Page:1200 MA12 ME LUB OIL SYSTEM (1/2)**

A:
B: M1201 [0-100] Main LO pump 1 wear
C: M1202 [0-100] Main LO pump 2 wear
D: M1203 [0-1] Main LO pump 1 failure
E: M1204 [0-1] Main LO pump 2 failure
F: M1205 [0-100] Main LO bypass filter dirty
G: M1206 [0-100] Main LO back flush filter dirty
H:
I: M1280 [0-100] Main LO cooler 1 dirty (LO side)
J: M1281 [0-100] Main LO cooler 1 dirty (FW side)
K: M1282 [0-100] Main LO cooler 2 dirty (LO side)
L: M1283 [0-100] Main LO cooler 2 dirty (FW side)
M:
N: M1213 [0-100] Main LO cooler 1 leakage (LO to FW)
O: M1214 [0-100] Main LO cooler 2 leakage (LO to FW)
P:
Q: M1215 [0-100] Main LO temp contr unstable
R: M1216 [0-1] Main LO temp contr failure
S: M1217 [0-100] Main LO temp contr sensor dirty
T:



2.21 Page:1201 MA12** ME LUB OIL SYSTEM (2/2)

A:
B: M1241 [0-100] ME Cross head LO pump 1 wear
C: M1242 [0-100] ME Cross head LO pump 2 wear
D: M1243 [0-1] ME Cross head LO pump 1 motor failure
E: M1244 [0-1] ME Cross head LO pump 2 motor failure
F:
G: M1220 [0-100] Main LO quality low (dirt/wtr)
H: M1221 [0-100] Main LO quality red (high degrade rate)
I:
J: M1225 [0-100] Main LO consumption high (leakage)
K:
L: M1230 [0-100] ME Cyl LO day tank level low
M:
N: M1250 [0-100] Main LO temp sensor (contr) calibr. low
O: M1251 [0-100] Main LO temp sensor (contr) calibr. high
P:
Q: M1252 [0-100] Main LO temp sensor (alarm) calibr. low
R: M1253 [0-100] Main LO temp sensor (alarm) calibr. high
S:
T:

2.22 Page:1300 MA13** ME TURBOCHARGER no 1 (1/5)

A:
B:
C: M1301 [0-100] ME TBCH 1 air filter dirty
D: M1302 [0-100] ME TBCH 1 compressor dirty
E: M1303 [0-100] ME TBCH 1 ex turbine dirty
F:
G: M1304 [0-100] ME TBCH 1 surging (steady state)
H: M1305 [0-100] ME TBCH 1 surging (transient)
I:
J:
K: M1310 [0-100] ME TBCH 1 air cooler dirty (air side)
L: M1311 [0-100] ME TBCH 1 air cooler dirty (wtr side)
M: M1312 [0-100] ME TBCH 1 air cooler leakage (wtr to air)
N:
O:
P: M1317 [0-100] ME TBCH 1 air demister wear
Q: M1318 [0-100] ME TBCH 1 air demister drain restriction
R: M1319 [0-1] ME TBCH 1 air demister drain blocked
S:
T:



2.23 Page:1301 MA13** ME TURBOCHARGER no 2 (2/5)

A:
B:
C: M1321 [0-100] ME TBCH 2 air filter dirty
D: M1322 [0-100] ME TBCH 2 compressor dirty
E: M1323 [0-100] ME TBCH 2 ex turbine dirty
F:
G: M1324 [0-100] ME TBCH 2 surging (steady state)
H: M1325 [0-100] ME TBCH 2 surging (transient)
I:
J:
K: M1330 [0-100] ME TBCH 2 air cooler dirty (air side)
L: M1331 [0-100] ME TBCH 2 air cooler dirty (wtr side)
M: M1332 [0-100] ME TBCH 2 air cooler leakage (wtr to air)
N:
O:
P: M1337 [0-100] ME TBCH 2 air demister wear
Q: M1338 [0-100] ME TBCH 2 air demister drain restriction
R: M1339 [0-1] ME TBCH 2 air demister drain blocked
S:
T:

2.24 Page:1302 MA13** ME TURBOCHARGER no 3 (3/5)

A:
B:
C: M1341 [0-100] ME TBCH 3 air filter dirty
D: M1342 [0-100] ME TBCH 3 compressor dirty
E: M1343 [0-100] ME TBCH 3 ex turbine dirty
F:
G: M1344 [0-100] ME TBCH 3 surging (steady state)
H: M1345 [0-100] ME TBCH 3 surging (transient)
I:
J:
K: M1350 [0-100] ME TBCH 3 air cooler dirty (air side)
L: M1351 [0-100] ME TBCH 3 air cooler dirty (wtr side)
M: M1352 [0-100] ME TBCH 3 air cooler leakage (wtr to air)
N:
O:
P: M1357 [0-100] ME TBCH 3 air demister wear
Q: M1358 [0-100] ME TBCH 3 air demister drain restriction
R: M1359 [0-1] ME TBCH 3 air demister drain blocked
S:
T:

2.25 Page:1303 MA13** ME AIR RECEIVER / AUX BLOWERS (4/5)

A:
B:
C: M1370 [0-100] ME Air Receiver safety valve sp low
D: M1371 [0-100] ME Air Receiver safety valve leakage
E:
F: M1375 [0-100] ME Air Receiver air valve group leak
G:
H:
I: M1380 [0-1] ME Auxil blower auto s/s fail
J:
K: M1381 [0-1] ME Auxil blower 1 motor fail
L: M1382 [0-1] ME Auxil blower 2 motor fail
M: M1383 [0-1] ME Auxil blower 3 motor fail
N:
O:
P: M1384 [0-1] ME Auxil blower 1 air flap leak
Q: M1385 [0-1] ME Auxil blower 2 air flap leak
R: M1386 [0-1] ME Auxil blower 3 air flap leak
S:
T:

2.26 Page:1304 MA13** ME EXHAUST RECEIVER / DUCT (5/5)

A:
B:
C: M1390 [0-100] ME Exhaust receiver dirty (fire)
D:
E: M1391 [0-100] ME Exhaust duct dirty (high resist)
F:
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

**2.27 Page:1400 MA14** ME TBCH LUB OIL SYSTEM
(1/3)**

A:
B: M1401 [0-100] ME TBCH LO supply pump 1 wear
C: M1402 [0-100] ME TBCH LO supply pump 2 wear
D: M1403 [0-1] ME TBCH LO supply pump 1 failure
E: M1404 [0-1] ME TBCH LO supply pump 2 failure
F:
G: M1405 [0-100] ME TBCH LO filter 1 dirty
H: M1406 [0-100] ME TBCH LO filter 2 dirty
I:
J: M1407 [0-100] ME TBCH LO drain valve leakage
K: M1441 [0-100] ME TBCH LO cooler dirty (LO side)
L: M1442 [0-100] ME TBCH LO cooler dirty (FW side)
M:
N: M1450 [0-100] ME TBCH LO temp contr unstable
O: M1451 [0-1] ME TBCH LO temp contr failure
P:
Q:
R:
S:
T:

2.28 Page:1401 MA14 ME TBCH LUB OIL SYSTEM
(2/3)**

A:
B: M1411 [0-100] ME TBCH 1 vibration high
C: M1412 [0-100] ME TBCH 1 bearing friction high
D: M1413 [0-100] ME TBCH 1 LO supply flow low
E: M1414 [0-100] ME TBCH 1 FW supply flow low
F:
G: M1421 [0-100] ME TBCH 2 vibration high
H: M1422 [0-100] ME TBCH 2 bearing friction high
I: M1423 [0-100] ME TBCH 2 LO supply flow low
J: M1424 [0-100] ME TBCH 2 FW supply flow low
K:
L: M1431 [0-100] ME TBCH 3 vibration high
M: M1432 [0-100] ME TBCH 3 bearing friction high
N: M1433 [0-100] ME TBCH 3 LO supply flow low
O: M1434 [0-100] ME TBCH 3 FW supply flow low
P:
Q:
R:
S:
T:

2.29 Page:1402 MA14** ME TBCH LUB OIL SYSTEM (3/3)

A:
B:
C: M1460 [0-100] ME TBCH LO temp sensor (contr) low
D: M1461 [0-100] ME TBCH LO temp sensor (contr) high
E:
F: M1462 [0-100] ME TBCH LO temp sensor (alarm) low
G: M1463 [0-100] ME TBCH LO temp sensor (alarm) high
H:
I: M1464 [0-100] ME TBCH LO press sensor (alarm) low
J:
K:
L:
M: M1303 [0-100] ME TBCH 1 ex turbine dirty
N: M1323 [0-100] ME TBCH 2 ex turbine dirty
O: M1343 [0-100] ME TBCH 3 ex turbine dirty
P: M1302 [0-100] ME TBCH 1 compressor dirty
Q: M1322 [0-100] ME TBCH 2 compressor dirty
R: M1342 [0-100] ME TBCH 3 compressor dirty
S:
T:

2.30 Page:1600 MA16** SPARE

A:
B:
C:
D:
E:
F:
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:



2.31 Page:1700 MA17** LO PURIFIER no 1

A:
B: M1701 [0-1] LO Purifier 1 lost seal
C: M1702 [0-1] LO Purifier 1 motor failure
D: M1703 [0-100] LO Purifier 1 heater contr unstable
E: M1704 [0-1] LO Purifier 1 heater failure
F: M1710 [0-100] LO Purifier 1 operating water leakage
G: M1711 [0-100] LO Purifier 1 operating water low
H:
I: M1714 [0-100] LO Purifier 1 gravity ring small
J: M1715 [0-100] LO Purifier 1 gravity ring large
K:
L: M1720 [0-100] LO Purifier 1 rotational friction high
M: M1721 [0-100] LO Purifier 1 drive gear clutch wear
N:
O: M1712 [0-100] LO Purifier 1 disc stack dirty
P:
Q:
R:
S:
T:

2.32 Page:1701 MA17** LO PURIFIER no 2

A:
B: M1731 [0-1] LO Purifier 2 lost seal
C: M1732 [0-1] LO Purifier 2 motor failure
D: M1733 [0-100] LO Purifier 2 heater contr unstable
E: M1734 [0-1] LO Purifier 2 heater failure
F: M1740 [0-100] LO Purifier 2 operating water leakage
G: M1741 [0-100] LO Purifier 2 operating water low
H:
I: M1744 [0-100] LO Purifier 2 gravity ring small
J: M1745 [0-100] LO Purifier 2 gravity ring large
K:
L: M1750 [0-100] LO Purifier 2 rotational friction high
M: M1751 [0-100] LO Purifier 2 drive gear clutch wear
N:
O: M1742 [0-100] LO Purifier 2 disc stack dirty
P:
Q:
R:
S:
T:

2.33 Page:1702 MA17** LO PURIFIER MISC

A:
B:
C: M1760 [0-100] LO Purifier tank contamination
D: M1761 [0-100] LO Storage tank contamination
E:
F: M1780 [0-100] Purifier steam reduction valve fault
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.34 Page:1900 MA19** ME VIT/VEC CONTROL SYSTEM ++ (1/4)

A:
B: M1940 [0-1] ME VIT control unit error
C: M1941 [0-1] ME VIT control command fail
D: M1942 [0-100] ME VIT actuator pos stuck (inj early)
E: M1943 [0-100] ME VIT actuator pos stuck (inj late)
F:
G: M1950 [0-1] ME VEC control unit error
H: M1951 [0-1] ME VEC control command fail
I: M1952 [0-100] ME VEC actuator pos stuck (close early)
J: M1953 [0-100] ME VEC actuator pos stuck (close late)
K:
L:
M: M1960 [0-100] ME speed sensor (governor) signal low
N: M1961 [0-100] ME speed sensor (governor) signal high
O: M1962 [0-100] ME speed sensor (governor) signal noisy
P:
Q: M1970 [0-100] ME cyl lubrication drive motor failure
R:
S:
T:



2.35 Page:1901 MA19** ME SHUT DOWN SENSOR SIGNALS (2/4)

A:			
B:	M1901	[0-100]	SHU1-1: Main LO pressure signal 1 low
C:	M1902	[0-100]	SHU1-2: Main LO pressure signal 2 low
D:			
E:	M1903	[0-100]	SHU2-1: ME JW pressure signal 1 low
F:			
G:	M1905	[0-100]	SHU3-1: ME piston LO flow signal low
H:			
I:	M1906	[0-100]	SHU4-1: ME exh v air spring p signal 1 low
J:	M1907	[0-100]	SHU4-2: ME exh v air spring p signal 2 low
K:			
L:	M1908	[0-100]	SHU5-1: ME speed signal 1 high
M:	M1909	[0-100]	SHU5-2: ME speed signal 2 high
N:			
O:			
P:			
Q:			
R:			
S:			
T:			

