SECTION II
NORMAL PROCEDURES

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PREPARATION FOR FLIGHT

FLIGHT LIMITATIONS

See Section V.

FLIGHT SCHEDULE

All the data necessary for flight schedule are reported in Appendix I or II.

WEIGHT AND BALANCE

Refer to "WEIGHT AND BALANCE DATA" manual for weight and balance limitations.

PREFLIGHT CHECK

BEFORE EXTERIOR

1. Check aircraft status and servicing.
2. All electrical switches — OFF.
3. Trim tab — Set for take-off (0°).
4. Flight controls — Unlocked.

NOTE

If gusty winds conditions exist, do not unlock controls until pilot is on board of aircraft, ready for starting the engine.

5. Emergency door release — In position with pin secured.
6. Aircraft — Free of snow, ice or frost.

EXTERIOR INSPECTION

During exterior inspection (figure 2-1) the aircraft must be checked for general condition; safety of attachment of doors and access points; servicing points for possible leaks of hydraulic fluid, oil and fuel, and for the following:

A. Right Wing

1. Fuel tank drain cocks (3) — Drain and check for water and sediment.
2. Leading edge — Condition.
3. Tie-downs — Removed.
4. Navigation light — Condition.

overspeed governor operation as follows:
— N2 — 85%
— "N2 LIMIT CHECK" switch — ON.
Observe a 3 — 5% droop in N2 speed.

CAUTION

Do not activate the "N2 LIMIT CHECK" switch for more than 20 seconds.

— "N2 LIMIT CHECK" switch — OFF.
N2 speed should retourn to the original setting.

3. Check proper operation of radio equipments.
4. Parking brake — Released.
Check brake operation.
5. Check fuel transfer from auxiliary tanks to main tank by setting "TRANSFER PUMP" switches to MAN position. The "NO TRANSFER" warning light must be extinguished.
6. Functionally check flaps and position indicator.
7. Functionally check trim electrical control.
8. If operating on snowy terrain, set selector to "SKIS" position and operate hand pump for about 22 strokes, so as to set skis in their working position. Check visually (actuator rods extended).

TAXIING

1. Taxiing is achieved with the control stick kept fully rearward. Directional control is maintained by operating the pedals. Indicidual braking is required only for making narrow turns and/or if there is a strong wind. Characteristics of minimum turning radius during taxiing are illustrated in figure 2-2.
2. When making the first turns during taxiing, functionally check the turn-and-bank indicator.

BEFORE TAKE-OFF

1. Longitudinal trim (elevator) — In take-off position.
2. Lateral trim (aileron) — In neutral position.
3. Flaps — Positioned as required.

NOTE

Take-off may be accomplished with flaps in any position between 0° and 30°; for a shorter take-off, lower flaps to 30°.

4. "PROP SPEED" lever — Fully forward.
5. Flight controls — Check for freedom of movement and maximum range of travel in both directions.
6. Shoulder harness — Fastened.
7. "TRANSFER PUMP" swiches — AUTO.
"NO TRANSFER" warning light — OFF.
8. Engine instruments — Within limits.
9. "POS LT" switches — As required.
10. "PITOT HTR" — As required.
11. Cabin heating — Off.

TAKE-OFF

1. Align aircraft in take-off direction with tailwheel in straight position.
2. Gradually advance power lever, keeping stick fully rearward and with brakes applied until required rpm is achieved.

NOTE

The brakes guarantee holding up to an engine speed equivalent to METO power, under standard conditions (N2 = 100%, torque = 80%).

The aircraft has outstanding taking-off characteristics, thanks to the great difference between the required power and the power supplied by the engine. Normal take-off may be accomplished at a lower power of the maximum allowed (e.g., "METO").
For a take-off with maximum performance, utilize take-off power (see Section V for details regarding engine limitations).

WARNING

Do not exceed the limits of TOT, torque or N1 whichever is reached first.

3. Release the brakes, maintaining direction and attitude "on three points".
The aircraft will accelerate rapidly at take-off speed. Direction is easily maintainable by using the rudder. For the first metres/yards during take-off, use the brakes only if necessary.

NOTE

With low speeds, N2 may not reach 100% even with take-off power and the "PROP SPEED" lever fully forward. This is normal providing N2 is not below 96% in the above conditions and it reaches 100% at Vne (never to be exceed speed).

