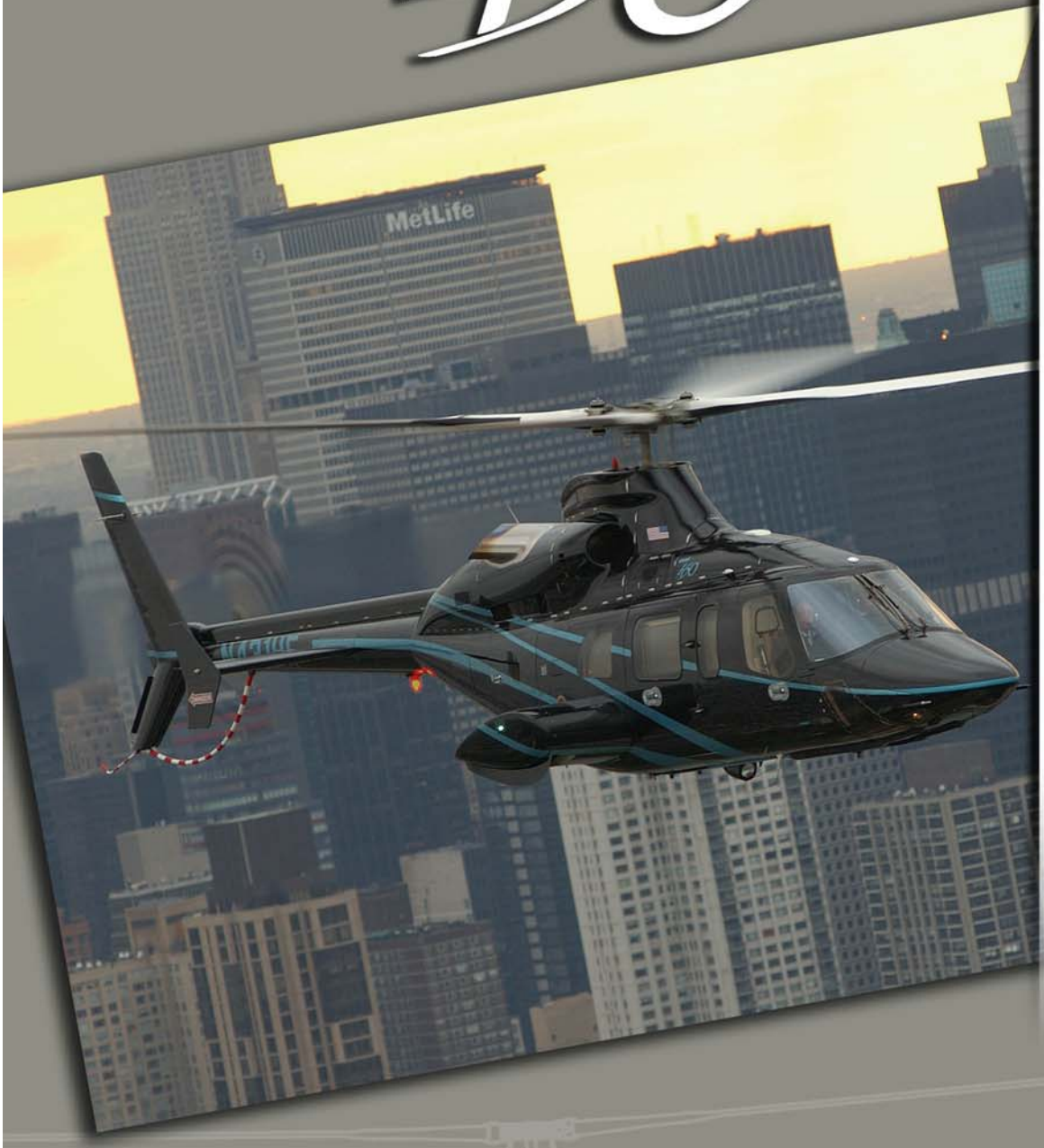
Bell 430

Bell Helicopter
A Textron Company



SPECIFICATIONS

PRODUCT SPECIFICATIONS
JANUARY 2005

For additional information visit the Bell Helicopter Textron Website

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PUBLISHERS NOTICE

The data presented in this document is general in nature, and has been compiled from Bell Helicopter Textron, Inc. [BHTI] source materials including but not limited to; The Approved Rotorcraft Flight Manual, Maintenance Manual, Illustrated Parts Catalog, and other engineering design specifications.

This document is intended for the use of **BHTI Sales Personnel** and for **prospective customers** as an aid in determining estimated weight and performance of the helicopter when configured with equipment for specific missions.

Disclosure, reproduction, or use of any material in this document by persons other than BHTI employees, and BHTI independent representatives [International Dealers] is **forbidden** without written permission from Bell Helicopter Textron.

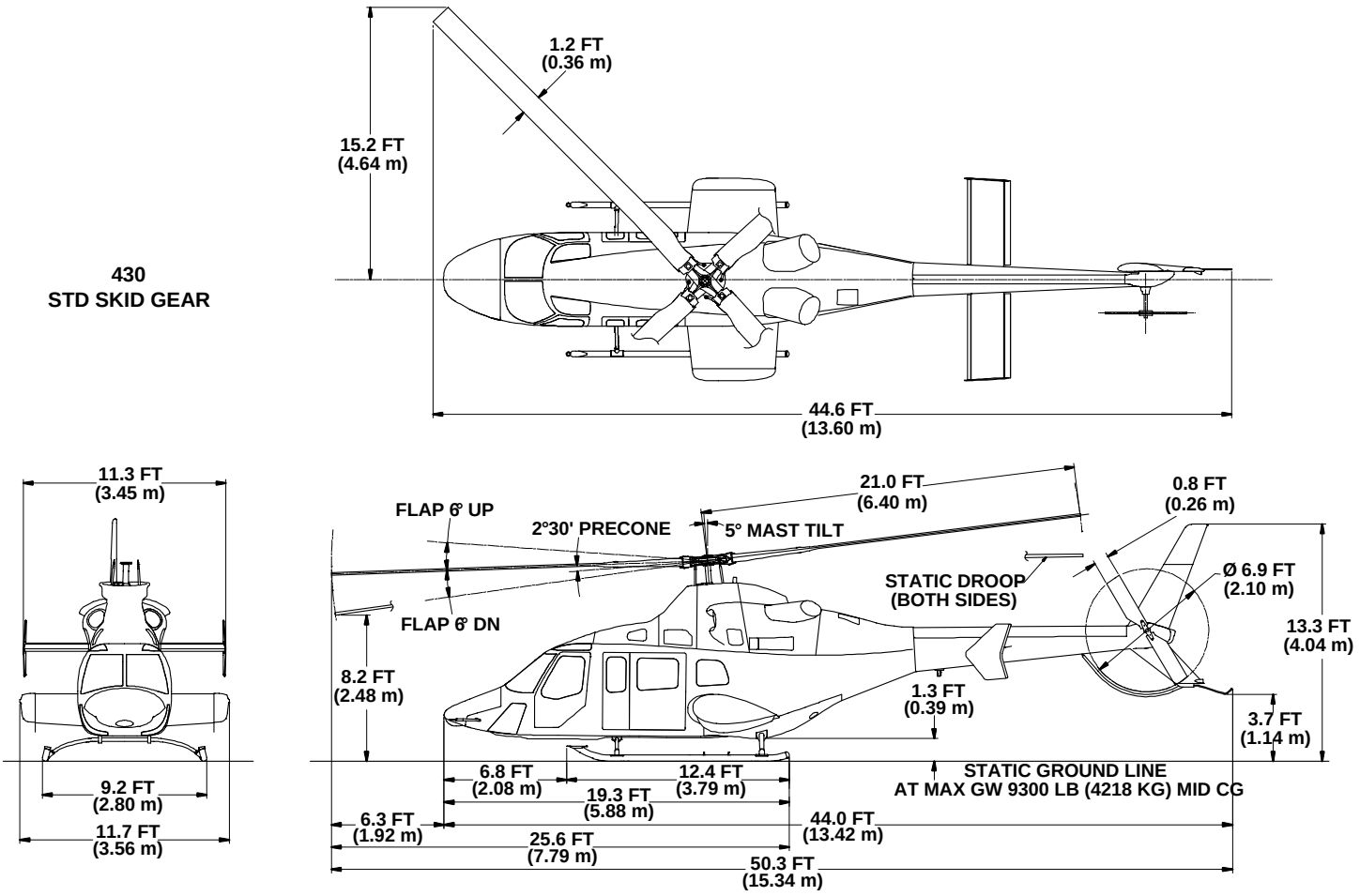
The Part Numbers of Optional Equipment [KITS] are subject to revision and change, and also may be different for specific serial number helicopters or special custom configurations. Please consult the *NOTES* found in the right margins of the optional equipment list pages for **equipment compatibility**. The continuing product improvement process of BHTI may cause some components, equipment, and compatibility to be changed or replaced.

The SPECIFICATIONS, WEIGHTS, DIMENSIONS, AND PERFORMANCE DATA shown in this document are subject to change without notice.

