GOVERNMENT OF INDIA

**OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION**

TECHNICAL CENTER, OPPOSITE SAFDARJUNG AIRPORT, NEW DELHI

CIVIL AVIATION REQUIREMENT
SECTION 7- FLIGHT CREW STANDARDS
TRAINING AND LICENSING
SERIES 'B' PART XIV
8th July, 2005 EFFECTIVE: 30th NOVEMBER 2006

Subject: **Recurrent Training requirements for helicopter pilots**

## 1. INTRODUCTION

Recurrent Training of the pilots at periodical interval is considered imperative and necessary to ensure standards. Operators are to ensure that pilot proficiency on the type of helicopter and the roles in which a pilot is employed is checked and monitored periodically to upgrade skills and knowledge of a pilot so as to ensure that each pilot acquires and maintains the competency to perform his functions efficiently and safely. This CAR lays down the requirements for recurrent training to be imparted to the helicopter pilots.

2. The recurrent training shall be as follows:

a) Competency Checks consisting of Proficiency Check, Route/ Line/ LOFT Check, IR Test/renewal check and Night Currency Check.
b) Recurrent checks consisting of Ground training, Simulator Training, Emergency and Survival Training, CRM training and Dangerous Goods Training

## 2.1 Competency Checks

**a) Proficiency Checks.** All pilots engaged in commercial operations carrying passengers shall undergo proficiency checks covering aspects as applicable for type of helicopter and operator's role. The proficiency check will be carried out by DGCA approved examiner twice in a year with not less than four months and not more than eight months between any two checks. The proficiency check will not be carried out on revenue flights. Guidelines to examiner and the check performa are attached at Appendix A and B.

**b)** **Route/Line/LOFT Check.** These checks will be carried out once a year to cover exercises as applicable to the type of helicopter(s). A separate check is required for each type of helicopter operation by day and night, as applicable. Wherever possible it should be carried out in the course of a normal commercial operation and should be used to assess the pilot's management of the operation. A route check twice in 12 months is mandatory for all pilots holding ALTP (H). Instructions for the examiner and route check Performa for pilots engaged in offshore flying are attached at Appendix C and D respectively. The instructions for the examiner and route check Performa for pilots engaged in hill flying are attached at Appendix E and F respectively. The performa may be suitably customised by each operator as applicable to the role and type of helicopters operated.

**c)** **Instrument rating renewal check**. The annual Instrument Rating renewal checks will not be carried out on revenue flights. Alternatively, the IR test may be carried out on a specific to type full flight Simulator, duly approved by the DGCA. The guidelines to examiner and the check format are attached at Appendix G & H. Adverse comments, if any, shall be recorded in the prescribed Performa.

**d)** **Night currency check:** Pilots engaged in regular night operations shall carry out at least 5 take offs and landings and one route-flying sortie by night, in the preceding 6 months.

**2.2 Recurrent Checks:**

**a)** **Ground training.** Ground refresher training of 4 hours duration shall be carried out once in a year in a DGCA approved Training Establishment.

**b) (i)** **Simulator Training.** At least 5 hours of instrument flying training shall be carried out by a pilot, holding instrument rating on a specific to type flight simulator within two years. In case a specific type simulator is not available instrument flying training may be carried out on type of helicopter on which the pilot holds a current instrument rating.

**(ii)** **Simulator Training for critical emergencies.** At least 5 hours of mandatory practice of critical emergencies in simulator such as engine failure, system failure, tail rotor failure etc. which cannot be practiced or simulated in actual flying shall be carried out by a pilot on specific type of flight simulator once in two years. The satisfactory simulator test report shall be submitted to the Directorate General of Civil Aviation along with application for renewal of pilot licence.

**c)** **Emergency and Survival Training.** A pilot shall successfully complete emergency and survival training and an Emergency and Survival Check (ESC) covering aspects as applicable for the type of helicopter and operator's role, once in the preceding 1 year. In addition to annual ESC a pilot engaged in offshore operations shall undergo ESC including Helicopter Underwater Escape Training (HUET) training once in three years in a DGCA approved training establishment.

**d)** **CRM Training.** A pilot shall undergo CRM training once in a year.

**e)** **Dangerous Goods Training:** A pilot shall undergo Dangerous Goods Awareness training bi-annually.

3. **Responsibility of Monitoring.** The operator shall be responsible for training of the pilots of his company.

3.1 Records of all training, checks and test carried out by each pilot shall be maintained, updated and retained for a period of at least 3 years.

3.2 Summary of recurrent training checks is given below:

a) Competency checks

| Check | Frequency (in one year) | No. of Sorties | Flying Hours | Remarks |
|---|---|---|---|---|
| Proficiency | Twice | 2 | 01.30 | Non revenue flight |
| Route/line | Once | 1 | as required | Revenue flight. 2 sorties for ATPL(H) |
| I R renewal test | Once | 1 | 01.00 | Non revenue flight |
| Night currency | Twice | 2 | 01.00 | Non revenue flight |

b) Recurrent checks

| Type of Training | Frequency | Remarks |
|---|---|---|
| Ground | 2 days per year | -- |
| Simulator | 5 Hrs. in 2 years | For IR |
| ESC | Once a year | |
| HUET | Once in three years | For offshore ops. |
| CRM | Once a year | -- |
| Dangerous Goods | Once in 2 years | -- |

(P.K.Chottopadhyay)
Joint Director General of Civil Aviation

**APPENDIX 'A'**

# HELICOPTER PILOT PROFICIENCY CHECK (Instructions For Instructor/ Examiner)

## GROUND CHECKS

### 1. Status of initial or recurrent ground training

Has the pilot attended all required recurrent training?

a) Ground Training according to approved syllabi.
b) Flight/Simulator Training according to approved syllabi
c) Check the pilot's knowledge of:
   i) ATC procedures in controlled airspace
   ii) R/T Procedures
   iii) Use of navigation aids

### 2. Performance and limitations

The pilot must explain his knowledge of:

a) Performance Classes 1, 2, 3 and associated category A and B take off and landing profiles as per HFM.

b) Performance limitations of type of helicopter being used.

### 3. Mass & Balance

The pilot must explain how Mass & Balance calculations are performed in compliance with C of G (center of gravity) limitations specified in the Flight Manual.

### 4. Emergency procedures

The pilot shall have the knowledge of emergency procedures specified in the Flight manual particularly the knowledge of emergency procedures applied in case of total radio communication failures. This is very important in case of IR holders.

### 5. Aerodrome circuit procedures

The pilot's knowledge of the circuit procedure at the aerodrome being used.

## PRE-FLIGHT

### 1. Flight planning

Pilots ability to perform all necessary flight planning especially for an IFR flight.

### 2. Pre-flight inspection

Check of documentation and acceptance of helicopter Important items to look for during external check

### 3. Use of checklist

The pilot must explain how the checklist is used.

### 4. Engine starting procedure

Ask the pilot for his reaction to a hot start.
Check that a fireguard is posted.
Check that the pilot ensures a clear area before start-up.

### 5. Cockpit check after starting

Check that the pilot ensures all checks performed and all doors closed.

### 6. Departure briefing

Check that normal departure briefing procedures for clear, limited, restricted or elevated sites take off profiles and for an IFR departure( if applicable).

### 7. Navigation system set-up

Check pilot's ability to perform correct set-up of all navigation aids**.**

### 8. Taxi

Check the pilot is confirming a clear area before taxiing.
If taxiing on wheels – check that braking action is assured.
If hover taxiing – check hover taxi height.

### 9. HOVER

Check pilot's ability to maintain hover height and controllability of the helicopter during all hover maneuvers.

## DEPARTURE

Check the ability to perform at least two take off profiles from clear, limited, restricted and appropriate elevated sites.

**1. Normal Clear area take-off**

Check that the take-off is performed using the category B procedure as per HFM, in order to meet performance class 2 or 3 standards and ensure that a safe forced landing is possible in case of an engine failure.

**2. Restricted area take-off**

Ensure that the steep angle or vertical take-off clearing all obstacles is performed without over torque of the gearbox.

**3. Vertical take off**

Perform a vertical take off, at out of ground effect performance level, clearing afterwards all obstacles under the take off path.

**4. For multi engine helicopters**

Perform a performance class 1 or 2 take off applying appropriate profiles:
for performance class 1 Category A or OGE / OEI; and
for performance class 2 Category B and 150 ft/min rate of climb at 1000 feet above surface from at least two of the following areas:
clear, limited, restricted and elevated.

**Note:**
In addition to the above, for offshore a helideck profiles shall always be used.

## TAKE OFF AND INITIAL CLIMB

**1. Climb speed**

Check pilot's selection of speed to ensure a safe procedure in case of an engine failure:
For a single engine helicopter, perform a safe forced landing .
For multi engine helicopter, select an appropriate performance class:
Class 3 a safe forced landing;
Class 2 a forced landings before DPATO and after DPBL; and
Class 1 a rejected take off before TDP and a landing after LDP.

**2. Power adjustment during climb**

Check that adjustment and after take-off checklist is performed at correct time.

**3. Instrument departure procedures**

Check that correct procedure is followed

## TRAFFIC PATTERN

**1. Joining traffic pattern**

Ensure the traffic pattern is joined correctly

**2. Maintaining circuit altitude and speed**
Self explanatory.

## GENERAL FLYING

**1. Level flights with different speeds maintaining heading and altitude**

**2. Coordinated "S" turns.**

A maneuver where the pilot can demonstrate his ability to fly the helicopter in a controlled way.

**3. 360 turns (gentle and steep).**

Checking the pilot's ability to change power setting to maintain speed. Rate 1 turns on instruments (1 min. for 180 degrees).

**4. Holding pattern**

Joining the pattern. – Adjusting to estimated approach time.

**5. Preparation for instrument approach**

Approach briefing – navigation aids set-up – Checklist

**6. Quick stops from cruising speed to hover**

Preferred to be performed over a runway at 50 ft. Approach the runway at cruising speed, reduce power to minimum without increase of rotor RPM, maintain altitude, recover into a hover at 50 ft above the runway.

## APPROACH

**1. Normal**

Check that the approach is performed in accordance with performance class 3 and 2, using a category B HFM profile, establish a final approach from a point at a certain height with a certain speed (300 ft – 60 kts) and that a reduction in speed is combined with reduction in

height permitting to perform a safe forced landing in case of an engine failure during all that phase in performance class 3 and after DPBL in performance class 2.

**2. Steep**

Check that in performance class 3 and 2, the approach is performed with a speed and a rate of descent ensuring avoidance of power settling.

**3. Category A**

Check that in performance class 1 when category A is used select the profile appropriate to the site: clear, limited, restricted or elevated.

**IN FLIGHT EMERGENCIES**

***Important:*** *Unless the emergencies are performed in a simulator, the different emergencies must be simulated and performed in a manner not influencing the safety of the flight.*

**1. Engine fire**

Check the pilot's ability to cope with the emergency without initial use of the checklist, and make sure the checklist is used thereafter.

**2. Electrical fire**

Check the pilot's ability to cope with the fire (knowledge of location of circuit breakers – fire extinguisher – getting rid of smoke etc.)

**3. Engine failure**

a) In a S/E helicopter - Check the pilot's ability to enter autorotation and selection of landing area. *Power Recovery at a safe altitude must be performed*

b) In a T/E helicopter – Check the pilot's reaction to and handling of an engine failure (reduction of power setting – evaluation of engine conditions – selection of action to take – use of checklist – decision on restarting the engine etc.). Consider performing simulated engine failures before and after, in performance Class 1 at TDP and LDP or in performance class 2 before DPTO and after DPBL, evaluate pilot's reaction.

**Note:** The risk of a twin engine failure is very low. If a simulated twin engine failure is performed, a *power recovery at a safe altitude must be performed*.

**4. Hydraulic failure**

Shut off partial or total of a hydraulic system is only permitted in helicopters approved for being controlled without the hydraulic system and emergency procedure as defined in the HFM. The system must be restored immediately in case of control problems.

**5. Tail rotor failure**

Tail rotor failures should only be performed in a simulator. For Fenestron equipped helicopter types a running landing at required speed according to the Flight Manual in event of a tail rotor failure, may be performed in a helicopter with wheel undercarriage.
For helicopters with a conventional tail rotor only the control failure can be practised if the procedure is defined in the HFM.

**6. Autorotation and recovery**

All practice autorotation must be performed with a power recovery at a safe altitude with not less than 70% of All Up Weight.

**7. Autopilot failure**

Evaluate the pilot's ability to observe the failure, take corrective action and perform flying without the autopilot.

## GENERAL FLIGHT ABILITY

**1. Radio communication procedures**
Check the pilot's ability to perform communication with ATC/ATS in a proper way.

**2. Co-ordination**
Check the pilot's ability to co-ordinate with other involved personnel throughout the flight. Especially co-ordination between pilots when a two pilot operation is being evaluated.

**4. CRM & Situation awareness**
Evaluate the pilot's ability to evaluate the situation and take necessary actions.

## RESULT OF CHECK

If check is performed to examiners satisfaction the check is passed. If not the reason for failure of items must be noted in the Remarks/Comments column with action required.

## REMARKS/COMMENTS

The examiner may enter remarks in this column such as "Very well performed" or "passed but proposed more training".

**APPENDIX 'B'**

## TEST PROFORMA - PILOT PROFICIENCY CHECK

| | |
|---|---|
| Company _____ | Date of check _____ |
| Name of Pilot _____ | Block time (D/N) _____ |
| License No. _____ | Location _____ |
| Date of last check_____ | Type of Helicopter _____ |
| Examiner _____ | Registration _____ |

| | Pilot proficiency |
|---|---|
| **A. Ground Checks** | |
| 1. Status on recurrent training | |
| 2. Performance and limitations | |
| 3. Mass & Balance | |
| 4. Emergency procedures | |
| 5. Aerodrome circuit procedures | |
| | |
| **B. Preflight** | |
| 1. Flight planning | |
| 2. Pre-flight inspection | |
| 3. Use of checklist | |
| 4. Engine starting procedures | |
| 5. Cockpit check after starting | |
| 6. Departure briefing | |
| 7. Navigation systems set-up | |
| 8. Taxi | |
| | |
| **C. Hover** | |
| 1. 3-5 ft hover over spot. 360 turns (L & R) | |
| 3-5 ft hover forward – backward – sideways | |
| **D. Departure** | |
| 1. Normal take-off (clear heliport) | |
| 2. Restricted Area Take off (Steep angle, Max. take-off power) | |
| 3. Vertical take-off (Max. take-off power) | |
| 4. For multi engine perform a class 1 or 2 take off. If performance class 1, use category A take off profile or OGE /OEI. | |
| 5. Instrument take-off | |
| **E. Climb** | |
| 1. Best climb speed or best angle of climb | |

| | **Pilot proficiency** |
|---|---|
| 2. Power adjustment during climb | |
| 3. Instrument departure procedure | |
| | |
| **F. Traffic pattern** | |
| 1. Joining traffic pattern | |
| 2. Maintaining circuit altitude and speed | |
| | |
| **G. Air work** | |
| 1. Level flights with diff. speeds (hdg. – alt.) | |
| 2. Coordinated "S" turns | |
| 3. 360 turns (Rate 1 & 30 degrees bank) | |
| 4. Holding pattern | |
| 5. Preparation for Instrument approach | |
| 6. Quick stops from cruising speed to hover | |
| | |
| **H. Approach** | |
| 1. Normal | |
| 2. Steep | |
| 3. Shallow | |
| 4. Instrument (ILS– VO - NDB – Loc. – GPS) | |
| | |
| **I. In flight emergencies** | |
| 1. Engine fire | |
| 2. Electrical fire | |
| 3. Engine failure | |
| 4. Hydraulic failure | |
| 5. Tail rotor failure | |
| 6. Autorotation and recovery | |
| 7. Autopilot failure | |
| | |
| **J. General flight ability** | |
| 1. Radio Communication procedures | |
| 2. Co-ordination | |
| 3 CRM & Situation awareness | |

| | | | |
|---|---|---|---|
| **S =** Satisfactory | **U =** Unsatisfactory | **N =** Not observed | **N/A =**Not applicable |

| **Result of check** | **Passed** | **Failed** |
|---|---|---|

**Remarks/Comments**

**Pilots sign.**_____ **Examiner's sign**_____

**APPENDIX 'C'**

# OFFSHORE FLYING - ROUTE-CHECK
# (Instructions For Instructor/Examiner)

## GROUND CHECKS

### 1. Status of recurrent ground training

Has the pilot attended all required recurrent training?

a. Ground Training according to approved syllabi.
b. Flight/Simulator Training according to approved syllabi
c. Check the pilots knowledge of:
   i) ATC procedures in controlled airspace
   ii) R/T Procedures
   iii) Use of navigation aids

### 2. Performance and limitations

The pilot must explain his knowledge of:

a. Performance Classes 1, 2 and 3 and link with category A and B profiles.
b. Performance limitations of type of helicopter being used.
c. Weather limitations, altitude limitations and special limitations on route to be flown.

### 3. Mass & Balance

The pilot must explain how Mass & Balance calculations are performed in compliance with C of G (center of gravity) limitations specified in the light Manual.

### 4. Emergency procedures

The pilots knowledge of emergency procedures specified in the Flight manual including offshore operations (if applicable).

## PRE-FLIGHT

### 1. Flight planning

Pilots ability to perform all necessary flight planning for an offshore flight.

**2. Pre-flight inspection**

Check of documentation and acceptance of helicopter Important items to look for during external check

**3. Passenger briefing**

Pilots' assurance about passengers having seen and understood the video briefing.

**4. Use of checklist**

Since offshore operations are performed as two pilot operations, the use of checklists must be performed as "challenge and response".

**5. Engine starting procedure**

Ask the pilot for his reaction to a hot start, ground resonance.
Check that a fireguard is posted.
Check that the pilot ensures a clear area before start-up.

**6. Cockpit check after starting**

Check that the pilots ensure that all checks are performed and all doors are closed.

**7. Departure briefing**

A normal departure briefing for procedures to use during an IFR departure.

**8. Navigation system set-up**

Check the pilots ability to perform correct set-up of all navigation aids.

**9. Taxi**

Check the pilot is confirming a clear area before taxiing. If taxiing on wheels – check that braking action is assured. If hover taxiing– check hover taxi height.

**EN-ROUTE**

**1. Navigation – use of navigation systems**

Check the pilots ability to use navigation systems to stay on track and planning of descent for approach.

**2. Altitude selection**

Is the best altitude selected taking into consideration weather and w/v?

**3. Fuel management**

Are fuel checks performed at appropriate intervals and is assurance of fuel requirements performed?

**4.** Is position reporting performed as required.

**APPROACH & LANDING**

**1. Pre landing checks**

Ensure crew completes checklist

**2. Approach selection**

Ensure selected approach is correct and that the approach landing is performed by the pilot who has the best view of the helideck.

**3. Deck clearance**

Ensure a deck clearance from the HLO is received.

**4. Final approach**

a) Ensure that the crew conforms to the correct procedures.
b) Approach is to the correct helideck
c) FP calls out Committed point
d) Approach to correct position for hover

**5. Landing**

Check that landing is performed at correct position on the helideck.

**TURNAROUND**

**1. Passenger handling**

a) Check that correct procedure is used for allowing the HLO to approach the helicopter.
b) Check that passengers are guided to and from the helicopter in a safe way.
c) Check that a seat belt fastened check of all passengers is performed.

**2. Baggage and freight handling.**

Ensure that all baggage and freight handling is performed in a safe way without anybody getting close to the tail rotor area. If freight is placed in the cabin, make sure it is strapped and secured.

### 3. Refueling procedure

Check that correct procedure is used including fuel sample testing, grounding of helicopter before commencing refueling, posting of fireguards and supervision by one of the pilots.

## TAKE-OFF

### 1. Pre take-off checks

Ensure checklist has been completed and clear signal from HLO has been received.

### 2. Take-off procedure

Ensure that correct take-off procedure is used including positioning over helideck, power application, Rotating Point call-out, rotation, DP for continued flight in case of engine failure and after take-off checklist.

## GENERAL FLIGHT ABILITY

### 1. Radio communication procedures

Check the pilots ability to perform communication with ATC/ATS in a proper way.

### 2. Co-ordination

Check the pilots ability to co-ordinate with other involved personnel throughout the flight. Especially co-ordination between pilots when a two pilot operation is being evaluated.

### 3. CRM & Situation awareness

Evaluate the pilots ability to evaluate actual situation and decision making.

## RESULT OF CHECK

If check is performed to examiners satisfaction the check is passed. If not the reason for failure of items must be noted in the Remarks/Comments column with action required.

## REMARKS/COMMENTS

The examiner may enter remarks in this column such as "Very well performed" or "passed but proposed more training".

**APPENDIX 'D'**

## TEST PROFORMA - OFFSHORE FLYING ROUTE-CHECK

| | |
|---|---|
| Company _____ | Date of check _____ |
| Name of Pilot _____ | Block time (D/N) _____ |
| License No. _____ | Location _____ |
| Date of last check_____ | Type of Helicopter_____ |
| Examiner _____ | Registration _____ |

| | **Pilot proficiency** |
|---|---|
| **A. Ground Checks** | |
| 1. Status on recurrent training | |
| 2. Performance and limitations | |
| 3. Mass & Balance | |
| 4. Emergency procedures | |
| | |
| **B. Preflight** | |
| 1. Flight planning | |
| 2. Pre-flight inspection | |
| 3. Passenger briefing | |
| 3. Use of checklist | |
| 4. Engine starting procedures | |
| 5. Cockpit check after starting | |
| 6. Departure briefing | |
| 7. Navigation systems set-up | |
| 8. Taxi | |
| | |
| **C. En-route** | |
| 1. Navigation – use of navigation systems | |
| 2. Altitude selection | |
| 3. Fuel management | |
| 4. Position reporting | |
| | |
| **D. Approach & Landing** | |
| 1. Pre landing checks | |
| 2. Approach selection – FP and NFP | |
| 3. Deck clearance | |
| 4. Final Approach | |
| 5. Landing | |
| | |

| | **Pilot proficiency** |
|---|---|
| **E. Turnaround** | |
| 1. Passenger handling | |
| 2. Baggage and freight handling | |
| 3. Refueling procedure | |
| 4. Payload calculation | |
| 5. Coordination with HLO | |
| | |
| **F. Take off** | |
| 1. Pre take-off checks | |
| 2. Take off procedure | |
| | |
| **G. General flight ability** | |
| 1. Radio Communication procedures | |
| 2. Co-ordination | |
| 3 CRM & Situation awareness | |

| | | | |
|---|---|---|---|
| **S =** Satisfactory | **U =** Unsatisfactory | **N =** Not observed | **N/A =** Not applicable |

| | | |
|---|---|---|
| **Result of check** | **Passed** | **Failed** |

**Remarks/Comments**

**Pilots sign.**_____ **Examiners sign**_____

**APPENDIX 'E'**

# HILL/MOUNTAIN FLYING ROUTE-CHECK (Instructions For Instructor/Examiner)

## GROUND CHECKS

### 1 Status of initial or recurrent ground training

Has the pilot attended all required recurrent training?

a) Ground Training according to approved syllabi.
b) Flight/Simulator Training according to approved syllabi
c) Check the pilots knowledge of:
   i) ATC procedures in controlled airspace
   ii) R/T Procedures
   iii) Use of navigation aids

### 2. Performance and limitations

The pilot must explain his knowledge and selection of:

a. Performance Classes 1, 2 and 3 and link with category A and B take off and landing profiles.
b. Performance limitations of type of helicopter being used.

### 3. Mass & Balance

The pilot must explain how Mass & Balance calculations are performed in compliance with C of G (center of gravity) limitations specified in the Flight Manual.

### 4. Emergency procedures

The pilots knowledge of emergency procedures specified in the Flight manual.

## FLIGHT PREPARATION

### 1. Weather situation.

The pilot must demonstrate his knowledge of assessing weather situation by studying weather charts and forecasts. He must also explain what the weather minima are for normal and special VFR operations.

**2. Flight planning**

Pilots ability to perform all necessary flight planning including fuel calculation, performance calculation and payload calculation.

**3. Pre-flight inspection**

Check of documentation and acceptance of helicopter. Important items to look for during external check

**4. Use of checklist**

The pilot must explain how the checklist is used.

**5. Engine starting procedure**

Ask the pilot for his reaction to a hot start.
Check that a fireguard is posted.
Check that the pilot ensures a clear area before start-up.

**6. Cockpit check after starting**

Check that the pilot ensures all checks performed and all doors closed.

**7. Departure briefing**

A normal departure briefing for procedures to be used.

**8. Navigation system set-up**

Check pilot's ability to perform correct set-up of all navigation aids.

**9. Taxi**

Check the pilot is confirming a clear area before taxiing.
If taxiing on wheels – check that braking action is assured.
If hover taxiing – check hover taxi height.

**EN-ROUTE**

**1. Navigation**
Check pilots ability to perform navigation using maps and GPS
Route selection
Check pilot's ability to select best route in the present weather situation.

## APPROACH, LANDING, DEPARTURE

**1. Reconnaissance**

Check pilots ability to observe wind direction and speed and that his approach briefing includes observations accordingly.

2. **Approach type (normal – shallow – steep**)

Check the pilots ability to select best approach type for the landing site.

## GENERAL FLIGHT ABILITY

**1. Radio communication procedures**

Check the pilots ability to perform communication with ATC/ATS in proper way.

**2. Co-ordination**

Check the pilots ability to co-ordinate with other involved personnel throughout the flight. Especially co-ordination between pilots when a two pilot operation is being evaluated. CRM & Situation Awareness

Evaluate the pilots ability to evaluate the situation and take necessary actions.

## RESULT OF CHECK

If check is performed to examiners satisfaction the check is passed. If not the reason for failure of items must be noted in the Remarks/Comments column with action required.

## REMARKS/COMMENTS

The examiner may enter remarks in this column such as "Very well performed" or "passed but proposed more training".

