

**Aircraft:** Schweizer RSG 300CB Helicopter Model 269C-1

**Common Name:** 300CB

**Description:** The 300CB is piston powered two-seat helicopter with a high-inertia, three-bladed main rotor and two-bladed anti-torque tail rotor. The aircraft is powered by a Lycoming 180 horsepower HO-360 air cooled engine. Engine power is transmitted through a belt-drive system to main transmission and tail rotor shaft. An overrunning clutch permits autorotation without driving the belts of engine.

**Power plant:** Lycoming HO-360-CIA, 180HP at 2700 rpm

**Fuel Capacity:** 35.2 U.S. gallons (35.0 usable)

**Fuel type:** 100/130 or 100LL

**Oil Quantity:** 4-6 quarts, 7 quarts total

**Electrical System:** 24V

## LIMITATIONS/OPERATING PARAMETERS

**Maximum Weight:** 1,750lbs

**Maximum Cabin Weight:** 600lbs

**Empty weight:** 1,101lbs (N725A: 1,137)

**Maximum Operating Altitude:**

- Hovering ceiling: 4600ft density altitude
- Takeoff/landing: 8,000ft density altitude
- Enroute: 10,000ft density altitude

**Rotor Speed Limitations (Power OFF)**

- Minimum rotor speed: 390 RPM
- Maximum rotor speed: 504 RPM

**Rotor Speed Limitations (Power ON)**

- Minimum rotor speed: 442 RPM
- Maximum rotor speed: 471 RPM

**Engine – Rotor Disengaged**

- Engine idle speed: 1200-1600 RPM
- With rotor disengaged, do not exceed 1600 RPM.
- Initial clutch engagement 1500-1600 RPM

**Engine – Rotor Engaged**

- Minimum engine RPM: 2530
- Maximum engine RPM: 2700
- NO momentary overspeed allowed
- Maximum continuous power: 180 horsepower at 2700 RPM
- Oil pressure operating range: 55-95 psi (redline 115)
- Oil temperature operating range: 100-245 degrees F (redline 245)
- Cylinder Head Temperature Operating range: 230-450 degrees F (redline 500)

## Key Speeds

- Autorotation speed: 52 knts
- Best rate of climb (Vy): 41kts
- Run on landing speed 36 kts maximum
- Normal approach: 53 knts

## Never Exceed Speed (Vne)<sup>(1)</sup>

- Doors off operations Vne: 90kts IAS
- Maximum Vne 94kts

## Other Items

- Solo from the right seat only
- Operation in IFR conditions prohibited
- Controllability demonstrated in 17kts winds (any direction)
- No leaning of mixture in flight
- Fuel consumption: 12GPH (N725A)
- Max range: 230NM
- Best range cruise speed: 63 kts

**History:** The origin of the 300CB was the Hughes TH-55. The TH-55 was used as the primary training helicopter for the Army from 1969-1988. The design was purchased and produced by Schweizer for several years. The type certificate was sold to Sikorsky in 2004. In 2018, the type certificate was sold to Schweizer RSG and returned to production in 2019.

NOTE: TO MAINTAIN CONDITIONS SHOWN IN FIGURE 5-2 AT ALTITUDE. DO NOT EXCEED GROSS WEIGHT VS ALTITUDE (MIXTURE LEANED) SHOWN IN FIG. 5-4