2.36 Page:1902 MA19** ME SLOW DOWN SENSOR SIGNALS (3/4)

A:			
B:			
C:	M1911	[0-100]	SLO1-1: Main LO pressure signal 3 low
D:	M1912	[0-100]	SLO1-2: Cross head LO pressure signal low
E:			
F:	M1913	[0-100]	SLO2-1: ME JW pressure signal 2 low
G:	M1914	[0-100]	SLO2-2: ME cyl JW outl temp signal high
H:			
I:	M1915	[0-100]	SLO3-1: ME piston LO outlet temp signal high
J:			
K:	M1918	[0-100]	SLO4-1: ME cyl exh outl temp signal high
L:	M1919	[0-100]	SLO4-2: ME cyl exh dev temp signal high
M:	M1917	[0-100]	SLO4-3: TBCH exh inlet temp signal high
N:			
O:			
P:			
Q:			
R:			
S:			
T:			

2.37 Page:1903 MA19** ME SLOW DOWN SENSOR SIGNALS (4/4)

A:
B: M1921 [0-100] SLO5-1: ME exh v air spring p signal 3 low
C: M1922 [0-100] SLO5-2: ME LO inlet temp signal high
D: M1923 [0-100] SLO5-3: ME thrust LO outl temp signal high
E: M1924 [0-100] SLO5-4: ME oil mist signal high
F: M1925 [0-100] SLO5-5: TBCH bearing LO temp signal high
G: M1926 [0-100] SLO5-6: TBCH casing JW temp signal high
H: M1927 [0-100] SLO5-7: ME cyl oil flow signal low
I: M1928 [0-100] SLO5-8: ME Airc outlet temp signal high
J: M1929 [0-100] SLO5-9: ME piston scav air t signal high
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.38 Page:2000 MA20** ME INDICATOR SIGNALS

A:
B:
C: M2001 [0-100] ME shaft power signal low (AC indicator)
D: M2002 [0-100] ME shaft power signal high (AC indicator)
E:
F: M2003 [0-100] ME fuel temp signal low (AC indicator)
G: M2004 [0-100] ME fuel temp signal high (AC indicator)
H:
I: M2005 [0-100] ME fuel visco signal low (AC indicator)
J: M2006 [0-100] ME fuel visco signal high (AC indicator)
K: M2012 [0-100] ME air receiver press low (AC indicator)
L: M2013 [0-100] ME air receiver press high (AC indicator)
M:
N: M2014 [0-100] ME air receiver temp low (AC indicator)
O: M2015 [0-100] ME air receiver temp high (AC indicator)
P: M2016 [0-100] ME exh receiver temp low (AC indicator)
Q: M2017 [0-100] ME exh receiver temp high (AC indicator)
R:
S:
T:

**2.39 Page:2100 MA21 ** ME CYLINDER no 1 (1/4)**

A:
B:
C: M2101 [0-100] Cyl 1 injection timing early
D: M2102 [0-100] Cyl 1 injection timing late
E:
F: M2103 [0-100] Cyl 1 injection pump wear
G: M2104 [0-1] Cyl 1 injection pump stuck
H:
I: M2110 [0-100] Cyl 1 inj nozzle wear (poor atomization)
J: M2111 [0-100] Cyl 1 inj nozzle deposit (clogging)
K: M2116 [0-100] Cyl 1 inj nozzle open pressure low
L: M2117 [0-100] Cyl 1 inj nozzle open pressure high
M:
N: M2105 [0-1] Cyl 1 injection line rupture
O: M2106 [0-1] Cyl 1 injection line gas content
P:
Q: M2118 [0-100] Cyl 1 fuel recirc line flow restriction
R:
S:
T:

2.40 Page:2101 MA21 ** ME CYLINDER no 1 (2/4)

A:
B:
C: M2120 [0-100] Cyl 1 piston crown wear
D: M2121 [0-100] Cyl 1 piston crown deposits
E:
F: M2124 [0-100] Cyl 1 exhaust valve leakage
G: M2125 [0-1] Cyl 1 exhaust valve stuck (open)
H:
I: M2126 [0-100] Cyl 1 exhaust v opening early
J: M2127 [0-100] Cyl 1 exhaust v opening late
K: M2128 [0-100] Cyl 1 exhaust v closing early
L: M2129 [0-100] Cyl 1 exhaust v closing late
M:
N: M2130 [0-100] Cyl 1 scav air port deposits
O:
P: M2138 [0-100] Cyl 1 liner crack
Q:
R:
S:
T:

2.41 Page:2102 MA21** ME CYLINDER no 1 (3/4)

A:
B:
C: M2140 [0-100] Cyl 1 piston ring sealing (general)
D: M2141 [0-100] Cyl 1 piston ring stiction (general)
E:
F: M2151 [0-100] Cyl 1 piston ring 1 sealing wear
G: M2152 [0-100] Cyl 1 piston ring 2 sealing wear
H: M2153 [0-100] Cyl 1 piston ring 3 sealing wear
I: M2154 [0-100] Cyl 1 piston ring 4 sealing wear
J: M2155 [0-100] Cyl 1 piston ring 5 sealing wear
K: M2161 [0-100] Cyl 1 piston ring 1 stiction
L: M2162 [0-100] Cyl 1 piston ring 2 stiction
M: M2163 [0-100] Cyl 1 piston ring 3 stiction
N: M2164 [0-100] Cyl 1 piston ring 4 stiction
O: M2165 [0-100] Cyl 1 piston ring 5 stiction
P:
Q: M2170 [0-100] Cyl 1 lubricator pump wear
R:
S:
T:

2.42 Page:2103 MA21** ME CYLINDER no 1 (4/4)

A:
B: M2180 [0-100] Cyl 1 liner JW flow restriction
C:
D: M2182 [0-100] Cyl 1 liner JW drain valve leakage
E:
F: M2185 [0-100] Cyl 1 piston LO flow restriction
G:
H: M2134 [0-100] Cyl 1 piston rod gland drain restriction
I: M2135 [0-100] Cyl 1 piston residue drain restriction
J:
K: M2190 [0-100] Cyl 1 scav air box dirty
L: M2191 [0-1] Cyl 1 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.43 Page:2200 MA22** ME CYLINDER no 2 (1/4)**

A:
B:
C: M2201 [0-100] Cyl 2 injection timing early
D: M2202 [0-100] Cyl 2 injection timing late
E:
F: M2203 [0-100] Cyl 2 injection pump wear
G: M2204 [0-1] Cyl 2 injection pump stuck
H:
I: M2210 [0-100] Cyl 2 inj nozzle wear (poor atomization)
J: M2211 [0-100] Cyl 2 inj nozzle deposit (clogging)
K: M2216 [0-100] Cyl 2 inj nozzle open pressure low
L: M2217 [0-100] Cyl 2 inj nozzle open pressure high
M:
N: M2205 [0-1] Cyl 2 injection line rupture
O: M2206 [0-1] Cyl 2 injection line gas content
P:
Q: M2218 [0-100] Cyl 2 fuel recirc line flow restriction
R:
S:
T:

2.44 Page:2201 MA22 ME CYLINDER no 2 (2/4)**

A:
B:
C: M2220 [0-100] Cyl 2 piston crown wear
D: M2221 [0-100] Cyl 2 piston crown deposits
E:
F: M2224 [0-100] Cyl 2 exhaust valve leakage
G: M2225 [0-1] Cyl 2 exhaust valve stuck (open)
H:
I: M2226 [0-100] Cyl 2 exhaust v opening early
J: M2227 [0-100] Cyl 2 exhaust v opening late
K: M2228 [0-100] Cyl 2 exhaust v closing early
L: M2229 [0-100] Cyl 2 exhaust v closing late
M:
N: M2230 [0-100] Cyl 2 scav air port deposits
O:
P: M2238 [0-100] Cyl 2 liner crack
Q:
R:
S:
T:

2.45 Page:2202 MA22** ME CYLINDER no 2 (3/4)

A:
B:
C: M2240 [0-100] Cyl 2 piston ring sealing (general)
D: M2241 [0-100] Cyl 2 piston ring stiction (general)
E:
F: M2251 [0-100] Cyl 2 piston ring 1 sealing wear
G: M2252 [0-100] Cyl 2 piston ring 2 sealing wear
H: M2253 [0-100] Cyl 2 piston ring 3 sealing wear
I: M2254 [0-100] Cyl 2 piston ring 4 sealing wear
J: M2255 [0-100] Cyl 2 piston ring 5 sealing wear
K: M2261 [0-100] Cyl 2 piston ring 1 stiction
L: M2262 [0-100] Cyl 2 piston ring 2 stiction
M: M2263 [0-100] Cyl 2 piston ring 3 stiction
N: M2264 [0-100] Cyl 2 piston ring 4 stiction
O: M2265 [0-100] Cyl 2 piston ring 5 stiction
P:
Q: M2270 [0-100] Cyl 2 lubricator pump wear
R:
S:
T:

2.46 Page:2203 MA22** ME CYLINDER no 2 (4/4)

A:
B: M2280 [0-100] Cyl 2 liner JW flow restriction
C:
D: M2282 [0-100] Cyl 2 liner JW drain valve leakage
E:
F: M2285 [0-100] Cyl 2 piston LO flow restriction
G:
H: M2234 [0-100] Cyl 2 piston rod gland drain restriction
I: M2235 [0-100] Cyl 2 piston residue drain restriction
J:
K: M2290 [0-100] Cyl 2 scav air box dirty
L: M2291 [0-1] Cyl 2 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.47 Page:2300 MA23** ME CYLINDER no 3 (1/4)**

A:
B:
C: M2301 [0-100] Cyl 3 injection timing early
D: M2302 [0-100] Cyl 3 injection timing late
E:
F: M2303 [0-100] Cyl 3 injection pump wear
G: M2304 [0-1] Cyl 3 injection pump stuck
H:
I: M2310 [0-100] Cyl 3 inj nozzle wear (poor atomization)
J: M2311 [0-100] Cyl 3 inj nozzle deposit (clogging)
K: M2316 [0-100] Cyl 3 inj nozzle open pressure low
L: M2317 [0-100] Cyl 3 inj nozzle open pressure high
M:
N: M2305 [0-1] Cyl 3 injection line rupture
O: M2306 [0-1] Cyl 3 injection line gas content
P:
Q: M2318 [0-100] Cyl 3 fuel recirc line flow restriction
R:
S:
T:

2.48 Page:2301 MA23 ME CYLINDER no 3 (2/4)**

A:
B:
C: M2320 [0-100] Cyl 3 piston crown wear
D: M2321 [0-100] Cyl 3 piston crown deposits
E:
F: M2324 [0-100] Cyl 3 exhaust valve leakage
G: M2325 [0-1] Cyl 3 exhaust valve stuck (open)
H:
I: M2326 [0-100] Cyl 3 exhaust v opening early
J: M2327 [0-100] Cyl 3 exhaust v opening late
K: M2328 [0-100] Cyl 3 exhaust v closing early
L: M2329 [0-100] Cyl 3 exhaust v closing late
M:
N: M2330 [0-100] Cyl 3 scav air port deposits
O:
P: M2338 [0-100] Cyl 3 liner crack
Q:
R:
S:
T:

2.49 Page:2302 MA23** ME CYLINDER no 3 (3/4)

A:
B:
C: M2340 [0-100] Cyl 3 piston ring sealing (general)
D: M2341 [0-100] Cyl 3 piston ring stiction (general)
E:
F: M2351 [0-100] Cyl 3 piston ring 1 sealing wear
G: M2352 [0-100] Cyl 3 piston ring 2 sealing wear
H: M2353 [0-100] Cyl 3 piston ring 3 sealing wear
I: M2354 [0-100] Cyl 3 piston ring 4 sealing wear
J: M2355 [0-100] Cyl 3 piston ring 5 sealing wear
K: M2361 [0-100] Cyl 3 piston ring 1 stiction
L: M2362 [0-100] Cyl 3 piston ring 2 stiction
M: M2363 [0-100] Cyl 3 piston ring 3 stiction
N: M2364 [0-100] Cyl 3 piston ring 4 stiction
O: M2365 [0-100] Cyl 3 piston ring 5 stiction
P:
Q: M2370 [0-100] Cyl 3 lubricator pump wear
R:
S:
T:

