3-4-C. CABIN SMOKE OR FUMES

• INDICATIONS:

1. Smoke.
2. Fumes.

• PROCEDURE:

1. In-flight — Start descent.
2. HEATER switch (if installed) — OFF.
3. All vents — Open.
4. Side windows — Open.

If time and altitude permits:

5. Source — Attempt to identify and secure.
6. If source is identified and smoke and/or fumes still persist — Land as soon as possible.
7. If source is identified and smoke and/or fumes are cleared — Land as soon as practical.

3-5. TAIL ROTOR

There is no single emergency procedure for all types of antitorque malfunctions. One key to a pilot successfully handling a tail rotor emergency lies in the ability to quickly recognize the type of malfunction that has occurred.

3-5-A. COMPLETE LOSS OF TAIL ROTOR THRUST

This is a situation involving a break in drive system (e.g. severed driveshaft), wherein tail rotor stops turning and delivers no thrust.

• INDICATIONS:

1. Uncontrollable yawing to right (left side slip).
2. Nose down tucking.
3. Possible roll of fuselage.

NOTE

Severity of initial reaction of helicopter will be affected by AIRSPEED, CG, power being used, and H_D.

• PROCEDURE:

3-5-A-1. HOVERING

Reduce throttle to idle and perform a hovering autorotation landing. A slight rotation can be expected on touchdown.

3-5-A-2. IN-FLIGHT

Reduce throttle to idle, immediately enter autorotation, and maintain a minimum AIRSPEED of 52 KIAS (60 MPH) during descent.

NOTE

When a suitable landing site is not available, vertical fin may permit controlled flight at low power levels and sufficient AIRSPEED. During final stages of approach, a mild flare should be executed, making sure all power to rotor is off. Maintain helicopter in a slight flare and smoothly use collective to execute a soft, slightly nose-high landing. Landing on aft portion of skids will tend to correct side drift. This technique will, in most cases, result in a run-on type landing.

CAUTION

IN A RUN-ON TYPE LANDING AFTER TOUCHING DOWN, DO NOT USE CYCLIC TO REDUCE FORWARD SPEED.

3-5-B. FIXED PITCH FAILURES

This is a situation involving inability to change tail rotor thrust (blade angle) with anti–torque pedals.

• INDICATIONS:

1. Lack of directional response.
2. Locked pedals.

NOTE

If pedals cannot be moved with a moderate amount of force, do not attempt to apply a maximum effort, since a more serious malfunction could result. If helicopter is in a trimmed condition when malfunction occurs, TORQUE and AIRSPEED should be noted and helicopter flown to a suitable landing area. Certain combinations of TORQUE, N_R, and AIRSPEED will correct a yaw attitude, and these combinations should be used to land helicopter.

• PROCEDURE:

3-5-B-1. HOVERING

Do not close throttle unless a severe right yaw occurs. If pedals lock in any position at a hover, landing from a hover can be accomplished with greater safety under power-controlled flight rather than by closing throttle and entering autorotation.

3-5-B-2. IN-FLIGHT — LEFT PEDAL APPLIED

In a high power condition, helicopter will yaw to left when power is reduced. Power and AIRSPEED should be adjusted to a value where a comfortable yaw angle can be maintained. If AIRSPEED is increased, vertical fin will become more effective and an increased left yaw attitude will develop. To accomplish landing, establish a power-on approach with sufficiently low AIRSPEED (zero if necessary) to attain a rate of descent with a comfortable sideslip angle. A decrease in N_2 decreases tail rotor thrust. As collective is increased just before touchdown, left yaw will be reduced.

3-5-B-3. IN-FLIGHT — RIGHT PEDAL APPLIED

In cruise flight or reduced power situation, helicopter will yaw to right when power is increased. A low power, run-on type landing will be necessary by gradually reducing throttle to maintain heading while adding collective to cushion landing. If right yaw becomes excessive, close throttle completely.

3-6. HYDRAULIC SYSTEM

3-6-A. LOSS OF HYDRAULIC PRESSURE

• INDICATIONS:

1. Grinding or howling noise from pump.
2. Increase in force required to move flight controls.
3. Feedback forces may be evident during flight control movement.
4. Cyclic and collective movements are rate limited.

• PROCEDURE:

1. AIRSPEED — Reduce to 60 to 80 KIAS (69 to 92 MPH).
2. HYDR SYSTEM circuit breaker — Out. If hydraulic power is not restored, push breaker in.
3. HYDRAULIC SYSTEM switch — ON; OFF if hydraulic power is not restored.
4. Land as soon as practical.
5. A run-on landing at approximately 9 KIAS (10 MPH) is recommended.