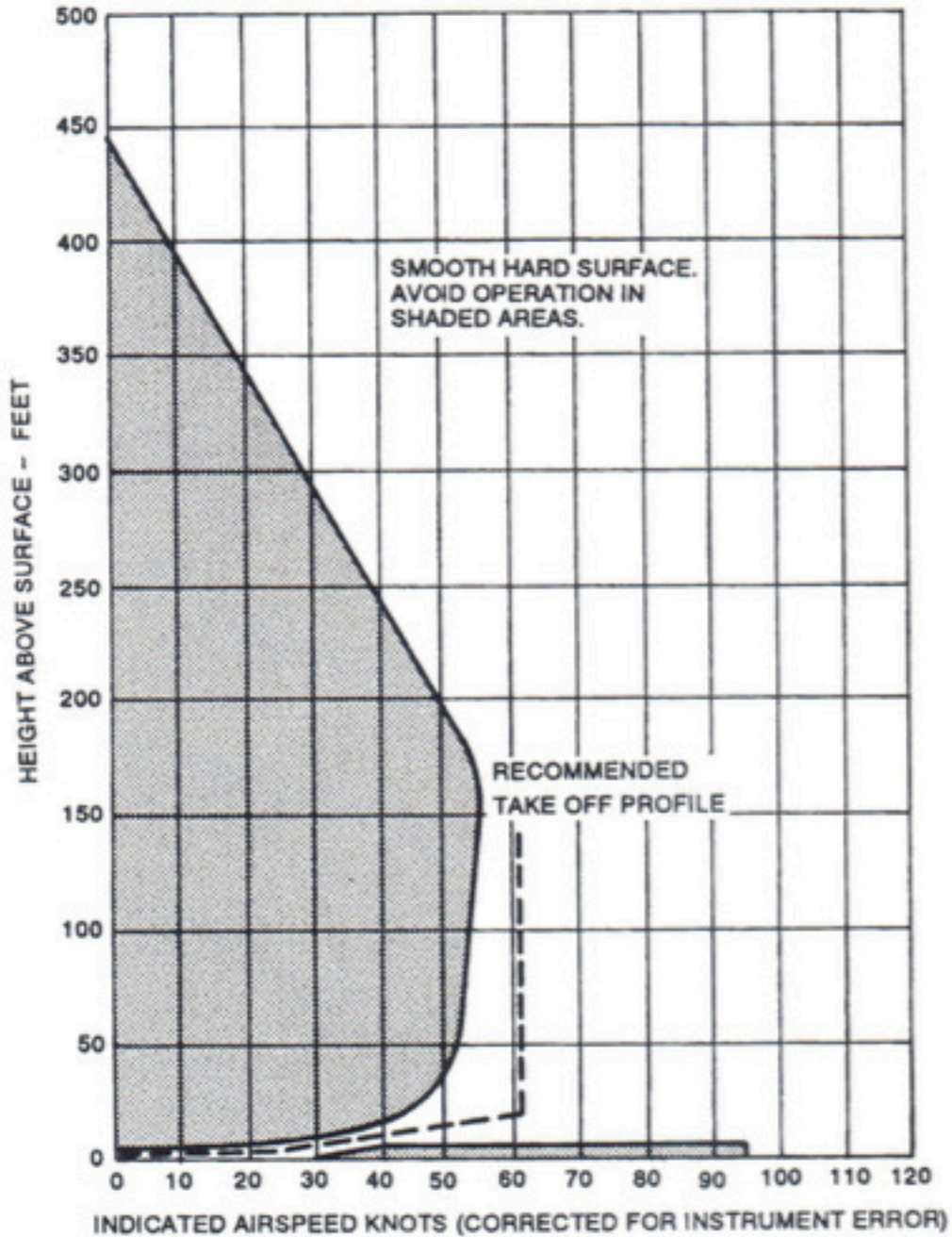


Figure 5-2. Height Velocity Diagram at Sea Level

°F	°C
0	-18
20	-7
40	4
60	16
80	27
100	38
120	49

- THIS CHART BASED ON:
- Full Throttle at 2700 RPM.
  - Mixture Full Rich
  - Carburetor Heat Off.
  - 2-Foot Skid Height
  - Upstack Exhaust Pipe Installed
  - No M/R Blade Abrasion Tape.

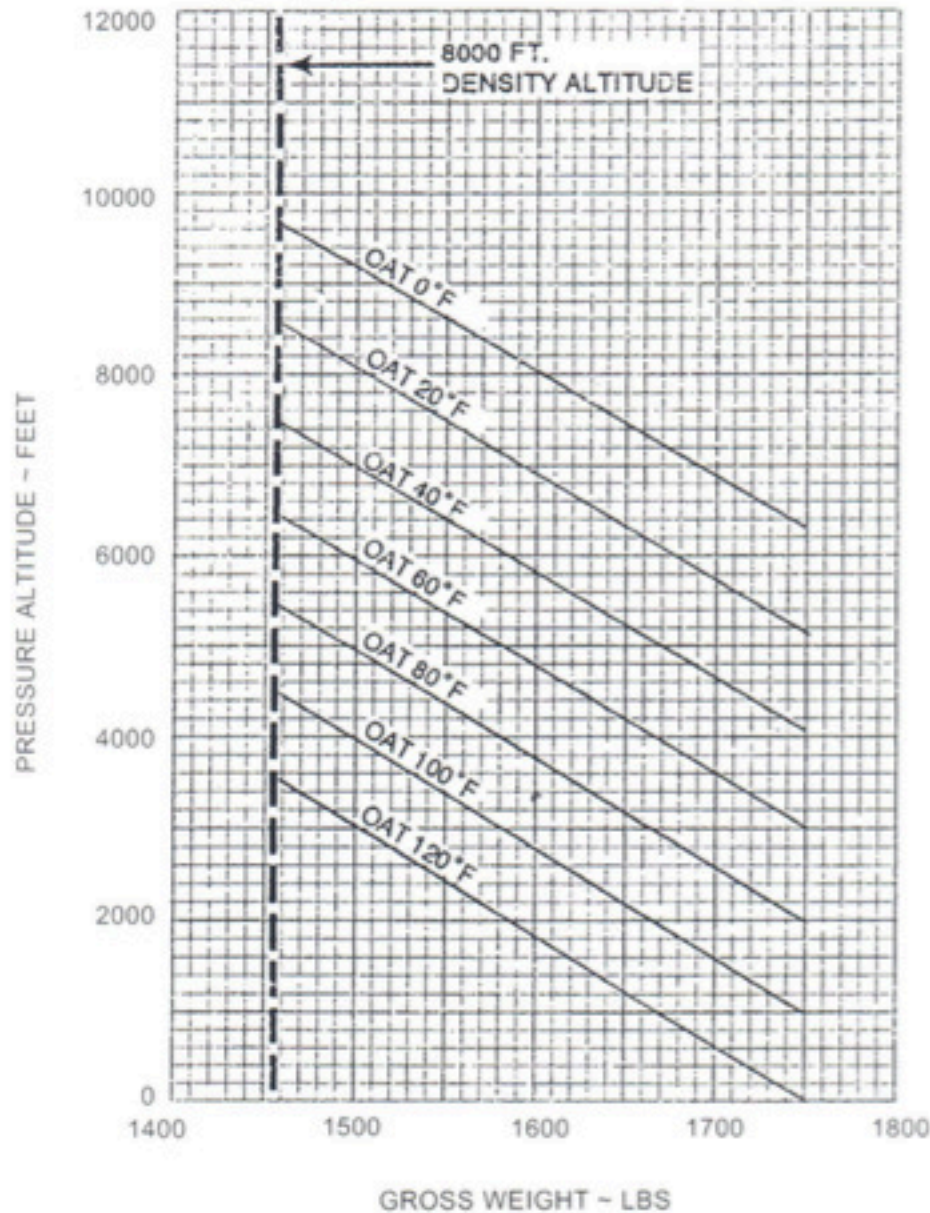


Figure 5-3. In Ground Effect Hover Ceiling Versus Gross Weight (Helicopters with carbureted engine - HO-360-C1A)



°F	°C
0	-18
20	-7
40	4
60	16
80	27
100	38
120	49

THIS CHART BASED ON:

- Full Throttle at 2700 RPM.
- Mixture Leaned
- Carburetor Heat Off.
- 2-Foot Skid Height
- Upstack Exhaust Pipe Installed
- No M/R Blade Abrasion Tape.

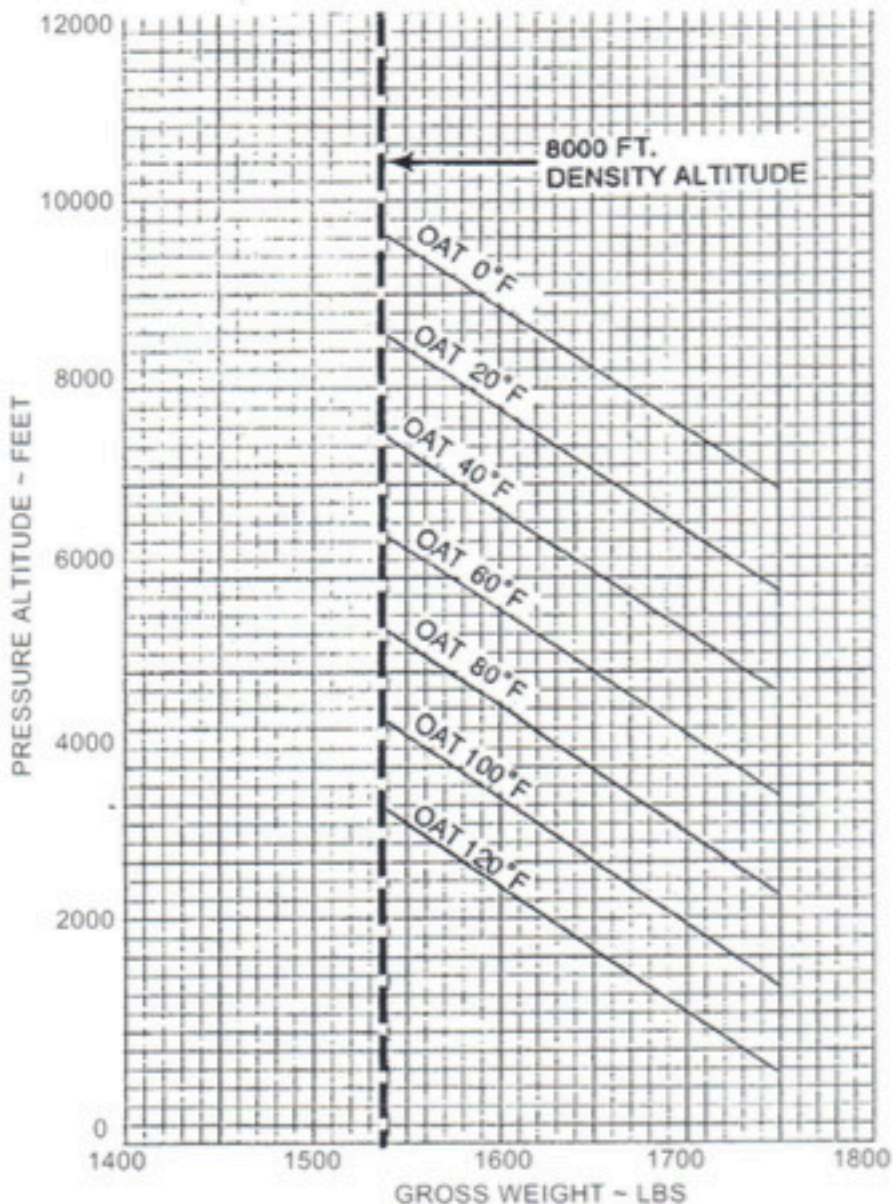


Figure 5-4. In Ground Effect Hover Ceiling Versus Gross Weight  
(Helicopters with carbureted engine - HO-360-C1A)

EXAMPLE:

CONDITIONS: 6,000 FT PRESSURE ALTITUDE, 15°C OAT, 100 IAS

- FIND DENSITY ALTITUDE -

FOLLOW -15°C LINE TO 6,000 FT PRESSURE ALTITUDE

LINE: READ DENSITY ALTITUDE (3780 FT)

- FIND  $1/\sqrt{\sigma}$  (SIGMA) FACTOR -

READ DIRECTLY ACROSS FROM DENSITY ALTITUDE, (3780) = 1.058 =  $1/\sqrt{\sigma}$  (SIGMA)

100 IAS = 98.5 CAS

98.5 CAS X 1.058 = 104.2; ROUND TO 104.0 TRUE AIRSPEED

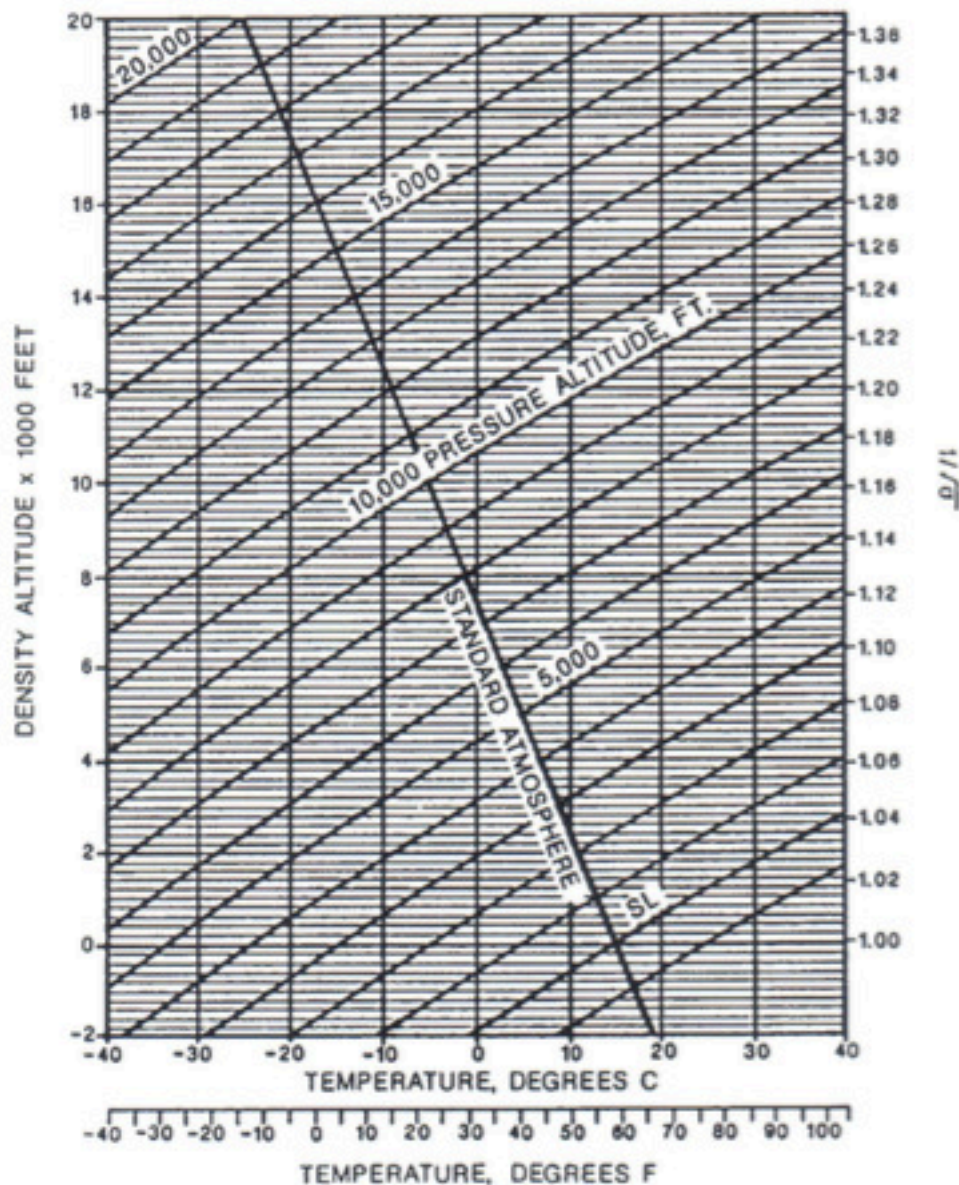


Figure 5-5. Density Altitude Chart



b. Center of Gravity Limits

Approved Longitudinal Forward  
Center of Gravity Limit                      Station 95

Approved Longitudinal Aft Center  
of Gravity Limit                              Station 101

Approved Lateral Center of Grav-  
ity Limits                                      See Figure 6-1

Lateral "+" is right of centerline, lateral "-" is left of centerline when look-  
ing forward. See Figure 6-3.

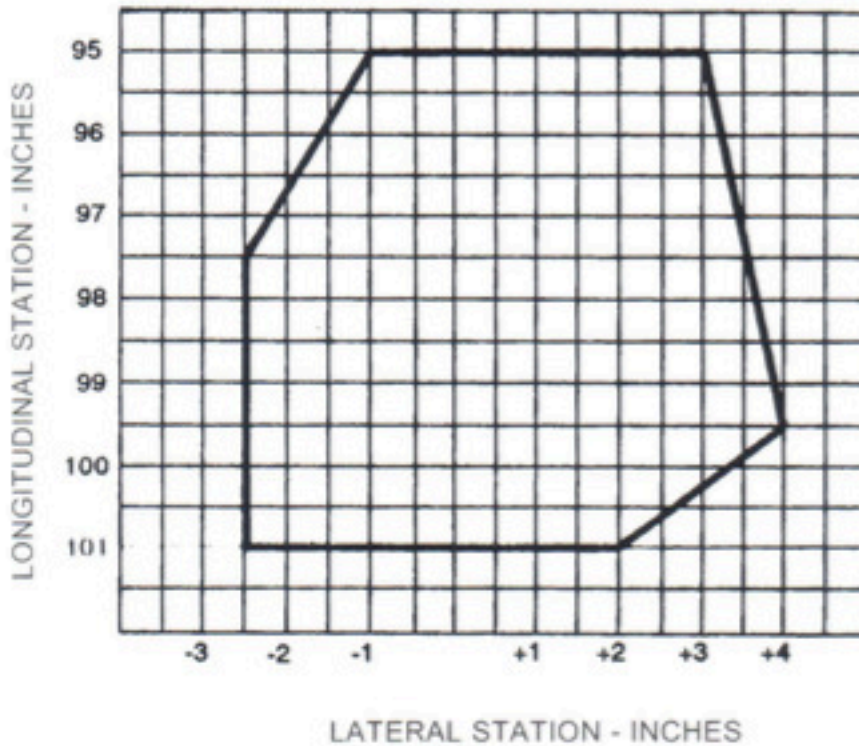


Figure 6-1. Center of Gravity Envelope