

Bell 206 Emergency **BOLDFACE** Procedures

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Bell 206 Emergency BOLDFACE Procedures

Bell 206 BOLDFACE (*) Emergency Procedures

Items in Boldface are indicated by an asterisk in the Pocket Checklist (PCL) must be committed to memory and performed without reference to the PCL. Non-boldface items are not time critical and should be accomplished by reference to the PCL in the aircraft. They are provided here for completeness.

Engine Failure at High Airspeed/Low Altitude

1. Cyclic **Immediately Apply Aft**
2. Autorotate.

WARNING:
Rapid cyclic movement
should be avoided to preclude
mast bumping

Engine Failure In Flight

1. Autorotate
 2. Shoulder Harness **Lock**
- If time and altitude permit:*
3. Aircrew / Passengers **Alert**
 4. Mayday **Transmit**
 5. Squawk **Emergency.**

Main Drive Shaft (Barbell) Failure

1. Autorotate
2. Twist Grip **Adjust to maintain N_f/N_g in Operating Range**

WARNING:
The engine must continue to
operate in order to provide
Tail Rotor drive. Tail Rotor
Effectiveness may be lost if N_f
is allowed to go below 80%.

When on deck:

3. Emergency shutdown **Complete after landing**

Sprag Clutch Slippage

1. Autorotate
 2. Twist Grip **Flight idle**
- If time and altitude permit:*
3. Twist Grip **Smoothly rotate to full open**
- If N_f/N_r are married:*
4. Collective **Increase**
- If sprag clutch continues to slip:*
5. Autorotate
 6. Twist Grip **Closed** **(continued→)**

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If sprag clutch reengages:

7. Land as soon as possible.

Sprag Clutch Seizure

1. Ensure Twist grip is Full Open
2. Land as soon as possible.

WARNING:
If suspected during an autorotation, execute a waveoff before N_r decays below 85%

RESTART IN FLIGHT

1. Autorotate
2. Fuel Valve Check ON
3. Starter Engage

If light-off occurs:

4. Land as soon as possible.

OVERSPEED (N_f) ROTOR RPM (N_r)

1. Collective Increase (to maintain N_r in operating range)
2. Twist Grip Reduce (to maintain N_f in operating range)
3. Collective / twist Grip Readjust
4. Land as soon as possible.

UNDERSPEEDING N_f/N_r

1. Collective Adjust to maintain N_r in limits
2. Twist Grip Full Open
3. GOV RPM Full Increase
4. Check Power available with N_r in limits

If power is not sufficient:

5. Autorotate

If sufficient power is available:

6. Land as soon as possible.

FUEL CONTROL FAILURE

1. Collective Adjust (to maintain N_r in operating range)
2. Twist Grip Adjust (to maintain N_f/N_g in operating range)
3. Land as soon as Possible.

WARNING:
Be prepared for complete power loss.

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COMPRESSOR STALL

WARNING:
Be prepared for complete power loss.

1. Collective Reduce (maintain N_r within limits)

Note: Slight power (collective) reduction will often eliminate compressor stalls.

2. Reduce severity of maneuver
If TOT within limits:
 3. Land as soon as possible*If TOT not within limits:*
 4. Twist Grip Reduce to maintain TOT within limits
 5. Check power available with N_r in limits*If power is not sufficient:*
 6. Autorotate*If sufficient power is available:*
 7. Land as soon as possible.

ENGINE FIRE IN FLIGHT

1. Confirm existence of fire.
If fire exists:
 2. Land Immediately.
 3. Emergency shutdown Complete after landing*If fire unconfirmed:*
 4. Land as soon as possible.

FUSELAGE FIRE

1. Land immediately
2. Emergency shutdown Complete after landing

WARNING:
Fire extinguisher fluid vapors are dangerous and its use should be limited to a well-ventilated area. A moving TH-57 with the cabin vents and windows open is considered to be a well ventilated area.

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ELECTRICAL FIRE UNKNOWN ORIGIN

1. BAT switch OFF
2. (C) STBY GEN switch OFF
3. (C) STBY ATT IND switch OFF if in VFR Conditions
4. MAIN GEN switch OFF

If fire persists:

5. Land immediately

If fire extinguishes:

6. Land as soon as possible.

If electrical power is required to restore minimum equipment for continued flight, proceed as follows:

7. All Circuit Breakers Out
8. (C) Check BAT RELAY circuit breaker In
9. BAT switch ON
10. MAIN GEN FIELD
and MAIN GEN circuit breakers In
11. MAIN GEN switch ON
12. (C) STBY GEN RELAY circuit breaker In
13. (C)STBY GEN switch ON
14. (C)STBY ATT IND switch ON
15. Circuit breakers for essential equipment In one at a time in priority order.

ELECTRICAL FIRE KNOWN ORIGIN

1. Affected Equipment Secure
2. Affected Circuit Breakers Pull

If fire persists:

3. Electrical Fire Unknown Origin EXECUTE Procedure

If fire extinguishes:

4. Land as soon as practicable

ENGINE FIRE ON GROUND

1. Twist Grip Close
2. FUEL VALVE OFF
3. BAT switch OFF
4. (C) Rotor Brake Engage
5. Helicopter Exit

HOT START / HUNG START

1. Twist grip Close
2. FUEL VALVE OFF
3. Starter Secure after TOT stabilizes below 400°C
4. BAT switch OFF

IGNITER FAILURE

1. Twist grip Close
2. FUEL VALVE OFF
3. Starter Secure
4. BAT switch OFF (when N_g is zero)

Bell 206 Emergency BOLDFACE Procedures

POST SHUTDOWN FIRE

- | | |
|----------------------------|-----------------------------------|
| 1. Starter | Engage |
| 2. FUEL VALVE | OFF |
| 3. Igniter Circuit Breaker | Pull |
| 4. Starter | Secure after fire is extinguished |

ABORT START

- | | |
|---------------|---|
| 1. Twist grip | Close |
| 2. Starter | Secure after TOT stabilizes below 400°C |
| 3. BAT switch | As required |

SUSPECTED FUEL LEAKAGE

- | | |
|-------------------------------------|--------|
| 1. Transmit position and intentions | |
| 2. Unnecessary electrical equipment | Secure |

WARNING:

If an air leak exists in the fuel lines between the boost pumps and engine, turning off all electrical power could cause an engine flameout due to a total loss of boost pressure.

3. Land as soon as possible

When on deck:

- | | |
|---------------|-----------|
| 4. Shutdown | Completed |
| 5. Helicopter | Exit |

EMERGENCY SHUTDOWN

- | | |
|--------------------|--------|
| 1. Twist Grip | Closed |
| 2. FUEL VALVE | OFF |
| 3. BAT switch | OFF |
| 4. (C) Rotor Brake | Engage |

HYDRAULIC SYSTEM FAILURE

- | | |
|------------------------------|--------|
| 1. Airspeed | Adjust |
| 2. HYDRAULIC BOOST switch | ON |
| 3. HYD BOOST circuit breaker | Out |

If system is restored:

4. Land as soon as practicable.

If system is not restored:

- | | |
|----------------------------------|-----|
| 5. HYD BOOST circuit breaker | In |
| 6. HYDRAULIC BOOST switch | OFF |
| 7. (C) FORCE TRIM switch (FT) | ON |
| 8. (C) AFCS STAB | ON |
| 9. (C) AFCS ALT | OFF |
| 10. Land as soon as practicable. | |

HYDRAULIC POWER CYLINDER MALFUNCTION

- | | |
|------------------------------|----------------|
| 1. HYDRAULIC BOOST switch | OFF |
| 2. Helicopter | Regain Control |
| 3. Land as soon as possible. | |

Bell 206 Emergency BOLDFACE Procedures

FUEL BOOST PUMP FAILURE

- | | |
|-------------------------------|--|
| 1. Descent | Initiate if above 6,000 Feet PA and Flight Permits |
| 2. Fuel Pressure and quantity | Note |

WARNING:
With one or both fuel pumps inoperative, fuel quantity below 20 gallons shall be considered unusable.

If both fuel boost pumps have failed (fuel pressure at zero):

WARNING:
Be prepared for complete power

- | | |
|--------------------------------|------|
| 3. FUEL BOOST circuit breakers | Pull |
| 4. Land as soon as possible. | |

If only one fuel boost pump has failed (fuel pressure at 4-30psi):

- | | |
|----------------------|----------|
| 5. Failed Boost Pump | Identify |
|----------------------|----------|

WARNING:
Do not pull circuit breakers in an attempt to identify the failed boost pump until below 6,000 feet PA.

If unable to identify failed fuel boost pump or fuel low caution light is illuminated:

6. Land as soon as possible.

If able to identify failed fuel boost pump:

- | | |
|--------------------------------------|------|
| 7. Failed Boost Pump Circuit Breaker | Pull |
| 8. Land as soon as practicable. | |

WARNING:
If an air leak exists in the fuel lines between the boost pumps and engine, a total loss of boost pressure could cause an engine flameout.

MAST BUMPING

DURING HIGH SPEED SIDEWARD OR REARWARD FLIGHT

- | | |
|----------------------|--|
| 1. Cyclic | Immediately apply smoothly toward center |
| 2. Pedals | Immediately apply as required to align the nose with the direction of travel |
| 3. Land Immediately. | |

(continued →)

Bell 206 Emergency BOLDFACE Procedures

MAST BUMPING (continued)

DURING OTHER FLIGHT CONDITIONS

1. Cyclic **Immediately apply aft to establish positive G load on rotor, then center laterally**
2. Controls **As required to regain balanced flight**
3. Land Immediately.

TAIL ROTOR MALFUNCTIONS

COMPLETE LOSS OF TAIL ROTOR THRUST

In a hover:

1. Twist Grip **Close**
2. Cyclic **Eliminate Drift**
3. Collective **Increase to cushion landing**

During transition to forward flight:

1. Twist Grip **Close**
2. Cyclic **Eliminate Sideward Drift**
3. Collective **Increase to cushion landing**

At altitude:

If right rotation is controllable by reducing power and maintaining 50-70 knots:

1. Set up for Autorotation to suitable area.
2. Autorotate.
3. Twist Grip **Close**

If right rotation is uncontrollable at reduced power settings and airspeed of 50-70 knots:

4. Autorotate.
5. Twist Grip **Close**

FIXED PITCH RIGHT PEDAL APPLIED

In a hover:

If rate of rotation is not excessive and landing surface is smooth and firm:

1. Collective **Decrease to effect a power-on landing.**

If rate of rotation is excessive for landing or surface is unsuitable for landing:

2. Twist Grip **Reduce as nose approaches windline**
3. Cyclic **Eliminate drift**
4. Collective **Increase to cushion landing**

*****See PCL for amplifying steps*****

WARNING:

If necessary, a waveoff should be made early in the approach, using cyclic to increase forward airspeed. If it becomes necessary to use large collective inputs to waveoff near the deck, the nose will yaw right and possibly enter uncontrolled flight.

(continued →)

Bell 206 Emergency BOLDFACE Procedures

FIXED PITCH LEFT PEDAL APPLIED

In a hover:

If rate of rotation is not excessive and landing surface is smooth and firm:

1. Collective Decrease to effect a power-on landing.

If rate of rotation is excessive for landing or surface is unsuitable for landing:

2. Twist Grip Slowly reduce while increasing collective to stop rotation
3. Collective Coordinate with Twist Grip to maintain heading and allow aircraft to settle

*****See PCL for amplifying steps*****

Note:

In a fixed pitch left-pedal situation, it is possible for the pilot to slow the aircraft to a hover and effect such a recovery.

LOSS OF TAIL ROTOR EFFECTIVENESS

1. Pedals Maintain full left pedal
2. Collective Reduce (as altitude permits)
3. Cyclic Forward to increase airspeed

If spin cannot be stopped:

4. Autorotative Landing Execute

UNCOMMANDED RIGHT ROLL DURING FLIGHT BELOW 1G

1. Cyclic Immediately apply aft to establish positive G-load on rotor, then center laterally

When main rotor returns to a positive thrust condition:

2. Controls As required to regain balanced flight

If mast bumping has occurred:

3. Land Immediately.

TORQUEMETER MALFUNCTION

If the torque meter falls to zero (probable torque line rupture):

1. Monitor Engine Instruments
2. Land as soon as possible.

If the digital torque meter indication is unusually low or falls to zero with corresponding digital readout (probable torque line rupture):

1. Monitor Engine Instruments
2. Land as soon as possible.

If the digital torque meter falls to zero and digital readout is extinguished (probable loss of electrical power to the indicator):

1. Monitor Engine Instruments
2. Check TRQ circuit breaker In
3. Land as soon as practicable

Bell 206 Emergency BOLDFACE Procedures

ENGINE OR TRANSMISSION OIL PRESSURES

1. Land as soon as possible.

Note:

Check the transmission oil pressure with the Twist Grip full open. Illumination of the TRANS OIL PRESS caution light is common while the Twist Grip is at flight idle, after power off maneuvers. However, the gauge should indicate positive transmission oil pressure.

WARNING:

With suspected transmission malfunctions, the pilot should make an approach with minimum power change to minimize changes to transmission torque.

ENGINE OR TRANSMISSION OIL TEMPERATURES

If either oil temperature gauge indicator exceeds red line limitations:

1. Land as soon as possible.

If either oil temperature gauge indicator fluctuates or falls to zero:

2. Land as soon as practicable.

OVERTORQUE / OVERSPEED / OVERTEMP (TOT)

If overspeed / overtemp / overtorque is observed:

1. Land as soon as possible.

AUTOROTATIVE LANDING

1. Autorotate

- a. Autorotation

- | | |
|----------------|---|
| (1) Collective | Establish Full Down Immediately |
| (2) Pedals | Center Ball |
| (3) Airspeed | 50 KIAS minimum rate of descent; 72KIAS maximum glide range |
| (4) N_r | Maintain between 90 to 107 percent (94 to 95 percent optimum) |
| (5) Heading | Turn into wind or toward best landing area |

- b. Autorotative Landing

- | | |
|----------------|---|
| (1) Cyclic | Execute Flare as required (to reduce rate of descent and groundspeed) |
| (2) Collective | Increase as required (to cushion landing) |
| (3) Cyclic | Level skids prior to touchdown. |

Bell 206 Emergency BOLDFACE Procedures

LANDING IN THE TREES

An autorotation into heavily wooded area should be accomplished by executing a normal autorotative approach. The flare should be executed so as to reach a zero rate of descent and zero groundspeed as close to the top of the trees as possible. As the helicopter settles, increase collective to a maximum. If time permits during the autorotation:

PROCEDURES:

1. Autorotate
2. Shoulder harness Lock

If time and altitude permit:

3. Crew / Passengers Alert
4. Mayday Transmit on Guard
5. Transponder EMER
6. Twist Grip Close
7. Generator OFF
8. Battery OFF

DITCHING (POWER OFF)

1. Autorotate
2. Shoulder harness Lock

If time and altitude permit:

3. Crew / Passengers Alert
4. Mayday Transmit on Guard
5. Squawk EMER
6. Doors Jettison

WARNING:
Do not abandon helicopter until rotor blades have stopped. Do not inflate life vest until clear of the helicopter.

7. Underwater Egress Execute

EMERGENCY DESCENT

1. Collective Reduce
2. Airspeed 130 KIAS (122 KIAS maximum with AFCS ON)