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TYPE CERTIFICATE NO. H10WE**

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Approved By: Nevada Jo Ryan Digitally signed by Nevada Jo Ryan  
Date: 2021.11.17 08:05:26 -08'00'  
 Manager, West Flight Test Section, AIR-716  
 Federal Aviation Administration  
 Los Angeles, CA

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**SECTION 2  
LIMITATIONS**

**GENERAL**

This section includes operating limitations, instrument markings, and basic placards required for safe operation of the helicopter, its engine, and other standard systems. The helicopter is approved as a normal category rotorcraft under FAA Type Certificate No. H10WE as Models R22, R22 Alpha, R22 Beta, and R22 Mariner.

**COLOR CODE FOR INSTRUMENT MARKINGS**

- Red      Operating limit. Edge of red line indicates limit. Pointer should not enter red during normal operation.
- Yellow    Precautionary or special operating procedure range.
- Green     Normal operating range.

**AIRSPEED LIMITS**

NEVER-EXCEED AIRSPEED ( $V_{NE}$ )

Up to 3000 feet density altitude: 102 KIAS

Above 3000 feet density altitude, see placards on page 2-11.

**ROTOR SPEED LIMITS**

Power On

Maximum	104% (530 RPM)
Minimum*	101% (515 RPM)**

Power Off

Maximum	110% (561 RPM)
Minimum	90% (459 RPM)

\*Transient operation at lower RPM permitted for emergency procedures training.

\*\*97% (495 RPM) permitted on R22s with O-320 engine and tachometer with 97% to 104% green arc installed.

**POWERPLANT LIMITATIONS**

ENGINE

One Lycoming Model O-320-A2B, -A2C, -B2C, or O-360-J2A.

OPERATING LIMITS

Engine Speed

Maximum continuous	104% (2652 RPM)
Maximum transient***	106% (2700 RPM)

Cylinder Head Max Temperature 500°F (260°C)

Oil Maximum Temperature 245°F (118°C)

Oil Pressure

Minimum during idle	25 psi
Minimum during flight	55 psi
Maximum during flight	95 psi
Maximum during start & warm up	115 psi

Oil Quantity, minimum for takeoff 4 qt (3.8 liters)

Manifold Pressure: See placards on pages 2-10 and 2-11 for MAP schedules.

\*\*\*Intentional operation above maximum continuous speed prohibited.

**SECTION 4**

**NORMAL PROCEDURES**

**RECOMMENDED AIRSPEEDS**

Takeoff and Climb	60 KIAS
Maximum Rate of Climb ( $V_y$ )	53 KIAS
Maximum Range	83 KIAS*
Significant Turbulence	60 to 70 KIAS*
Landing Approach	60 KIAS
Autorotation	60 to 70 KIAS*

\* Certain conditions may require lower airspeed.  
See  $V_{ne}$  placards in Section 2.

**DAILY OR PREFLIGHT CHECKS**

Remove ground handling wheels and all covers and tiedowns. Remove even small accumulations of frost, ice, or snow, especially from rotor blades. Check maintenance records to verify aircraft is airworthy.

Check general condition of aircraft and verify no visible damage, fluid leakage, or abnormal wear. Verify no fretting at rivets and seams where parts are joined together. Fretting of aluminum parts produces a fine black powder while fretting of steel parts produces a reddish-brown or black residue. Verify Telatemps show no temperature increase that cannot be attributed to a change in operating conditions (mechanics draw a reference line to the right of the highest temperature square which has darkened in operation). Verify torque stripes on critical fasteners are not broken or missing.

**DAILY OR PREFLIGHT CHECKS (cont'd)**

1. Cowl Doors

- Battery switch . . . . . ON
- Oil pressure and alternator lights . . . . . ON
- Warning light test switches . . . . . Push to test
- EMU (if installed) . . . . . Check status
- Fuel quantity . . . . . Check gages
- Battery switch . . . . . OFF
- Aux fuel tank quantity . . . . . Check
- Fuel filler cap . . . . . Tight
- Aux fuel tank . . . . . No leaks
- Fuel lines . . . . . No leaks
- Fuel tank sump drain(s) . . . . . Sample
- Gearbox oil . . . . . Full, no leaks
- Rotor brake . . . . . Actuation normal
- Flex coupling . . . . . No cracks, nuts secure
- Yoke flanges . . . . . No cracks
- Gearbox Telatemp . . . . . Normal
- Sprag clutch . . . . . No leaks
- Static source . . . . . Clear
- Control rod ends . . . . . Free without looseness
- Steel tube frame . . . . . No cracks
- All fasteners . . . . . Secure
- Tail rotor control . . . . . No interference
- Cowl doors . . . . . Latched