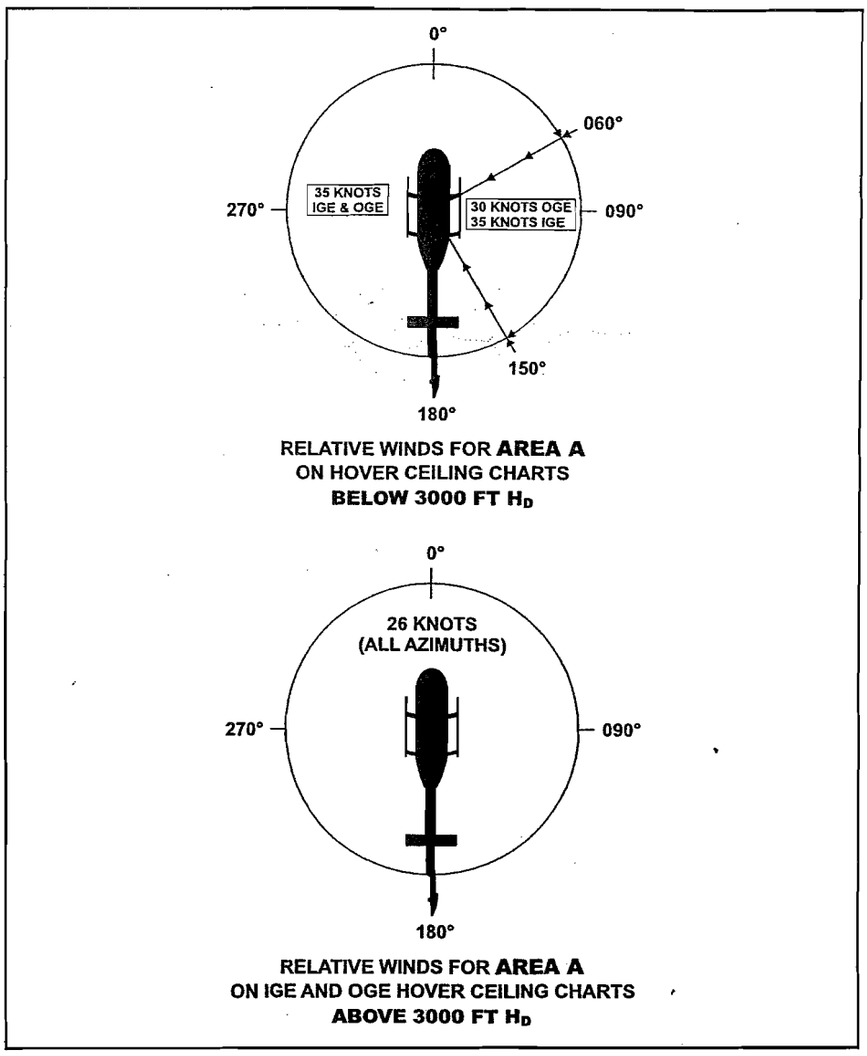
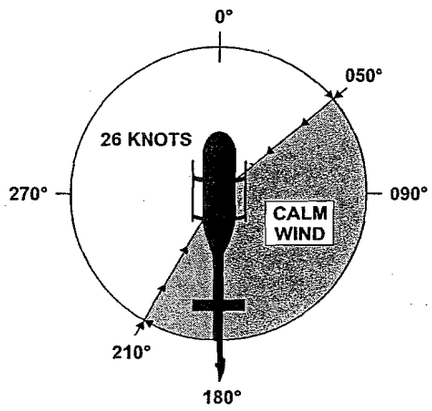
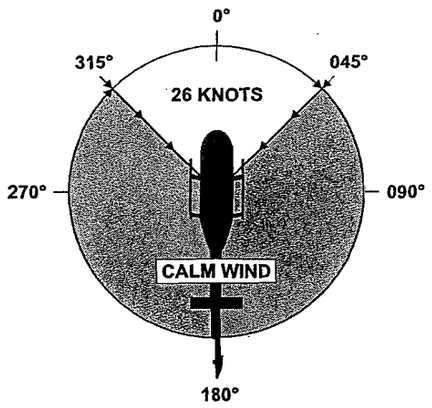


Figure 4-5. Maximum Safe Relative Winds (Sheet 1 of 2)



RELATIVE WINDS FOR **AREA B**
ON IGE AND OGE HOVER CEILING CHARTS



RELATIVE WINDS FOR **AREA C**
ON IGE AND OGE HOVER CEILING CHARTS

Figure 4-5. Maximum Safe Relative Winds (Sheet 2 of 2)