

## BEFORE START

BRIEF PASSENGERS  
DOORS SECURE  
SEAT BELTS/SHOULDER HARNESS ADJUST & FASTEN  
ADJUST ANTI-TORQUE PEDDLES AS DESIRED  
FLIGHT CONTROLS FRICTION OFF, CHECK, THEN ON  
THROTTLE OPEN TO FULL, BACK TO IDLE, THEN CLOSED  
LANDING LIGHT OFF  
ENGINE ANTI-ICE OFF  
HYDRAULIC SYSTEM ON  
FUEL VALVE ON  
FUEL BOOST BREAKERS IN  
INSTRUMENTS IN STATIC POSITIONS  
INSTRUMENT LIGHT RHEOSTAT OFF  
OVERHEAD SWITCHES OFF EXCEPT ANTI-COLLISION LIGHT  
ALL CIRCUIT BREAKERS IN  
AVIONICS MASTER SWITCH OFF  
ROTOR BRAKE OFF  
CABIN HEATER, DEFROST, AND/OR AC OFF  
BATTERY ON  
WARNING HORN MUTE  
CHECK TOT AND TORQUE LIMITS  
CAUTION AND WARNING LIGHTS PRESS TO TEST  
FUEL QUANTITY AND PRESSURE CHECK  
FUEL BOOST FWD/AFT OFF-ON INDEPENDENTLY CHECK PSI

## ENGINE STARTING

MAIN ROTOR NOTE POSITION AND CLEAR  
COLLECTIVE FULL DOWN  
THROTTLE CHECK TO IDLE THEN OFF  
START TIMER (45 SEC STARTER LIMIT)  
STARTER BUTTON PRESS AND HOLD  
ENGINE OIL PRESSURE RISING  
TOT ENSURE <150 DEGREES  
AT 15% N1, OPEN THROTTLE TO IDLE  
TOT 810-927 MAX 10 SECONDS  
ROTOR TURNING BY 25% N1  
STARTER RELEASE AT 58% N1  
ENGINE & TRANSMISSION PRESSURES CHECK  
IDLE FOR 1 MINUTE AFTER RELEASING STARTER  
AFTER 1 MINUTE, OPEN THROTTLE TO 70% N1  
GENERATOR ON  
RADIOS ON (MONITOR DC LOAD)  
\*AIR CONDITIONER / HEATER ON IF DESIRED (MONITOR DC LOAD)  
PRE-HYDRAULIC CHECK OFF, FEEL FOR MOTORING, THEN ON

## ENGINE RUN-UP AND HYD. CHECK

COLLECTIVE FULL DOWN  
THROTTLE OPEN TO FULL REMAIN < 40% TORQUE  
ENGINE ANTI-ICE ON TOT RISE, OFF TOT DECREASE  
HYDRAULIC SWITCH OFF  
FLIGHT CONTROLS "X" PATTERN 1"  
COLLECTIVE RAISE 1-2 INCHES, THEN DOWN  
HYDRAULIC SWITCH ON

\*AC/HEATER OFF FOR TAKEOFF AND LANDING

## BEFORE TAKEOFF

LIGHTS AS DESIRED / REQUIRED  
RADIOS AND NAVIGATION EQUIPMENT AS DESIRED  
ALTIMETER SET  
THROTTLE BEEP AS REQUIRED TO 100%  
ENGINE & TRANSMISSION INSTRUMENTS CHECK NORMAL  
FUEL QUANTITY NOTE  
DC LOAD BELOW 70%  
CONTROL FRICTIONS AS DESIRED

## TAKEOFF & CLIMB

COLLECTIVE INCREASE  
CYCLIC LEVEL / ANTI-TORQUE HOLD HEADING  
COLLECTIVE INCREASE TO HOVER  
CONFIRM ALL INSTRUMENTS NORMAL / AS DESIRED  
LANDING LIGHTS ON  
COMMENCE DESIRED TAKEOFF, OBSERVE LIMITATIONS