EXTERIOR DIMENSIONS - SKID GEAR

STANDARD LOW SKID GEAR

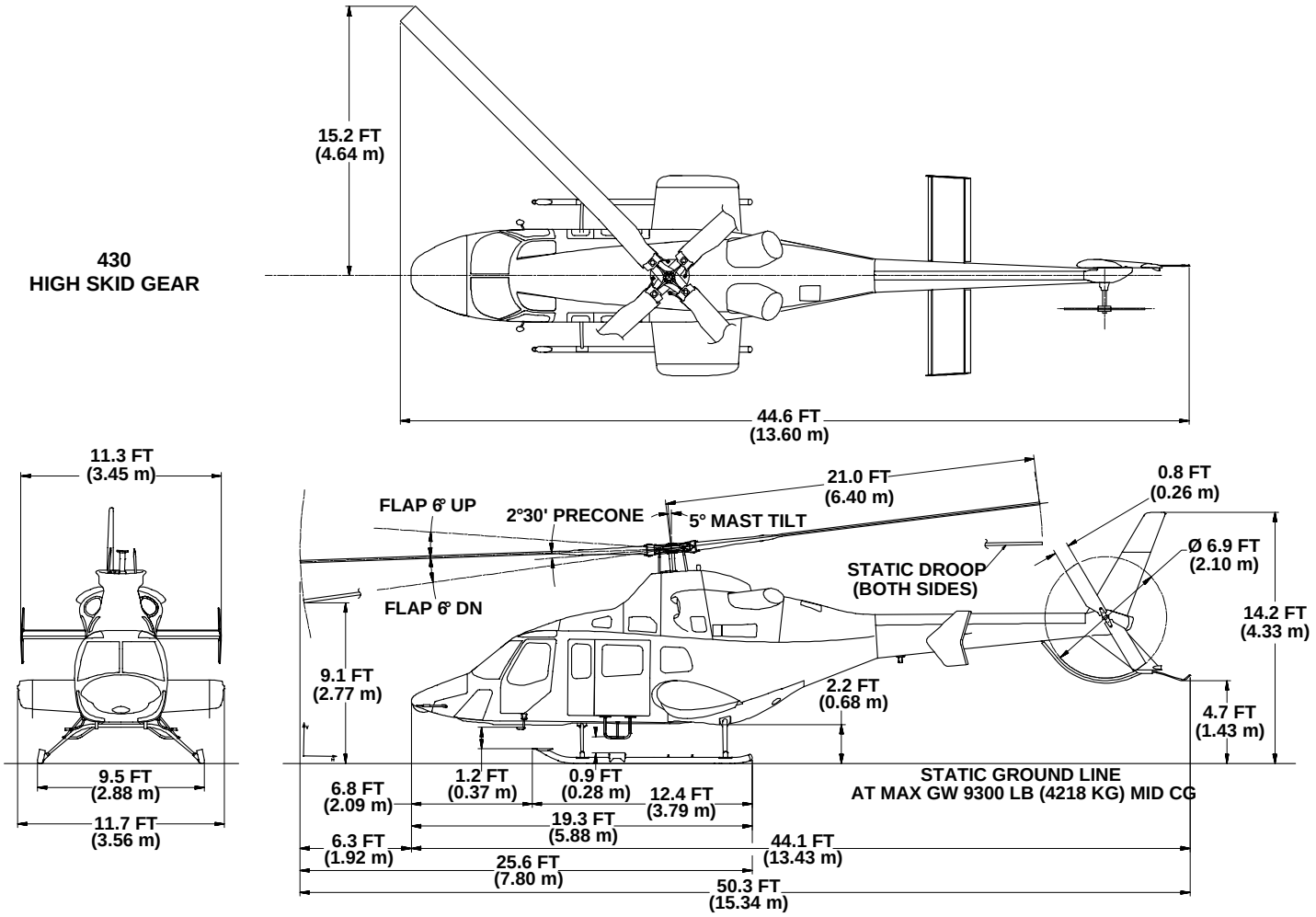
430
STD SKID GEAR



Specifications subject to change without notice.

OPTIONAL HIGH SKID GEAR

430
HIGH SKID GEAR

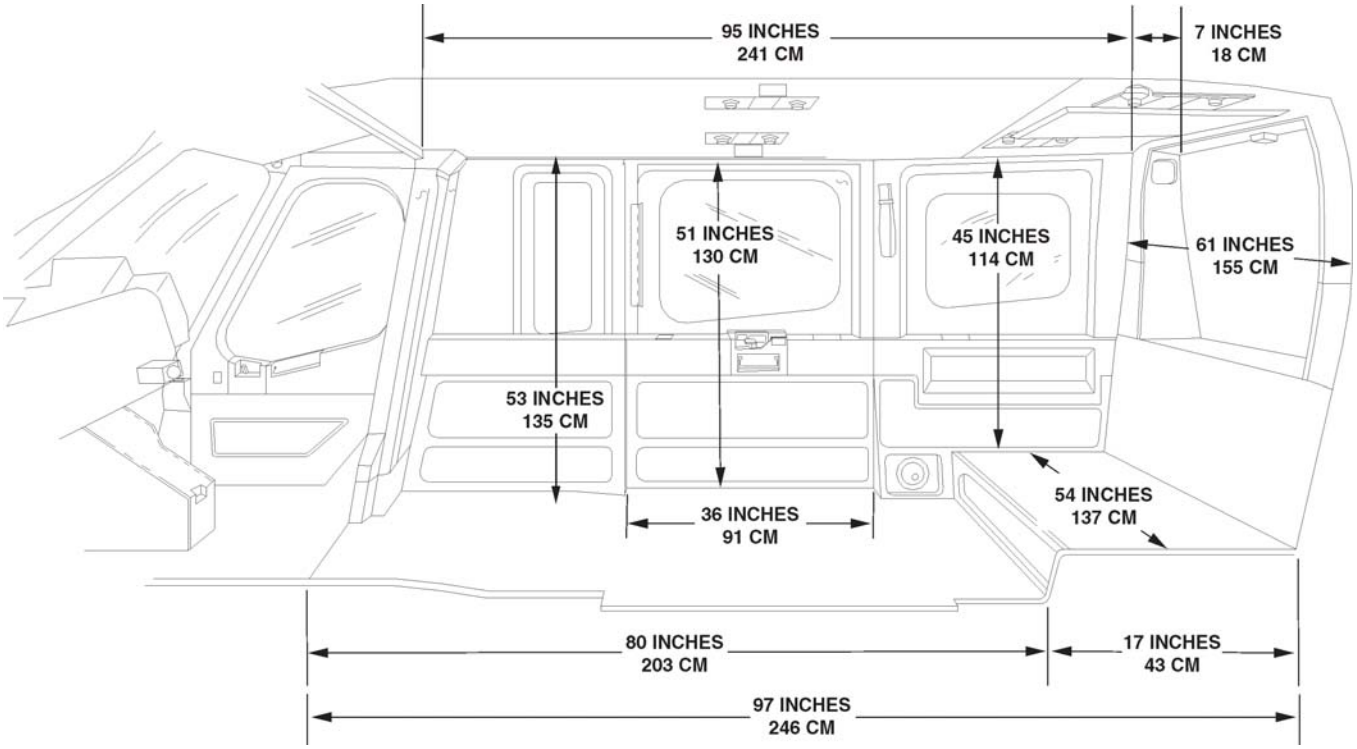


MINIMUM HANGAR SPACE*
30.9 FT X 44.6 FT
[9.4 M X 13.6 M]

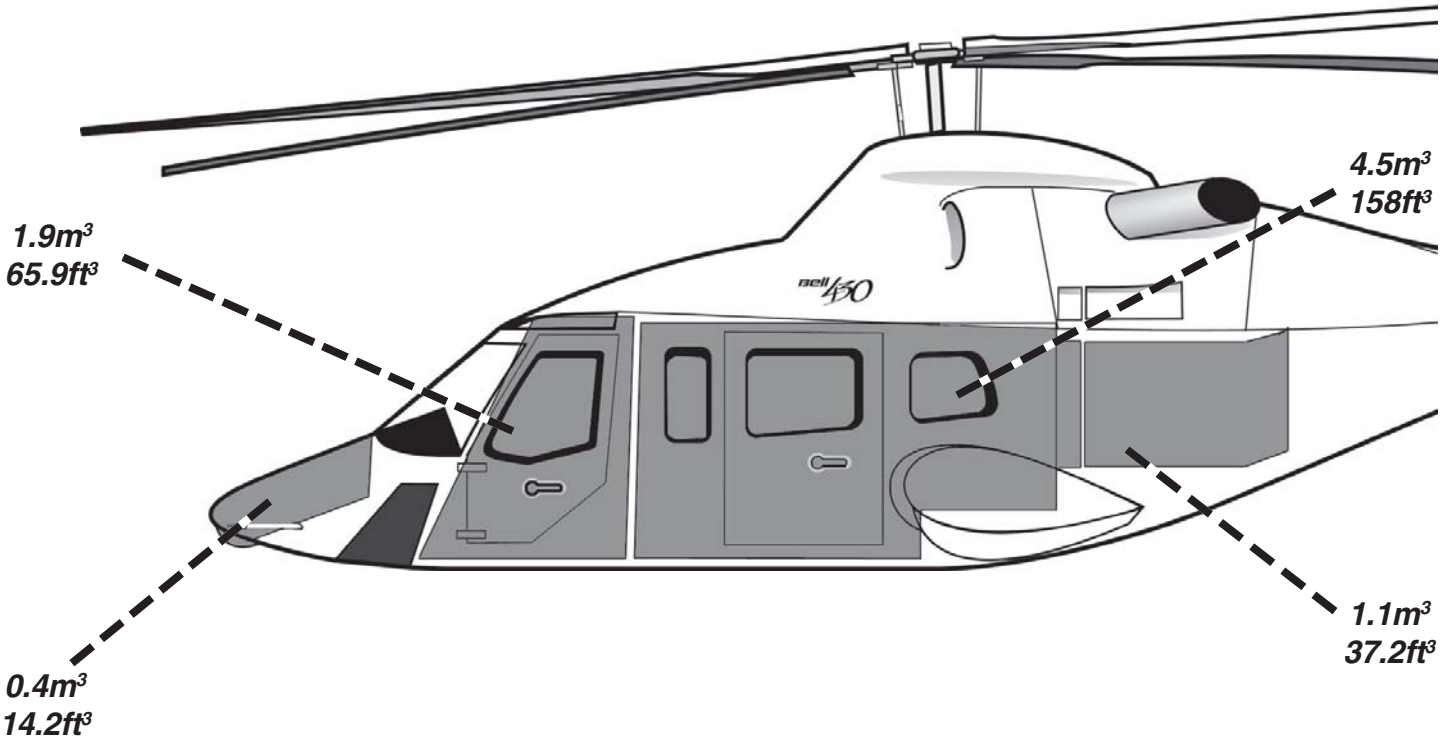
*ALLOWANCE SHOULD BE MADE FOR HIGH SKID GEAR AND / OR GROUND WHEELS AND DOOR LIP WHEN CONSIDERING HANGAR DOOR WIDTH AND HEIGHT

Specifications subject to change without notice.

DIMENSIONS - CABIN



INTERNAL VOLUMES



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SPECIFICATION SUMMARY (U.S. UNITS) - SKID GEAR

(Serial No. 49107 & Subsequent)

WEIGHTS

	LBS
Standard Configuration Weight (Note 1)	5331
Normal Gross Weight	9300
External Gross Weight	9300
Standard Configuration Useful Load (Normal Gross Wt - Standard Configuration Wt)	3969
Maximum External Load [Cargo Hook Limit]	2800

Note 1: Includes thirty-five pounds of engine oil. Ballast is not included in standard configuration weight (ballast is function of installed equipment).