2. Engine Right Side

- Carb air ducts . . . . . Secure
- Carb heat scoop . . . . . Secure
- Engine sheet metal . . . . . No cracks
- Electrical terminals . . . . . Tight
- Fuel line . . . . . No leaks
- Oil cooler door . . . . . Check
- Oil lines . . . . . No leaks or chafing
- Exhaust system . . . . . No cracks
- Engine general condition . . . . . Check
- V-belt condition . . . . . Check
- V-belt slack . . . . . 1.5 inches (4 cm) maximum
- Sprag clutch . . . . . No leaks
- Upper bearing . . . . . No leaks
- Telatemp – upper bearing . . . . . Normal

**SECTION 5  
PERFORMANCE**

**GENERAL**

IGE hover controllability has been substantiated in 17 knot wind from any direction up to 9800 feet (2990 meters) density altitude. Refer to hover performance charts for allowable gross weight.

***CAUTION***

Performance data presented in this section was obtained under ideal conditions. Performance under other conditions may be substantially less.

***NOTE***

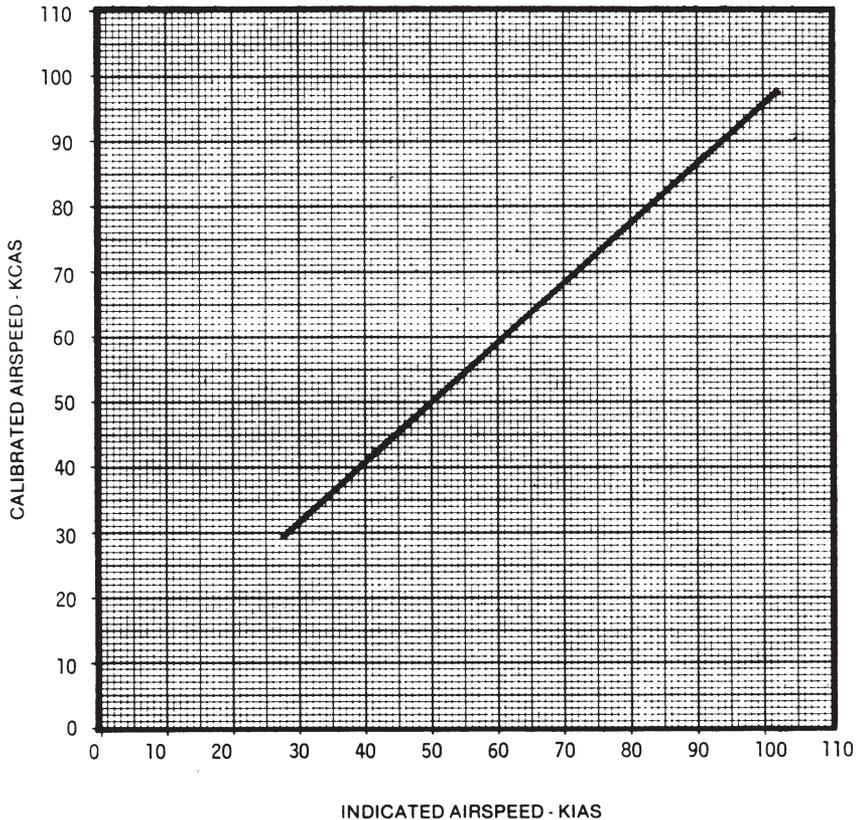
Hover performance data given is with carburetor heat off. Full carburetor heat reduces hover ceilings by up to 2000 feet (610 meters).

Indicated airspeed (KIAS) shown on charts assumes zero instrument error.

**DEMONSTRATED OPERATING TEMPERATURE**

Satisfactory engine cooling has been demonstrated to an outside air temperature of 38°C (100°F) at sea level or 23°C (41°F) above ISA at altitude.

Note: Indicated airspeed assumes zero instrument error.



