

AS 350 SD2 - EMERGENCY PROCEDURES

ENGINE FAILURE

1. Enter autorotation immediately
2. If altitude permits, attempt engine air restart

ENGINE AIR RESTART

1. Establish steady autorotation
2. Boost pumps 1 and 2 - ON
3. Generator - OFF
4. When N_G is below 30% carry out normal starting procedure

GOVERNOR FAILURE

A: Large Drop in Fuel Flow Rate

1. Establish autorotation at 65 kt IAS

B: Excessive Fuel Flow Rate (N_G , T_4 , N_R and torque increases)

The EOS (Electronic Overspeed System) will prevent N_2 RPM from exceeding 109%. This condition will produce cycling of engine parameters when under EOS governing control.

1. Immediately reduce fuel flow until N_R is between 385-394 N_R RPM (around 100% N_2 RPM)

Continued flight with the high side N_2 governor failure

1. During further application of collective pitch (increase or decrease) control rotor speed by adjusting fuel flow control position.
2. Use caution keeping rotor RPM within the operational range for landing.

EOS (Engine Overspeed System) MALFUNCTION

If the system malfunctions during a normal flight and N_2/N_R decreases to approximately 80%:

1. Immediately enter autorotation and pull EOS circuit breaker.
2. IF N_2/N_R RPM recovers, continue flight to the nearest maintenance base for electrical system malfunction investigation.
3. If N_2/N_R RPM does not recover, carry out autorotation transition procedure (refer to paragraph 2).

SURGING

Surging is evidenced by hunting of the RPM, fluctuating torque and T_4 indications along with jerks in the yaw axis.

1. Make small changes in the collective pitch setting
2. If surging persists while fuel and engine oil pressures are normal, reduce fuel flow slightly to leave the governed range.
3. If surging persists, land as soon as possible and shut down engine if there is an indication of RPM instability.

ENGINE FIRE DURING START

1. Close fuel shut-off lever
2. Switch off boost-pump 1 and 2
3. Crank engine for 10 seconds
4. BATTERY switch: OFF

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ENGINE FIRE DURING FLIGHT ("FIRE" ON)

1. Enter autorotation
2. Close fuel shut-off lever
3. Switch off boost-pump 1 and 2
4. GENERator - OFF
5. Switch off electrical master "ALL OFF"

SMOKE IN THE CABIN

A: Source of smoke identified

1. Shut off the corresponding system
2. If necessary use fire extinguisher
3. Air the cabin

B: Source of smoke not identified

1. Shut off heating/demisting system
2. Switch off electrical master "ALL OFF"
3. When smell has disappeared, set all switches to "OFF"
4. Reset battery switch to "ON"
5. Reset the "ALL OFF" electrical master switch
6. Switch on generator, check voltage
7. Switch on circuits one by one until malfunction is identified

MAIN SERVO CONTROL MALFUNCTION (BLOCKED CONTROLS)

1. Hydraulic switch on collective - OFF

Caution: Control forces are high when at high speed

2. Reduce speed to 60 kt – proceed as "HYD" light on

YAW SERVO CONTROL MALFUNCTION (BLOCKED PEDALS)

A: In Hover

1. If no yaw – land normally
2. If helicopter is yawing – hydraulic switch on collective OFF

B: In forward flight

1. Reduce speed
2. Hydraulic switch on collective - OFF
3. Perform run-on landing if necessary

TAIL ROTOR CONTROL FAILURE

A: Complete Loss of Thrust – OGE

1. Enter autorotation – maintain 65 kt IAS
2. Shut down engine

B: Complete Loss of Thrust – IGE

1. Reduce collective before yaw rate is too high

C: Fixed Pitch Failure

1. Set IAS to 70 kt in level flight
2. Press hydraulic push-button for 5 seconds
3. Make shallow approach with run-on landing

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NR / N₂ READING BELOW GREEN ARC

N_R and N₂ values agree

1. Excessive power demand: reduce collective pitch – indicator should rise to governed value
2. Governor failure refer to “Governor Failure”

DIFFERENT NR / N₂ READINGS

- a) N_R reading exceeds N₂ N_R reading is incorrect except in autorotation
- b) N₂ reading exceeds N_R
 - on the ground during starting sequence reduce fuel flow setting to check for possible freewheel slippage in flight NR reading is probably incorrect

COMPLETE ROTOR RPM (NR) INDICATOR FAILURE

1. Maintain engine torque above 10%. N_R reading is give by N₂ needle
2. Land as soon as possible

POWER TURBINE RPM (N₂) INDICATOR FAILURE

1. Check that N_R reading remains within governed range when collective pitch is changed
2. Keep torque above 0% and continue flight

RED LIGHTS

FIRE

refer to page 1

HYD

1. Reduce airspeed to 60 kts
2. Cut off hydraulic with collective switch
3. Make shallow approach with run-on landing

ENG P

1. Reduce power
2. Check engine oil pressure indicator
If engine oil pressure ind. and torquemeter readings are low
- switch off engine
3. Land as soon as possible

MGB P

1. Reduce power
2. Land as soon as possible

MGB T

1. Reduce power
2. Check MGB P light
3. If light does not illuminate – land as soon as poss.
4. If light illuminates – land and check oil level

BAT T

1. Switch battery off

ENG CHIP

1. Land as soon as possible

CHIP TGB

1. Land as soon as practical, avoid prolonged hovering

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AMBER LIGHTS

- | | |
|---|---|
| CHIP MGB | <ol style="list-style-type: none">1. Reduce engine power2. Monitor "MGP P" and "MGB T". Refer to these light if one should come on |
| BAT | <ol style="list-style-type: none">1. Check push-button on2. Monitor voltage |
| GEN | <ol style="list-style-type: none">1. Check voltage2. Check position of push-button3. Reset "GEN" switch4. If unsuccessful – switch off unnecessary equipment |
| FUEL P | <ol style="list-style-type: none">1. Check fuel pressure gauge2. Pressure normal=one pump u/s3. Pressure zero=both pumps u/s – continue below 5000 ft |
| F FILT | <ol style="list-style-type: none">1. Reduce engine power2. If light goes out continue flight at reduced power3. If light remains on, land as soon as possible |
| FUEL | <ol style="list-style-type: none">1. Fuel quantity less than 60 litres (max. 18 min.)2. Avoid large attitude changes |
| HORN | <ol style="list-style-type: none">1. Push-button on |
| PITOT | <ol style="list-style-type: none">1. Check push-button on2. Monitor airspeed indicator |
| DOORS | <ol style="list-style-type: none">1. Reduce airspeed to 120 kt2. If possible land to check the doors3. If landing not possible – continue with reduced airspeed (120 kt) and low sink rate |
| IBF FILTER
(Inlet Barrier Filter clogged) | <ol style="list-style-type: none">1. Open the bypass door by depressing the IBF BYPASS switch<ol style="list-style-type: none">a.) If IBF FILTER light goes out – land as soon as practicalb.) If IBF FILTER light remains on – land as soon as practical- Monitor engine parameters closely. If engine limits cannot be maintained within limits – land as soon as possible. |