2.50 Page:2303 MA23** ME CYLINDER no 3 (4/4)

A:
B: M2380 [0-100] Cyl 3 liner JW flow restriction
C:
D: M2382 [0-100] Cyl 3 liner JW drain valve leakage
E:
F: M2385 [0-100] Cyl 3 piston LO flow restriction
G:
H: M2334 [0-100] Cyl 3 piston rod gland drain restriction
I: M2335 [0-100] Cyl 3 piston residue drain restriction
J:
K: M2390 [0-100] Cyl 3 scav air box dirty
L: M2391 [0-1] Cyl 3 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.51 Page:2400 MA24** ME CYLINDER no 4 (1/4)**

A:
B:
C: M2401 [0-100] Cyl 4 injection timing early
D: M2402 [0-100] Cyl 4 injection timing late
E:
F: M2403 [0-100] Cyl 4 injection pump wear
G: M2404 [0-1] Cyl 4 injection pump stuck
H:
I: M2410 [0-100] Cyl 4 inj nozzle wear (poor atomization)
J: M2411 [0-100] Cyl 4 inj nozzle deposit (clogging)
K: M2416 [0-100] Cyl 4 inj nozzle open pressure low
L: M2417 [0-100] Cyl 4 inj nozzle open pressure high
M:
N: M2405 [0-1] Cyl 4 injection line rupture
O: M2406 [0-1] Cyl 4 injection line gas content
P:
Q: M2418 [0-100] Cyl 4 fuel recirc line flow restriction
R:
S:
T:

2.52 Page:2401 MA24 ME CYLINDER no 4 (2/4)**

A:
B:
C: M2420 [0-100] Cyl 4 piston crown wear
D: M2421 [0-100] Cyl 4 piston crown deposits
E:
F: M2424 [0-100] Cyl 4 exhaust valve leakage
G: M2425 [0-1] Cyl 4 exhaust valve stuck (open)
H:
I: M2426 [0-100] Cyl 4 exhaust v opening early
J: M2427 [0-100] Cyl 4 exhaust v opening late
K: M2428 [0-100] Cyl 4 exhaust v closing early
L: M2429 [0-100] Cyl 4 exhaust v closing late
M:
N: M2430 [0-100] Cyl 4 scav air port deposits
O:
P: M2438 [0-100] Cyl 4 liner crack
Q:
R:
S:
T:

2.53 Page:2402 MA24** ME CYLINDER no 4 (3/4)

A:
B:
C: M2440 [0-100] Cyl 4 piston ring sealing (general)
D: M2441 [0-100] Cyl 4 piston ring stiction (general)
E:
F: M2451 [0-100] Cyl 4 piston ring 1 sealing wear
G: M2452 [0-100] Cyl 4 piston ring 2 sealing wear
H: M2453 [0-100] Cyl 4 piston ring 3 sealing wear
I: M2454 [0-100] Cyl 4 piston ring 4 sealing wear
J: M2455 [0-100] Cyl 4 piston ring 5 sealing wear
K: M2461 [0-100] Cyl 4 piston ring 1 stiction
L: M2462 [0-100] Cyl 4 piston ring 2 stiction
M: M2463 [0-100] Cyl 4 piston ring 3 stiction
N: M2464 [0-100] Cyl 4 piston ring 4 stiction
O: M2465 [0-100] Cyl 4 piston ring 5 stiction
P:
Q: M2470 [0-100] Cyl 4 lubricator pump wear
R:
S:
T:

2.54 Page:2403 MA24** ME CYLINDER no 4 (4/4)

A:
B: M2480 [0-100] Cyl 4 liner JW flow restriction
C:
D: M2482 [0-100] Cyl 4 liner JW drain valve leakage
E:
F: M2485 [0-100] Cyl 4 piston LO flow restriction
G:
H: M2434 [0-100] Cyl 4 piston rod gland drain restriction
I: M2435 [0-100] Cyl 4 piston residue drain restriction
J:
K: M2490 [0-100] Cyl 4 scav air box dirty
L: M2491 [0-1] Cyl 4 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.55 Page:2500 MA25** ME CYLINDER no 5 (1/4)**

A:
B:
C: M2501 [0-100] Cyl 5 injection timing early
D: M2502 [0-100] Cyl 5 injection timing late
E:
F: M2503 [0-100] Cyl 5 injection pump wear
G: M2504 [0-1] Cyl 5 injection pump stuck
H:
I: M2510 [0-100] Cyl 5 inj nozzle wear (poor atomization)
J: M2511 [0-100] Cyl 5 inj nozzle deposit (clogging)
K: M2516 [0-100] Cyl 5 inj nozzle open pressure low
L: M2517 [0-100] Cyl 5 inj nozzle open pressure high
M:
N: M2505 [0-1] Cyl 5 injection line rupture
O: M2506 [0-1] Cyl 5 injection line gas content
P:
Q: M2518 [0-100] Cyl 5 fuel recirc line flow restriction
R:
S:
T:

2.56 Page:2501 MA25 ME CYLINDER no 5 (2/4)**

A:
B:
C: M2520 [0-100] Cyl 5 piston crown wear
D: M2521 [0-100] Cyl 5 piston crown deposits
E:
F: M2524 [0-100] Cyl 5 exhaust valve leakage
G: M2525 [0-1] Cyl 5 exhaust valve stuck (open)
H:
I: M2526 [0-100] Cyl 5 exhaust v opening early
J: M2527 [0-100] Cyl 5 exhaust v opening late
K: M2528 [0-100] Cyl 5 exhaust v closing early
L: M2529 [0-100] Cyl 5 exhaust v closing late
M:
N: M2530 [0-100] Cyl 5 scav air port deposits
O:
P: M2538 [0-100] Cyl 5 liner crack
Q:
R:
S:
T:

2.57 Page:2502 MA25** ME CYLINDER no 5 (3/4)

A:
B:
C: M2540 [0-100] Cyl 5 piston ring sealing (general)
D: M2541 [0-100] Cyl 5 piston ring stiction (general)
E:
F: M2551 [0-100] Cyl 5 piston ring 1 sealing wear
G: M2552 [0-100] Cyl 5 piston ring 2 sealing wear
H: M2553 [0-100] Cyl 5 piston ring 3 sealing wear
I: M2554 [0-100] Cyl 5 piston ring 4 sealing wear
J: M2555 [0-100] Cyl 5 piston ring 5 sealing wear
K: M2561 [0-100] Cyl 5 piston ring 1 stiction
L: M2562 [0-100] Cyl 5 piston ring 2 stiction
M: M2563 [0-100] Cyl 5 piston ring 3 stiction
N: M2564 [0-100] Cyl 5 piston ring 4 stiction
O: M2565 [0-100] Cyl 5 piston ring 5 stiction
P:
Q: M2570 [0-100] Cyl 5 lubricator pump wear
R:
S:
T:

2.58 Page:2503 MA25** ME CYLINDER no 5 (4/4)

A:
B: M2580 [0-100] Cyl 5 liner JW flow restriction
C:
D: M2582 [0-100] Cyl 5 liner JW drain valve leakage
E:
F: M2585 [0-100] Cyl 5 piston LO flow restriction
G:
H: M2534 [0-100] Cyl 5 piston rod gland drain restriction
I: M2535 [0-100] Cyl 5 piston residue drain restriction
J:
K: M2590 [0-100] Cyl 5 scav air box dirty
L: M2591 [0-1] Cyl 5 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.59 Page:2600 MA26** ME CYLINDER no 6 (1/4)**

A:
B:
C: M2601 [0-100] Cyl 6 injection timing early
D: M2602 [0-100] Cyl 6 injection timing late
E:
F: M2603 [0-100] Cyl 6 injection pump wear
G: M2604 [0-1] Cyl 6 injection pump stuck
H:
I: M2610 [0-100] Cyl 6 inj nozzle wear (poor atomization)
J: M2611 [0-100] Cyl 6 inj nozzle deposit (clogging)
K: M2616 [0-100] Cyl 6 inj nozzle open pressure low
L: M2617 [0-100] Cyl 6 inj nozzle open pressure high
M:
N: M2605 [0-1] Cyl 6 injection line rupture
O: M2606 [0-1] Cyl 6 injection line gas content
P:
Q: M2618 [0-100] Cyl 6 fuel recirc line flow restriction
R:
S:
T:

2.60 Page:2601 MA26 ME CYLINDER no 6 (2/4)**

A:
B:
C: M2620 [0-100] Cyl 6 piston crown wear
D: M2621 [0-100] Cyl 6 piston crown deposits
E:
F: M2624 [0-100] Cyl 6 exhaust valve leakage
G: M2625 [0-1] Cyl 6 exhaust valve stuck (open)
H:
I: M2626 [0-100] Cyl 6 exhaust v opening early
J: M2627 [0-100] Cyl 6 exhaust v opening late
K: M2628 [0-100] Cyl 6 exhaust v closing early
L: M2629 [0-100] Cyl 6 exhaust v closing late
M:
N: M2630 [0-100] Cyl 6 scav air port deposits
O:
P: M2638 [0-100] Cyl 6 liner crack
Q:
R:
S:
T:

2.61 Page:2602 MA26** ME CYLINDER no 6 (3/4)

A:
B:
C: M2640 [0-100] Cyl 6 piston ring sealing (general)
D: M2641 [0-100] Cyl 6 piston ring stiction (general)
E:
F: M2651 [0-100] Cyl 6 piston ring 1 sealing wear
G: M2652 [0-100] Cyl 6 piston ring 2 sealing wear
H: M2653 [0-100] Cyl 6 piston ring 3 sealing wear
I: M2654 [0-100] Cyl 6 piston ring 4 sealing wear
J: M2655 [0-100] Cyl 6 piston ring 5 sealing wear
K: M2661 [0-100] Cyl 6 piston ring 1 stiction
L: M2662 [0-100] Cyl 6 piston ring 2 stiction
M: M2663 [0-100] Cyl 6 piston ring 3 stiction
N: M2664 [0-100] Cyl 6 piston ring 4 stiction
O: M2665 [0-100] Cyl 6 piston ring 5 stiction
P:
Q: M2670 [0-100] Cyl 6 lubricator pump wear
R:
S:
T:

2.62 Page:2603 MA26** ME CYLINDER no 6 (4/4)

A:
B: M2680 [0-100] Cyl 6 liner JW flow restriction
C:
D: M2682 [0-100] Cyl 6 liner JW drain valve leakage
E:
F: M2685 [0-100] Cyl 6 piston LO flow restriction
G:
H: M2634 [0-100] Cyl 6 piston rod gland drain restriction
I: M2635 [0-100] Cyl 6 piston residue drain restriction
J:
K: M2690 [0-100] Cyl 6 scav air box dirty
L: M2691 [0-1] Cyl 6 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.63 Page:2700 MA27** ME CYLINDER no 7 (1/4)**

A:
B:
C: M2701 [0-100] Cyl 7 injection timing early
D: M2702 [0-100] Cyl 7 injection timing late
E:
F: M2703 [0-100] Cyl 7 injection pump wear
G: M2704 [0-1] Cyl 7 injection pump stuck
H:
I: M2710 [0-100] Cyl 7 inj nozzle wear (poor atomization)
J: M2711 [0-100] Cyl 7 inj nozzle deposit (clogging)
K: M2716 [0-100] Cyl 7 inj nozzle open pressure low
L: M2717 [0-100] Cyl 7 inj nozzle open pressure high
M:
N: M2705 [0-1] Cyl 7 injection line rupture
O: M2706 [0-1] Cyl 7 injection line gas content
P:
Q: M2718 [0-100] Cyl 7 fuel recirc line flow restriction
R:
S:
T:

2.64 Page:2701 MA27 ME CYLINDER no 7 (2/4)**

A:
B:
C: M2720 [0-100] Cyl 7 piston crown wear
D: M2721 [0-100] Cyl 7 piston crown deposits
E:
F: M2724 [0-100] Cyl 7 exhaust valve leakage
G: M2725 [0-1] Cyl 7 exhaust valve stuck (open)
H:
I: M2726 [0-100] Cyl 7 exhaust v opening early
J: M2727 [0-100] Cyl 7 exhaust v opening late
K: M2728 [0-100] Cyl 7 exhaust v closing early
L: M2729 [0-100] Cyl 7 exhaust v closing late
M:
N: M2730 [0-100] Cyl 7 scav air port deposits
O:
P: M2738 [0-100] Cyl 7 liner crack
Q:
R:
S:
T:

2.65 Page:2702 MA27** ME CYLINDER no 7 (3/4)

A:
B:
C: M2740 [0-100] Cyl 7 piston ring sealing (general)
D: M2741 [0-100] Cyl 7 piston ring stiction (general)
E:
F: M2751 [0-100] Cyl 7 piston ring 1 sealing wear
G: M2752 [0-100] Cyl 7 piston ring 2 sealing wear
H: M2753 [0-100] Cyl 7 piston ring 3 sealing wear
I: M2754 [0-100] Cyl 7 piston ring 4 sealing wear
J: M2755 [0-100] Cyl 7 piston ring 5 sealing wear
K: M2761 [0-100] Cyl 7 piston ring 1 stiction
L: M2762 [0-100] Cyl 7 piston ring 2 stiction
M: M2763 [0-100] Cyl 7 piston ring 3 stiction
N: M2764 [0-100] Cyl 7 piston ring 4 stiction
O: M2765 [0-100] Cyl 7 piston ring 5 stiction
P:
Q: M2770 [0-100] Cyl 7 lubricator pump wear
R:
S:
T:

2.66 Page:2703 MA27** ME CYLINDER no 7 (4/4)

A:
B: M2780 [0-100] Cyl 7 liner JW flow restriction
C:
D: M2782 [0-100] Cyl 7 liner JW drain valve leakage
E:
F: M2785 [0-100] Cyl 7 piston LO flow restriction
G:
H: M2734 [0-100] Cyl 7 piston rod gland drain restriction
I: M2735 [0-100] Cyl 7 piston residue drain restriction
J:
K: M2790 [0-100] Cyl 7 scav air box dirty
L: M2791 [0-1] Cyl 7 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.67 Page:2800 MA28** ME CYLINDER no 8 (1/4)**

A:
B:
C: M2801 [0-100] Cyl 8 injection timing early
D: M2802 [0-100] Cyl 8 injection timing late
E:
F: M2803 [0-100] Cyl 8 injection pump wear
G: M2804 [0-1] Cyl 8 injection pump stuck
H:
I: M2810 [0-100] Cyl 8 inj nozzle wear (poor atomization)
J: M2811 [0-100] Cyl 8 inj nozzle deposit (clogging)
K: M2816 [0-100] Cyl 8 inj nozzle open pressure low
L: M2817 [0-100] Cyl 8 inj nozzle open pressure high
M:
N: M2805 [0-1] Cyl 8 injection line rupture
O: M2806 [0-1] Cyl 8 injection line gas content
P:
Q: M2818 [0-100] Cyl 8 fuel recirc line flow restriction
R:
S:
T:

2.68 Page:2801 MA28 ME CYLINDER no 8 (2/4)**

A:
B:
C: M2820 [0-100] Cyl 8 piston crown wear
D: M2821 [0-100] Cyl 8 piston crown deposits
E:
F: M2824 [0-100] Cyl 8 exhaust valve leakage
G: M2825 [0-1] Cyl 8 exhaust valve stuck (open)
H:
I: M2826 [0-100] Cyl 8 exhaust v opening early
J: M2827 [0-100] Cyl 8 exhaust v opening late
K: M2828 [0-100] Cyl 8 exhaust v closing early
L: M2829 [0-100] Cyl 8 exhaust v closing late
M:
N: M2830 [0-100] Cyl 8 scav air port deposits
O:
P: M2838 [0-100] Cyl 8 liner crack
Q:
R:
S:
T:

2.69 Page:2802 MA28** ME CYLINDER no 8 (3/4)

A:
B:
C: M2840 [0-100] Cyl 8 piston ring sealing (general)
D: M2841 [0-100] Cyl 8 piston ring stiction (general)
E:
F: M2851 [0-100] Cyl 8 piston ring 1 sealing wear
G: M2852 [0-100] Cyl 8 piston ring 2 sealing wear
H: M2853 [0-100] Cyl 8 piston ring 3 sealing wear
I: M2854 [0-100] Cyl 8 piston ring 4 sealing wear
J: M2855 [0-100] Cyl 8 piston ring 5 sealing wear
K: M2861 [0-100] Cyl 8 piston ring 1 stiction
L: M2862 [0-100] Cyl 8 piston ring 2 stiction
M: M2863 [0-100] Cyl 8 piston ring 3 stiction
N: M2864 [0-100] Cyl 8 piston ring 4 stiction
O: M2865 [0-100] Cyl 8 piston ring 5 stiction
P:
Q: M2870 [0-100] Cyl 8 lubricator pump wear
R:
S:
T:

2.70 Page:2803 MA28** ME CYLINDER no 8 (4/4)

A:
B: M2880 [0-100] Cyl 8 liner JW flow restriction
C:
D: M2882 [0-100] Cyl 8 liner JW drain valve leakage
E:
F: M2885 [0-100] Cyl 8 piston LO flow restriction
G:
H: M2834 [0-100] Cyl 8 piston rod gland drain restriction
I: M2835 [0-100] Cyl 8 piston residue drain restriction
J:
K: M2890 [0-100] Cyl 8 scav air box dirty
L: M2891 [0-1] Cyl 8 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.71 Page:2900 MA29** ME CYLINDER no 9 (1/4)**

A:
B:
C: M2901 [0-100] Cyl 9 injection timing early
D: M2902 [0-100] Cyl 9 injection timing late
E:
F: M2903 [0-100] Cyl 9 injection pump wear
G: M2904 [0-1] Cyl 9 injection pump stuck
H:
I: M2910 [0-100] Cyl 9 inj nozzle wear (poor atomization)
J: M2911 [0-100] Cyl 9 inj nozzle deposit (clogging)
K: M2916 [0-100] Cyl 9 inj nozzle open pressure low
L: M2917 [0-100] Cyl 9 inj nozzle open pressure high
M:
N: M2905 [0-1] Cyl 9 injection line rupture
O: M2906 [0-1] Cyl 9 injection line gas content
P:
Q: M2918 [0-100] Cyl 9 fuel recirc line flow restriction
R:
S:
T:

2.72 Page:2901 MA29 ME CYLINDER no 9 (2/4)**

A:
B:
C: M2920 [0-100] Cyl 9 piston crown wear
D: M2921 [0-100] Cyl 9 piston crown deposits
E:
F: M2924 [0-100] Cyl 9 exhaust valve leakage
G: M2925 [0-1] Cyl 9 exhaust valve stuck (open)
H:
I: M2926 [0-100] Cyl 9 exhaust v opening early
J: M2927 [0-100] Cyl 9 exhaust v opening late
K: M2928 [0-100] Cyl 9 exhaust v closing early
L: M2929 [0-100] Cyl 9 exhaust v closing late
M:
N: M2930 [0-100] Cyl 9 scav air port deposits
O:
P: M2938 [0-100] Cyl 9 liner crack
Q:
R:
S:
T:

2.73 Page:2902 MA29** ME CYLINDER no 9 (3/4)

A:
B:
C: M2940 [0-100] Cyl 9 piston ring sealing (general)
D: M2941 [0-100] Cyl 9 piston ring stiction (general)
E:
F: M2951 [0-100] Cyl 9 piston ring 1 sealing wear
G: M2952 [0-100] Cyl 9 piston ring 2 sealing wear
H: M2953 [0-100] Cyl 9 piston ring 3 sealing wear
I: M2954 [0-100] Cyl 9 piston ring 4 sealing wear
J: M2955 [0-100] Cyl 9 piston ring 5 sealing wear
K: M2961 [0-100] Cyl 9 piston ring 1 stiction
L: M2962 [0-100] Cyl 9 piston ring 2 stiction
M: M2963 [0-100] Cyl 9 piston ring 3 stiction
N: M2964 [0-100] Cyl 9 piston ring 4 stiction
O: M2965 [0-100] Cyl 9 piston ring 5 stiction
P:
Q: M2970 [0-100] Cyl 9 lubricator pump wear
R:
S:
T:

2.74 Page:2903 MA29** ME CYLINDER no 9 (4/4)

A:
B: M2980 [0-100] Cyl 9 liner JW flow restriction
C:
D: M2982 [0-100] Cyl 9 liner JW drain valve leakage
E:
F: M2985 [0-100] Cyl 9 piston LO flow restriction
G:
H: M2934 [0-100] Cyl 9 piston rod gland drain restriction
I: M2935 [0-100] Cyl 9 piston residue drain restriction
J:
K: M2990 [0-100] Cyl 9 scav air box dirty
L: M2991 [0-1] Cyl 9 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.75 Page:3000 MA30** ME CYLINDER no 10 (1/4)**

A:
B:
C: M3001 [0-100] Cyl 10 injection timing early
D: M3002 [0-100] Cyl 10 injection timing late
E:
F: M3003 [0-100] Cyl 10 injection pump wear
G: M3004 [0-1] Cyl 10 injection pump stuck
H:
I: M3010 [0-100] Cyl 10 inj nozzle wear (poor atomization)
J: M3011 [0-100] Cyl 10 inj nozzle deposit (clogging)
K: M3016 [0-100] Cyl 10 inj nozzle open pressure low
L: M3017 [0-100] Cyl 10 inj nozzle open pressure high
M:
N: M3005 [0-1] Cyl 10 injection line rupture
O: M3006 [0-1] Cyl 10 injection line gas content
P:
Q: M3018 [0-100] Cyl 10 fuel recirc line flow restriction
R:
S:
T:

2.76 Page:3001 MA30 ME CYLINDER no 10 (2/4)**

A:
B:
C: M3020 [0-100] Cyl 10 piston crown wear
D: M3021 [0-100] Cyl 10 piston crown deposits
E:
F: M3024 [0-100] Cyl 10 exhaust valve leakage
G: M3025 [0-1] Cyl 10 exhaust valve stuck (open)
H:
I: M3026 [0-100] Cyl 10 exhaust v opening early
J: M3027 [0-100] Cyl 10 exhaust v opening late
K: M3028 [0-100] Cyl 10 exhaust v closing early
L: M3029 [0-100] Cyl 10 exhaust v closing late
M:
N: M3030 [0-100] Cyl 10 scav air port deposits
O:
P: M3038 [0-100] Cyl 10 liner crack
Q:
R:
S:
T:

2.77 Page:3002 MA30** ME CYLINDER no 10 (3/4)

A:
B:
C: M3040 [0-100] Cyl 10 piston ring sealing (general)
D: M3041 [0-100] Cyl 10 piston ring stiction (general)
E:
F: M3051 [0-100] Cyl 10 piston ring 1 sealing wear
G: M3052 [0-100] Cyl 10 piston ring 2 sealing wear
H: M3053 [0-100] Cyl 10 piston ring 3 sealing wear
I: M3054 [0-100] Cyl 10 piston ring 4 sealing wear
J: M3055 [0-100] Cyl 10 piston ring 5 sealing wear
K: M3061 [0-100] Cyl 10 piston ring 1 stiction
L: M3062 [0-100] Cyl 10 piston ring 2 stiction
M: M3063 [0-100] Cyl 10 piston ring 3 stiction
N: M3064 [0-100] Cyl 10 piston ring 4 stiction
O: M3065 [0-100] Cyl 10 piston ring 5 stiction
P:
Q: M3070 [0-100] Cyl 10 lubricator pump wear
R:
S:
T:

2.78 Page:3003 MA30** ME CYLINDER no 10 (4/4)

A:
B: M3080 [0-100] Cyl 10 liner JW flow restriction
C:
D: M3082 [0-100] Cyl 10 liner JW drain valve leakage
E:
F: M3085 [0-100] Cyl 10 piston LO flow restriction
G:
H: M3034 [0-100] Cyl 10 piston rod gland drain restriction
I: M3035 [0-100] Cyl 10 piston residue drain restriction
J:
K: M3090 [0-100] Cyl 10 scav air box dirty
L: M3091 [0-1] Cyl 10 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.79 Page:3100 MA31 ** ME CYLINDER no 11 (1/4)**

A:
B:
C: M3101 [0-100] Cyl 11 injection timing early
D: M3102 [0-100] Cyl 11 injection timing late
E:
F: M3103 [0-100] Cyl 11 injection pump wear
G: M3104 [0-1] Cyl 11 injection pump stuck
H:
I: M3110 [0-100] Cyl 11 inj nozzle wear (poor atomization)
J: M3111 [0-100] Cyl 11 inj nozzle deposit (clogging)
K: M3116 [0-100] Cyl 11 inj nozzle open pressure low
L: M3117 [0-100] Cyl 11 inj nozzle open pressure high
M:
N: M3105 [0-1] Cyl 11 injection line rupture
O: M3106 [0-1] Cyl 11 injection line gas content
P:
Q: M3118 [0-100] Cyl 11 fuel recirc line flow restriction
R:
S:
T:

2.80 Page:3101 MA31 ** ME CYLINDER no 11 (2/4)

A:
B:
C: M3120 [0-100] Cyl 11 piston crown wear
D: M3121 [0-100] Cyl 11 piston crown deposits
E:
F: M3124 [0-100] Cyl 11 exhaust valve leakage
G: M3125 [0-1] Cyl 11 exhaust valve stuck (open)
H:
I: M3126 [0-100] Cyl 11 exhaust v opening early
J: M3127 [0-100] Cyl 11 exhaust v opening late
K: M3128 [0-100] Cyl 11 exhaust v closing early
L: M3129 [0-100] Cyl 11 exhaust v closing late
M:
N: M3130 [0-100] Cyl 11 scav air port deposits
O:
P: M3138 [0-100] Cyl 11 liner crack
Q:
R:
S:
T:

2.81 Page:3102 MA31** ME CYLINDER no 11 (3/4)

A:
B:
C: M3140 [0-100] Cyl 11 piston ring sealing (general)
D: M3141 [0-100] Cyl 11 piston ring stiction (general)
E:
F: M3151 [0-100] Cyl 11 piston ring 1 sealing wear
G: M3152 [0-100] Cyl 11 piston ring 2 sealing wear
H: M3153 [0-100] Cyl 11 piston ring 3 sealing wear
I: M3154 [0-100] Cyl 11 piston ring 4 sealing wear
J: M3155 [0-100] Cyl 11 piston ring 5 sealing wear
K: M3161 [0-100] Cyl 11 piston ring 1 stiction
L: M3162 [0-100] Cyl 11 piston ring 2 stiction
M: M3163 [0-100] Cyl 11 piston ring 3 stiction
N: M3164 [0-100] Cyl 11 piston ring 4 stiction
O: M3165 [0-100] Cyl 11 piston ring 5 stiction
P:
Q: M3170 [0-100] Cyl 11 lubricator pump wear
R:
S:
T:

2.82 Page:3103 MA31** ME CYLINDER no 11 (4/4)

A:
B: M3180 [0-100] Cyl 11 liner JW flow restriction
C:
D: M3182 [0-100] Cyl 11 liner JW drain valve leakage
E:
F: M3185 [0-100] Cyl 11 piston LO flow restriction
G:
H: M3134 [0-100] Cyl 11 piston rod gland drain restriction
I: M3135 [0-100] Cyl 11 piston residue drain restriction
J:
K: M3190 [0-100] Cyl 11 scav air box dirty
L: M3191 [0-1] Cyl 11 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.83 Page:3200 MA32** ME CYLINDER no 12 (1/4)**

A:
B:
C: M3201 [0-100] Cyl 12 injection timing early
D: M3202 [0-100] Cyl 12 injection timing late
E:
F: M3203 [0-100] Cyl 12 injection pump wear
G: M3204 [0-1] Cyl 12 injection pump stuck
H:
I: M3210 [0-100] Cyl 12 inj nozzle wear (poor atomization)
J: M3211 [0-100] Cyl 12 inj nozzle deposit (clogging)
K: M3216 [0-100] Cyl 12 inj nozzle open pressure low
L: M3217 [0-100] Cyl 12 inj nozzle open pressure high
M:
N: M3205 [0-1] Cyl 12 injection line rupture
O: M3206 [0-1] Cyl 12 injection line gas content
P:
Q: M3218 [0-100] Cyl 12 fuel recirc line flow restriction
R:
S:
T:

2.84 Page:3201 MA32 ME CYLINDER no 12 (2/4)**

A:
B:
C: M3220 [0-100] Cyl 12 piston crown wear
D: M3221 [0-100] Cyl 12 piston crown deposits
E:
F: M3224 [0-100] Cyl 12 exhaust valve leakage
G: M3225 [0-1] Cyl 12 exhaust valve stuck (open)
H:
I: M3226 [0-100] Cyl 12 exhaust v opening early
J: M3227 [0-100] Cyl 12 exhaust v opening late
K: M3228 [0-100] Cyl 12 exhaust v closing early
L: M3229 [0-100] Cyl 12 exhaust v closing late
M:
N: M3230 [0-100] Cyl 12 scav air port deposits
O:
P: M3238 [0-100] Cyl 12 liner crack
Q:
R:
S:
T:

2.85 Page:3202 MA32** ME CYLINDER no 12 (3/4)

A:
B:
C: M3240 [0-100] Cyl 12 piston ring sealing (general)
D: M3241 [0-100] Cyl 12 piston ring stiction (general)
E:
F: M3251 [0-100] Cyl 12 piston ring 1 sealing wear
G: M3252 [0-100] Cyl 12 piston ring 2 sealing wear
H: M3253 [0-100] Cyl 12 piston ring 3 sealing wear
I: M3254 [0-100] Cyl 12 piston ring 4 sealing wear
J: M3255 [0-100] Cyl 12 piston ring 5 sealing wear
K: M3261 [0-100] Cyl 12 piston ring 1 stiction
L: M3262 [0-100] Cyl 12 piston ring 2 stiction
M: M3263 [0-100] Cyl 12 piston ring 3 stiction
N: M3264 [0-100] Cyl 12 piston ring 4 stiction
O: M3265 [0-100] Cyl 12 piston ring 5 stiction
P:
Q: M3270 [0-100] Cyl 12 lubricator pump wear
R:
S:
T:

2.86 Page:3203 MA32** ME CYLINDER no 12 (4/4)

A:
B: M3280 [0-100] Cyl 12 liner JW flow restriction
C:
D: M3282 [0-100] Cyl 12 liner JW drain valve leakage
E:
F: M3285 [0-100] Cyl 12 piston LO flow restriction
G:
H: M3234 [0-100] Cyl 12 piston rod gland drain restriction
I: M3235 [0-100] Cyl 12 piston residue drain restriction
J:
K: M3290 [0-100] Cyl 12 scav air box dirty
L: M3291 [0-1] Cyl 12 scav air box fire
M:
N:
O:
P:
Q:
R:
S:
T:

**2.87 Page:3300 MA33** ME RING MONITOR SYSTEM**

A:		
B:		
C:		
D:		
E:	M3301	[0-1] Piston ring monitor malfunction - cyl 1
F:	M3302	[0-1] Piston ring monitor malfunction - cyl 2
G:	M3303	[0-1] Piston ring monitor malfunction - cyl 3
H:	M3304	[0-1] Piston ring monitor malfunction - cyl 4
I:	M3305	[0-1] Piston ring monitor malfunction - cyl 5
J:	M3306	[0-1] Piston ring monitor malfunction - cyl 6
K:	M3307	[0-1] Piston ring monitor malfunction - cyl 7
L:	M3308	[0-1] Piston ring monitor malfunction - cyl 8
M:	M3309	[0-1] Piston ring monitor malfunction - cyl 9
N:	M3310	[0-1] Piston ring monitor malfunction - cyl 10
O:	M3311	[0-1] Piston ring monitor malfunction - cyl 11
P:	M3312	[0-1] Piston ring monitor malfunction - cyl 12
Q:		
R:		
S:		
T:		

2.88 Page:3400 MA34 SPARE**

A:
B:
C:
D:
E:
F:
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.89 Page:3500 MA34** SPARE

A:
B:
C:
D:
E:
F:
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.90 Page:3800 MA38** ME MAIN BEARING SENSORS (1/4)

A:
B:
C: M3800 [0-100] ME thrust bearing temp sensor high
D:
E: M3801 [0-100] ME main bearing 1 temp sensor high
F: M3802 [0-100] ME main bearing 2 temp sensor high
G: M3803 [0-100] ME main bearing 3 temp sensor high
H: M3804 [0-100] ME main bearing 4 temp sensor high
I: M3805 [0-100] ME main bearing 5 temp sensor high
J: M3806 [0-100] ME main bearing 6 temp sensor high
K: M3807 [0-100] ME main bearing 7 temp sensor high
L: M3808 [0-100] ME main bearing 8 temp sensor high
M: M3809 [0-100] ME main bearing 9 temp sensor high
N: M3810 [0-100] ME main bearing 10 temp sensor high
O: M3811 [0-100] ME main bearing 11 temp sensor high
P: M3812 [0-100] ME main bearing 12 temp sensor high
Q: M3813 [0-100] ME main bearing 13 temp sensor high
R:
S: M3815 [0-100] ME thrust b oil outlet t sensor high
T:



2.91 Page:3801 MA38** ME CRANK BEARING SENSORS (2/4)

A:			
B:			
C:			
D:			
E:	M3821	[0-100]	ME crank pin bearing 1 t sensor high
F:	M3822	[0-100]	ME crank pin bearing 2 t sensor high
G:	M3823	[0-100]	ME crank pin bearing 3 t sensor high
H:	M3824	[0-100]	ME crank pin bearing 4 t sensor high
I:	M3825	[0-100]	ME crank pin bearing 5 t sensor high
J:	M3826	[0-100]	ME crank pin bearing 6 t sensor high
K:	M3827	[0-100]	ME crank pin bearing 7 t sensor high
L:	M3828	[0-100]	ME crank pin bearing 8 t sensor high
M:	M3829	[0-100]	ME crank pin bearing 9 t sensor high
N:	M3830	[0-100]	ME crank pin bearing 10 t sensor high
O:	M3831	[0-100]	ME crank pin bearing 11 t sensor high
P:	M3832	[0-100]	ME crank pin bearing 12 t sensor high
Q:			
R:			
S:			
T:			

2.92 Page:3802 MA38** ME CROSSH BEARING SENSORS (3/4)

A:			
B:			
C:			
D:			
E:	M3841	[0-100]	ME cross head bearing 1 t sensor high
F:	M3842	[0-100]	ME cross head bearing 2 t sensor high
G:	M3843	[0-100]	ME cross head bearing 3 t sensor high
H:	M3844	[0-100]	ME cross head bearing 4 t sensor high
I:	M3845	[0-100]	ME cross head bearing 5 t sensor high
J:	M3846	[0-100]	ME cross head bearing 6 t sensor high
K:	M3847	[0-100]	ME cross head bearing 7 t sensor high
L:	M3848	[0-100]	ME cross head bearing 8 t sensor high
M:	M3849	[0-100]	ME cross head bearing 9 t sensor high
N:	M3850	[0-100]	ME cross head bearing 10 t sensor high
O:	M3851	[0-100]	ME cross head bearing 11 t sensor high
P:	M3852	[0-100]	ME cross head bearing 12 t sensor high
Q:			
R:			
S:			
T:			

2.93 Page:3803 MA38** ME OIL MIST DETECTOR (4/4)

A:
B:
C: M3860 [0-1] ME oil mist detector malfunction
D:
E: M3861 [0-100] ME crank case 1 oil mist sensor high
F: M3862 [0-100] ME crank case 2 oil mist sensor high
G: M3863 [0-100] ME crank case 3 oil mist sensor high
H: M3864 [0-100] ME crank case 4 oil mist sensor high
I: M3865 [0-100] ME crank case 5 oil mist sensor high
J: M3866 [0-100] ME crank case 6 oil mist sensor high
K: M3867 [0-100] ME crank case 7 oil mist sensor high
L: M3868 [0-100] ME crank case 8 oil mist sensor high
M: M3869 [0-100] ME crank case 9 oil mist sensor high
N: M3870 [0-100] ME crank case 10 oil mist sensor high
O: M3871 [0-100] ME crank case 11 oil mist sensor high
P: M3872 [0-100] ME crank case 12 oil mist sensor high
Q:
R:
S:
T:

2.94 Page:3900 MA39** ME MAIN BEARING FRICTION (1/4)

A:
B:
C: M3900 [0-100] ME thrust bearing friction high
D:
E: M3901 [0-100] ME main bearing 1 friction high
F: M3902 [0-100] ME main bearing 2 friction high
G: M3903 [0-100] ME main bearing 3 friction high
H: M3904 [0-100] ME main bearing 4 friction high
I: M3905 [0-100] ME main bearing 5 friction high
J: M3906 [0-100] ME main bearing 6 friction high
K: M3907 [0-100] ME main bearing 7 friction high
L: M3908 [0-100] ME main bearing 8 friction high
M: M3909 [0-100] ME main bearing 9 friction high
N: M3910 [0-100] ME main bearing 10 friction high
O: M3911 [0-100] ME main bearing 11 friction high
P: M3912 [0-100] ME main bearing 12 friction high
Q: M3913 [0-100] ME main bearing 13 friction high
R:
S:
T:



2.95 Page:3901 MA39** ME CRANK BEARING FRICTION (2/4)

A:

B:

C:

D:

E: M3921 [0-100] ME crank pin bearing 1 friction high
F: M3922 [0-100] ME crank pin bearing 2 friction high
G: M3923 [0-100] ME crank pin bearing 3 friction high
H: M3924 [0-100] ME crank pin bearing 4 friction high
I: M3925 [0-100] ME crank pin bearing 5 friction high
J: M3926 [0-100] ME crank pin bearing 6 friction high
K: M3927 [0-100] ME crank pin bearing 7 friction high
L: M3928 [0-100] ME crank pin bearing 8 friction high
M: M3929 [0-100] ME crank pin bearing 9 friction high
N: M3930 [0-100] ME crank pin bearing 10 friction high
O: M3931 [0-100] ME crank pin bearing 11 friction high
P: M3932 [0-100] ME crank pin bearing 12 friction high