AIRSPEED CALIBRATION CURVE

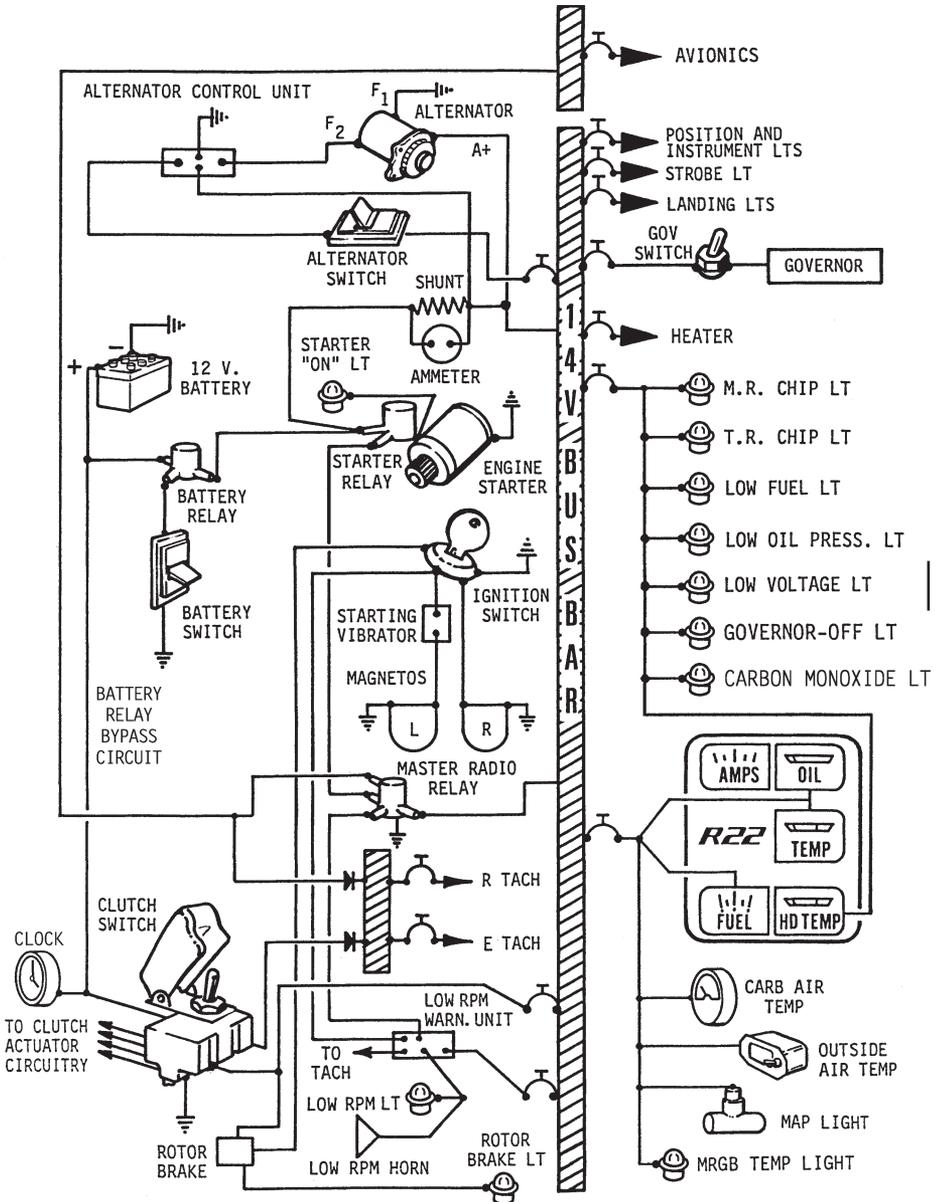
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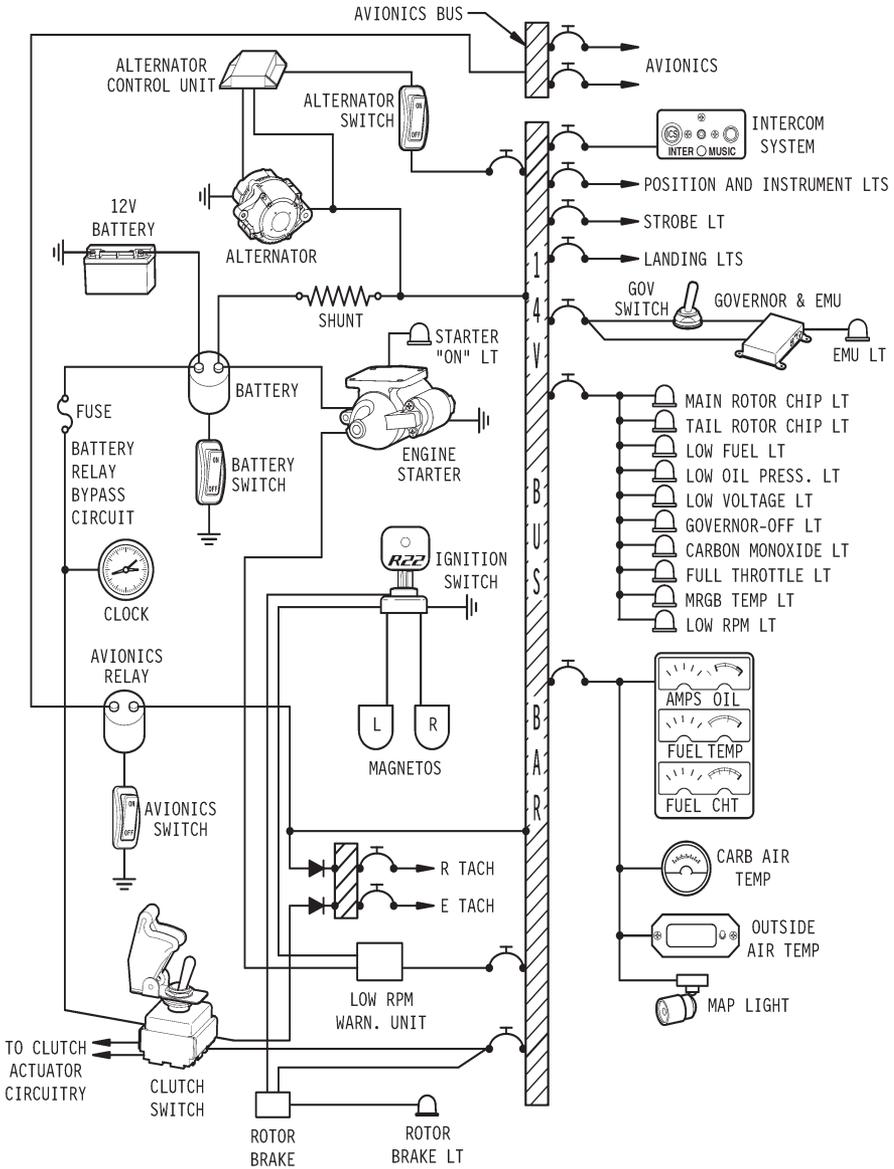
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**ELECTRICAL SYSTEM (cont'd)**