**APPENDIX 'F'**

## HILL/MOUNTAIN FLYING ROUTE-CHECK

| | |
|---|---|
| Company _____ | Date of check _____ |
| Name of Pilot _____ | Block time (D/N) _____ |
| License No. _____ | Location _____ |
| Date of last check_____ | Type of Helicopter _____ |
| Examiner _____ | Registration _____ |

| | **Pilot proficiency** |
|---|---|
| **A. Ground Checks** | |
| 1. Status on recurrent training | |
| 2. Performance and limitations | |
| 3. Mass & Balance | |
| 4. Emergency procedures | |
| | |
| **B. Flight Preparation** | |
| 1. Weather situation | |
| a. Weather charts | |
| b. Forecasts | |
| c. Winds and temperatures | |
| d. Freezing level/altitude | |
| 2. Flight planning | |
| a. Fuel calculation | |
| b. Performance calculation | |
| c. Payload calculation | |
| 3. Pre-flight inspection | |
| 4. Use of checklist | |
| 5. Engine starting procedures | |
| 6. Cockpit check after starting | |
| 7. Departure briefing | |
| 8. Navigation systems set-up | |
| 9. Taxi | |
| | |
| **C. En-route** | |
| 1. Navigation | |
| 2. Route selection | |
| | |
| **D. Approach, Landing, Departure** | |
| 1. Reconnaissance | |
| a. Wind direction and velocity | |

| | **Pilot proficiency** |
|---|---|
| b. Approach briefing<br>2. Approach type (normal – shallow – steep) | |
| 3. Landing | |
| 4. Departure | |
| | |
| **E. General flight ability** | |
| 1. Radio Communication procedures | |
| 2. Co-ordination | |
| 3 CRM & Situation awareness | |

| | | | |
|---|---|---|---|
| **S =** Satisfactory | **U =** Unsatisfactory | **N =** Not observed | **N/A =** Not applicable |

| **Result of check** | **Passed** | **Failed** |
|---|---|---|

**Remarks/Comments**

**Pilot's sign.**_____ **Examiner'sign.** _____

**APPENDIX 'G'**

# HELICOPTER PILOT - IR TEST
# (Instructions For Instructor/ Examiner)

## GROUND CHECKS

**1. Status of initial or recurrent ground training**

Has the pilot attended all required recurrent training?

a) Ground Training according to approved syllabi.

b) Flight/Simulator Training according to approved syllabi

c) Check the pilot's knowledge of:

i) ATC procedures in controlled airspace

ii) R/T Procedures

iii) Use of navigation aids

**2. Performance and limitations**

The pilot must explain his knowledge of Performance limitations of type of helicopter being used.

**3. Mass & Balance**

The pilot must explain how Mass & Balance calculations are performed in compliance with C of G (center of gravity) limitations specified in the Flight Manual.

**4. Emergency procedures**

The pilot's knowledge of emergency procedures specified in the Flight manual.

**5. Aerodrome circuit procedures**

The pilot's knowledge of the circuit procedure at the aerodrome being used.

## PRE-FLIGHT

1**. Flight planning**

Pilot's ability to perform all necessary flight planning especially for an IFR flight.

**2. Pre-flight inspection**

Check of documentation and acceptance of helicopter important items to look for during external check

**3. Use of checklist**

The pilot must explain how the checklist is used.

**4. Engine starting procedure**

Ask the pilot for his reaction to a hot start.
Check that a fireguard is posted.
Check that the pilot ensures a clear area before start-up.

**5. Cockpit check after starting**
Check that the pilot ensures all checks performed and all doors closed.

**6 Departure briefing**
A normal departure briefing for procedures to use during an IFR departure.

**7. Navigation system set-up**
Check pilot's ability to perform correct set-up of all navigation aids.

**8. Taxi**
Check the pilot is confirming a clear area before taxiing. If taxiing on wheels – check that braking action is assured. If hover taxiing – check hover taxi height.

**DEPARTURE**

**Instrument take-off.**
Establish helicopter in a hover and let the pilot perform a take off with reference only to instruments. Check that climb is maintained and at the same time the speed is increasing to climb speed.

**D. CLIMB**
Instrument departure procedure
Check that correct procedure is followed (SID)

**E. TRAFFIC PATTERN**

**1. Joining traffic pattern**
Ensure the traffic pattern is joined correctly
**2. Maintaining circuit altitude and speed**
Self explanatory.

**F GENERAL FLYING**

**1. Level flights with different speeds maintaining heading and altitude**
Self explanatory.

**2. Coordinated "S" turns.**
A maneuver where the pilot can demonstrate his ability to fly the helicopter in a controlled way.

**3. 360 turns (gentle and steep).**
Checking the pilot's ability to change power setting to maintain speed. Rate 1 turns on instruments (1 min. for 180 degrees).

**4. Holding pattern**

Joining the pattern. – Adjusting to estimated approach time.

**5. Preparation for instrument approach**

Approach briefing – navigation aids set-up – Checklist.

**6. VIMC**

Knowledge and practice of the minimum speed for flight in IMC conditions.

## G. APPROACH

**Instrument (ILS – VOR – NDB – Loc. – GPS)**

Approach procedure – Stabilised approach in time – diversions from track, speed, altitude reaching minima etc.

## H. IN FLIGHT EMERGENCIES

Important: Unless the emergencies are performed in a simulator, the different emergencies must be simulated and performed in a manner not influencing the safety of the flight.

**1. Engine fire**

Check the pilot's ability to cope with the emergency without initial use of the checklist, and make sure the checklist is used thereafter.

**2. Electrical fire**

Check the pilot's ability to cope with the fire (knowledge of location of circuit breakers – fire extinguisher – getting rid of smoke etc.)

**3. Engine failure**

In a T/E helicopter – Check the pilot's reaction to and handling of an engine failure (reduction of power setting – evaluation of engine conditions selection of action to take – use of checklist – decision on restarting the engine etc.).

**4. Hydraulic failure**

Shut off of a hydraulic system is only permitted in helicopters approved for being controlled without the hydraulic system. The system must be restored immediately in case of control problems.

**5. Tail rotor failure**

Tail rotor failures should only be performed in a simulator.

**6. Autorotation and recovery**

All practice auto rotations must be performed with a power recovery at a safe altitude.

**7. Autopilot failure**

Evaluate the pilot's ability to observe the failure, take corrective action and perform flying without the autopilot.

## GENERAL FLIGHT ABILITY

### 1. Radio communication procedures

Check the pilot's ability to perform communication with ATC/ATS in a proper way.

### 2. Co-ordination

Check the pilot's ability to co-ordinate with other involved personnel throughout the flight. Especially co-ordination between pilots when a two pilot operation is being evaluated.

### 3. CRM & Situation awareness

Evaluate the pilot's ability to evaluate the situation and take necessary actions.

## RESULT OF CHECK

If check is performed to examiners satisfaction the check is passed. If not the reason for failure of items must be noted in the Remarks/Comments column with action required.

## REMARKS/COMMENTS

The examiner may enter remarks in this column such as "Very well performed" or "passed but proposed more training".

**APPENDIX 'H'**

## TEST PROFORMA - IR

| | |
|---|---|
| Company : _____ | Date of check : _____ |
| Name of Pilot : _____ | Block time (D/N) : _____ |
| License No. : _____ | Location : _____ |
| Date of last Check : _____ | Type of Helicopter : _____ |
| Examiner : _____ | Registration: _____ |

| | **Instrument Rating** |
|---|---|
| A. Ground Checks | |
| 1. Status on recurrent training | |
| 2. Performance and limitations | |
| 3. Mass & Balance | |
| 4. Emergency procedures | |
| 5. Aerodrome circuit procedures | |
| | |
| B. Preflight | |
| 1. Flight planning | |
| 2. Pre-flight inspection | |
| 3. Use of checklist | |
| 4. Engine starting procedures | |
| 5. Cockpit check after starting | |
| 6. Departure briefing | |
| 7. Navigation systems set-up | |
| 8. Taxi | |
| | |
| C. Departure | |
| Instrument take-off | |
| | |
| D. Climb | |
| Instrument departure procedure | |
| | |
| E. Traffic pattern | |
| 1. Joining traffic pattern | |
| 2. Maintaining circuit altitude and speed | |
| | |
| F. Air work | |
| 1. Level flights with diff. speeds (hdg. – alt.) | |

| | **Instrument Rating** |
|---|---|
| 2. Coordinated "S" turns | |
| 3. 360 turns (Rate 1 & 30 degrees bank) | |
| 4. Holding pattern | |
| 5. Preparation for Instrument approach | |
| | |
| G. Approach | |
| Instrument (ILS–VOR-NDB–Loc – GPS) | |
| P | |
| H. In flight emergencies | * Select at least 2 exercises |
| 1. Engine fire* | |
| 2. Electrical fire* | |
| 3. Engine failure | |
| 4. Hydraulic failure* | |
| 5. Tail rotor failure | |
| 6. Autorotation and recovery | |
| 7. Autopilot failure | |
| | |
| I. General flight ability | |
| 1. Radio Communication procedures | |
| 2. Co-ordination | |
| 3 CRM & Situation awareness | |

| | | | |
|---|---|---|---|
| S = Satisfactory | U = Unsatisfactory | N = Not observed | N/A=Not applicable |

| | | |
|---|---|---|
| Result of check | Passed | Failed |

**Remarks/Comments**

**Pilot's sign.**_____ **Examiner's sign.**_____