Q:

R:

S:

T:

2.96 Page:3902 MA39** ME CROSSH BEARING FRICTION (3/4)

A:

B:

C:

D:

E: M3941 [0-100] ME cross head bearing 1 friction high
F: M3942 [0-100] ME cross head bearing 2 friction high
G: M3943 [0-100] ME cross head bearing 3 friction high
H: M3944 [0-100] ME cross head bearing 4 friction high
I: M3945 [0-100] ME cross head bearing 5 friction high
J: M3946 [0-100] ME cross head bearing 6 friction high
K: M3947 [0-100] ME cross head bearing 7 friction high
L: M3948 [0-100] ME cross head bearing 8 friction high
M: M3949 [0-100] ME cross head bearing 9 friction high
N: M3950 [0-100] ME cross head bearing 10 friction high
O: M3951 [0-100] ME cross head bearing 11 friction high
P: M3952 [0-100] ME cross head bearing 12 friction high

Q:

R:

S:

T:

2.97 Page:3903 MA39** ME OIL MIST GENERATION (4/4)

A:
B:
C:
D:
E: M3961 [0-100] ME crank case 1 oil mist high
F: M3962 [0-100] ME crank case 2 oil mist high
G: M3963 [0-100] ME crank case 3 oil mist high
H: M3964 [0-100] ME crank case 4 oil mist high
I: M3965 [0-100] ME crank case 5 oil mist high
J: M3966 [0-100] ME crank case 6 oil mist high
K: M3967 [0-100] ME crank case 7 oil mist high
L: M3968 [0-100] ME crank case 8 oil mist high
M: M3969 [0-100] ME crank case 9 oil mist high
N: M3970 [0-100] ME crank case 10 oil mist high
O: M3971 [0-100] ME crank case 11 oil mist high
P: M3972 [0-100] ME crank case 12 oil mist high
Q:
R:
S:
T:

2.98 Page:4000 MA40** SHIP VENTILATION SYSTEMS

A:
B: M4011 [0-100] ER air supply fan 1 dirty
C: M4013 [0-100] ER air supply fan 2 dirty
D: M4010 [0-1] ER air supply fan 1 motor fail
E: M4012 [0-1] ER air supply fan 2 motor fail
F:
G: M4016 [0-100] ER air suction fan 1 dirty
H: M4018 [0-100] ER air suction fan 2 dirty
I: M4015 [0-1] ER air suction fan 1 motor fail
J: M4017 [0-1] ER air suction fan 2 motor fail
K:
L: M4020 [0-1] Purif room air suction fan fail
M: M4021 [0-1] Sewage room suction fan fail
N:
O: M4030 [0-1] ECR air supply fan fail
P: M4040 [0-1] Accommodation air fan 1 fail
Q: M4041 [0-1] Accommodation air fan 2 fail
R:
S: M4050 [0-1] Cargo holds air fans fail
T:

**2.99 Page:4100 MA41 ** AIR CONDITIONING PLANT
(1/3)**

A:
B:
C: M4101 [0-1] Steam heater supply valve closed
D: M4102 [0-1] Spray tank make up supply closed
E: M4103 [0-1] Refrig condenser coolw supply closed
F: M4104 [0-1] Eng contr room air inlet vane closed
G: M4105 [0-1] Accommodation air inlet vane closed
H:
I: M4106 [0-1] Air recirc damper closed
J: M4107 [0-1] Air recirc damper open
K: M4110 [0-100] Fresh air inlet filter dirty
L:
M: M4120 [0-100] Preheater air heater dirty
N: M4121 [0-100] Preheater air heater steam trap fail
O:
P: M4130 [0-100] Spray tank water heater steam trap
Q: M4131 [0-100] Spray tank water circ pump wear
R: M4132 [0-100] Spray tank water make up restrict
S: M4133 [0-100] Spray tank water leakage
T:

**2.100 Page:4101 MA41 ** AIR CONDITIONING PLANT
(2/3)**

A:
B:
C: M4140 [0-1] Refrig liquid charge empty
D: M4141 [0-100] Refrig compressor wear
E: M4142 [0-1] Refrig compressor fail
F:
G: M4150 [0-100] Air circ fan wear
H: M4151 [0-1] Air circ fan failure
I:
J:
K: M4160 [0-100] Final air heater dirty
L: M4161 [0-100] Final air heater steam trap fail
M:
N: M4170 [0-1] Preheater temp contr fail
O: M4171 [0-1] Preheater temp contr unstable
P: M4176 [0-1] Air cooler temp contr fail
Q: M4177 [0-1] Air cooler temp contr unstable
R:
S:
T:



2.101 Page:4102 MA41** AIR CONDITIONING PLANT (3/3)

A:
B: M4180 [0-1] Final heater temp contr fail
C: M4181 [0-1] Final heater temp contr unstable
D: M4182 [0-100] Final heater temp contr sensor low
E: M4183 [0-100] Final heater temp contr sensor high
F:
G: M4190 [0-1] Final humidity contr fail
H: M4191 [0-1] Final humidity contr unstable
I: M4192 [0-100] Final humidity contr sensor low
J: M4193 [0-100] final humidity contr sensor high
K:
L: M4172 [0-1] Spray water temp contr fail
M: M4173 [0-1] Spray water temp contr unstable
N: M4174 [0-1] Spray water level contr fail
O: M4175 [0-1] Spray water level contr unstable
P:
Q:
R:
S:
T:

2.102 Page:4500 MA45** SEWAGE TREATMENT PLANT

A:
B:
C: M4501 [0-100] Aeration tank top air lift wear
D: M4502 [0-100] Aeration tank btm air lift wear
E: M4503 [0-100] Aeration tank air diffuser deposits
F: M4504 [0-100] Aeration x-over screen deposits
G:
H: M4510 [0-1] Effluent pump failure
I: M4511 [0-1] Air compressor failure
J:
K: M4520 [0-100] Chlorination dispenser wear
L: M4521 [0-100] Chlorination dispenser empty
M:
N: M4525 [0-1] UV radiation unit failure
O:
P: M4530 [0-100] Aeration tank outlet valve leakage
Q: M4531 [0-100] Settling tank outlet valve leakage
R:
S:
T:

**2.103 Page:4600 MA46** INCINERATOR PLANT
(1/2)**

A:			
B:			
C:	M4601	[0-1]	Sludge burner supply valve shut off
D:	M4602	[0-1]	Diesel burner fuel supply valve shut off
E:			
F:	M4610	[0-1]	Sludge mixing tank steam shut off
G:	M4611	[0-100]	Sludge mixing tank heater deposits
H:	M4612	[0-100]	Sludge mixing tank drain v leakage
I:	M4613	[0-100]	Sludge mixing tank temp set point low
J:			
K:	M4615	[0-100]	Sludge circulation pump wear
L:	M4616	[0-1]	Sludge circulation pump failure
M:	M4617	[0-100]	Sludge bypass pressure set point low
N:			
O:			
P:	M4624	[0-100]	Oil sludge feed pump wear
Q:	M4625	[0-1]	Oil sludge feed pump failure
R:			
S:	M4621	[0-1]	Sewage sludge feed pump failure
T:			

2.104 Page:4601 MA46 INCINERATOR PLANT
(2/2)**

A:			
B:	M4630	[0-1]	Flame detector failure
C:	M4631	[0-100]	Diesel burner fuel pump wear
D:	M4632	[0-100]	Combustion air fan wear
E:	M4633	[0-100]	Flue gas fan wear
F:			
G:	M4640	[0-100]	Furnace comb temp set point low
H:	M4641	[0-100]	Furnace comb temp set point high
I:	M4642	[0-100]	Furnace pressure set point high
J:			
K:	M4650	[0-100]	Furnace temp trip limit low
L:	M4651	[0-100]	Flue gas temp trip limit low
M:			
N:			
O:			
P:			
Q:			
R:			
S:			
T:			

2.105 Page:5000 MA50** CATHODIC PROTECTION SYSTEM

A:
B: M5001 [0-100] Anode no 1 wear (surface deposits)
C: M5002 [0-100] Anode no 2 wear (surface deposits)
D: M5003 [0-100] Anode no 3 wear (surface deposits)
E: M5004 [0-100] Anode no 4 wear (surface deposits)
F:
G: M5000 [0-100] Hull paint wear (metal exposure)
H:
I: M5010 [0-100] ICCP current driver wear
J: M5011 [0-1] ICCP power unit fail
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.106 Page:5100 MA51** MARINE GROWTH PROTECTION SYSTEM

A:
B:
C: M5100 [0-100] Electrolysis unit filter dirty
D: M5101 [0-100] Electrolysis unit anode deposits
E:
F: M5110 [0-100] MGPS current driver wear
G: M5111 [0-1] MGPS power unit fail
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

**2.107 Page:5300 MA54** PROPELLER SERVO SYSTEM**

A:
B: M5301 [0-100] Propeller SO pump 1 wear
C: M5302 [0-100] Propeller SO pump 2 wear
D: M5303 [0-1] Propeller SO pump 1 failure
E: M5304 [0-1] Propeller SO pump 2 failure
F:
G: M5310 [0-100] Propeller SO filter 1 dirty
H: M5311 [0-100] Propeller SO filter 2 dirty
I:
J: M5320 [0-100] Propeller SO cooler dirty
K: M5325 [0-100] Propeller hub seal leakage
L:
M: M5330 [0-100] Propeller pitch servo wear
N: M5331 [0-1] Propeller pitch servo fail
O:
P: M5340 [0-1] CPP PCB controller fail
Q: M5341 [0-1] CPP rate controller fail
R:
S:
T:

2.108 Page:5400 MA54 STERN TUBE SYSTEM**

A:
B: M5401 [0-1] Stern Tube LO pump 1 failure
C: M5402 [0-1] Stern Tube LO pump 2 failure
D:
E: M5410 [0-100] Stern Tube LO cooler dirty
F:
G: M5421 [0-100] Stern Tube fore bearing lubri low
H: M5422 [0-100] Stern Tube aft bearing lubri low
I: M5423 [0-100] Stern Tube aft seal ring wear
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.109 Page:5600 MA56** SHIP PROPULSION

A:
B: M5601 [0-100] Ship hull fouling
C:
D: M5602 [0-100] Propeller wear
E: M5605 [0-1] Propeller lost
F:
G: M5610 [0-1] Bow thruster motor failure
H: M5611 [0-1] Bow thruster transformer failure
I:
J: M5620 [0-1] Bow thruster remote control failure
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.110 Page:5700 MA57** SHIP LOADING

A:
B: M5701 [0-1] Untrained deck crew
C:
D:
E:
F:
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

**2.111 Page:5800 MA58** STEERING GEAR SYSTEM**

A:	M5800	[0-1]	Rudder command (remote control) failure
B:			
C:	M5810	[0-1]	Steering Gear pump 1 motor failure
D:	M5811	[0-1]	Steering Gear pump 2 motor failure
E:			
F:	M5812	[0-100]	Steering Gear pump 1 wear
G:	M5813	[0-100]	Steering Gear pump 2 wear
H:			
I:	M5814	[0-100]	Steering Gear pump 1 leakage
J:	M5815	[0-100]	Steering Gear pump 2 leakage
K:	M5816	[0-100]	Steering Gear pump 1 leakage
L:	M5817	[0-100]	Steering Gear pump 2 leakage
M:			
N:	M5820	[0-100]	Steering Gear filter 1 dirty
O:	M5821	[0-100]	Steering Gear filter 2 dirty
P:			
Q:	M5830	[0-1]	Steering Gear Safematic valve failure
R:			
S:	M5831	[0-1]	Steering Gear bypass valve 1 failure
T:	M5832	[0-1]	Steering Gear bypass valve 2 failure

2.112 Page:5900 MA59 FIRE DETECTION SYSTEM**

A:			
B:			
C:	M5901	[0-1]	Fire in Engine area
D:	M5902	[0-1]	Fire in Accommodation area
E:	M5903	[0-1]	Fire in Cargo area
F:	M5910	[0-1]	Fire alarm detection fault
G:			
H:			
I:			
J:			
K:			
L:			
M:			
N:			
O:			
P:			
Q:			
R:			
S:			
T:			



2.113 Page:6000 MA60** COMPRESSED AIR SYSTEM (1/2)

A:			
B:	M6001	[0-100]	Start Air Compr 1 wear
C:	M6002	[0-1]	Start Air Compr 1 failure
D:	M6003	[0-100]	Start Air Compr 1 coolw flow low
E:	M6004	[0-100]	Start Air Compr 1 LO pump wear
F:			
G:	M6011	[0-100]	Start Air Compr 2 wear
H:	M6012	[0-1]	Start Air Compr 2 failure
I:	M6013	[0-100]	Start Air Compr 2 coolw flow low
J:	M6014	[0-100]	Start Air Compr 2 LO pump wear
K:			
L:	M6031	[0-100]	Start Air Compr 3 wear
M:	M6032	[0-1]	Start Air Compr 3 failure
N:	M6033	[0-100]	Start Air Compr 3 coolw flow low
O:	M6034	[0-100]	Start Air Compr 3 LO pump wear
P:			
Q:	M6021	[0-100]	Service Air Compr wear
R:	M6022	[0-1]	Service Air Compr failure
S:	M6023	[0-100]	Service Air Compr coolw flow low
T:	M6024	[0-100]	Service Air Compr LO pump wear

2.114 Page:6001 MA60** COMPRESSED AIR SYSTEM (2/2)

A:			
B:	M6005	[0-1]	Start Air Compr 1 auto drain fail
C:	M6015	[0-1]	Start Air Compr 2 auto drain fail
D:	M6035	[0-1]	Start Air Compr 3 auto drain fail
E:	M6025	[0-1]	Service Air Compr auto drain fail
F:			
G:	M6060	[0-100]	Start Air Receiver 1 water content
H:	M6061	[0-100]	Start Air Receiver 2 water content
I:	M6062	[0-100]	Serv Air Receiver water content
J:			
K:	M6065	[0-100]	Start Airc 1 water content high
L:	M6066	[0-100]	Start Airc 2 water content high
M:			
N:	M6050	[0-100]	Start Air leakage high
O:	M6051	[0-100]	Control Air leakage high
P:	M6070	[0-100]	HP control air low (start/rev)
Q:	M6071	[0-100]	LP control air low (normal supply)
R:	M6072	[0-100]	LP control air low (safety supply)
S:	M6073	[0-100]	Air spring air low (exh v)
T:			

**2.115 Page:6100 MA61** DISTILLING PLANT**

A:
B:
C: M6101 [0-100] Fresh W Gen evaporator dirty
D: M6102 [0-100] Fresh W Gen condenser dirty
E:
F: M6110 [0-100] Fresh W Gen SW leakage (condenser)
G: M6111 [0-100] Fresh W Gen air leakage (condenser)
H:
I: M6122 [0-100] Fresh W Gen SW feed filter dirty
J: M6125 [0-100] Fresh W Gen chemical tank low
K: M6120 [0-100] Fresh W Gen ejector pump wear
L: M6121 [0-100] Fresh W Gen distillate pump wear
M:
N: M6128 [0-1] Fresh W Gen SW auto bypass fail
O:
P: M6130 [0-100] Distilled Water Tank level low
Q: M6131 [0-100] Distilled Water consumption high
R:
S:
T:

2.116 Page:6200 MA62 BILGE WELL SYSTEM**

A:
B:
C:
D: M6201 [0-100] Aft ER Bilge wtr leakage
E: M6202 [0-100] Aft ER Bilge oil leakage
F: M6211 [0-100] Fwd ER Bilge wtr leakage
G: M6212 [0-100] Fwd ER Bilge oil leakage
H:
I: M6221 [0-100] Port CH Bilge wtr leakage
J: M6222 [0-100] Port CH Bilge oil leakage
K: M6231 [0-100] Stbd CH Bilge wtr leakage
L: M6232 [0-100] Stbd CH Bilge oil leakage
M:
N:
O:
P: M6240 [0-100] Big SW leakage (hull damage aft)
Q: M6241 [0-100] Big SW leakage (hull damage fore)
R:
S:
T:

2.117 Page:6300 MA63** BILGE SEPARATOR

A:
B:
C: M6301 [0-1] Bilge Separator heater failure
D: M6302 [0-1] Bilge Separator high oil content
E:
F: M6303 [0-1] Bilge Separator recirc logic fail
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.118 Page:6400 MA64** REFRIGERATION SYSTEM (1/3)

A:
B:
C: M6417 [0-1] Refrig Compr 1 LO separator return fail
D: M6418 [0-1] Refrig Compr 1 LO pump fail
E: M6419 [0-100] Refrig Compr 1 LO sump level low
F: M6410 [0-100] Refrig Compr 1 cylinder wear
G: M6411 [0-100] Refrig Compr 1 el motor wear
H: M6412 [0-1] Refrig Compr 1 start unloader fail
I: M6413 [0-1] Refrig Compr 1 capacity contr sensor low
J: M6414 [0-1] Refrig Compr 1 capacity contr sensor high
K:
L:
M: M6427 [0-1] Refrig Compr 2 LO separator return fail
N: M6428 [0-1] Refrig Compr 2 LO pump fail
O: M6429 [0-100] Refrig Compr 2 LO sump level low
P: M6420 [0-100] Refrig Compr 2 cylinder wear
Q: M6421 [0-100] Refrig Compr 2 el motor wear
R: M6422 [0-1] Refrig Compr 2 start unloader fail
S: M6423 [0-1] Refrig Compr 2 capacity contr sensor low
T: M6424 [0-1] Refrig Compr 2 capacity contr sensor high

**2.119 Page:6401 MA64** REFRIGERATION SYSTEM
(2/3)**

A:
B: M6450 [0-100] Refrig Room 1 exp valve icing (wtr in refr)
C: M6451 [0-100] Refrig Room 1 evap dirty (oil deposits)
D: M6452 [0-100] Refrig Room 1 evap surface ice
E: M6455 [0-100] Refrig Room 1 heat insulation low
F:
G: M6460 [0-100] Refrig Room 2 exp valve icing
H: M6461 [0-100] Refrig Room 2 evap dirty
I: M6462 [0-100] Refrig Room 2 evap surface ice
J: M6465 [0-100] Refrig Room 2 heat insulation low
K:
L: M6470 [0-100] Refrig Room 3 exp valve icing
M: M6471 [0-100] Refrig Room 3 evap dirty
N: M6472 [0-100] Refrig Room 3 evap surface ice
O: M6475 [0-100] Refrig Room 3 heat insulation low
P:
Q:
R:
S:
T:

2.120 Page:6402 MA64 REFRIGERATION SYSTEM
(3/3)**

A:
B:
C: M6401 [0-100] Refrig Condenser dirty (SW-side)
D: M6402 [0-100] Refrig Condenser dirty (vapor-side)
E: M6403 [0-100] Refrig Condenser inert gas content high
F:
G: M6441 [0-1] Refrig Receiver vapor valve closed
H: M6442 [0-100] Refrig Receiver liquid level low
I:
J: M6440 [0-100] Refrig liquid leakage
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.121 Page:6500 MA65** SPARE

A:
B:
C:
D:
E:
F:
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.122 Page:7000 MA70** ELECTRIC GENERATORS (1/4)

A:
B: M7001 [0-100] DG 1 return power limit misadjusted
C: M7002 [0-100] DG 1 slow overload limit misadjusted
D: M7003 [0-100] DG 1 fast overload limit misadjusted
E: M7004 [0-100] DG 1 non ess. load limit misadjusted
F:
G: M7010 [0-1] DG 1 voltage contr fail
H: M7011 [0-100] DG 1 voltage contr sensor low
I: M7012 [0-100] DG 1 voltage contr sensor high
J:
K: M7013 [0-100] DG 1 excitation power low
L: M7014 [0-100] DG 1 excitation unbalance
M:
N:
O:
P:
Q:
R:
S:
T:

**2.123 Page:7001 MA70** ELECTRIC GENERATORS
(2/4)**

A:
B: M7021 [0-100] DG 2 return power limit misadjusted
C: M7022 [0-100] DG 2 slow overload limit misadjusted
D: M7023 [0-100] DG 2 fast overload limit misadjusted
E: M7024 [0-100] DG 2 non ess. load limit misadjusted
F:
G: M7030 [0-1] DG 2 voltage contr fail
H: M7031 [0-100] DG 2 voltage contr sensor low
I: M7032 [0-100] DG 2 voltage contr sensor high
J:
K: M7033 [0-100] DG 2 excitation power low
L: M7034 [0-100] DG 2 excitation unbalance
M:
N:
O:
P:
Q:
R:
S:
T:

2.124 Page:7002 MA70 ELECTRIC GENERATORS
(3/4)**

A:
B: M7041 [0-100] DG 3 return power limit misadjusted
C: M7042 [0-100] DG 3 slow overload limit misadjusted
D: M7043 [0-100] DG 3 fast overload limit misadjusted
E: M7044 [0-100] DG 3 non ess. load limit misadjusted
F:
G: M7050 [0-1] DG 3 voltage contr fail
H: M7051 [0-100] DG 3 voltage contr sensor low
I: M7052 [0-100] DG 3 voltage contr sensor high
J:
K: M7053 [0-100] DG 3 excitation power low
L: M7054 [0-100] DG 3 excitation unbalance
M:
N:
O:
P:
Q:
R:
S:
T:

2.125 Page:7003 MA70** ELECTRIC GENERATORS (4/4)

A:
B: M7061 [0-100] DG 4 return power limit misadjusted
C: M7062 [0-100] DG 4 slow overload limit misadjusted
D: M7063 [0-100] DG 4 fast overload limit misadjusted
E: M7064 [0-100] DG 4 non ess. load limit misadjusted
F:
G: M7070 [0-1] DG 4 voltage contr fail
H: M7071 [0-100] DG 4 voltage contr sensor low
I: M7072 [0-100] DG 4 voltage contr sensor high
J:
K: M7073 [0-100] DG 4 excitation power low
L: M7074 [0-100] DG 4 excitation unbalance
M:
N:
O:
P:
Q:
R:
S:
T:

2.126 Page:7100 MA71** DIESELGENERATOR no 1 (1/2)

A:
B:
C: M7101 [0-100] DG 1 Turbocharger dirty
D: M7102 [0-100] DG 1 Turbocharger Airc dirty
E: M7103 [0-100] DG 1 Turbocharger Air filter dirty
F:
G: M7110 [0-100] DG 1 FO pump wear
H: M7111 [0-100] DG 1 FO filter 1 dirty
I: M7112 [0-100] DG 1 FO filter 2 dirty
J:
K: M7120 [0-100] DG 1 LO pump wear
L: M7121 [0-100] DG 1 LO filter 1 dirty
M: M7122 [0-100] DG 1 LO filter 2 dirty
N: M7123 [0-100] DG 1 LO cooler dirty
O:
P:
Q:
R:
S:
T:

**2.127 Page:7101 MA71 ** DIESELGENERATOR no 1
(2/2)**

A:
B:
C: M7150 [0-100] DG 1 speed controller gain high
D: M7151 [0-100] DG 1 cyl efficiency low
E:
F: M7130 [0-100] DG 1 SW pump wear
G: M7131 [0-100] DG 1 SW filter dirty
H:
I: M7140 [0-100] DG 1 FW pump wear
J: M7142 [0-100] DG 1 FW cooler dirty
K: M7141 [0-100] DG 1 FW flow resistance high
L:
M: M7143 [0-100] DG 1 FW leakage
N:
O:
P:
Q:
R:
S:
T:

**2.128 Page:7200 MA72 ** DIESELGENERATOR no 2
(1/2)**

A:
B:
C: M7201 [0-100] DG 2 Turbocharger dirty
D: M7202 [0-100] DG 2 Turbocharger Airc dirty
E: M7203 [0-100] DG 2 Turbocharger Air filter dirty
F:
G: M7210 [0-100] DG 2 FO pump wear
H: M7211 [0-100] DG 2 FO filter 1 dirty
I: M7212 [0-100] DG 2 FO filter 2 dirty
J:
K: M7220 [0-100] DG 2 LO pump wear
L: M7221 [0-100] DG 2 LO filter 1 dirty
M: M7222 [0-100] DG 2 LO filter 2 dirty
N: M7223 [0-100] DG 2 LO cooler dirty
O:
P:
Q:
R:
S:
T:

2.129 Page:7201 MA72** DIESELGENERATOR no 2 (2/2)

A:
B:
C: M7250 [0-100] DG 2 speed controller gain high
D: M7251 [0-100] DG 2 cyl efficiency low
E:
F: M7230 [0-100] DG 2 SW pump wear
G: M7231 [0-100] DG 2 SW filter dirty
H:
I: M7240 [0-100] DG 2 FW pump wear
J: M7242 [0-100] DG 2 FW cooler dirty
K: M7241 [0-100] DG 2 FW flow resistance high
L:
M: M7243 [0-100] DG 2 FW leakage
N:
O:
P:
Q:
R:
S:
T:

2.130 Page:7300 MA73** DIESELGENERATOR no 3 (1/2)

A:
B:
C: M7301 [0-100] DG 3 Turbocharger dirty
D: M7302 [0-100] DG 3 Turbocharger Airc dirty
E: M7303 [0-100] DG 3 Turbocharger Air filter dirty
F:
G: M7310 [0-100] DG 3 FO pump wear
H: M7311 [0-100] DG 3 FO filter 1 dirty
I: M7312 [0-100] DG 3 FO filter 2 dirty
J:
K: M7320 [0-100] DG 3 LO pump wear
L: M7321 [0-100] DG 3 LO filter 1 dirty
M: M7322 [0-100] DG 3 LO filter 2 dirty
N: M7323 [0-100] DG 3 LO cooler dirty
O:
P:
Q:
R:
S:
T:

**2.131 Page:7301 MA73** DIESELGENERATOR no 3
(2/2)**

A:
B:
C: M7350 [0-100] DG 3 speed controller gain high
D: M7351 [0-100] DG 3 cyl efficiency low
E:
F: M7330 [0-100] DG 3 SW pump wear
G: M7331 [0-100] DG 3 SW filter dirty
H:
I: M7340 [0-100] DG 3 FW pump wear
J: M7342 [0-100] DG 3 FW cooler dirty
K: M7341 [0-100] DG 3 FW flow resistance high
L:
M: M7343 [0-100] DG 3 FW leakage
N:
O:
P:
Q:
R:
S:
T:

2.132 Page:7400 MA74 DIESELGENERATOR no 4
(1/2)**

A:
B:
C: M7401 [0-100] DG 4 Turbocharger dirty
D: M7402 [0-100] DG 4 Turbocharger Airc dirty
E: M7403 [0-100] DG 4 Turbocharger Air filter dirty
F:
G: M7410 [0-100] DG 4 FO pump wear
H: M7411 [0-100] DG 4 FO filter 1 dirty
I: M7412 [0-100] DG 4 FO filter 2 dirty
J:
K: M7420 [0-100] DG 4 LO pump wear
L: M7421 [0-100] DG 4 LO filter 1 dirty
M: M7422 [0-100] DG 4 LO filter 2 dirty
N: M7423 [0-100] DG 4 LO cooler dirty
O:
P:
Q:
R:
S:
T:

2.133 Page:7401 MA74** DIESELGENERATOR no 4 (2/2)

A:
B:
C: M7450 [0-100] DG 4 speed controller gain high
D: M7451 [0-100] DG 4 cyl efficiency low
E:
F: M7430 [0-100] DG 4 SW pump wear
G: M7431 [0-100] DG 4 SW filter dirty
H:
I: M7440 [0-100] DG 4 FW pump wear
J: M7442 [0-100] DG 4 FW cooler dirty
K: M7441 [0-100] DG 4 FW flow resistance high
L:
M: M7443 [0-100] DG 4 FW leakage
N:
O:
P:
Q:
R:
S:
T:

2.134 Page:7500 MA75** ELECTRIC DISTRIBUTION (1/5)

A:
B:
C: M7081 [0-1] Short circuit - busbar 1
D: M7082 [0-1] Short circuit - busbar 2
E:
F: M7091 [0-1] Electric earth leakage (440V phase R)
G: M7092 [0-1] Electric earth leakage (440V phase S)
H: M7093 [0-1] Electric earth leakage (440V phase T)
I:
J:
K: M7094 [0-1] Electric earth leakage (220V phase R)
L: M7095 [0-1] Electric earth leakage (220V phase S)
M: M7096 [0-1] Electric earth leakage (220V phase T)
N:
O:
P:
Q:
R:
S:
T:

**2.135 Page:7501 MA75** ELECTRIC MOTOR BUTION
(2/5)**

A:			
B:			
C:	M7501	[0-1]	Deck Machinery motor earth leakage
D:	M7502	[0-1]	Bow thruster motor earth leakage
E:			
F:	M7510	[0-1]	Main SW pump 1 motor earth leakage
G:	M7511	[0-1]	Main SW pump 2 motor earth leakage
H:			
I:	M7512	[0-1]	Main LO pump 1 motor earth leakage
J:	M7513	[0-1]	Main LO pump 2 motor earth leakage
K:	M7514	[0-1]	Crsh LO pump 1 motor earth leakage
L:	M7515	[0-1]	Crsh LO pump 2 motor earth leakage
M:			
N:	M7516	[0-1]	TBCH LO pump 1 motor earth leakage
O:	M7517	[0-1]	TBCH LO pump 2 motor earth leakage
P:			
Q:			
R:			
S:			
T:			

2.136 Page:7502 MA75 ELECTRIC DISTRIBUTION
(3/5)**

A:			
B:			
C:	M7520	[0-1]	FO boostr pump 1 motor earth leakage
D:	M7521	[0-1]	FO boostr pump 2 motor earth leakage
E:			
F:	M7522	[0-1]	FO supply pump 1 motor earth leakage
G:	M7523	[0-1]	FO supply pump 2 motor earth leakage
H:			
I:	M7530	[0-100]	LTFW pump 1 motor earth leakage
J:	M7531	[0-100]	LTFW pump 2 motor earth leakage
K:			
L:	M7532	[0-100]	HTFW pump 1 motor earth leakage
M:	M7533	[0-100]	HTFW pump 2 motor earth leakage
N:			
O:			
P:			
Q:			
R:			
S:			
T:			

2.137 Page:7503 MA75** ELECTRIC DISTRIBUTION (4/5)

A:
B:
C: M7541 [0-1] Deck Machinery cable earth leakage
D: M7542 [0-1] Bow thruster cable earth leakage
E:
F: M7550 [0-1] Main SW pump 1 cable earth leakage
G: M7551 [0-1] Main SW pump 2 cable earth leakage
H:
I: M7552 [0-1] Main LO pump 1 cable earth leakage
J: M7553 [0-1] Main LO pump 2 cable earth leakage
K: M7554 [0-1] Crsh LO pump 1 cable earth leakage
L: M7555 [0-1] Crsh LO pump 2 cable earth leakage
M:
N: M7556 [0-1] TBCH LO pump 1 cable earth leakage
O: M7557 [0-1] TBCH LO pump 2 cable earth leakage
P:
Q:
R:
S:
T:

2.138 Page:7504 MA75** ELECTRIC DISTRIBUTION (5/5)

A:
B:
C: M7560 [0-1] FO boost pump 1 cable earth leakage
D: M7561 [0-1] FO boost pump 2 cable earth leakage
E:
F: M7562 [0-1] FO supply pump 1 cable earth leakage
G: M7563 [0-1] FO supply pump 2 cable earth leakage
H:
I: M7570 [0-1] LTFW pump 1 cable earth leakage
J: M7571 [0-1] LTFW pump 2 cable earth leakage
K:
L: M7572 [0-1] HTFW pump 1 cable earth leakage
M: M7573 [0-1] HTFW pump 2 cable earth leakage
N:
O:
P:
Q:
R:
S:
T:



2.139 Page:7600 MA76** REEFER CONTAINER SYSTEM

A:
B:
C:
D: M7601 [0-1] Sequential load shedder fault
E:
F: M7610 [0-1] Transformer 1 damage (open circuit)
G: M7611 [0-100] Transformer 1 high power loss (active)
H: M7612 [0-100] Transformer 1 high power loss (reactive)
I: M7613 [0-100] Transformer 1 overload setting low
J:
K: M7620 [0-1] Transformer 2 damage (open circuit)
L: M7621 [0-100] Transformer 2 high power loss (active)
M: M7622 [0-100] Transformer 2 high power loss (reactive)
N: M7623 [0-100] Transformer 2 overload setting low
O:
P:
Q:
R:
S:
T:

2.140 Page:7700 MA77** SPARE

A:
B:
C:
D:
E:
F:
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.141 Page:7800 MA78** EMERGENCY GENERATOR

A:
B:
C: M7017 [0-1] EG starter motor failure
D: M7018 [0-100] EG high starting friction (poor lubri)
E:
F:
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.142 Page:7900 MA79** DC24V EMERG BUS / BATTERY SYSTEM

A:
B:
C: M7901 [0-100] Battery electrolyte level low
D: M7902 [0-100] Battery charge condition low
E: M7903 [0-100] Battery sulfation (old battery)
F:
G: M7904 [0-100] Battery high self discharge
H: M7905 [0-100] Battery internal short circuit
I:
J: M7910 [0-1] Battery charger fault
K:
L: M7920 [0-100] DC24V control bus high load (MSB fault)
M: M7921 [0-100] DC24V control bus short circuit
N:
O:
P: M7931 [0-1] DC24V pos line earth leakage
Q: M7932 [0-1] DC24V neg line earth leakage
R:
S:
T:

**2.143 Page:8000 MA80** STEAM GENERATION PLANT**

A:
B:
C: M8001 [0-100] Boiler feedw pump 1 wear
D: M8002 [0-100] Boiler feedw pump 2 wear
E:
F: M8003 [0-1] Exh Boiler circ pump 1 failure
G: M8004 [0-1] Exh Boiler circ pump 2 failure
H:
I: M8007 [0-100] Boiler safety valve leakage
J: M8008 [0-1] Boiler safety valve stuck (open)
K:
L: M8010 [0-1] Boiler level contr failure
M: M8011 [0-100] Boiler level contr unstable
N: M8020 [0-100] Boiler level contr sensor low
O: M8021 [0-100] Boiler level contr sensor high
P:
Q: M8030 [0-100] Condensate return loss high
R:
S: M8040 [0-100] Feed water tank level low
T:

2.144 Page:8100 MA81 OIL FIRED BOILER**

A:
B:
C: M8101 [0-100] Burner fuel nozzle wear (smoke)
D: M8103 [0-100] Boiler furnace dirty
E:
F: M8105 [0-100] Boiler fuel line heater low power
G:
H:
I: M8110 [0-1] Boiler master contr failure
J: M8111 [0-100] Boiler master contr unstable
K: M8115 [0-100] Boiler master contr air ratio low
L:
M: M8120 [0-100] Boiler master contr press sensor low
N: M8121 [0-100] Boiler master contr press sensor high
O:
P: M8130 [0-100] Boiler fuel heat value low (water)
Q:
R:
S:
T:

2.145 Page:8200 MA82** EXHAUST BOILER

A:
B: M8201 [0-100] Exh Boiler economizer dirty
C: M8202 [0-100] Exh Boiler evaporator dirty
D: M8203 [0-100] Exh Boiler superheater dirty
E:
F: M8207 [0-100] Exh Boiler fire
G:
H: M8208 [0-100] Exh Boiler evaporator leakage
I: M8209 [0-100] Exh Boiler superheater leakage
J:
K:
L:
M: M8210 [0-1] Exh damper controller failure
N: M8211 [0-100] Exh damper controller unstable
O:
P: M8220 [0-100] Exh Boiler press sensor (cntr) low
Q: M8221 [0-100] Exh Boiler press sensor (cntr) high
R:
S:
T:

2.146 Page:8500 MA85** STEAM CONDENSER

A:
B: M8501 [0-100] Steam condenser air leakage
C: M8502 [0-100] Steam condenser SW leakage (to FW)
D:
E: M8505 [0-100] Steam condenser dirty (SW side)
F:
G: M8510 [0-100] Vacuum pump 1 wear
H: M8511 [0-1] Vacuum pump 1 motor failure
I: M8512 [0-100] Vacuum pump 2 wear
J: M8513 [0-1] Vacuum pump 2 motor failure
K:
L: M8520 [0-100] Condensate pump 1 wear
M: M8521 [0-1] Condensate pump 1 motor failure
N: M8522 [0-100] Condensate pump 2 wear
O: M8523 [0-1] Condensate pump 2 motor failure
P:
Q:
R:
S:
T:

**2.147 Page:8600 MA86** TURBO GENERATOR**

A:
B: M8601 [0-100] TG efficiency low (wear)
C: M8603 [0-100] TG vibration high (wear)
D:
E: M8605 [0-1] TG sealing steam contr failure
F: M8610 [0-100] TG LO cooler dirty
G:
H: M8611 [0-100] TG LO filter 1 dirty
I: M8612 [0-100] TG LO filter 2 dirty
J:
K: M8615 [0-100] TG LO pump wear
L:
M: M8620 [0-100] TG LO tank water inlet leakage
N:
O: M8630 [0-100] TG speed controller gain high
P:
Q:
R:
S:
T: