กองบินปีกหมุนที่ ๑

SINGLE ENGINE FAILURE

INDICATIONS:

1. ENG 1 OUT or ENG 2 OUT warning light illuminated.
2. GAS PROD RPM (n1) below 61% and decreasing
3. ENG RPM (n2) below 85% and decreasing
4. ITT below 400 C and decreasing
5. ENG No.1or ENG No.2 OIL PRESSURE , DC GENERATOR , PART SEP OFF caution lights illuminated.

PROCEDURES:

Shut down affected engine as follows:

1.Collective……REDUCE as required to maintain ROTOR RPM (Nr) within limits and power within OEI limits.

2.Airspeed ……..….55 to 65 KIAS for Minimum Power for level flight .

3.RPM INCR DECR Switch…….INCR, set remaining ENG RPM (N2) at 100 if possible.

4.Throttle……..…..…… .IDLE STOP , THEN CLOSED

5.FULE X FEED Switch……OVRD CLOSED

6.FULE INTCON Switch……..….OPEN

7.Engine (1 or 2) BOOST PUMP Switch……..……OFF

Verify FUEL BOOST caution light and FULE Switch to be turned off are all for affected engine

8. Engine (1 or 2).FUEL Switch……..…….OFF

9. GEN(1 or 2) Switch……..…..……..…….OFF

10. MASTER CAUTION Llight……RESET

LAND AS SOON AS PRACTICAL

If No.2 engine failed:

12. BATTERY BUS 2 Switch (Failed Generator Side)……....OFF

13. BATTERY BUS 1 Switch (Operating Generator Side)…..……..…ON

14. INV 3 Switch (Operating Generator DC Bus)……..……..……ON

LAND AS SOON AS PRACTICAL

ENGINE RESTART IN FLIGHT

CAUTION MONITOR ITT WHEN RESTARTING ENGINE IN MANUAL FUEL CONTROL MODE.

ENGINE RESTART No.1

1. Engine 1 throttle …….CLOSED
2. Engine 1 BOOST PUMP Switch ……..…ON
3. Fuel X FEED Switch …… ……NORMAL
4. Engine No.1 FUEL Switch ……ON
5. Engine No.1 GOV. Switch …… MANUAL
6. BATTERY BUS 2 Switch ……..…...OFF
7. BATTERY BUS 1 Switch ……..…...ON
8. INV.1 and 2 Switchs …….ON
9. INV.3 Switch [If equipped]…… …ON DC BUS 1.
10. START Switch ……....ENG No.1
11. GEN 1 Switch ……...ON
12. BATTERY BUS 1 Switch ……...OFF
13. BATTERY BUS 2 Switch ……..….ON

ENGINE RESTART No.2

1. Engine 2 throttle …….…….CLOSED
2. Engine 2 BOOST PUMP Switch …….ON
3. Fuel X FEED Switch …….NORMAL
4. Engine No. 2 FUEL Switch …….ON
5. Engine No. 2 GOV. Switch ……..…MANUAL
6. BATTERY BUS 1 Switch …….OFF
7. BATTERY BUS 2 Switch ……..…….ON
8. INV.1 and 2 Switchs …….……ON
9. INV.3 Switch ……ON DC BUS 2
10. START Switch …….……..….ENG 2
11. GEN 2 Switch ……...…….ON

ENGINE FIRE IN FLIGHT

INDICATIONS: FIRE 1 PULL or FIRE 2 PULL PULL handle illuminated

PROCEDURES:

Immediately initate emergency descent, if possible.

Shut down affected engine (1 or 2) as follows:

1. FRIE PULL handle [affected engine] …… PULL
2. FRIE EXT Switche…… MAIN
3. Throttles [affected engine] …… IDLE STOP , THEN CLOSED
4. Fuel X Feed Switch…… OVER RIDE
5. Fuel INTCON Switch …… OPEN
6. Engine BOOST PUMP[affected engine] …… OFF

Verify FIRE handle light, FUEL BOOST caution light ,and FUEL Switch to be turned off are all for affected engine

7. ENGINE FUEL Switch …….. OFF

IF FIRE warning light remains illuminated for more than 10 seconds:

8. FIRE EXT Switch…….. RESERVE
9. ENG RPM(n2) (remaining engine)……SET at 100%

LAND AS SOON AS POSSIBLE

IF a landing site is not readity avaitable. proceed as follow:

1. FIRE PULL handle …….. IN
2. GEN(1 or 2) Switch ……. OFF

IF no.2 engine was shut down

1. BATTERY BUS 2 Switch …… OFF
2. BATTERY BUS 1 Switch …… ON
3. INV 3. Switch …….. DC BUS1

After landing:

3. Engine shutdown…….. Complete.
4. Hellcopter …… Exit.

OEI LANDING

1. **GAS PRODUCER RPM (N1)**

continuous operation ……	61 to 100.8%
2 ½ minute range ……..	100.8 to 102.4
maximum transient(not to exceed 30 seconds)	……102.4 %

2. **INTERTURBINE TEMPERATURE (ITT)**

continuous operation ……	300 to 765 c
30 minute range……	765 to 822 c
2 ½ minute range……	822 to 850 c
maximum……..	850 c

3. **ENGINE TORQUE**

continuous operation ……	0 to 63.9 %
30 minute power……	63.9 to 79.4 %
maximum……..	79.4 %

ENGINE UNDER SPEED

INDICATIONS:

1. **Low ENG RPM [n2] and ROTOR RPM [nR] [possibly with RPM caution light and audio power demand is in excess of single engine power available]**
2. **TORQUE split [proportional to power demand].**
3. **Low GAS PRO RPM [n1] , ITT , and TORUQE on affected engine**

PROCEDURES:

CAUTION:

ROTOR RPM [Nr] CAN DECAY EXCESSIVELY

IF CORRECTIVE ACTION IS NOT IMMEDIATELY INTIATED

1.Collective……. Adjust as necessary to maintain ROTOR RPM Nr

2.Airspeed……..55-65 kais for Minimum power for level flight.

3.Affected engine …….Identify.

4.Throttle [affected engine]……Reduce to idle

5.GOV switch [affected engine]……MANUAL

CAUTION:

WHEN OPERATING IN MANUAL FUEL CONTROL MODE , MAKE SLOW, SMOOTH THROTTLE MOVEMENT TO AVOID COMPRESSOR STALL, OVERTEMPERATURE , OVER SPEED , AND POSSIBLE DRIVETRAN DAMAGE. COORDINATE THROTTLE AND COLLECTIVE CHANGES TO AVOID OVERLOADING NORMAL ENGINE.

6.Throttle[affected engine]……Increase slowly. Adjust throttle and collective as required to maintain TORQUE of normal engine.

7.MASTER CAUTION Lignt…… Reset.

LAND AS SOON AS PRACTICAL

ENGINE OVER SPEED

INDICATIONS:

1. **High ENG RPM N2 and ROTOR RPM Nr possibly with RPM caution light**
2. **Definite TORQUE split [proportional to power demand].**
3. **High GAS PRO RPM n1 ,ITT,and TOUQE on affected engine**
4. **Return of ENG RPM N2 and ROTOR RPM Nr to governed value[if power demand is very high]**

PROCEDURES:

CAUTION:

ROTOR RPM Nr CAN OVERSPEED EXCESSIVELY

IF CORRECTIVE ACTION IS NOT IMMEDIATELY INTIATED.

1.Collective……. Adjust as necessary to maintain ROTOR RPM Nr

2.Affected engine …….Identify.

3.Throttle [affected engine]……Reduce to maintain TORQUE at or slightly below TORQUE of normal engine.

4. Throttle friction ……Tighten on normal engine , reduce affected engine.

5. Throttle[affected engine]……Reduce to idle

6.GOV switch [affected engine]……MANUAL

CAUTION:

WHEN OPERATING IN MANUAL FUEL CONTROL MODE , MAKE SLOW, SMOOTH THROTTLE MOVEMENT TO AVOID COMPRESSOR STALL, OVERTEMPERATURE , OVER SPEED , AND POSSIBLE DRIVETRAN DAMAGE. COORDINATE THROTTLE AND COLLECTIVE CHANGES TO AVOID OVERLOADING NORMAL ENGINE.

7.Throttle[affected engine]……Increase slowly. Adjust throttle and collective as required, to maintain TORQUE of affected engine silghtly below TORQUE of normal engine.

8.MASTER CAUTION Lignt…… Reset.

LAND AS SOON AS PRACTICAL

High-Side Control Failure

INDICATIONS:

1.Rotor rpm above 100%

2.Torque split in proportion to power demand

3.N1. ITT. And torque high on affected engine

Actions:

1.Collective…… ADJUST TO MAINT ROTOR RPM

Affected engine

2.Idenlify……. NR THEN TORQUE

3.Throttle ……..REDUCE TO CONTROL N2

If no control by idle stop then

4.GOV Switch ……MANUAL

5.Throttle……ADJUST TO OPERATING RPM

6.MASTER Caution……RESET

LAND AS SOON AS PRACTICAL

Low-Side Control Failure

INDICATIONS:

1.Rotor rpm 100% [lower with power demand]

2.Torque split in proportion to power demand

3.N1. ITT. And torque low on affected engine

Actions:

1.Collective…….. ADJUST TO MAINT ROTOR RPM

2.RPM Increase/decrease Switch……FULL INCREASE

3.Obtain Safe OEI Airspeed ……..….55-65 KAIS

Affected engine

4.Idenlify……... NR THEN TORQUE

5.Throttle ……..IDLE STOP

6.GOV Switch ……..…MANUAL

7.Throttle……..…….ADJUST TO OPERATING RPM

8.MASTER Caution……RESET

LAND AS SOON AS PRACTICAL

TAIL ROTOR FAILRURES

Tril Rotor Fixed – Pitch Failure in Flight – Right Pedal Forward [neutral]

Indications:

1.Pedals will not mover or are binding

2.Uncontrollable yaw with power change

Actions:

1.Engine RPM…….MAINTAIN IN GREEN ARC

2.Airspeed……..APPROXIMATELY 60 KAIS

3.Decelerate 50 to 70 feet

4.Arrive over landing area aligned and slightly above translational lift 2 to 5 feet AGL

5. Continue landing maintaining alignment with collective and throttle

6.Contact ground slightly above trans lational lift. Maintain heading with colleclive and throttles. If helicopter turns. Follow turn with cyclic as necessary until comes to complete stop.

Tril Rotor Fixed – Pitch Failure in Flight –Left Pedal Forward [neutral

Indications:

1.Pedals will not mover or are binding

2.Uncontrollable yaw with power change

Actions:

1.Engine RPM…….MAINTAIN IN GREEN ARC

2.Airspeed……..APPROXIMATELY 60 KAIS

3.Decelerate to 0 groundspeed 2 feet above touchdown area.

4.Lower collective to initiate landing: use throttle to reduce rotation. slight rotation upon ground contact should not pose any problem.