## CRUISE

LANDING LIGHTS OFF  
AIRSPEED AS DESIRED BELOW  $V_{NE}$   
PITOT HEAT ON IN VISIBLE MOISTURE < 40F  
ENGINE ANTI-ICE ON IN VISIBLE MOISTURE < 40F  
MAXIMUM PRESSURE ALTITUDE 20,000 FEET

## DESCENT AND LANDING

FLIGHT CONTROLS AS REQUIRED  
THROTTLE FULL OPEN  
FLIGHT PATH AS REQUIRED / DESIRED  
LANDING LIGHTS ON AS REQUIRED

## ENGINE SHUTDOWN

THROTTLE TO IDLE 3-5 SECONDS TO 65% N1  
WARNING HORN MUTE  
FLIGHT CONTROLS APPLY FRICTIONS  
ENGINE ANTI-ICING OFF  
TOT STABILIZE AT IDLE FOR 2 MINUTES  
ELT CHECK FOR INADVERTENT ACTIVATION (121.5)  
\*AIR CONDITIONING / HEATER OFF  
IDLE RELEASE BUTTON PRESS & CLOSE THROTTLE  
WARNING HORN MUTE  
TOT DECREASING  
USE CYCLIC TO PREVENT STATIC STOP CONTACT  
RADIO EQUIPMENT, FUEL VALVE, GENERATOR OFF  
ALL OTHER SWITCHES, EXCEPT BATTERY, OFF  
PILOT WILL REMAIN AT CONTROLS UNTIL ROTOR STOPPED  
USE ROTOR BRAKE AS DESIRED  
BATTERY OFF WHEN N1 ZERO AND TOT STABILIZED

## AFTER SHUTDOWN

INSTALL TIE DOWNS & PROTECTIVE GROUND GEAR IF DESIRED  
DO WALK-AROUND CHECK OF ENTIRE HELICOPTER  
REPORT ANY ISSUES, MALFUNCTIONS, OR DAMAGE

## **PREFLIGHT CHECKLIST**

BATTERY CONNECTED & VENT CHECK  
ACCESS DOOR LATCHED  
RIGHT STATIC PORT CLEAN (DON'T TOUCH)  
CABIN ROOF CONDITION  
FORWARD FAIRING ATTACHED AND SECURE

### **HYDRAULIC AREA:**

HYDRAULIC ACTUATORS & LINES  
HYDRAULIC OIL QUANTITY  
HYDRAULIC FILTER BYPASS  
ACCESS DOOR LATCHED

### **TRANSMISSION AREA:**

TRANSMISSION OIL LEVEL  
TRANSMISSION MOUNT  
ISOLATION MOUNTS  
DRAG PIN & STATIC STOP PLATE  
DRIVE SHAFT COUPLING  
ACCESS DOOR LATCHED  
TRANSMISSION FAIRING SECURE  
PARTICLE SEPARATOR FREE OF DEBRIS  
ENGINE INLET & PLENUM CLEAR

LANDING GEAR CONDITION (STEP, SHOES, MOUNTS)  
CABIN DOORS & WINDOWS SECURE

### **FUEL SYSTEM:**

CHECK QUANTITY ADD AS DESIRED  
FUEL CAP CLOSED  
BOOST PUMP CIRCUIT BREAKERS OUT  
BATTERY ON  
FUEL VALVE OFF  
DRAIN BUTTON PUSH AND INSPECT FUEL

### **FUEL FILTER DRAIN:**

FUEL VALVE ON  
BOOST PUMP CIRCUIT BREAKERS IN  
FUEL FILTER DRAIN OPEN BRIEFLY  
PRESS TO TEST A/F FUEL FILTER LIGHT  
BATTERY OFF

### **POWER PLANT AREA:**

MAIN DRIVE COUPLING AND ROTOR BRAKE  
ENGINE ATTACHMENTS  
ENGINE MOUNTS  
THROTTLE LINKAGE  
FUEL CONTROL & GOVERNOR  
HOSES, TUBING & CHECK FOR LEAKS  
EXHAUST STACK & CLAMP  
GENERATOR SCOOP  
CLOSE ENGINE COWLING & LATCHES  
EXHAUST COVER REMOVED

OIL TANK QUANTITY CHECK THEN CAP SECURE  
ACCESS DOOR LATCHED

AFT FAIRING ATTACHED AND SECURE  
DRIVE SHAFT COVER ATTACHED AND SECURE  
TAIL BOOM INSPECT FOR DENTS AND CRACKS  
TAIL BOOM HORIZONTAL STABILIZER & LIGHT (GREEN)  
TAIL ROTOR GUARD (STINGER) & VERTICAL STABILIZER  
ANTI-COLLISION LIGHT (RED) & POSITION LIGHT (WHITE)

### **TAIL ROTOR AREA:**

TAIL ROTOR CONDITION  
TAIL ROTOR TRANSMISSION OIL LEVEL  
CONTROLS, TIP BLOCKS & SEALS  
WEIGHTS AND SAFETY WIRE

TAIL BOOM INSPECT FOR DENTS AND CRACKS  
DRIVE SHAFT COVER ATTACHED AND SECURE  
HORIZONTAL STABILIZER & LIGHT (RED)  
FORWARD TAIL ROTOR COUPLER  
OIL COOLER BLOWER SHAFT, BLOWER & FILTER  
ACCESS DOOR LATCHED  
AFT FAIRING ATTACHED AND SECURE  
BAGGAGE COMPARTMENT / CHECK WEIGHT

### **POWER PLANT AREA:**

MAIN DRIVE COUPLING AND ROTOR BRAKE  
ENGINE ATTACHMENTS  
ENGINE MOUNTS  
EXHAUST STACK & CLAMP  
HOSES, TUBING & CHECK FOR LEAKS  
LINEAR ACTUATOR & GOVERNOR  
ENGINE ANTI-ICE VALVE  
TAIL ROTOR DRIVE SHAFT  
AIR CONDITIONER PUMP & BELT  
CLOSE ENGINE COWLING & LATCHES  
EXHAUST COVER REMOVED

### **TRANSMISSION AREA:**

TRANSMISSION MOUNT  
ISOLATION MOUNTS  
DRIVE SHAFT COUPLING  
ACCESS DOOR LATCHED  
ROOF / TRANSMISSION FAIRING  
PARTICLE SEPARATOR FREE OF DEBRIS  
ENGINE INLET & PLENUM CLEAR

### **ROTOR HEAD**

HUB, YOKE, TRUNNION BEARING CONDITION / CRACKS  
PITCH LINKS & PITCH HORNS  
SWASH PLATE ASSEMBLY (UPPER AND LOWER)  
ALL LINKAGES  
BLADE DOUBLERS & SKIN

### **HYDRAULIC AREA:**

HYDRAULIC ACTUATORS & LINES  
FORWARD FAIRING ATTACHED AND SECURE  
ACCESS DOOR LATCHED

LANDING GEAR CONDITION (STEP, SHOES, MOUNTS)  
CABIN DOORS & WINDOWS SECURE

### **NOSE SECTION**

LEFT STATIC PORT CLEAN (DON'T TOUCH)  
WINDSHIELD CLEAN AND NO DAMAGE  
PITOT TUBE COVER REMOVED AND CLEAN  
EXTERNAL POWER AS REQUIRED  
LANDING LIGHT GLASS CONDITION  
ANTENNAS CHECK SECURE