PERFORMANCE SUMMARY: (INTERNATIONAL STANDARD DAY EXCEPT AS NOTED)

• • • REFER TO DEMONSTRATED TAKEOFF & LANDING AND MAXIMUM OPERATING ALTITUDE NOTES ON THE PERFORMANCE CHARTS • • •

TAKEOFF, GROSS WEIGHT		Lbs	7500	8000	8500	9000	9300
IGE Hovering Ceiling	ISA	ft	17,200	15,200	13,200	11,400	10,400
	ISA+20C	ft	13,400	11,000	9000	6900	5600
OGE Hovering Ceiling	ISA	ft	14,600	12,600	10,650	8800	6200
	ISA+20C	ft	10,900	8700	6500	4300	3000
Service Ceiling (MCP) - AEO	ISA	ft	20,000	20,000	18,650	17,000	16,180
(30-minute) - OEI	ISA	ft	14,150	12,450	10,700	9200	8300
(continuous) - OEI	ISA	ft	13,590	11,840	10,190	8630	7740
Cruise @ Sea Level ISA							
Maximum Continuous Speed		ktas	143	142	141	140	139
Long Range Cruise Speed (average)		ktas	130	130	131	131	131
Range at LRC, No Reserve		nm	367	364	360	355	353
Category A Takeoff and Landing Ceiling (Note 2)							
Ground Level or Elevated Helipad							
	ISA	ft	8000	6000	3600	1200	(Note 2)
	ISA+20C	ft	5400	3400	1000	8730 lbs @SL	(Note2)
Endurance, @ Loiter 65 kts	ISA	hr					3.8

Note 2: Maximum approved weight for Category A operations is 9000 pounds(4082 Kg).

ENGINE RATINGS:		Uninstalled Thermodynamic Shaft Horsepower	Engine Rated Shaft Horse-power
Rolls-Royce 250-C40B with Full Authority Digital Electronic Control			
Takeoff Power (5 Minutes)	SHP	808	747
Maximum Continuous Power	SHP	695	618
OEI (30 seconds)	SHP	940	844
OEI (2 minute)	SHP	880	811
OEI (30 minute)	SHP	835	789
OEI (Continuous)	SHP	808	747

TRANSMISSION RATING:	OEI (@ Input)		AEO (@ Mast)	
30 Second	SHP	844		
2 Minutes	SHP	811		
Takeoff Power (5 Minutes)			RHP	1045
Continuous	SHP	714	RHP	989

FUEL CAPACITY (USABLE):

Skid Landing Gear	247 US Gallons
Auxiliary(Optional)	48 US Gallons

SPECIFICATION SUMMARY (METRIC UNITS) - SKID GEAR

(Serial No. 49107 & Subsequent)

WEIGHTS

	KG
Standard Configuration Weight (Note 1)	2418
Normal Gross Weight	4218
External Gross Weight	4218
Standard Configuration Useful Load (Normal Gross Wt - Standard Configuration Wt)	1800
Maximum External Load [Cargo Hook Limit]	1270

Note 1: Includes sixteen kilograms of engine oil. Ballast is not included in standard configuration weight (ballast is function of installed equipment).

PERFORMANCE SUMMARY: (INTERNATIONAL STANDARD DAY EXCEPT AS NOTED)

• • • REFER TO DEMONSTRATED TAKEOFF & LANDING AND MAXIMUM OPERATING ALTITUDE NOTES ON THE PERFORMANCE CHARTS • •

TAKEOFF, GROSS WEIGHT		Kg	3400	3625	3850	4080	4218
IGE Hovering Ceiling	ISA	m	5243	4632	4023	3475	3170
	ISA+20C	m	4084	3383	2743	2103	1707
OGE Hovering Ceiling	ISA	m	4450	3840	3246	2682	1890
	ISA+20C	m	3322	2652	1981	1311	914
Service Ceiling (MCP) - AEO	ISA	m	6096	6096	5685	5212	4932
(30-minute) - OEI	ISA	m	4313	3795	3261	2804	2530
(continuous) - OEI	ISA	m	4142	3609	3106	2630	2359
Cruise @ Sea Level ISA							
Maximum Continuous Speed		km/h	265	263	261	259	258
Long Range Cruise Speed (average)		km/h	241	241	243	243	243
Range at LRC, No Reserve		km	680	675	667	658	654
Category A Takeoff and Landing Ceiling (Note 2)							
Ground Level or Elevated Helipad							
	ISA	m	2438	1829	1097	366	(Note 2)
	ISA+20C	m	1646	975	305	3960 Kg @SL	(Note 2)
Endurance, @ Loiter 120 km/h	ISA	hr					3.8

Note 2: Maximum approved weight for Category A operations is 9000 pounds(4082 Kg).

ENGINE RATINGS:

Rolls-Royce 250-C40B with Full Authority Digital Electronic Control		Uninstalled Thermodynamic Kilowatts	Engine Rated Kilowatts
Takeoff Power (5 Minutes)	kW	603	557
Maximum Continuous Power	kW	518	461
OEI (30 seconds)	kW	701	629
OEI (2 minute)	kW	656	605
OEI (30 minute)	kW	623	588
OEI (Continuous)	kW	603	557

TRANSMISSION RATING:

	OEI (@ Input)		AEO (@ Mast)	
30 Second	kW	629		
2 Minutes	kW	605		
Takeoff Power (5 Minutes)			kW	779
Continuous	kW	532	kW	738

FUEL CAPACITY (USABLE):

Skid Landing Gear	935 Liters
Auxiliary(Optional)	182 Liters

THE DATA SET FORTH ON THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL.

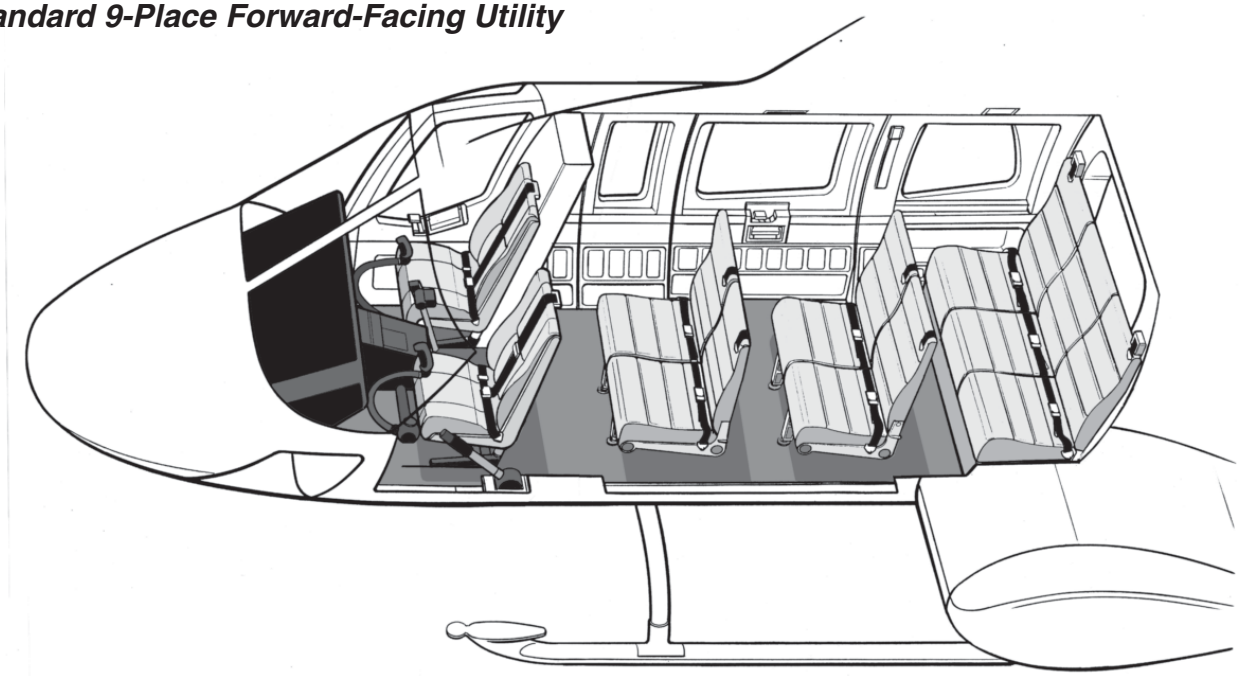
430 SEATING

CREW SEATS *- Two individual* ***energy attenuating*** *seats, fore/aft and up/down adjustable, each equipped with seat belt,* ***double strap*** *shoulder harness and inertia reel. Available with Grey, Blue, Red, or Tan* ***fabric*** *upholstery which will match that selected for the cabin. Seat belts are black. All leather, all vinyl, or sheep skin [Fleece] is available as an* ***extra cost option****.*

STANDARD SEATING *- Seven* ***fabric*** *covered high-backed* ***non-folding*** *seats with individual seat belts and* ***single strap*** *shoulder harness and inertia reel, arranged with two rows of two, and one row of three forward facing seats. Available in with Grey, Blue, Red, or Tan fabric covered cushions. (108.6 lbs. [49.3 Kg.]* ***included*** *in the standard configuration weight.) All* ***leather*** *or* ***vinyl*** *is available as an* ***extra cost option****. This configurations also available with* ***optional*** *energy attenuating (either* ***with*** *or* ***without*** *folding seatbacks) passenger seats.*

STANDARD INTERIOR TRIM *- The standard interior trim consists of full plastic closeouts on sidewalls / window reveals, hat box, and control column; vinyl covered arm rests; lower sidewalls are medium gray ABS plastic; and molded plastic headliner. The floor is covered in low loop blend carpet. The standard seating and interior trim are included in the basic aircraft weight.(89.3 lbs. [40.5 Kg.]).*