**ELECTRICAL SYSTEM  
ALPHA, BETA, & EARLIER BETA II**

**ELECTRICAL SYSTEM (cont'd)**



**ELECTRICAL SYSTEM  
LATER BETA II**

## **CARBON MONOXIDE DETECTOR**

The carbon monoxide (CO) detector, if installed, indicates elevated cabin CO levels. CO is an odorless, toxic gas present in engine exhaust which causes headaches, drowsiness, and possible loss of consciousness. CO levels may become elevated due to an exhaust leak or exhaust recirculation during prolonged hovering.

The CO detector system consists of a sensor above the pilot's heater outlet and a caution light. A system check (light flashes twice) is performed each time power is switched on. A sensor malfunction is indicated by a continuing flash every four seconds.

If the caution light illuminates, shut off heater and open nose and door vents as required to ventilate the cabin. If hovering, land or transition to forward flight. If symptoms of CO poisoning (headache, drowsiness, dizziness) accompany caution light, land immediately. Have exhaust system inspected before next flight.

Many chemicals can damage the CO sensor. Avoid use of solvents, detergents, or aerosol sprays near the sensor. Temporarily tape off openings in top and bottom of sensor housing when cleaning cabin interior.

## **ADS-B EQUIPMENT**

An Automatic Dependent Surveillance Broadcast (ADS-B) capable transponder is installed on later aircraft. The transponder transmits GPS position information to air traffic control to supplement radar/transponder information.

ADS-B "Out" capability is required for operation in certain airspace. ADS-B equipment installed at the factory meets the requirements of 14 CFR § 91.227. ADS-B Out operation is mostly automatic and requires little pilot action. Malfunctions will be annunciated on the transponder and/or GPS. Refer to transponder and GPS manufacturer's documentation for further details on ADS-B Out equipment operation.

### ***NOTE***

ADS-B Out equipment installed at the factory operates on frequency 1090 MHz. This frequency is also accepted for ADS-B Out equipment in most countries outside the United States.

### ***NOTE***

The ability to turn off ADS-B Out broadcasts is provided via transponder controls. However, ADS-B Out is required in certain airspace. ADS-B Out should not be selected off unless directed by air traffic control.

ADS-B equipment may also receive traffic information from other ADS-B equipped aircraft and (depending on specific equipment and country of operation) additional traffic and weather information from ground stations. ADS-B equipment that receives information is known as ADS-B "In", is not required by regulations, and is optional.

ADS-B In functionality requires a suitable display such as a moving map GPS or Multi-Function Display (MFD). ADS-B In equipment installed at the factory receives both approved US frequencies (978 MHz and 1090 MHz). Refer to avionics manufacturer's documentation for details on ADS-B In equipment operation.

**EMERGENCY LOCATOR TRANSMITTER (OPTIONAL)**

The Emergency Locator Transmitter (ELT) installation consists of a transmitter with internal battery pack, an external antenna, and a remote switch/annunciator. The transmitter is mounted to the upper steel tube frame and is accessible through the aft, upper cowl door. The remote switch/annunciator is located left of the cyclic stick.

The ELT is operated by a switch on the transmitter and a remote switch in the cockpit. The transmitter switch has been secured in the AUTO or ARM position at installation and should always be in this position for flight. The remote switch/annunciator is a three position switch with indicator light. This switch should also be in the AUTO or ARMED (middle) position for flight. With both switches set to AUTO/ARM, the ELT will begin transmitting when subjected to a high "G" load. When the unit is transmitting, the red indicator light illuminates.

Moving the remote switch to ON activates the transmitter. Use the ON position if an emergency landing is imminent and time permits.

If the ELT is inadvertently activated, use the RESET position of the remote switch to stop transmission and reset the unit. The red indicator will extinguish when unit is reset.

***NOTE***

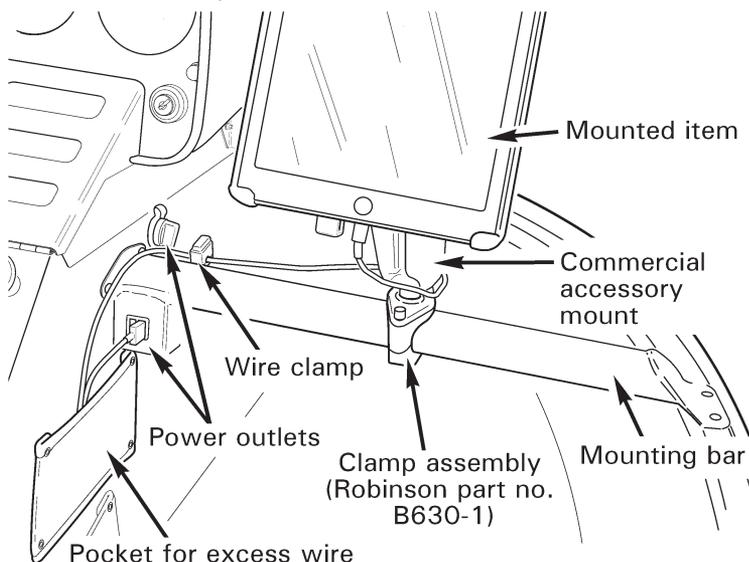
Earlier aircraft may have ELT installations without remote switch.

For more detailed instructions on ELT operation, maintenance, and required tests, refer to manufacturer's instructions supplied with the unit.

**ACCESSORY MOUNTS (OPTIONAL)**

Provisions for mounting small, portable items are an option. The provisions use mounting bars located forward of the pilot's seat, the copilot's seat, or both. The bars are fitted with one or more clamp assemblies which are compatible with a variety of commercially available accessory mounts. There is a 10 lb total weight limit for items attached to each bar. USB and cigarette-lighter-style power outlets are installed near the inboard end of the mounting bars. The power outlets are protected by the Aux Power circuit breaker and in-line fuses and are placarded with voltage/current ratings. Wire clamps and a pocket for securing excess wire are also provided.

The accessory mounts are intended to provide a safe means of mounting small items such as portable electronic devices. The mounting bar, clamp assembly, and power outlets are approved as part of the aircraft type design, but any items attached are the responsibility of the pilot in command under appropriate operating rules. Ensure that any items attached are secure and do not interfere with flight controls or primary field of view. Route any wires through the wire clamps or secure them to the bar with cable ties or tape.



## COCKPIT CAMERA (OPTIONAL)

An optional video camera may be installed in the cabin ceiling. The camera records 4K video, intercom/comm audio, and GPS position both internally and to a removable flash drive inserted in the front of the camera housing. The internal memory retains only recent video and is not user accessible. Recording starts automatically when the helicopter battery is switched on and stops when it is started off.

Recording to the flash drive can be stopped or audio muted using the record and audio switches on the front of the camera housing. Do not remove the flash drive while a recording is in progress as this will corrupt the video file. To remove a flash drive when the helicopter battery switch is on, first stop the recording using the record switch.

A blue flashing light on the camera housing indicates video is being recorded to the flash drive. A green steady light indicates the camera is powered and operating normally. The green light will change to an amber flashing light if an internal camera fault is detected, in which case video may not be recorded.

Video recorded on the flash drive can be viewed on a Windows PC or Mac computer. Video is recorded in sequential 4 GB files with each file approximately 25 minutes in length. Video files are labeled HELICAM\_XXXX.MP4, where XXXX is a sequential number. GPS position and altitude are optionally displayed in the video and are also recorded separately to files labeled HELICAM\_XXXX.GPX. A 128 GB flash drive (as supplied with helicopter) will record approximately 10 hours of video. When full, the earliest video file is overwritten with the last recording.

### **NOTE**

Flash drives must meet the criteria described in the *Cockpit Camera User Guide* in order to function reliably.

**COCKPIT CAMERA (OPTIONAL) (cont'd)**

The *Cockpit Camera User Guide* is available on the Robinson website, [www.robinsonheli.com](http://www.robinsonheli.com), and includes additional information on camera operation, playback options, and troubleshooting.

**SECTION 8  
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## **CLEANING HELICOPTER**

### **CLEANING EXTERIOR INCLUDING ROTOR BLADES**

The helicopter should be washed with mild soap and water. Harsh abrasives, alkaline soaps, or detergents should not be used because they could scratch painted or plastic surfaces or could cause corrosion of metal. Cover areas where cleaning solution could cause damage. Use the following procedure:

1. Rinse away loose dirt and salt residue with water.
2. Apply cleaning solution with a soft cloth, sponge, or soft bristle brush.
3. To remove stubborn oil and grease, use a cloth dampened with aliphatic naphtha.
4. Rinse all surfaces thoroughly.
5. Apply carnauba wax to rotor blades and renew wax when water no longer beads on blade surface. Any good automotive wax may be used to preserve other painted surfaces. Soft cleaning cloths or a chamois should be used to prevent scratches when cleaning or polishing.

### ***CAUTION***

Never use high-pressure spray to clean helicopter. Never blow compressed air into main or tail rotor blade tip drain holes.

### **CLEANING WINDSHIELD AND WINDOWS**

1. Remove dirt, mud, and other loose particles from exterior surfaces with clean water.
2. Wash with mild soap and warm water or with aircraft plastic cleaner. Use a soft cloth or sponge in a straight back and forth motion. Do not rub harshly.
3. Remove oil and grease with a cloth moistened with isopropyl alcohol (rubbing alcohol) or aliphatic naphtha.

**CLEANING HELICOPTER (cont'd)**

**CLEANING WINDSHIELD AND WINDOWS (cont'd)**

***CAUTION***

Do not use gasoline, other alcohols, benzene, carbon tetrachloride, thinner, acetone, or window (glass) cleaning sprays.

4. After cleaning plastic surfaces, apply a thin coat of hard polishing wax. Rub lightly with a soft cloth. Do not use a circular motion.

***CAUTION***

Windshield surface must be hydrophobic (water repellent) for good visibility in rain. When using a new cleaning or polishing product on windshield, verify water beads on surface before flying.

5. On acrylic windows (standard windshield), scratches can be removed by rubbing with jeweler's rouge followed by hand polishing with commercial plastic polish. Use a figure eight motion when polishing.

***NOTE***

Impact-resistant windshields are made from polycarbonate with a protective hardcoat and cannot be polished.

**CLEANING UPHOLSTERY AND SEATS**

1. Vacuum and brush, then wipe with damp cloth. Dry immediately.
2. Soiled upholstery, except leather, may be cleaned with a good upholstery cleaner suitable for the material. Follow manufacturer's instructions. Avoid soaking or harsh rubbing.

**CLEANING HELICOPTER (cont'd)**

**CLEANING UPHOLSTERY AND SEATS (cont'd)**

***CAUTION***

If CO detector is installed, avoid use of solvents, detergents, or aerosol sprays near sensor. Tape off openings in top and bottom of sensor housing when cleaning cabin interior.

3. Leather should be cleaned with saddle soap or a mild hard soap and water.

**CLEANING CARPETS**

Remove loose dirt with a whisk broom or vacuum. For soiled spots and stains, use nonflammable dry cleaning liquid.

**STORAGE**

The helicopter requires special preparation for long-term storage (greater than 30 days). Contact your maintenance provider to determine appropriate procedures prior to storage.

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**SECTION 9  
SUPPLEMENTS**

**OPTIONAL EQUIPMENT SUPPLEMENTS**

Information contained in the following supplements applies only when the related equipment is installed.

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**NON-U.S. SUPPLEMENTS**

The following supplements contain additional information required by certain countries:

- Brazilian Supplement
- FATA Supplement (Russia)
- IAC AR Supplement
- Ukrainian Supplement

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**PILOT KNOWLEDGE AND PROFICIENCY (cont'd)**

- Flight planning (*Ref SNs 15, 26, and 43*)
  - Thorough preflight inspection
  - Fuel
  - Weather
  - Performance (hot/high/loading)
- Distractions (*Ref SNs 16, 34, 36, and 41*)
  - Failure to keep eyes outside scanning for wires, other obstacles, and traffic
  - High workload missions such as photo flights
  - Passengers
  - Avionics
  - Cell phones
- Low-G and mast bumping (*Ref SNs 11, 29, and 32*)
  - Avoidance
    - Reduce airspeed in turbulence
    - Monitor airspeed when lightly loaded
    - Ensure passenger controls are removed
  - Recognition and recovery

**CAUTION**

Never practice/demonstrate low-G in flight.  
Low-G training should be knowledge based only.

- Low RPM considerations (*Ref SNs 10, 24, and 29*)
  - Recognition and recovery
- Power failures (*Ref SNs 10, 24, and 29*)
  - Instinctive autorotation entry
  - Continuously consider emergency landing sites throughout every flight
- Practice autorotations (*Ref SN 38*)
  - Proven, safe methods

**CAUTION**

In-flight practice of Low RPM, power failures, and autorotations should only be conducted under the supervision of an instructor.

- Carburetor ice (*Ref SNs 25 and 31*)
  - Conditions conducive
  - Use of carb heat
- Confined area operations (*Ref SN 22*)
  - High and low reconnaissance
  - Assessing wind
  - Power margins

**SAFETY NOTICES**

The following Safety Notices have been issued by Robinson Helicopter Company as a result of various accidents and incidents. Studying the mistakes made by other pilots will help you avoid making the same errors. Safety Notices are available on the RHC website: [www.robinsonheli.com](http://www.robinsonheli.com).

**SAFETY  
NOTICE**

**TITLE**

- SN-1 Inadvertent Actuation of Mixture Control in Flight
- SN-9 Many Accidents Involve Dynamic Rollover
- SN-10 Fatal Accidents Caused by Low RPM Rotor Stall
- SN-11 Low-G Pushovers - Extremely Dangerous
- SN-13 Do Not Attach Items to the Skids
- SN-15 Fuel Exhaustion Can Be Fatal
- SN-16 Power Lines Are Deadly
- SN-17 Never Exit Helicopter with Engine Running  
Hold Controls When Boarding Passengers  
Never Land in Tall Dry Grass
- SN-18 Loss of Visibility Can Be Fatal  
Overconfidence Prevails in Accidents
- SN-19 Flying Low Over Water is Very Hazardous
- SN-20 Beware of Demonstration or Initial Training Flights
- SN-22 Vortex Ring State Catches Many Pilots By Surprise
- SN-23 Walking into Tail Rotor Can Be Fatal
- SN-24 Low RPM Rotor Stall Can Be Fatal
- SN-25 Carburetor Ice
- SN-26 Night Flight Plus Bad Weather Can Be Deadly
- SN-27 Surprise Throttle Chops Can Be Deadly
- SN-28 Listen for Impending Bearing Failure  
Clutch Light Warning
- SN-29 Airplane Pilots High Risk When Flying Helicopters
- SN-30 Loose Objects Can Be Fatal
- SN-31 Governor Can Mask Carb Ice
- SN-32 High Winds or Turbulence
- SN-33 Drive Belt Slack
- SN-34 Aerial Survey and Photo Flights - Very High Risk
- SN-35 Flying Near Broadcast Towers
- SN-36 Overspeeds During Liftoff
- SN-37 Exceeding Approved Limitations Can Be Fatal
- SN-38 Practice Autorotations Cause Many Training Accidents
- SN-39 Unusual Vibration Can Indicate a Main Rotor Blade Crack
- SN-40 Post-Crash Fires
- SN-41 Pilot Distractions
- SN-42 Unanticipated Yaw
- SN-43 Use Extra Caution During Post-Maintenance Flights
- SN-44 Carrying Passengers

## **Safety Notice SN-30**

Issued: Jun 94 Rev: Apr 2009

### LOOSE OBJECTS CAN BE FATAL

Fatal accidents have occurred due to loose objects flying out of the cabin and striking the tail rotor. Any object striking the tail rotor can cause failure of a tail rotor blade. Loss of or damage to a tail rotor blade may cause a severe out-of-balance condition which can separate the tail rotor gearbox or entire tail assembly from the tailcone, resulting in a catastrophic accident. Accidents have also been caused by fuel caps, birds, and other objects striking the tail rotor. Before each flight perform the following:

- 1) Walk completely around the aircraft checking fuel cap security and tail rotor condition. Ensure no loose objects or debris in helicopter vicinity. Verify cotter rings or pins are installed in all door hinge pins.
- 2) Stow or secure all loose objects in the cabin. Even with doors on, items such as charts can be sucked out of a vent door.
- 3) Instruct passengers regarding the dangers of objects striking the tail rotor. Warn them never to throw anything from the helicopter or place items near vent doors where they could get sucked out.
- 4) Firmly latch all doors.
- 5) Never fly with a left door removed. (Remove only the right door for ventilation.)

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## **Safety Notice SN-31**

Issued: Dec 96

### GOVERNOR CAN MASK CARB ICE

With throttle governor on, carb ice will not become apparent as a loss of either RPM or manifold pressure. The governor will automatically adjust throttle to maintain constant RPM which will also result in constant manifold pressure. When in doubt, apply carb heat as required to keep CAT out of yellow arc during hover, climb, or cruise, and apply full carb heat when manifold pressure is below 18 inches.

Also remember, if carb heat assist is used it will reduce carb heat when you lift off to a hover and the control may require readjustment in flight.

