

Engine Room Simulator

ERS-L11 Sulzer RTA84-Container

Machinery & Operation

Appendix A

Trip Codes

1 TRIP CODES - APPENDIX A

1.1 Main Engine

AutoChief Shut Down Limits (X02444)

Trip No. 1.1	Main LO pressure	3.0 bar
Trip No. 2.1	ME coolw pressure	2.35 bar
Trip No. 3.1	ME piston LO flow	2.00 kg/s
Trip No. 4.1	ME exhaust valve air spring	4.50 bar
Trip No. 5.1	ME overspeed	110 rpm

AutoChief Slow Down Limits (X02445)

Trip No. 1.1	Main LO pressure	3.20 bar
Trip No. 1.2	Crosshead LO pressure	9.00 bar
Trip No. 2.1	ME coolw inlet pressure	2.45 bar
Trip No. 2.2	ME coolw outlet temperature	95.0°C
Trip No. 3.1	ME piston LO outlet temperature	85.0°C
Trip No. 4.1	ME cylinder exh. temperature	520°C
Trip No. 4.2	ME cylinder exh. dev. temp.	70°C
Trip No. 4.3	TBCH exh. inlet temperature	530°C
Trip No. 5.1	ME exh. valve air spring pressure	6.0 bar
Trip No. 5.2	ME LO inlet temperature	55.0°C
Trip No. 5.3	ME thrust bearing LO outlet temp	65.0°C
Trip No. 5.4	ME oil mist detection	60 %
Trip No. 5.5	TBCH bearing LO temperature	120°C
Trip No. 5.6	TBCH casing coolw temperature	94.0°C
Trip No. 5.7	TBCH vibration	70.0°C
Trip No. 5.8	ME cylinder oil flow low	0.34 kg/h
Trip No. 5.9	ME AirC air outlet temperature	70°C
Trip No. 5.10	ME cylinder scav. air box temp.	120°C

AutoChief Start Fail Limits (X02445)

Trip No. 1.1	Starting failure	(after three attempts)
Trip No. 2.1	Reversing failure	(cam positions not correct)
Trip No. 3.1	Breaking failure	(engine speed too high) 27.5rpm
Trip No. 4.1	Starting air pressure low	12.0 bar
Trip No. 5.1	Starting air supply valve closed	
Trip No. 5.2	Low Pressure control air pressure low	5.0 bar

Trip No. 5.3 Turning gear engaged

1.2 Diesel Generators

Diesel Generator no. 1 (X03160)

Trip No. 0:	Normal Condition	
Trip No. 1:	Over speed	810 rpm
Trip No. 2:	Low Lub Oil Pressure	0.60 bar
Trip No. 3:	High Lub Oil Temp	90°C
Trip No. 4:	High Fresh Water Temp	98°C
Trip No. 5:	High Exhaust Temp	700°C

Diesel Generator no. 2 (X03360)

Trip No. 0:	Normal Condition	
Trip No. 1:	Over speed	810 rpm
Trip No. 2:	Low Lub Oil Pressure	0.60 bar
Trip No. 3:	High Lub Oil Temp	90°C
Trip No. 4:	High Fresh Water Temp	98°C
Trip No. 5:	High Exhaust Temp	700°C

Diesel Generator no. 3 (X33160)

Trip No. 0:	Normal Condition	
Trip No. 1:	Over speed	810 rpm
Trip No. 2:	Low Lub Oil Pressure	0.60 bar
Trip No. 3:	High Lub Oil Temp	90°C
Trip No. 4:	High Fresh Water Temp	98°C
Trip No. 5:	High Exhaust Temp	700°C

Diesel Generator no. 4 (X43160)

Trip No. 0:	Normal Condition	
Trip No. 1:	Over speed	810 rpm
Trip No. 2:	Low Lub Oil Pressure	0.60 bar
Trip No. 3:	High Lub Oil Temp	90°C
Trip No. 4:	High Fresh Water Temp	98°C
Trip No. 5:	High Exhaust Temp	700°C

1.3 Breakers

DG 1 Circuit Breaker (X06013)

Trip No. 0:	Normal condition	
Trip No. 1:	Fast Overload	4000 A
Trip No. 2:	Slow Overload	3900 A
Trip No. 3:	Under load, Reverse Power	-100 A

Trip No. 4:	Low Voltage	330 V
Trip No. 5:	Low Frequency	52 Hz
Trip No. 6:	Non Essential Load Trip	3700 A

DG 2 Circuit Breaker (X06014)

Trip No. 0:	Normal condition	
Trip No. 1:	Fast Overload	4000 A
Trip No. 2:	Slow Overload	3900 A
Trip No. 3:	Under load, Reverse Power	-100 A
Trip No. 4:	Low Voltage	330 V
Trip No. 5:	Low Frequency	52 Hz
Trip No. 6:	Non Essential Load Trip	3700 A

DG 3 Circuit Breaker (X36013)

Trip No. 0:	Normal condition	
Trip No. 1:	Fast Overload	2900 A
Trip No. 2:	Slow Overload	2800 A
Trip No. 3:	Under load, Reverse Power	-100 A
Trip No. 4:	Low Voltage	330 V
Trip No. 5:	Low Frequency	52 Hz
Trip No. 6:	Non Essential Load Trip	2600 A

DG Circuit Breaker (X46013)

Trip No. 0:	Normal condition	
Trip No. 1:	Fast Overload	2900 A
Trip No. 2:	Slow Overload	2800 A
Trip No. 3:	Under load, Reverse Power	-60 A
Trip No. 4:	Low Voltage	330 V
Trip No. 5:	Low Frequency	52 Hz
Trip No. 6:	Non Essential Load Trip	2600 A

1.4 Compressors

SA Compressor no. 1 (X04503)

Trip No. 0:	Normal condition	
Trip No. 1:	High Air discharge Temp	>110°C
Trip No. 2:	Low Lub Oil Pressure	<0.75 bar

SA 2 Compressor no.2 (X04504)

Trip No. 0:	Normal condition	
Trip No. 1:	High Air discharge Temp	>110°C
Trip No. 2:	Low Lub Oil Pressure	<0.75 bar

Emergency Start Air Compressor (X04506)

Trip No. 0:	Normal Condition	
Trip No. 1:	High Air discharge Temp	>130°C



Trip No. 2: Low Lub Oil Pressure <0.75 bar

Service Air Compressor (X04505)

Trip No. 0: Normal condition
 Trip No. 1: High Air discharge Temp >90°C
 Trip No. 2: Low Lub Oil Pressure <0.75 bar

1.5 Trip Codes for Refrigeration Compressors

Compressor Trip Limits (X06524)

Trip No. 1: LO level low 20%
 Trip No. 2: Discharge pressure high 15 bar
 Trip No. 3: Suction pressure low -0.2 bar
 Trip No. 4: Electric overload 44 kW

Compressor Trip Limits (X16524)

Trip No. 1: LO level low 20%
 Trip No. 2: Discharge pressure high 15 bar
 Trip No. 3: Suction pressure low -0.2 bar
 Trip No. 4: Electric overload 44 kW

1.6 Oil Fired Boiler

Oil Fired Boiler (X05450) (0-4)

Trip No. 1: Flame out
 Trip No. 2: Level low -300 mm
 Trip No. 3: Level high 300 mm
 Trip No. 4: Pressure high 10 bar

1.7 HFO Separators

HFO Separator 1 (X04026) (0-7)

Trip No. 0: Normal Condition
 Trip No. 1: Water Transducer Fault
 Trip No. 2: High Oil Outlet Pressure >1.9 bar
 Trip No. 3: Sludge Discharge Failure
 Trip No. 4: High Low Oil Temperature >115°C
 Trip No. 5: No Displacement Water
 Trip No. 6: High Vibration
 Trip No. 7: Low Oil Outlet Pressure <1.45 bar

HFO Separator 2 (X24026)



Trip No. 0	Normal Condition	
Trip No. 1	Water Transducer Fault	
Trip No. 2	High Oil Outlet Pressure	>1.9 bar
Trip No. 3	Sludge Discharge Failure	
Trip No. 4	High Low Oil Temperature	>115°C
Trip No. 5	No Displacement Water	
Trip No. 6	High Vibration	
Trip No. 7	Low Oil Outlet Pressure	<1.45 bar