Standard 9-Place Forward-Facing Utility



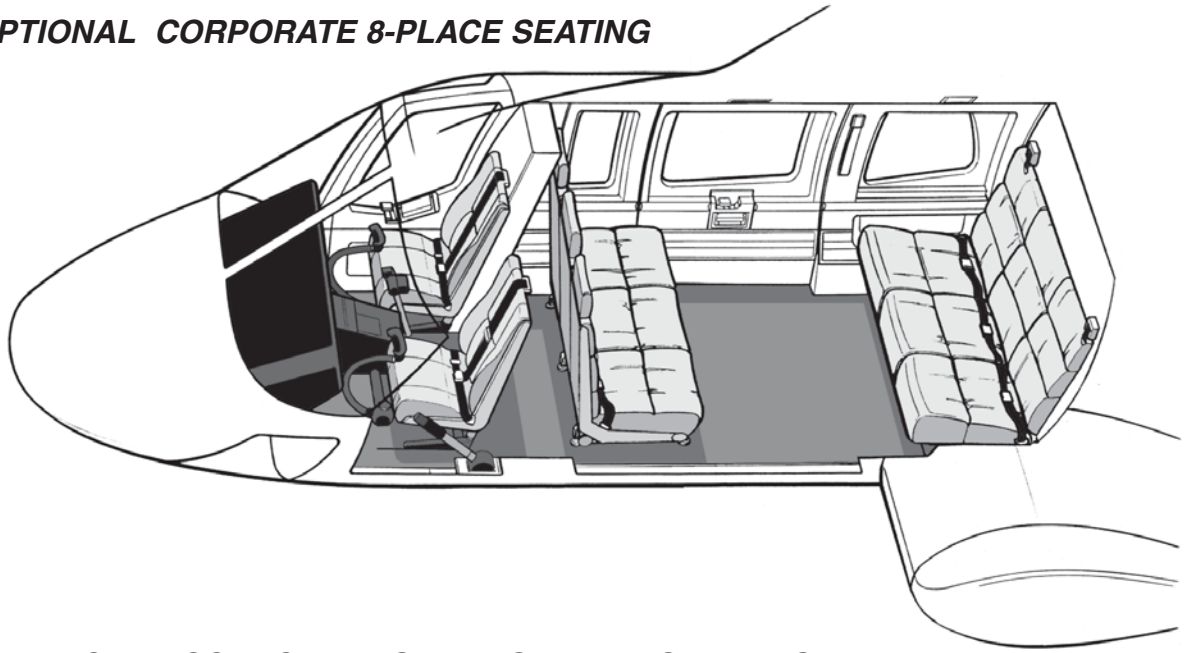
CORPORATE 8-PLACE SEATING *- Six deep bolstered fine wool fabric covered high-backed seats with individual seat belts and* ***single strap*** *shoulder harness and inertia reel, arranged with one row of three facing rearward, and one row of three facing forward. Available with Pewter, Mushroom, Dark Blue, Saddle, Burgundy, Smoke Grey, and Forest Green upholstery with color coordinated seat belts (Crew seat belts are black). Seats can be all fabric (basic ship), optional leather with fabric inserts or all leather with perforated leather inserts. When installed a net increase of 12.6 lbs. [5.7 Kg.].*

CORPORATE INTERIOR TRIM - *This* ***optional*** *higher level of interior trim complements the corporate seating, but may also be specified with the standard seating, and includes: Floor covered with tightly woven wool carpet; Side wall armrests covered in color coordinated leather, with fine hardwood accent trim; Color coordinated leather covering for the crew and passenger seat backs; Decorative accent fabric covering for the aft cabin bulkhead and small control column bulkhead. When installed a net increase of 12.1 lbs. [5.5 Kg.].*

Specifications subject to change without notice.

430 SEATING (continued);

OPTIONAL CORPORATE 8-PLACE SEATING



ADDITIONAL CORPORATE SEATING ARRANGEMENTS - *Cabin seating options with* ***four*** *or* ***five*** *passenger seats, and one or two refreshment / entertainment cabinets are also available;*

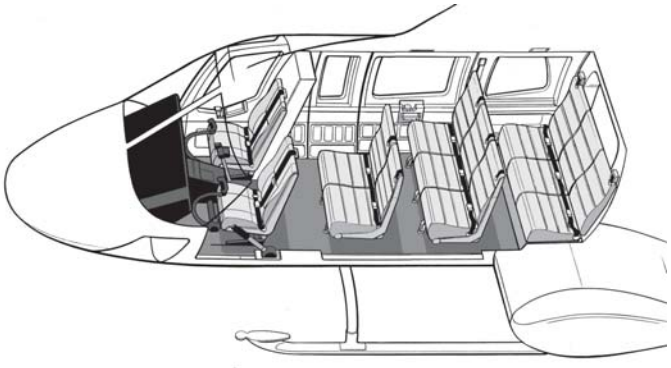
CORPORATE 7-Place Seating w/one cabinet [66.2 lbs. (30.0 Kg.), net -22.6 lbs. (-10.3 Kg.)]

CORPORATE 6-Place Seating w/two cabinets [Customized, net +35 to 50 lbs.(+16 to 25 Kg.)]

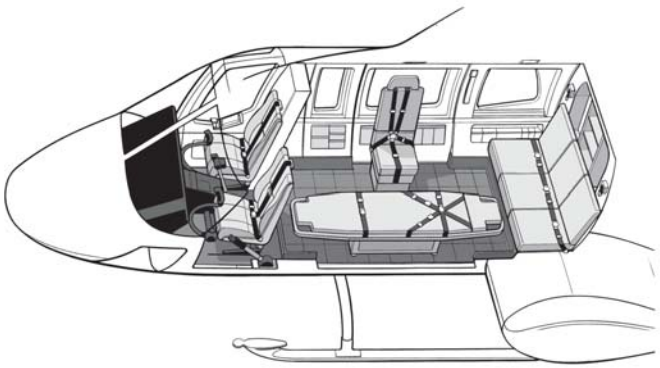
CUSTOMIZED 10-PLACE FORWARD FACING SEATING - *Nine fabric covered high-backed* ***energy attenuating*** *seats with individual seat belts and* ***single strap*** *shoulder harness and inertia reel, arranged with one row of two, and two rows of three forward facing seats. The outboard two seats in the middle row* ***fold forward*** *to provide access to the rear row. Available with Grey, Blue, Red, or Tan fabric covered cushions. (When installed a net increase of 43.1 lbs. [19.6 Kg.]). All leather or vinyl is available as an* ***extra cost option****.*

CUSTOMIZED EMS - Single Pivoting Litter [illustrated below] - *Customized EMS interiors are available to meet a broad range of Hospital Based or Public Agency medical transport and critical care requirements. The Bell 430 cabin offers ample space for either single or dual pivoting litter installations. The 158 cubic foot (4.5 M³) cabin volume provides an unmatched work area for multiple medical attendants, with care provided at the head of the patient, along with a complete complement of fixed life support equipment [An additional 37 cubic feet (1.1 M³) of space located in the cabin accessible baggage compartment].*

CUSTOMIZED 10-PLACE FORWARD FACING



CUSTOMIZED EMS-Single Pivioting Litter



Specifications subject to change without notice.

Standard Configuration

(Items Included in List Price)

AIRFRAME

- Aluminum fuselage, integral tail boom
- Vertical tail fin with tail skid and rotor guard
- Horizontal stabilizer with leading edge slats and end plates
- Four doors, two each (left & right) for crew compartment and passenger cabin [Left hand hinged panel door for litter access is available as an option]
- Two glass windshields with electric wipers
- Tinted acrylic windows in crew doors, each side of lower nose and skylights
- 6 tinted acrylic windows in aft cabin
- Corrosion prevention treatment throughout
- Three color polyurethane finish applied per BHT paint schemes included in list price. *Special paint schemes quoted on request.
- Two wings, housing fuel cells
- Separate baggage compartment with flush handle, two point latching, smoke detector and door lock
- Mooring, jacking, hoisting, and towing provisions
- Kick-in and fold down maintenance steps on both sides
- Cabin roof mounted maintenance platforms on both sides
- Cowlings for dynamic components with hinged inspection doors
- Electrical and avionics compartment in nose and aft fuselage
- Skid landing gear (retractable wheel landing gear optional).

INTERIOR

- Deluxe interior, 4 color coordinated selections
- Soundproofed interior (Soundproofing is not included in standard weight, but provided at no charge unless customer specifies deletion.)
- 8 ash trays
- Pilot approach plate holder
- Portable fire extinguisher
- First aid kit
- Map and data pocket in each crew door
- Floor covering throughout
- Parcel shelf behind rear row seats
- Nose-mounted, ram-air ventilation system with 2-adjustable ceiling vents in cockpit and 8 in aft cabin
- Floor fittings designed for quick disconnect of seats or equipment
- Seating (9-place standard)
- Cockpit-2 adjustable energy attenuating seats with seat belts and inertia reel shoulder harnesses
- Aft cabin-7 passenger seats with individual belts and shoulder harnesses

POWER PLANT

- Two fully isolated Rolls-Royce 250-C40 turboshaft engines with independent:
  - Oil reservoir and cooler
  - Titanium/fireproof composite/aluminum forward firewall
  - Titanium engine deck and dividing firewall
  - Titanium/aluminum aft firewall
  - Fire detector and interconnected extinguisher system
  - Electrically operated bleed-air engine anti-ice
  - Full authority digital electronic control (FADEC)
  - NR trim (beep) switch
  - Torque/MGT matching switch
  - Compressor wash attachment
  - Scavenge oil filter
  - Fuzz-burning chip detectors
- Dual interconnect fuel system:
  - 247 US gallons (935 liters) of usable fuel in 5 crash-resistant cells with breakaway fittings at wing to fuselage connections. Each system has an engine mounted suction pump, and electrically controlled interconnect valve, priming pump, filter and remote push-button fuel sump drain. (Note: With optional wheel gear installed, standard fuel capacity is 187.5 US gallons [710 liters].)

TRANSMISSION AND DRIVE SYSTEMS

- One 3 stage (2 bevel and 1 planetary gear) reduction transmission
- Fluid filled pylon mounts suspension with elastomeric pads and dual inputs from engines
- Main rotor mast torque measurement
- Six (fuzz burning) main transmission chip detectors
- Internal wet-sump transmission lubrication with external oil cooler
- Two transmission-mounted hydraulic pumps
- Free-wheeling unit at each power input
- Segmented tail rotor driveshaft
- Single stage, bevel gear, 90 deg tail rotor gearbox with splash lubrication
- One (fuzz burning) tail rotor gearbox chip detector

ROTORS AND CONTROLS

- Pilot flight controls
- Mechanical control linkages
- Adjustable friction controls on cyclic and collective
- Adjustable antitorque pedals
- Dual hydraulic system with separate pumps, reservoirs and filters [Dual for main rotor collective and cyclic (PC1 and PC2); Single for tail rotor (PC1); with Ground test provisions]
- Composite hingeless, bearingless main rotor hub with 4 composite main rotor blades
- Main rotor [4-bladed with rectangular tips, composite]
- Tail rotor [2-bladed, Stainless steel]
- Rotor Brake with independent hydraulic system

Specifications subject to change without notice.

Standard Configuration (continued)

INSTRUMENTS

2 electrically heated pitot/static systems. Alternate static source is located on the center pedestal
Four-inch attitude indicator (Sperry GH-206)
Airspeed indicator (knots)
Turn and slip indicator
Altimeter
Vertical speed indicator
Compass system (King KCS-305)
Horizontal situation indicator with course pointer, course deviation bar and glideslope (King Gold Crown KPI-552B)
Standby magnetic compass
Integrated instrument display system (IIDS) incorporating:
- Triple tachometer and triple torquemeter
- Two measured gas temperature (MGT) indicators
- Two gas producer tachometers (NG)
- Transmission oil pressure and temperature indicator
- Two engine oil pressure & temperature indicators
- Two hydraulic oil pressure & temperature indicators
- One dual ammeter
- Fuel quantity and totalizer
- Caution/warning panel
- Clock
- Engine hourmeter
- Outside air temperature indicator
- Chip detector/fuzz burner functions
- Maintenance and power assurance checks
- Generator, battery and inverter voltmeter

EMERGENCY, WARNING AND CAUTION INDICATORS :

ON THE GLARESHIELD;

- Engine out warning (2)
- Engine overspeed warning (2)
- Rotor RPM caution (visual and audio)
- Engine fire warning (2)
- Baggage compartment fire warning
- Master caution/warning-direct attention to annunciation on IIDS:

ON THE IIDS;

- IIDS inoperative
- Transmission over torque
- Chip detection warning (gearboxes)
- Door lock not engaged
- Starter energized
- Rotor brake engaged
- External power connected
- Battery relay
- Battery overheating
- Bus interconnect
- DC generator fail (2)
- Battery temperature too high
- Engine anti-ice (2)
- Engine sump chip (2)
- Engine scavenge chip (2)
- Hydraulic pressure (2)
- Engine fuel filter (2)
- Engine fuel low (2)
- Engine fuel valve (opening) (2)
- Engine oil pressure, low (2)
- Fuel tank interconnect valve open
- Transmission chip
- Transmission oil temperature and pressure
- Tail rotor gearbox chip
- Inverter fail
- Provisions for optional kits and caution / warning parameters

ELECTRICAL

Dual 28 volt dc system; with 2 dc essential buses, 2 dc non-essential buses, and 2 dc emergency buses
One 28 ampere-hour nickel cadmium battery
Two engine mounted 30 volt 200 ampere starter/generator (derated to 180 amps)
Two 250 volt-ampere 26/115 Vac inverters
Two voltage regulators
Ground fault detection system
Interior lighting
White dimmable instrument lighting and utility light in cockpit
4 dome lights in passenger compartment (each has impact switch)
2 map / approach plate lights
Baggage compartment light
Position lights
External power receptacle
Retractable search/landing light (450 watt)
Instrument Panel Storm Lights
Emergency Cockpit Light

COMMUNICATION AND NAVIGATION

KMA 24H-71 ICS/audio panel
King Gold Crown III KTR-908 VHF radio
VHF antenna
Headset

MISCELLANEOUS

Keys for crew, passenger, and baggage compartment doors
Weight and balance handbook/data sheet
Manuals - flight, parts and maintenance
Main and tail rotor tie downs
Cargo tie downs loose
Covers - engine air, oil cooler, exhaust and pitot
Ground handling wheels, hydraulic

Specifications subject to change without notice.

OPTIONAL EQUIPMENT

• • • • • REFER TO NOTES FOR KIT COMPATIBILITY • • • • •

Part Number	Kit Description	Wt (lbs)	Wt (Kg)	Notes
AIRFRAME				
222-706-093-161	EMERGENCY FLOATS (WHEELS), BOTTLE IN BAG CMPT.	212.4	96.3	
222-706-093-163	EMERGENCY FLOATS (SKIDS), BOTTLE IN NOSE	211.5	95.9	(2
222-706-204-113	AUX. FUEL EQUIPMENT (48 GAL.)	61.0	27.7	
222-706-204-143	AUX. FUEL PROVISIONS (48 GAL.)	17.8	8.1	
222-706-206-117	HEATED WINDSHIELD	10.3	4.7	(1
430-705-001-113	RETRACTABLE WHEEL LDG. GEAR **[PRODUCTION OPTION]**	33.7	15.3	(1, 3
430-705-005-111	HIGH SKID LANDING GEAR	41.2	18.7	(1
430-705-722-103	EMERGENCY WINDOWS AFT PASSENGER R/H AND L/H	1.5	0.7	
430-706-007-101	BALLAST INSTALLATION-WHEEL	TBD		
430-706-007-103	BALLAST INSTALLATION-SKIDS	TBD		
AVIONICS				
430-705-502-125	RAD. ALT. KRA-405B w/INDICATOR(E/M and SKIDS)	16.5	7.5	
430-705-502-127	RAD. ALT. KRA-405B w/INDICATOR(E/M and WHEELS)	15.4	7.0	
430-705-503-107	GPS - Basic SCAS/ATT-no Flt. Dir., E/M (KLN 90B)	15.1	6.8	
430-705-503-111	GPS - AFCS/KFC500 w/Flt. Dir., 4-TUBE EFIS (KLN 90B)	14.5	6.6	
430-705-509-103	ELT POINTER 4000	4.8	2.2	
430-706-004-105	VNE COMPUTER & ASSOCIATED HORN	10.1	4.6	(4
ENGINE				
230-706-501-107	PARTICLE SEPARATOR	28.0	12.7	(1
ENVIRONMENT				
222-706-018-119	ENVIRONMENTAL CONTROL SYSTEM	98.5	44.7	
EQUIPMENT				
222-706-014-103	CO-PILOT WHEEL BRAKES	4.3	2.0	
430-706-905-105	CARGO HOOK PROVISIONS	2.9	1.3	
222-706-904-107	CARGO HOOK EQUIPMENT (2800 LBS CAP.)	38.1	17.3	
230-706-502-115	SNOW BAFFLES	3.8	1.7	
430-705-006-103	EXTERNAL LIFE RAFT w/DEPLOY SYSTEM	102.4	46.4	(5
430-705-020-103	L/H LITTER DOOR	14.2	6.4	
430-706-002-101	SECOND LANDING LIGHT	4.3	2.0	(4
430-706-005-103	RESCUE HOIST EQUIPMENT (600 lbs/272kg capacity)	152.0	68.9	(5, 6
430-706-005-105	RESCUE HOIST PROVISIONS	28.4	12.9	
430-706-008-103	SKIDGUARD FOR HOIST	0.8	0.4	(6
INSTRUMENT				
430-705-004-107	COCKPIT VOICE RECORDER	13.9	6.3	
INTERIOR				
230-705-700-109	8 PLACE UTILITY SEATING	-6.0	-2.7	(1, 6
230-705-700-111	7 PLACE CORPORATE SEATING W/ BLANK FOR OPTIONS	-22.6	-10.3	(1
230-705-700-113	8 PLACE CORPORATE SEATING	12.6	5.7	(1
230-705-720-103	9 PLACE UTILITY SEATING W/O FOLDING BACKS	12.2	5.5	(1, 5, 6
230-705-725-103	9 PLACE UTILITY SEATING W/ FOLDING BACKS	19.1	8.7	(1, 5, 6
230-705-730-103	10 PLACE UTILITY SEATING W/ FOLDING BACKS	43.1	19.6	(1, 5, 6
430-705-003-101	11 PLACE UTILITY SEATING	71.8	32.6	(1, 5, 6
222-705-801-111	CREW SEATS CORPORATE	0.0	0.0	(1
430-705-850-103	CORPORATE INTERIOR	12.1	5.5	(1

Specifications subject to change without notice.

OPTIONAL EQUIPMENT (continued)

• • • • • REFER TO NOTES FOR KIT COMPATIBILITY • • • • •

Part Number	Kit Description	Wt (lbs)	Wt (Kg)	Notes
INTERIOR (continued)				
430-706-022-101	STANDARD SOUNDPROOFING	80.1	36.3	(7
430-706-022-103	STANDARD SOUNDPROOFING W/O AUX. FUEL	14.9	6.8	(7
430-706-022-105	STANDARD SOUNDPROOFING W/ AUX. FUEL	15.2	6.9	(7
430-706-021-101	CORPORATE SOUNDPROOFING	75.0	34.0	(7
430-706-021-103	CORPORATE SOUNDPROOFING W/O AUX FUEL	14.8	6.7	(7
430-706-021-105	CORPORATE SOUNDPROOFING W/ AUX. FUEL	15.2	6.9	(7
PAINT				
HIGH VISIBILITY	MARKINGS FOR HIGH VIS. M/R BLADES (WHITE & ORANGE)	0.0	0.0	(8
STC's				
EQUIPMENT				
WPSP	WIRE STRIKE - RECOMMENDED KIT - SEE NOTE			
	Low Gear & Retractable Wheels	23.4	10.6	(9
	High Gear	23.9	10.8	(9
Credits				
PAINT				
NO EXTERIOR	NO EXTERIOR PAINT	-35.0	-15.9	
WHITE	WHITE PAINT ONLY	0.0	0.0	

All equipment kits require Provision Kits prior to installation

Notes: For commonality, notes shown below are identical in Product Specification and Price List.

1) Price and / or Weight includes credit for basic ship hardware removed.

2) Emergency Floats (Skids) with Bottle in Bag. Compartment is available as Customizing. Approximate weight 200.1 lbs (90.8 kg). Emergency Floats NOT compatible with High Skid Landing Gear.

3) PRODUCTION OPTION, NOT A KIT.

4) VNE Computer & Horn is REQUIRED for ALL Category A Operations; The Second Landing Light is REQUIRED for ANY NIGHT Category A Operation; Additional Cat A equipment and crew requirements are specified in the Instrument Flight Rules & AFCS Configurations Pages (immediately following).

5) The External Life Raft Kit is ONLY compatible with the ALL forward facing cabin seating configurations (the 9 place utility configurations, with or without folding seatbacks, or the 10 place utility configuration with folding seatbacks). NOT compatible with the External Rescue Hoist.

6) When the Hoist Equipment is installed, the forward facing two place modules of basic seating must be located on the opposite side of the cabin from the hoist (left). If high density seating is installed, the center forward facing three place module must be removed. Standard or High Skid Landing Gear REQUIRES the Skid Cable Guard.

7) Standard Soundproofing is not included in the Std. Config. Weight, but is installed in ALL ships, at no charge, unless customer requests deletion. Complete installation of either Standard or (optional at extra cost) Corporate Soundproofing requires a -101 kit plus either a -103 or -105 kit.

8) Standard or High Visibility Main Rotor Blade Paint to be specified by Sales Order.

9) The Wire Strike Kit is a RECOMMENDED **extra cost** option. The customer must specify on the Purchase Agreement for the WSPS Kit **NOT** to be installed.

STC Kits - Select Supplemental Type Certificated Optional Equipment Kits are available for installation at the Bell Helicopter Textron factory. Please contact your Bell Sales Representative for availability and pricing information.

P.O.R. - Priced On Request.

Specifications subject to change without notice.

INSTRUMENT FLIGHT RULES & AFCS CONFIGURATIONS

*The Bell 430 is **FAA Certificated** for **IFR operation** when equipped as specified in the Factory IFR Configurations listed below;*

DUAL PILOT IFR (with Basic SCAS/ATT)-No Flight Director-Electromechanical Instruments (No EFIS)

VFR or IFR Category A Operations require selection of ONE of the EFIS/AFCS configurations below, AND the addition of the OPTIONAL Category A VNE Computer & Warning Audio. NIGHT Category A Operations reguires the addition of the OPTIONAL Second Landing Light. Elevated Helipad Category A must be conducted by TWO pilots. Ground level helipad Category A operations may be conducted by a single pilot.

DUAL PILOT IFR (w/4 tube EFIS)-Single AFCS/KFC-500 w/Flight Director

DUAL PILOT IFR WITH SINGLE PILOT IFR CAPABILITY (w/ 4 tube EFIS) -Dual AFCS/KFC-500 w/Flight Director

Equipment included in each configuration and installed weights may be found in the Tables located on the following pages.

Additional IFR configurations or available as customizing or can be developed to meet individual customer requirements.

KING KFC 500 w/Flight Director

System Components
- ***KFC 500 Flight Controls***
  - ***KCP 520 Flight Computer***
  - ***KLA 575 Linear Actuator***
  - ***KSA 572 Trim Actuator***
  - ***KRG 333 Accelerometer/Rate Gyro Unit***
  - ***Position Transducer***
- ***KAD 480 Air Data System***
- ***Iron Gyros***

Operating Parameters:
- ***3-Axis: Pitch, Roll and Yaw***
- ***SCAS Engage on ground***
- ***Autopilot engage above 50 knots***
- ***Modes: HDG, NAV, APR, ALT HOLD/SELECT, VS, IAS, VNAV***

Specifications subject to change without notice.

DUAL PILOT IFR
AFCS SCAS/ATT
with E/M Instruments, No Flight Director

	(lb)	(Kg)
Single AFCS, SCAS	104.5	47.4
CoPilot Instruments Gold Crown	19.7	8.9
Standby Attitude Indicator	8.8	4.0
Dual Controls	20.2	9.2
CoPilot ICS	2.0	0.9
Gold Crown Harness (ElectroMech)	26.6	12.1
KTR-908 VHF Comm #2	6.0	2.7
KNR-634A NAV #1 (ElectroMech)	10.8	4.9
KNR-634A NAV #2 (ElectroMech)	6.8	3.1
KDF-806 ADF (Wheel)	8.2	3.7
KDM-706 DME (ElectroMech)	7.2	3.3
Transponder Mode S*	12.4	5.6
Gyro (ElectroMech)	12.1	5.5
Installed Weight (Wheel Gear)**	**245.3**	**111.3**

KDF-806 ADF (Wheel) Remove	-8.2	-3.7
ADF KDF 806 (Skid) Add	9.5	4.3
Installed Weight (Skid Gear)**	**246.6**	**111.9**

Notes:

*Customer responsible for obtaining aircraft ID code for Mode S.

**Total installed weight approximate, depending on other installed equipment and ballast.

Specifications subject to change without notice.

DUAL PILOT IFR
SINGLE AFCS/KFC-500
EFIS (4 Tube)
with Flight Director

	(lb)	(Kg)
Single AFCS, EFIS (4 Tube)	114.8	52.1
Standby Attitude Indicator	8.8	4.0
Dual Controls	20.2	9.2
CoPilot ICS	2.0	0.9
Pilot EFIS (4 Tube, AP)	11.8	5.4
CoPilot EFIS	62.5	28.3
Gold Crown Harness (EFIS)	24.0	10.9
KTR-908 VHF Comm #2	6.0	2.7
KNR-634A NAV #1 (EFIS)	10.0	4.5
KNR-634A NAV #2 (EFIS)	6.8	3.1
KDF-806 ADF (Wheel)	8.2	3.7
KDM-706 DME (EFIS)	6.3	2.9
Transponder Mode S* (Flight Director)	11.6	5.3
Rad Alt KRA 405 (EFIS)	12.6	5.7
Gyro (4 EFIS)	14.9	6.8
Installed Weight (Wheel Gear)**	**320.5**	**145.4**

KDF-806 ADF (Wheel) Remove	-8.2	-3.7
ADF KDF 806 (Skid) Add	9.5	4.3
Installed Weight (Skid Gear)**	**321.8**	**146.0**

Notes:

*Customer responsible for obtaining aircraft ID code for Mode S.

**Total installed weight approximate, depending on other installed equipment and ballast.

Specifications subject to change without notice.

DUAL PILOT w/SINGLE PILOT IFR
Dual AFCS/KFC-500
EFIS (4 Tube)
with Flight Director

	(lb)	(Kg)
Dual AFCS, EFIS (4 Tube)	137.7	62.5
Standby Attitude Indicator	8.8	4.0
Dual Controls	20.2	9.2
CoPilot ICS	2.0	0.9
Pilot EFIS (4 Tube, AP)	11.8	5.4
CoPilot EFIS	62.5	28.3
Gold Crown Harness (EFIS)	24.0	10.9
KTR-908 VHF Comm #2	6.0	2.7
KNR-634A NAV #1 (EFIS)	10.0	4.5
KNR-634A NAV #2 (EFIS)	6.8	3.1
KDF-806 ADF (Wheel)	8.2	3.7
KDM-706 DME (EFIS)	6.3	2.9
Transponder Mode S* (Flight Director)	12.8	5.8
Rad Alt KRA 405 (EFIS)	12.6	5.7
Gyro (4 EFIS)	14.9	6.8
Installed Weight (Wheel Gear)**	**344.6**	**156.3**

KDF-806 ADF (Wheel) Remove	-8.2	-3.7
ADF KDF 806 (Skid) Add	9.5	4.3
Installed Weight (Skid Gear)**	**345.9**	**156.9**

Notes:

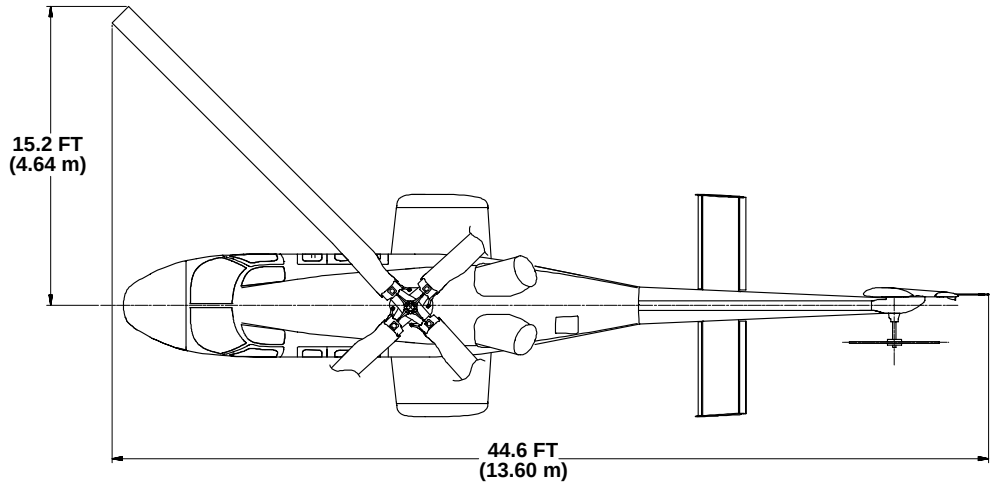
*Customer responsible for obtaining aircraft ID code for Mode S.

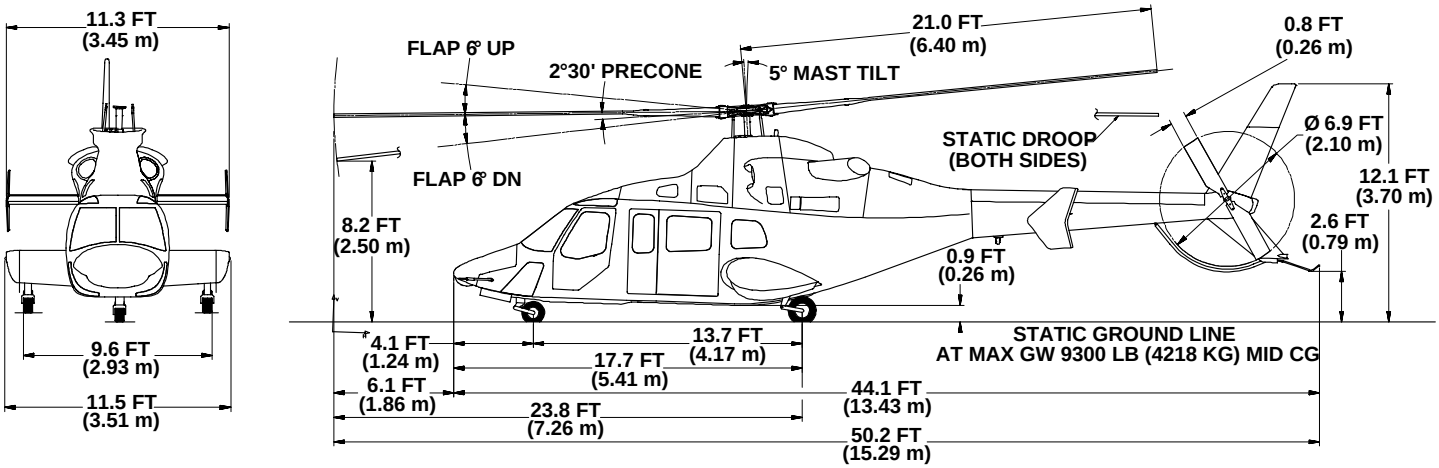
**Total installed weight approximate, depending on other installed equipment and ballast.

Specifications subject to change without notice.

EXTERIOR DIMENSIONS - WHEEL GEAR

430
WHEEL GEAR



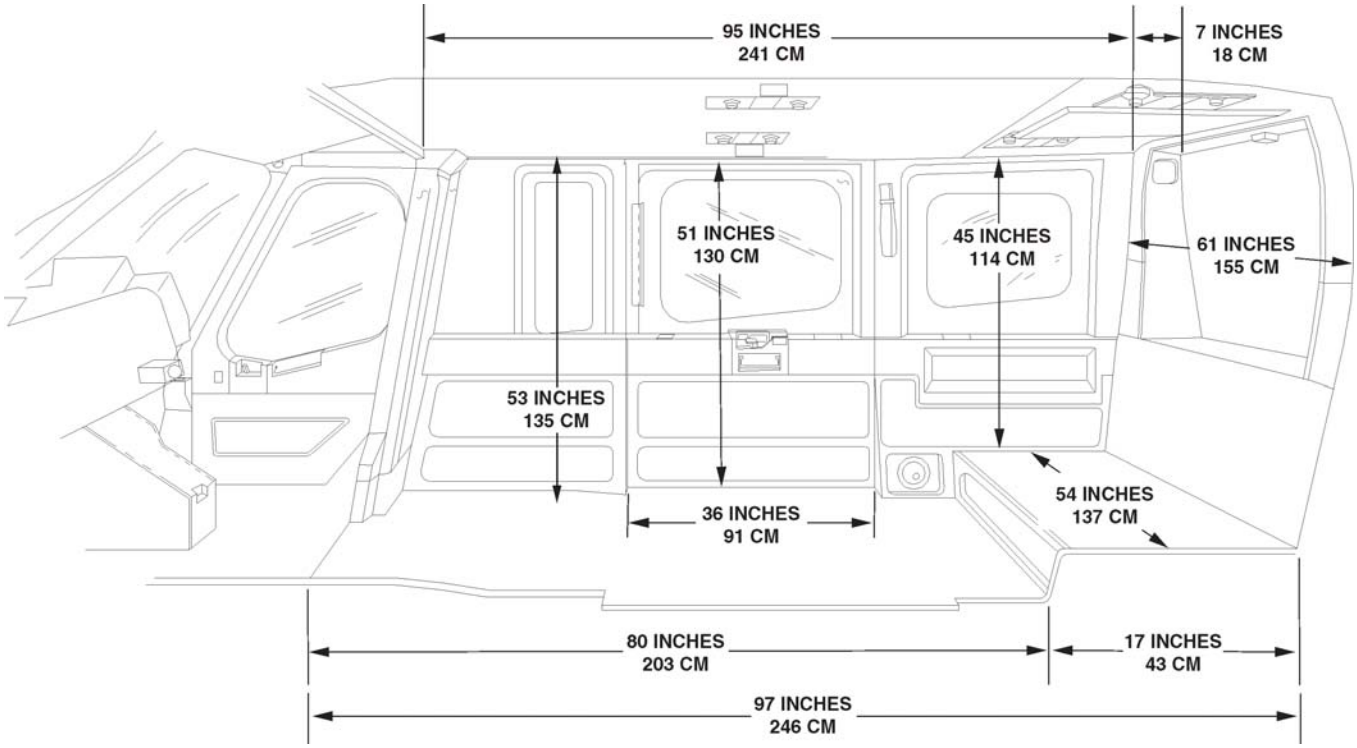


MINIMUM HANGAR SPACE*
30.9 FT X 44.6 FT
[9.4 M X 13.6 M]

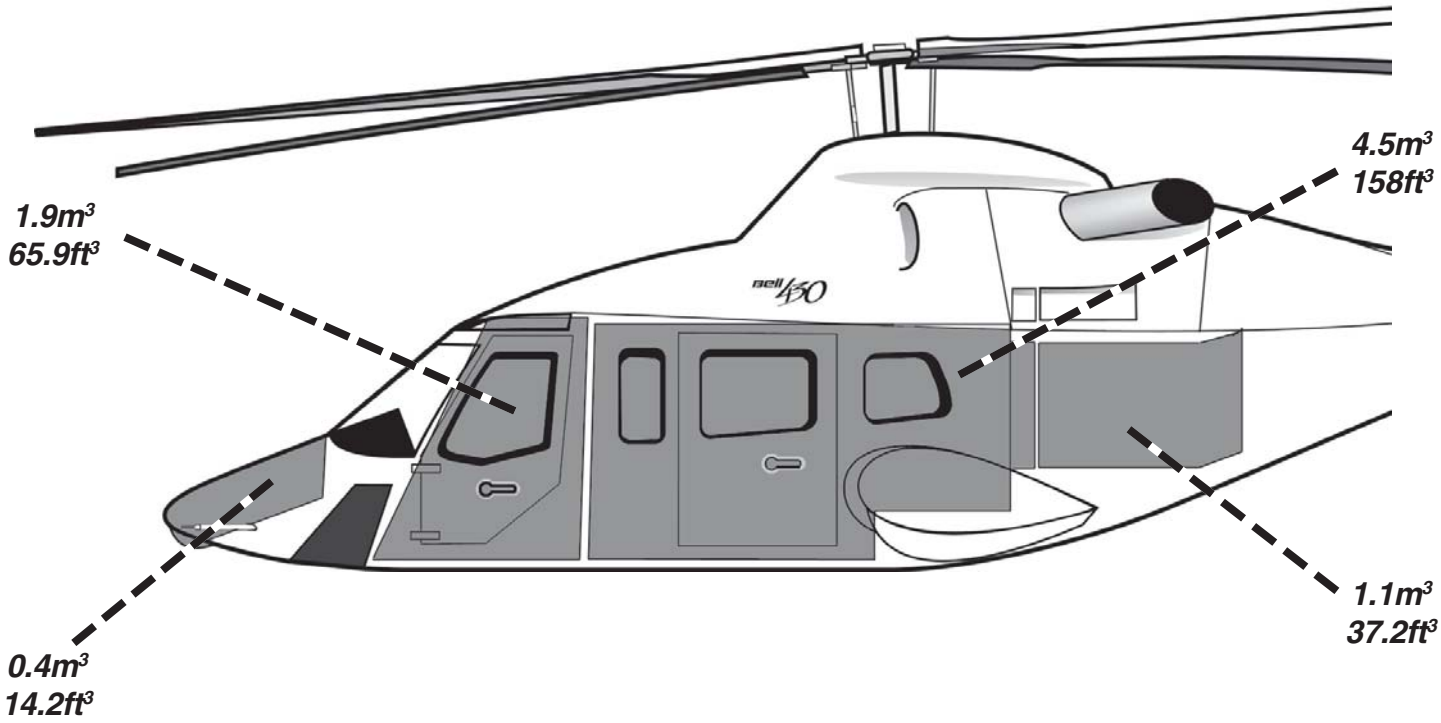
*ALLOWANCE SHOULD BE MADE FOR VARIATION IN LANDING GEAR STRUT PRESSURE AND DOOR LIP WHEN CONSIDERING HANGAR DOOR WIDTH AND HEIGHT

Specifications subject to change without notice.

DIMENSIONS - CABIN



INTERNAL VOLUMES



Specifications subject to change without notice.

SPECIFICATION SUMMARY (U.S. UNITS) - WHEEL GEAR

(Serial No. 49101& Subsequent)

WEIGHTS	LBS
Standard Configuration Weight (Note 1)	5364
Normal Gross Weight	9300
External Gross Weight	9300
Standard Configuration Useful Load (Normal Gross Wt - Standard Configuration Wt)	3936
Maximum External Load [Cargo Hook Limit]	2800

Note 1: Includes thirty-five pounds of engine oil. Ballast is not included in standard configuration weight (ballast is function of installed equipment).

PERFORMANCE SUMMARY: (INTERNATIONAL STANDARD DAY EXCEPT AS NOTED)

• • • REFER TO DEMONSTRATED TAKEOFF & LANDING AND MAXIMUM OPERATING ALTITUDE NOTES ON THE PERFORMANCE CHARTS • • •

TAKEOFF, GROSS WEIGHT		Lbs	7500	8000	8500	9000	9300
IGE Hovering Ceiling	ISA	ft	17,200	15,200	13,200	11,400	10,400
	ISA+20C	ft	13,400	11,000	9000	6900	5600
OGE Hovering Ceiling	ISA	ft	14,600	12,600	10,650	8800	6200
	ISA+20C	ft	10,900	8700	6500	4300	3000
Service Ceiling (MCP) - AEO	ISA	ft	20,000	20,000	18,650	17,000	16,180
(30-minute) - OEI	ISA	ft	14,150	12,450	10,700	9200	8300
(continuous) - OEI	ISA	ft	13,590	11,840	10,190	8630	7740
Cruise @ Sea Level ISA							
Maximum Continuous Speed		ktas	147	146	145	144	143
Long Range Cruise Speed (average)		ktas	133	134	134	135	135
Range at LRC, No Reserve		nm	286	283	280	277	275
Category A Takeoff and Landing Ceiling (Note 2)							
Ground Level or Elevated Helipad							
	ISA	ft	8000	6000	3600	1200	(Note 2)
	ISA+20C	ft	5400	3400	1000	8730 lbs @SL	(Note 2)
Endurance, @ Loiter 65 kts	ISA	hr					2.8

Note 2: Maximum approved weight for Category A operations is 9000 pounds(4082 Kg).

ENGINE RATINGS:		Uninstalled Thermodynamic Shaft Horsepower	Engine Rated Shaft Horse-power
Rolls-Royce 250-C40B with Full Authority Digital Electronic Control			
Takeoff Power (5 Minutes)	SHP	808	747
Maximum Continuous Power	SHP	695	618
OEI (30 seconds)	SHP	940	844
OEI (2 minute)	SHP	880	811
OEI (30 minute)	SHP	835	789
OEI (Continuous)	SHP	808	747

TRANSMISSION RATING:	OEI (@ Input)		AEO (@ Mast)	
30 Second	SHP	844		
2 Minutes	SHP	811		
Takeoff Power (5 Minutes)			RHP	1045
Continuous	SHP	714	RHP	989

FUEL CAPACITY (USABLE):	
Wheel Landing Gear	187.5 US Gallons
Auxiliary(Optional)	48 US Gallons

SPECIFICATION SUMMARY (METRIC UNITS) - WHEEL GEAR

(Serial No. 49101 & Subsequent)

WEIGHTS

	KG
Standard Configuration Weight (Note 1)	2433
Normal Gross Weight	4218
External Gross Weight	4218
Standard Configuration Useful Load (Normal Gross Wt - Standard Configuration Wt)	1785
Maximum External Load [Cargo Hook Limit]	1270

Note 1: Includes sixteen kilograms of engine oil. Ballast is not included in standard configuration weight (ballast is function of installed equipment).

PERFORMANCE SUMMARY: (INTERNATIONAL STANDARD DAY EXCEPT AS NOTED)

• • • REFER TO DEMONSTRATED TAKEOFF & LANDING AND MAXIMUM OPERATING ALTITUDE NOTES ON THE PERFORMANCE CHARTS • •

TAKEOFF, GROSS WEIGHT		Kg	3400	3625	3850	4080	4218
IGE Hovering Ceiling	ISA	m	5243	4632	4023	3475	3170
	ISA+20C	m	4084	3383	2743	2103	1707
OGE Hovering Ceiling	ISA	m	4450	3840	3246	2682	1890
	ISA+20C	m	3322	2652	1981	1311	914
Service Ceiling (MCP) - AEO	ISA	m	6096	6096	5685	5212	4932
(30-minute) - OEI	ISA	m	4313	3795	3261	2804	2530
(continuous) - OEI	ISA	m	4142	3609	3106	2630	2359
Cruise @ Sea Level ISA							
Maximum Continuous Speed		km/h	272	271	269	267	265
Long Range Cruise Speed (average)		km/h	246	248	248	250	250
Range at LRC, No Reserve		km	530	524	519	513	510
Category A Takeoff and Landing Ceiling (Note 2)							
Ground Level or Elevated Helipad							
	ISA	m	2438	1829	1097	366	(Note 2)
	ISA+20C	m	1646	975	305	3960 Kg @SL	(Note 2)
Endurance, @ Loiter 120 km/h	ISA	hr					2.8

Note 2: Maximum approved weight for Category A operations is 9000 pounds(4082 Kg).

