15 – MISSION EQUIPMENT

- **EMERGENCY FLOTATION SYSTEM**

Introduction:

- At aircraft weights **at or above 18 590 lbs**:
  - the *Emergency Flotation Sys*tem is designed to keep the helicopter *upright* and *afloat* long enough for all crew and passengers to evacuate the aircraft in **mid sea state 5** (wave height **8-12 ft** with wind speed of **18-25 Kts**) sea conditions and,
  - In **sea state 6** (wave height **14-20 ft** with wind speed of **27-33 Kts) sea** conditions when the *sponson floats* are installed.
- At aircraft weights **below 18 590 lbs**:
  - the *Emergency Flotation Sys*tem is designed to keep the helicopter *upright* and *afloat* long enough for all crew and passengers to evacuate the aircraft in **mid sea state 4** (wave height **4-8 ft** with wind speed of **17-21 Kts**) sea conditions.
- Two forward float bags are mounted below the cockpit jettisonable windows; one aft bag is installed externally on the underside of the tail section. When the *sponson floats* are installed, there are two additional floats, each installed on the left and right sponsons.
- When **"armed"**the *flotation system* is activated by *water contact* or by the *flight crew*.
- When deployed, *nitrogen* will inflate each urethane coated nylon pop-out float.
- Each of the five float bags consists of *two separate* and *independent pockets* (sections).
- In case of a single pocket failure, the remaining pocket will provide sufficient buoyancy for that section of the aircraft.
- Six nitrogen bottles inflate the floats:
  - Two bottles are located in an under-floor compartment by the forward entrance door. Each *forward bottle* inflates one pocket of the left and right *forward floats*.
  - When the *sponson floats* are installed, there is one bottle located in each wheel well. Each *wheel well bottle* inflates one pocket of the *left and right sponson floats*.
  - Two additional bottles are located in the tail section. Each *aft bottle* inflates one of the aft float bag pockets.
- Power for the *Emergency Flotation System* is provided by the **#1 DC Prim. bus** ("*Automatic float deployment*") through a Cb marked **FLOAT PWR** and the **Batt. bus** ("*Manual float deployment*") through a Cb marked **FLOAT PWR**.

Note:"*Automatic float deployment*" will not function when operating on Batt. power only.

Flotation Control:

- Control of the *Emergency Flotation System* is accomplished via the **FLOTATION ARMING PANEL** located on the center console, and the *collective* **EMER FLOATS** *switches,* located on the collectives.
- The floats are armed by placing the center console switch to the **ARM** position.
- The floats are *manually deployed* by pressing either *guarded collective* **EMER FLOATS** *switch*.
- The floats are *automatically deployed* when the *immersion sensors*, located in both main wheel wells, sense water entry.
- *Manual* and *automatic* deployment is only possible when the floats are **armed**.
  - **ARM/SAFE**: Two position *toggle switch*, located on the center console to **ARM** or **SAFE** the floats.
  - **EMER FLOATS**: Guarded *push buttons*, located on both *collectives* to manually deploy the floats.

Indication System:

- A **FLOATS ARMED** caution segment on the **EICAS** and **NAV** pages in either of the following cases:
  1. The floats are *armed*, the aircraft is *airborne* and the *airspeed* is **above 80 Kts**
  2. The floats are *armed*, the aircraft is *on the ground* and **Nr** is **less than 80%**

- A **FLOATS ARMED** advisory segment on the **EICAS** and **NAV** pages in either of the following cases:
    1. The floats are *armed*, the aircraft is *airborne* and the *airspeed* is **below 80 Kts**
    2. The floats are *armed*, the aircraft is *on the ground* and **Nr** is **greater than 80%**

Limitations:

- Deploying the Floats in flight is prohibited.
- Max A/S with floats armed is 80 Kts.
- Max A/S after inadvertent float deployment:
    - **50 Kts** *climb*.
    - **55 Kts** *level flight*.
    - **60 Kts** *descent*.

• LIFE RAFTS

Introduction:

- *Life Rafts* are stowed in the forward section of each sponson.
- The two *Life Rafts* can be deployed:
    - *Electrically* from the cockpit, or
    - *Manually* by pulling *D-rings* on the sponsons.

  and can withstand water impacts under the following conditions and still remain operable:
    - Forward 12 G,
    - Vertical 20 G; &
    - Lateral 8 G
- Each *Raft* has a capacity of ***14 people*** with an ***overload limit of 21***.
- Each *Raft* contains:
    - Medical,
    - Signal,
    - Maintenance supplies; &
    - An ***E****mergency* ***L****ocator* ***T****ransmitter* (**ELT**)
- The Rafts are fully reversible and include:
    - A sea Anchor,
    - Mooring line,
    - Heaving ring,
    - Ballast bag,
    - Canopy,
    - Insulated floor; &
    - Boarding ramps.

Electrical Jettison:

- The **LIFE RAFTS** *control panel* is located on the overhead console.
- Setting the **SAFE/ARM** *switch* to **ARM** will apply power to the **JETT** *switch* for electrical deployment of the rafts.
- Moving the **JETT** *switch* to the **JETT** *position* will detonate the squibs deploying and inflating the *Life Rafts*.
- Power for the *PRI Life Raft System* is provided by the **Batt. bus** through a Cb marked **RAFT PWR**.
- Power for the *SEC Life Raft System* is provided by the **#1 DC Prim. bus** through a Cb marked **RAFT PWR**.

Manual Jettison:

- If the System cannot be jettisoned *electrically*, passengers can *manually* deploy the *Life Rafts*.
- Pulling the *D-ring* on the top front access panel of each sponson causes the rafts to inflate and deploy.

Limitations:

- Arming or Deploying the Life Rafts in flight is prohibited.

- **EMERGENCY LOCATOR TRANSMITTER**

Introduction:

- The **Artex C406 N-HM** is an FAA certified, *battery operated unit*, which transmits simultaneously an international distress signal on:
  - **121.5**,
  - **243.0**; &
  - **406.028 MHz**.
- The ELT system is comprised of:
  - a transmitter,
  - an *ARTEX ELT switch* on the overhead console,
  - a fixed antenna,
  - a siren; &
  - a 2 year battery pack.
- The ELT transmitter is housed in a high impact, fire resistant plastic case which includes an **ON/OFF** *switch*.
- Its operating temperature range is **- 20°C to + 55°C**.
- The *ARTEX ELT switch* permits the crew to turn the **ELT ON** for emergencies, testing, and to reset it.
- A *flashing light* emitting diode (**LED**) on the *ARTEX ELT switch* alerts the crew when the ELT is active. If a fault exists between the *ARTEX ELT switch* and the ELT, the ELT will continue to operate in the automatic mode and cannot be disarmed or disabled from the cockpit.
- The *ELT antenna* is located on the top right side of the aft transition section and generates an omnidirectional transmission pattern.
- A *small siren* is mounted in the transmitter area to alert ground personnel to an operating ELT.
- The ELT is self-activated by a crash force of **12 G** (in any of 6 axes), manually by the *transmitter* **ON/OFF** *switch*, or the *ARTEX ELT switch*.
- During normal operation, the *transmitter switch* should be in the **OFF** position; this arms the ELT to activate automatically on impact. Placing the transmitter switch to the **ON** position manually activates the transmitter. Placing the *ARTEX ELT switch* to **ARM** and the transmitter switch to OFF sets the system for normal operation.

ARTEX ELT Control:

- **ON**: Active and transmitting a distress signal; the **LED** *light flashes*.
- **ARMED**: Active but not transmitting; transmitting begins automatically in response to a **12 G** impact

NOTES: