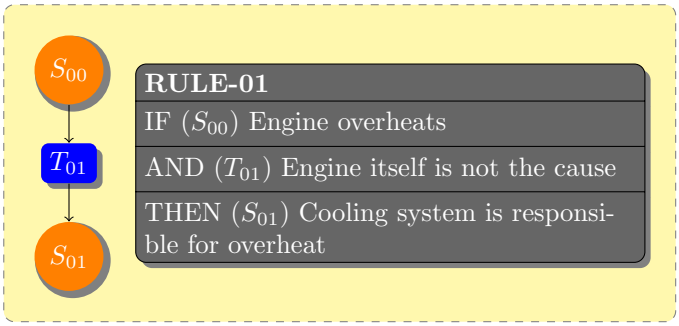
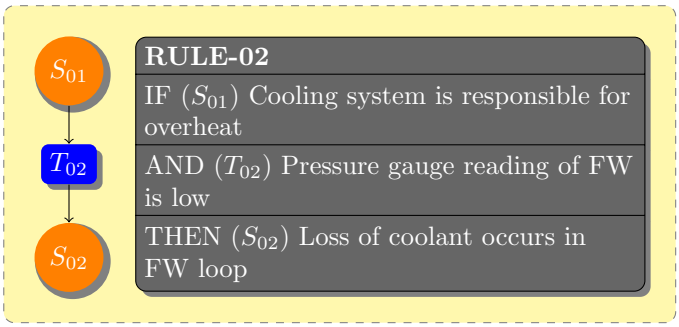
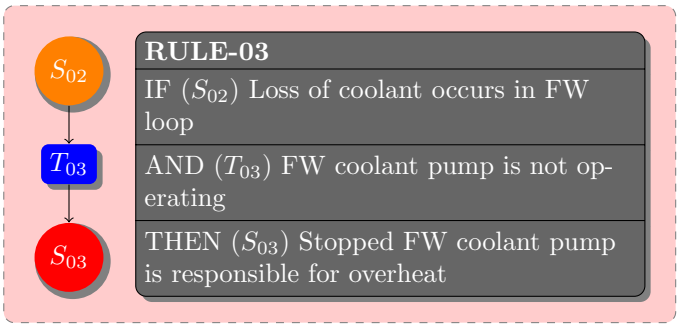
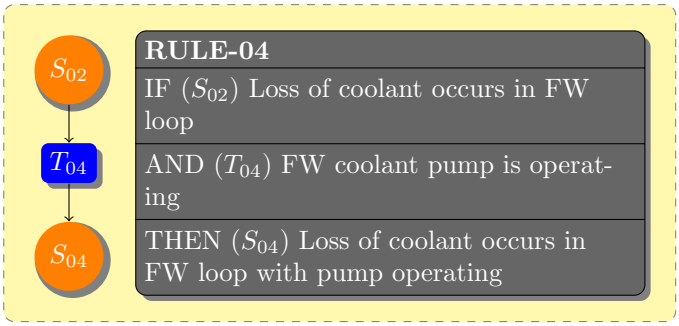
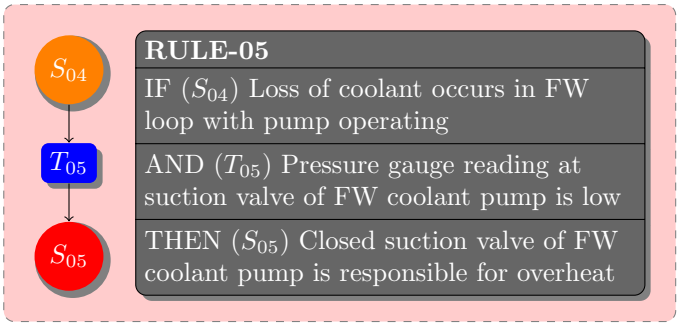
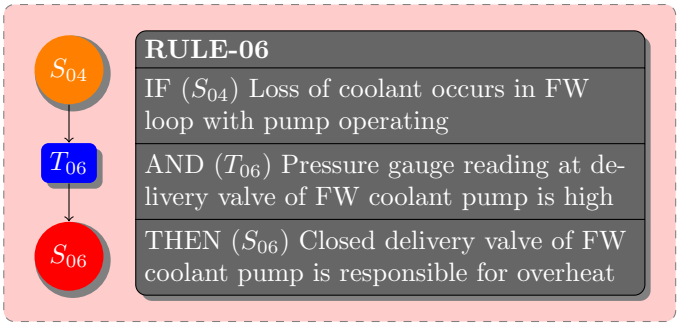