AFTER TAKE-OFF

1. Reduce power as necessary (METO or less).
2. Retract flaps.
3. Let speed increase until reaching best rate-of-climb value.
4. Adjust trim tabs.
5. Engine instruments — Within limits.
6. If skis have been fitted, after take-off from muddy

SECTION VI
FLIGHT CHARACTERISTICS

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STALLS

Stall characteristics in the various configurations, with the engine at FI and the propeller control at maximum rpm, are shown in figure 6-1. Stall characteristics, in cruise and landing configuration, are as follows:

1. Stall characteristics at 1 g — Power off — Cruise configuration

   All controls remain effective up to C_L max; only the ailerons lose effectiveness when the opening stages of stall conditions are exceeded.
   The aircraft shows no tendency to wing-dropping. Transversal attitude, however, is easily controllable using the rudder, which never loses its outstanding efficiency.
   Besides the C_L max, the aircraft displays a moderate tendency to nose dropping, even if the control stick is kept back to nose up.
   Stall recovery is immediate when the control stick is returned to neutral position.
   Stall warning is very slight and occurs 2 - 3 kn above the stall speed.

1. Stall characteristics at 1 g — Power on — Cruise configuration

Power-on stall characteristics are similar to those described in the above paragraph.
   The substantial differences consist in the gradual tendency of the aircraft to yaw towards the left when approaching C_L max, together with a more pronounced nose-up attitude necessary to reach the stall.
   The tendency to yaw towards the left, due to propeller torque effect, is easily controllable with the rudder.

3. Stall characteristics at 1 g — Power-off — Landing configuration

   All controls remain effective up to C_L max. Stall warning is more pronounced compared to cruise configuration and is characterized by low frequency buffeting on empennage horizontal surfaces.
   Ailerons lose effectiveness in stalls. The rudder always remains active and permits control of transversal attitude. There is no tendency to sharp wing dropping.
   Besides C_L max, there is a slight pitching motion, even with the control stick kept back to pull up. Stall recovery is immediate by returning stick to neutral.

4. Stall characteristics at 1 g — Power on — Landing configuration

   Aircraft behavoir is the same as for power-off stall, with the difference of the tendency to yaw to the left, due to propeller torque effect. The rudder is always sufficient to counteract yaw.

5. Accelerated stall characteristics

   Stall warning is very clear and is characterized by heavy low-frequency buffeting at the tail horizontal surfaces. No sharp fall of either wing occurs (providing a co-ordinated turn is maintained) even the pilot insists on stalling, until the control stick is pushed fully back. Recovery is immediate when the nose-up force is decreased on the control stick.

SPINS

The aircraft does not enter into spins spontaneously but must be forced into by pulling the control stick fully

back and giving pedals full excursion. Commercing the maneuver at a speed slightly above stall speed, entering a spin takes place normally after about a half-turn of self--rotation. Established spin conditions (in cruise configuration) are reach at the third turn.
In a left spin, attitude is about 40° below the horizon and the speed about 70 kn.
In a right spin, attitude is more pitched, indicated speed is about 90 kn and turning speed is higher.
In an established turn, about 350 ft are lost per turn.
Recovery is easily achieved by reversing rudder immediately and setting control stick to center at the same time.
Rotation ceases after about 1 turn when pulling out of spin.
To complete the recovery, about 1500 ft will be lost.

MANEUVERING FLIGHT

Maneuvering flight characteristics are satisfactory in all flight configurations.

NOTE

See Section V for maneuver limitations regardind controls used at full excursion.

Control forces are maintained within normal limits in all cases.

Nose-up forces tend to be fairly high when approaching the load factor limits.

TRIM CHANGES

Trim changes caused by flap movements are notable. However, the aircraft can always be controlled by using non-excessive stick forces. A maximum of 4 to 5 kg in force variations is possible. In any case, these forces are quickly voidable by the use of trim.
Flap extension causes nose-up moment.
During flap maneuvering it is possible to keep the stick longitudinal force almost nil at any moment by keeping the electric trim button pushed down in the opposite direction.
Trim changes due to variations in engine rpm are much slighter, although remaining noticeable. An increase in power causes nose-up moment. Even without using the trim the aircraft remains perfectly controllable by means of slight stick movements.

FLIGHT WITH EXTERNAL LOADS

No special technique is required for flying the aircraft with external loads.

STALL SPEEDS

CONFIGURATION	CLEAN CONFIGURATION (Gross Weight 1300 kg)	EXTERNAL STORE CONFIGURATION (Gross Weight 1450 kg)
	KIAS	KIAS
CRUISE	57	58
30° FLAPS	50	60
60° FLAPS	51	62

Figure 6-1.