## **Safety Notice SN-32**

Issued: Mar 1998

Revised: June 2020

### HIGH WINDS OR TURBULENCE

Flying in high winds or turbulence should be avoided.

A pilot's improper application of control inputs in response to turbulence can increase the likelihood of a mast bumping accident. If turbulence is encountered, the following procedures are recommended:

1. Reduce power and use a slower than normal cruise speed. Mast bumping is less likely at lower airspeeds.
2. For significant\* turbulence, reduce airspeed to 60–70 knots.
3. Tighten seat belt and rest right forearm on right leg to minimize unintentional control inputs. Some pilots may choose to apply a small amount of cyclic friction to further minimize unintentional inputs.
4. Do not overcontrol. Allow aircraft to go with the turbulence, then restore level flight with smooth, gentle control inputs. Momentary airspeed, heading, altitude, and RPM excursions are to be expected.
5. Avoid flying on the downwind side of hills, ridges, or tall buildings where turbulence will likely be most severe.

The helicopter is more susceptible to turbulence at light weight. Reduce speed and use caution when flying solo or lightly loaded.

\*What is considered significant turbulence will depend on pilot experience and comfort level.

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## **Safety Notice SN-33**

Issued: March 1998

Revised: July 2013; July 2021

### DRIVE BELT SLACK

Pilots must ensure R22 and R44 drive belts do not have excessive slack during engine start. Belts that are too loose may jump out of their sheave grooves while being tensioned, but the pilot has no way of observing this. Therefore, the following checklist items are very important.

1. Per preflight checklist, with clutch disengaged, deflect belts inboard just above fan scroll on aircraft right side. Verify a maximum of 1.5 inches (4 cm) deflection. If belts deflect further, have belt tension actuator adjusted prior to flight.
2. Per run-up checklist, verify rotor turns within 5 seconds after engaging clutch switch. If time is longer, shut down and have belt tension actuator adjusted prior to flight.

## **Safety Notice SN-41**

Issued: May 2013      Revised: July 2021

### PILOT DISTRACTIONS

Pilot distractions from mobile phones have been the cause of several recent fatal accidents.

Modern avionics and personal electronic devices, in particular mobile phones, can easily divert the pilot's attention from the primary duty of controlling the helicopter. Reading charts and attending to passengers are other common distractions.

During flight, be conscious of distractions and vigilant about keeping eyes focused outside as much as possible. Any avionics programming that takes more than a few seconds should be done while on the ground. Mobile phones should be carried in case of an unscheduled or emergency landing but should never be used by the pilot during flight.

When hovering, keep both hands on the controls. If tuning a radio or other task is required, first land and reduce collective pitch. When dealing with distractions in forward flight, reduce power, slow down, and frequently look outside to verify straight and level flight.

Occasionally, pilots neglect to latch a door before taking off. Never attempt to latch a door while hovering or in flight. It is safer to land before closing a door.

## **Safety Notice SN-42**

Issued: May 2013 Rev: Jul 2019

### UNANTICIPATED YAW

A pilot's failure to apply proper pedal inputs in response to strong or gusty winds during hover or low-speed flight may result in an unanticipated yaw. Some pilots mistakenly attribute this yaw to loss of tail rotor effectiveness (LTE), implying that the tail rotor stalled or was unable to provide adequate thrust. Tail rotors on Robinson helicopters are designed to have more authority than many other helicopters and are unlikely to experience LTE.

To avoid unanticipated yaw, pilots should be aware of conditions (a left crosswind, for example) that may require large or rapid pedal inputs. Practicing slow, steady-rate hovering pedal turns will help maintain proficiency in controlling yaw. Hover training with a qualified instructor in varying wind conditions may also be helpful.

Note that thrust of any tail rotor decreases significantly as RPM decreases. Low RPM combined with high torque, as occurs when over-pitching, may result in an uncontrollable right yaw (see also Safety Notice SN-34).

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## **Safety Notice SN-43**

Issued: January 2015

### USE EXTRA CAUTION DURING POST-MAINTENANCE FLIGHTS

A number of fatal accidents have occurred during flights immediately following maintenance. In several cases, the cause was incorrect or incomplete reassembly of the helicopter, and the error would have been detectable during a careful preflight inspection.

Even the best maintenance personnel can become distracted and make a mistake. Pilots should conduct an especially thorough preflight inspection after maintenance has been performed. If possible, speak to the technicians who performed the work, find out exactly what was done, and pay special attention to those areas. Professional maintenance personnel will appreciate the pilot's commitment to safety and will welcome an additional check of their work.

Any work done on the flight control system deserves special attention because a flight control disconnect is almost always catastrophic. During track and balance work, always climb up to the rotor head for a close inspection of the pitch link and control tube fasteners after each adjustment. Never rush or skip preflight steps.