S_{00}
T_{01}
S_{01}
RULE-01
IF (S_{00}) Engine overheats
AND (T_{01}) Engine itself is not the cause
THEN (S_{01}) Cooling system is responsible for overheat

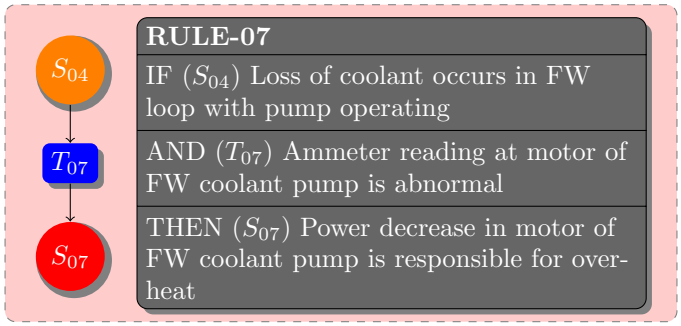

S_{01}
T_{02}
S_{02}
RULE-02
IF (S_{01}) Cooling system is responsible for overheat
AND (T_{02}) Pressure gauge reading of FW is low
THEN (S_{02}) Loss of coolant occurs in FW loop

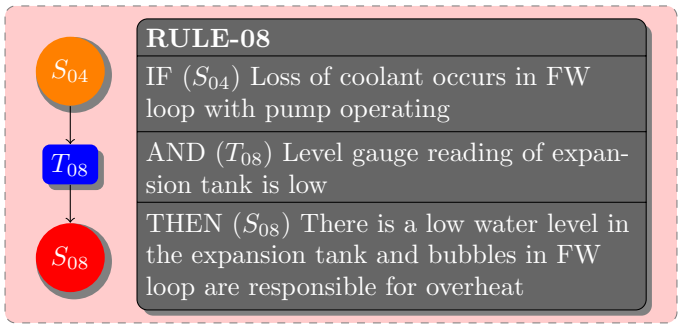

S_{02}
T_{03}
S_{03}
RULE-03
IF (S_{02}) Loss of coolant occurs in FW loop
AND (T_{03}) FW coolant pump is not operating
THEN (S_{03}) Stopped FW coolant pump is responsible for overheat

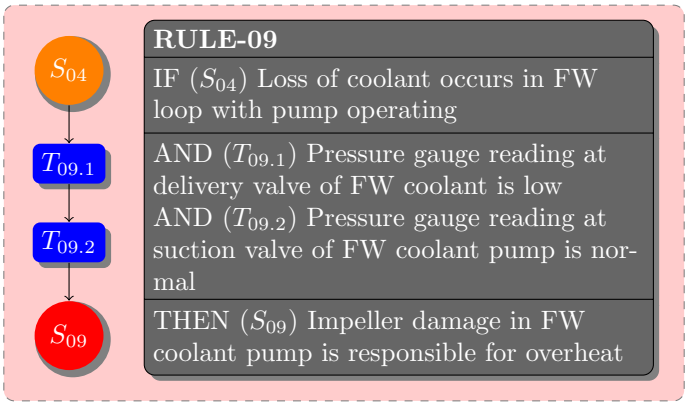

S_{02}
T_{04}
S_{04}
RULE-04
IF (S_{02}) Loss of coolant occurs in FW loop
AND (T_{04}) FW coolant pump is operating
THEN (S_{04}) Loss of coolant occurs in FW loop with pump operating

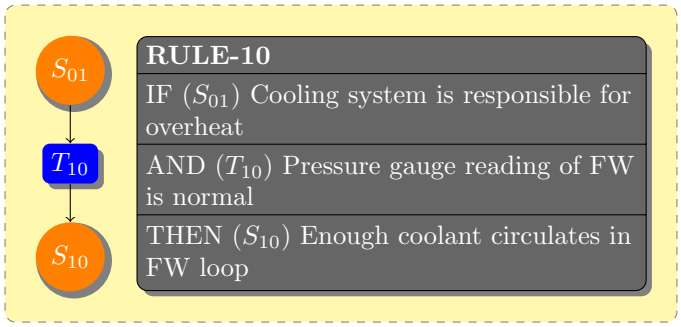

S_{04}
T_{05}
S_{05}
RULE-05
IF (S_{04}) Loss of coolant occurs in FW loop with pump operating
AND (T_{05}) Pressure gauge reading at suction valve of FW coolant pump is low
THEN (S_{05}) Closed suction valve of FW coolant pump is responsible for overheat

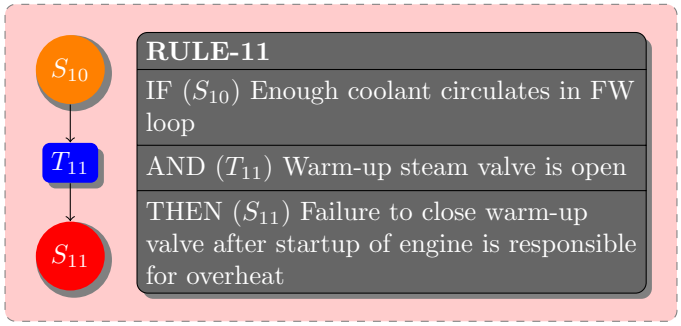

S_{04}
T_{06}
S_{06}
RULE-06
IF (S_{04}) Loss of coolant occurs in FW loop with pump operating
AND (T_{06}) Pressure gauge reading at delivery valve of FW coolant pump is high
THEN (S_{06}) Closed delivery valve of FW coolant pump is responsible for overheat

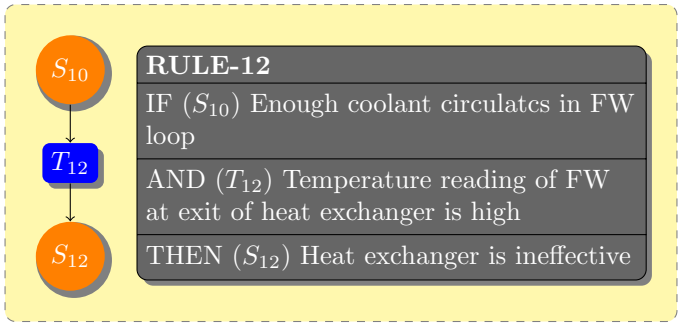

S_{04}
T_{07}
S_{07}
RULE-07
IF (S_{04}) Loss of coolant occurs in FW loop with pump operating
AND (T_{07}) Ammeter reading at motor of FW coolant pump is abnormal
THEN (S_{07}) Power decrease in motor of FW coolant pump is responsible for overheat

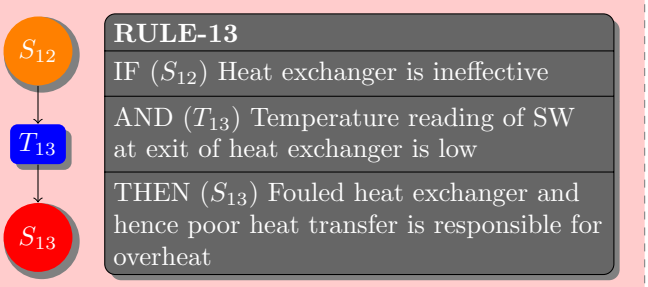

S_{04}
T_{08}
S_{08}
RULE-08
IF (S_{04}) Loss of coolant occurs in FW loop with pump operating
AND (T_{08}) Level gauge reading of expansion tank is low
THEN (S_{08}) There is a low water level in the expansion tank and bubbles in FW loop are responsible for overheat


S_{04}
$T_{09.1}$
$T_{09.2}$
S_{09}
RULE-09
IF (S_{04}) Loss of coolant occurs in FW loop with pump operating
AND ($T_{09.1}$) Pressure gauge reading at delivery valve of FW coolant is low
AND ($T_{09.2}$) Pressure gauge reading at suction valve of FW coolant pump is normal
THEN (S_{09}) Impeller damage in FW coolant pump is responsible for overheat


S_{01}
T_{10}
S_{10}
RULE-10
IF (S_{01}) Cooling system is responsible for overheat
AND (T_{10}) Pressure gauge reading of FW is normal
THEN (S_{10}) Enough coolant circulates in FW loop


S_{10}
T_{11}
S_{11}
RULE-11
IF (S_{10}) Enough coolant circulates in FW loop
AND (T_{11}) Warm-up steam valve is open
THEN (S_{11}) Failure to close warm-up valve after startup of engine is responsible for overheat


S_{10}
T_{12}
S_{12}
RULE-12
IF (S_{10}) Enough coolant circulatcs in FW loop
AND (T_{12}) Temperature reading of FW at exit of heat exchanger is high
THEN (S_{12}) Heat exchanger is ineffective