### **BEFORE BOARDING**

MAIN ROTOR BLADES UNTIED AND TURNED  
**A**IRWORTHINESS ON BOARD  
**R**EGISTRATION ON BOARD  
**O**PERATING LIMITATIONS ON BOARD  
**W**EIGHT AND BALANCE ON BOARD  
FIRE EXTINGUISHER CHARGED / CURRENT  
COPILOT CONTROLS AS DESIRED  
COPILOT / PASSENGER SEAT BELTS SECURE  
ALL REQUIRED INSPECTIONS COMPLETE

## EMERGENCY CHECKLIST - **WARNING** / **NOTE**

### **ENGINE FIRE DURING STARTING OR SHUTDOWN:**

PRESS OR CONTINUE TO HOLD THE STARTER BUTTON  
 THROTTLE CLOSED  
 FUEL VALVE OFF  
 ENG CIRCUIT BREAKER OUT  
 COMPLETE SHUTDOWN

### **ENGINE FIRE DURING FLIGHT**

THROTTLE CLOSED  
 IMMEDIATE AUTOROTATION  
 FUEL VALVE OFF  
 BATTERY OFF  
 VENTILATE CABIN

### **ENGINE FAILURE IN FLIGHT (POWER OFF LANDING)**

LOWER COLLECTIVE

ROTOR RPM AT THE HIGH END OF THE OPERATING RANGE WILL  
 PROVIDE MAXIMUM ROTOR ENERGY TO ACCOMPLISH THE  
 LANDING; BUT WILL CAUSE AN INCREASED RATE OF DESCENT  
 REDUCE FORWARD AIRSPEED TO DESIRED AUTOROTATIVE  
 AIRSPEED FOR EXISTING CONDITIONS. MINIMUM DESCENT 52  
 KNOTS MAXIMUM GLIDE DISTANCE 69 KNOTS IAS

SPEED BETWEEN 52 – 69 KNOTS (MAX 115) WITH CYCLIC  
 COLLECTIVE, MAINTAIN 90-107% ROTOR RPM  
 AT LOW ALTITUDE, CLOSE THROTTLE AND FLARE  
 COLLECTIVE PITCH MAY BE NECESSARY  
 LEVEL HELICOPTER AND USE COLLECTIVE TO CUSHION  
 EXCESSIVE GROUND RUN WITH THE COLLECTIVE UP, OR ANY  
 TENDENCY TO FLOAT FOR LONG DISTANCE PRIOR TO GROUND  
 CONTACT SHALL BE AVOIDED

### **ENGINE AIR START**

WHEN THE CAUSE OF THE ENGINE FAILURE IS  
 BELIEVED TO BE MECHANICAL, DO NOT ATTEMPT A RESTART.  
 LOWER COLLECTIVE  
 SPEED BETWEEN 52 – 69 KNOTS (MAX 115)  
 COLLECTIVE, MAINTAIN 90-107% ROTOR RPM  
 DO NOT ATTEMPT AIR START ABOVE 12,000 FEET  
 (TOT RISES TOO FAST TO CONTROL)

### **FUEL CONTROL AND/OR GOVERNOR FAILURE**

ENGINE FUEL CONTROL AND/OR GOVERNOR FAILURE IS  
 EVIDENCED BY A CHANGE OF POWER OR RPM. THERE IS NO  
 MANUAL FUEL CONTROL ON THE ENGINE. CONTROL POWER WITH  
 THROTTLE IF ENGINE OVER SPEEDS. MAINTAIN RPM WITH  
 COLLECTIVE PITCH IF ENGINE UNDER SPEEDS. ESTABLISH  
 AUTOROTATIVE GLIDE IF POWER IS VERY LOW OR IF ENGINE MUST  
 BE SHUT DOWN. PREPARE FOR POWER-OFF LANDING.

### **HYDRAULIC SYSTEM FAILURE**

REDUCE AIRSPEED TO 61-69 KNOTS  
 HYD BOOST CIRCUIT BREAKER OUT, IF NOT RESTORED, IN  
 HYDRAULIC SWITCH ON, IF NOT RESTORED, OFF  
 LAND AS SOON AS PRACTICAL AND INVESTIGATE  
 A RUN-ON LANDING AT 10-15 KNOTS IS RECOMMENDED

## EMERGENCY CHECKLIST - **WARNING** / **NOTE**

### **DRIVESHAFT FAILURE**

FAILURE OF MAIN DRIVESHAFT TO TRANSMISSION WILL RESULT IN  
 COMPLETE LOSS OF POWER TO MAIN ROTOR. ALTHOUGH COCKPIT  
 INDICATIONS FOR A DRIVESHAFT FAILURE ARE SIMILAR TO AN  
 ENGINE OVERSPEED, IT IS IMPERATIVE THAT AUTOROTATIVE  
 FLIGHT PROCEDURES BE ESTABLISHED IMMEDIATELY. FAILURE TO  
 REACT IMMEDIATELY TO ROTOR LOW RPM LIGHT, AND AUDIO AND  
 DUAL TACHOMETER CAN RESULT IN LOSS OF CONTROL.

COLLECTIVE, MAINTAIN 90-107% ROTOR RPM  
 SPEED BETWEEN 52 – 69 KNOTS (MAX 115) WITH CYCLIC  
 THROTTLE OPEN (ENGINE IS POWERING TAIL ROTOR)  
 COMPLETE AUTOROTATION LANDING AND SHUTDOWN

### **TAIL ROTOR CONTROL FAILURE**

#### **COMPLETE LOSS OF THRUST**

THROTTLE IDLE  
 ENTER AUTOROTATION

#### **FIXED PITCH FAILURE**

DEPENDENT ON THE PITCH  
 POWER - ADJUST AS REQUIRED TO MINIMIZE  
 EXCESSIVE YAWING  
 AIRSPEED – ADJUST TO DETERMINE BEST VELOCITY TO  
 MINIMIZE EXCESSIVE YAWING

### **ELECTRICAL POWER FAILURE**

GENERATOR FAIL LIGHT ON  
 GENERATOR SWITCH RESET THEN ON  
 IF POWER NOT RESTORED GENERATOR SWITCH OFF  
 ALL NON-ESSENTIAL ELECTRICAL EQUIPMENT OFF  
 REDUCE ALTITUDE TO BELOW 6000 FEET PRESSURE ALTITUDE IF  
 FLIGHT PERMITS BECAUSE OF POSSIBLE LOSS OF FUEL BOOST  
 PUMPS.

LAND AS SOON AS PRACTICAL

### **ENGINE ICING**

ANTI-ICE SWITCH ON  
 TOT – MAINTAIN WITHIN LIMITS

### **ENGINE OIL PRESSURE LOW, HIGH, OR FLUCTUATING**

LAND AS SOON AS POSSIBLE

### **HIGH ENGINE OIL TEMPERATURE**

LAND AS SOON AS PRACTICAL

### **CAUTION LIGHTS**

|                 |                                  |
|-----------------|----------------------------------|
| LOW ROTOR RPM   | REDUCE COLLECTIVE                |
| TRANS OIL PRESS | LAND AS SOON AS POSSIBLE         |
| TRANS OIL TEMP  | LAND AS SOON AS POSSIBLE         |
| BATTERY TEMP    | TURN BATTERY OFF                 |
| ENGINE CHIP     | LAND AS SOON AS POSSIBLE         |
| TRANS CHIP      | LAND AS SOON AS POSSIBLE         |
| T/R CHIP        | LAND AS SOON AS POSSIBLE         |
| GEN FAIL        | RESET, LAND AS SOON AS PRACTICAL |
| BAGGAGE DOOR    | LAND AS SOON AS PRACTICAL        |
| A/F FUEL FILTER | LAND AS SOON AS PRACTICAL        |
| FUEL PUMP       | < 6000 LAND AS SOON AS PRACTICAL |
| FUEL LOW        | 19 GALLONS REMAIN, PLAN LANDING  |