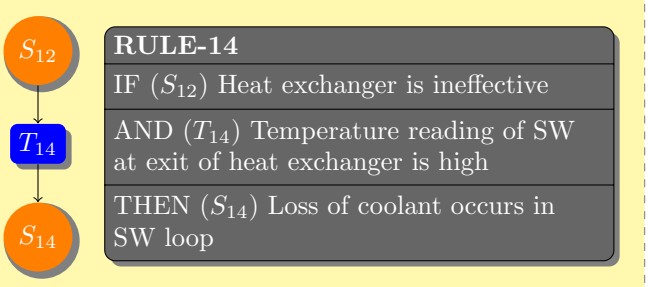


RULE-13

IF (S_{12}) Heat exchanger is ineffective

AND (T_{13}) Temperature reading of SW at exit of heat exchanger is low

THEN (S_{13}) Fouled heat exchanger and hence poor heat transfer is responsible for overheat

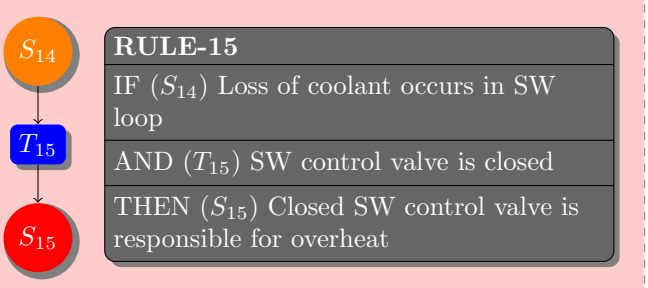


RULE-14

IF (S_{12}) Heat exchanger is ineffective

AND (T_{14}) Temperature reading of SW at exit of heat exchanger is high

THEN (S_{14}) Loss of coolant occurs in SW loop

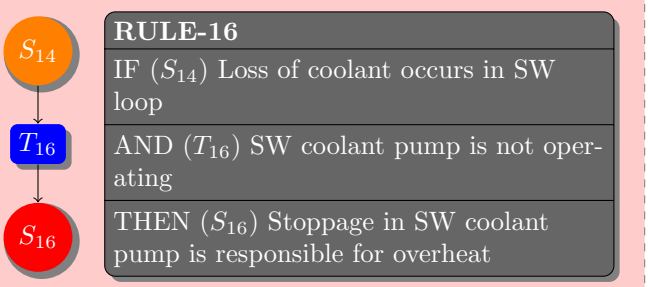


RULE-15

IF (S_{14}) Loss of coolant occurs in SW loop

AND (T_{15}) SW control valve is closed

THEN (S_{15}) Closed SW control valve is responsible for overheat

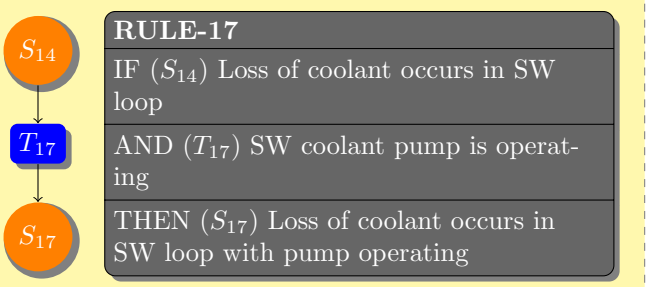


RULE-16

IF (S_{14}) Loss of coolant occurs in SW loop

AND (T_{16}) SW coolant pump is not operating

THEN (S_{16}) Stoppage in SW coolant pump is responsible for overheat

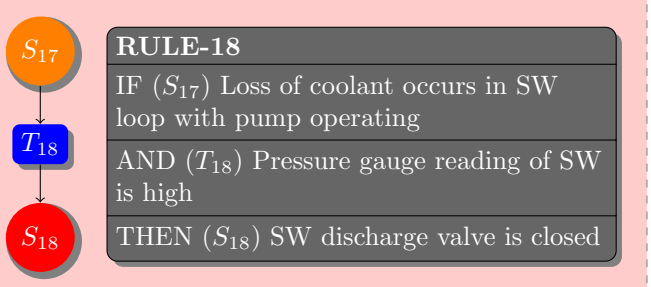


RULE-17

IF (S_{14}) Loss of coolant occurs in SW loop

AND (T_{17}) SW coolant pump is operating

THEN (S_{17}) Loss of coolant occurs in SW loop with pump operating

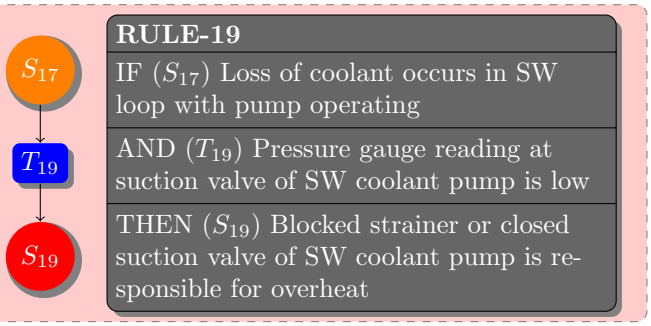


RULE-18

IF (S_{17}) Loss of coolant occurs in SW loop with pump operating

AND (T_{18}) Pressure gauge reading of SW is high

THEN (S_{18}) SW discharge valve is closed

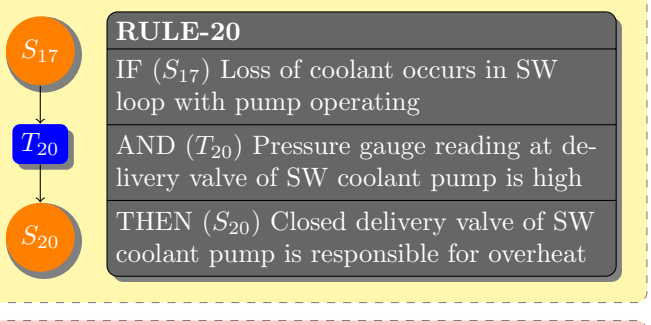


RULE-19

IF (S_{17}) Loss of coolant occurs in SW loop with pump operating

AND (T_{19}) Pressure gauge reading at suction valve of SW coolant pump is low

THEN (S_{19}) Blocked strainer or closed suction valve of SW coolant pump is responsible for overheat

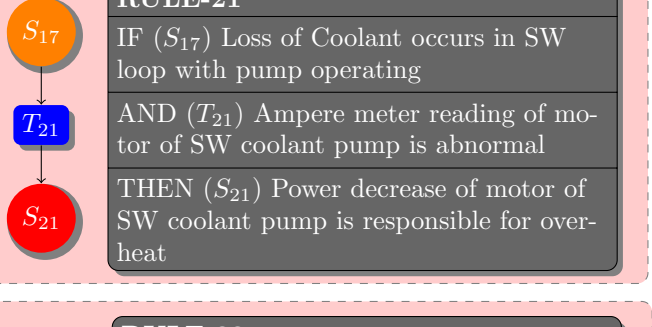


RULE-20

IF (S_{17}) Loss of coolant occurs in SW loop with pump operating

AND (T_{20}) Pressure gauge reading at delivery valve of SW coolant pump is high

THEN (S_{20}) Closed delivery valve of SW coolant pump is responsible for overheat

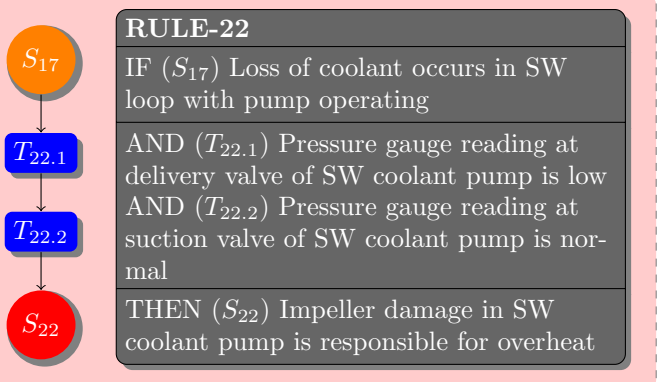


RULE-21

IF (S_{17}) Loss of Coolant occurs in SW loop with pump operating

AND (T_{21}) Ampere meter reading of motor of SW coolant pump is abnormal

THEN (S_{21}) Power decrease of motor of SW coolant pump is responsible for overheat



RULE-22

IF (S_{17}) Loss of coolant occurs in SW loop with pump operating

AND ($T_{22.1}$) Pressure gauge reading at delivery valve of SW coolant pump is low
AND ($T_{22.2}$) Pressure gauge reading at suction valve of SW coolant pump is normal

THEN (S_{22}) Impeller damage in SW coolant pump is responsible for overheat