ENGINE RATINGS:		Uninstalled Thermodynamic Kilowatts	Engine Rated Kilowatts
Rolls-Royce 250-C40B with Full Authority Digital Electronic Control			
Takeoff Power (5 Minutes)	kW	603	557
Maximum Continuous Power	kW	518	461
OEI (30 seconds)	kW	701	629
OEI (2 minute)	kW	656	605
OEI (30 minute)	kW	623	588
OEI (Continuous)	kW	603	557

TRANSMISSION RATING:	OEI (@ Input)		AEO (@ Mast)	
30 Second	kW	629		
2 Minutes	kW	605		
Takeoff Power (5 Minutes)			kW	779
Continuous	kW	532	kW	738

FUEL CAPACITY (USABLE):

Wheel Landing Gear	710 Liters
Auxiliary(Optional)	182 Liters

LEFT BLANK

HOVER PERFORMANCE CHARTS

COMBINED WAT* LIMITED AND HOVER CAPABILITY
ROLLS-ROYCE 250-C40B ENGINE
TAKEOFF POWER
BASIC INLET INSTALLED

*The following Hover Performance Charts are presented in a revised format which should simplify the comparison of **WAT*** [Weight Altitude Temperature] limited Take Off and Landing Capability and the Hover Capability for known favorable wind conditions.*

IGE HOVER PERFORMANCE

COMBINED WAT LIMITED AND HOVER CAPABILITY
TAKEOFF POWER [5 MINUTE]
BASIC INLET INSTALLED

EXAMPLE

WANTED

IGE HOVER WEIGHT, FOR THE WIND ±45° OFF NOSE AND ALL WIND AZIMUTHS CONFIGURATIONS.

KNOWN

PRESSURE ALTITUDE = 9000 FT
OAT = 20°C

METHOD

STEP 1. TO DETERMINE THE IGE HOVER WEIGHT, ENTER THE IGE HOVER CAPABILITY CHART AT A PRESSURE ALTITUDE OF 9000 FT. MOVE HORIZONTALLY TO THE RIGHT TO INTERSECT THE 20°C LINE. MOVE VERTICALLY DOWN TO READ A HOVER CAPABILITY OF 8300 LB.

STEP 2. TO DETERMINE THE ±45° AZIMUTH WIND OFF NOSE WAT LIMITED GROSS WEIGHT, ENTER THE IGE WAT LIMITATION CHART AT 20°C. DROP VERTICALLY DOWN TO INTERSECT THE 9000 FT PRESSURE ALTITUDE LINE. MOVE HORIZONTALLY TO THE RIGHT TO INTERSECT THE ±45° AZIMUTH WIND OFF NOSE LINE. MOVE VERTICALLY UP TO READ 9000 LB. THIS IS THE WAT LIMITED GROSS WEIGHT FOR ±45° AZIMUTH WIND OFF NOSE.

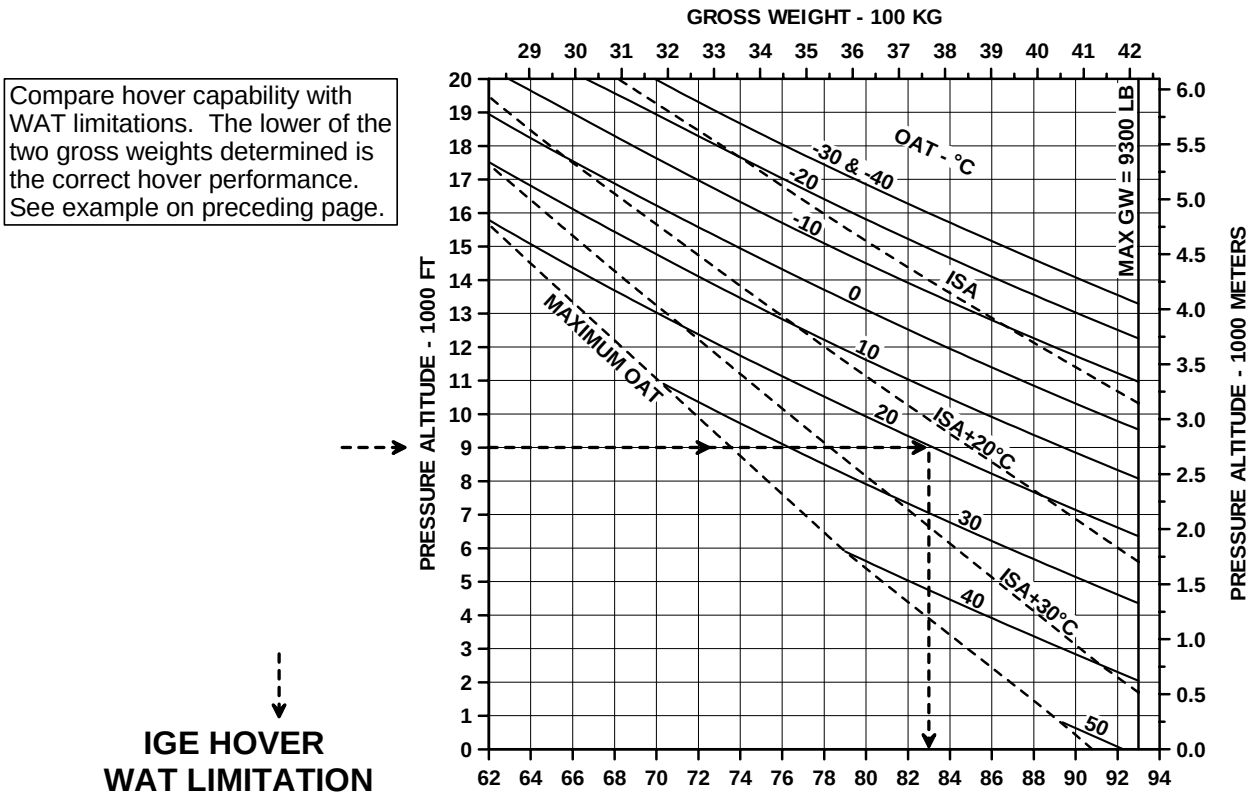
STEP 3. TO DETERMINE THE ALL WIND AZIMUTHS WAT LIMITED GROSS WEIGHT, ENTER THE IGE WAT LIMITATION CHART AT 20°C. DROP VERTICALLY DOWN TO INTERSECT THE 9000 FT PRESSURE ALTITUDE LINE. MOVE HORIZONTALLY TO THE RIGHT TO INTERSECT THE ALL WIND AZIMUTHS LINE. MOVE VERTICALLY UP TO READ 7600 LB. THIS IS THE WAT LIMITED GROSS WEIGHT FOR ALL WIND AZIMUTHS.

STEP 4. THE LOWER OF STEP 1 AND STEP 2 WILL RESULT IN A CORRECT IGE HOVER WEIGHT OF 8300 LB FOR THE ±45° AZIMUTH WIND OFF NOSE.

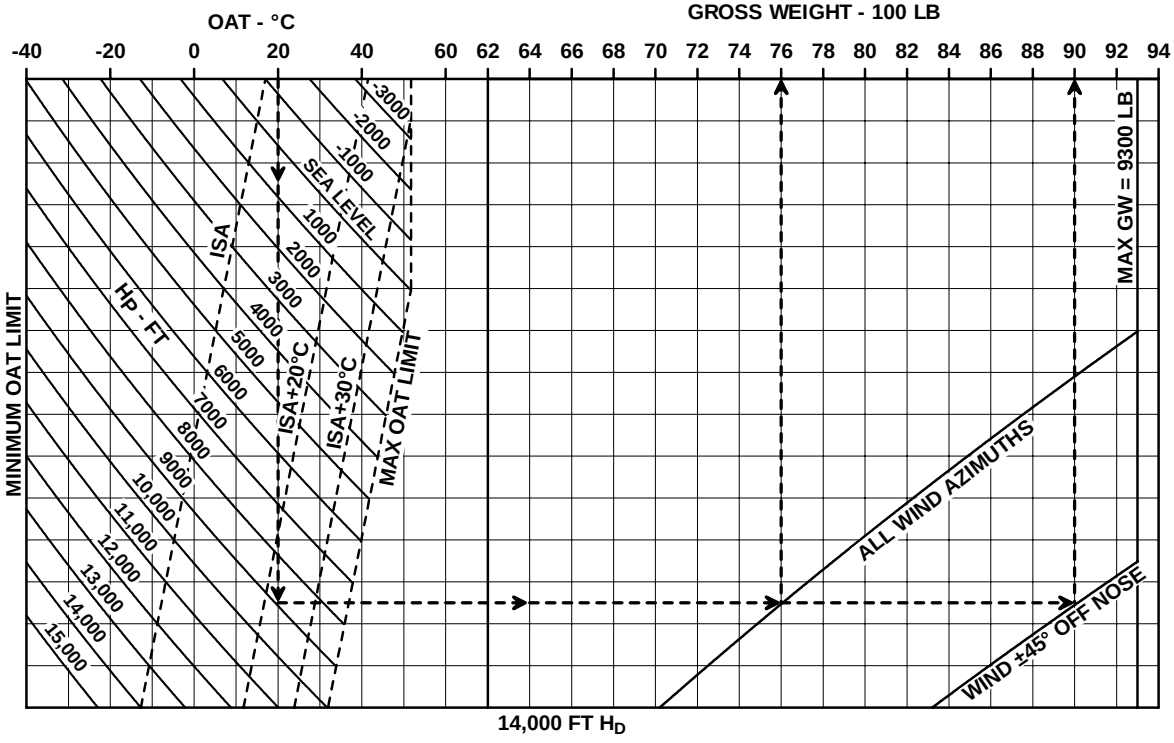
STEP 5. THE LOWER OF STEP 1 AND STEP 3 WILL RESULT IN A CORRECT IGE HOVER WEIGHT OF 7600 LB FOR THE ALL WIND AZIMUTHS.

IGE HOVER CAPABILITY

Compare hover capability with WAT limitations. The lower of the two gross weights determined is the correct hover performance. See example on preceding page.



IGE HOVER WAT LIMITATION



NOTE: TAKEOFF AND LANDING HAS NOT BEEN DEMONSTRATED AND IS NOT APPROVED ABOVE 14,000 FEET / 4267 METERS ***DENSITY ALTITUDE***.

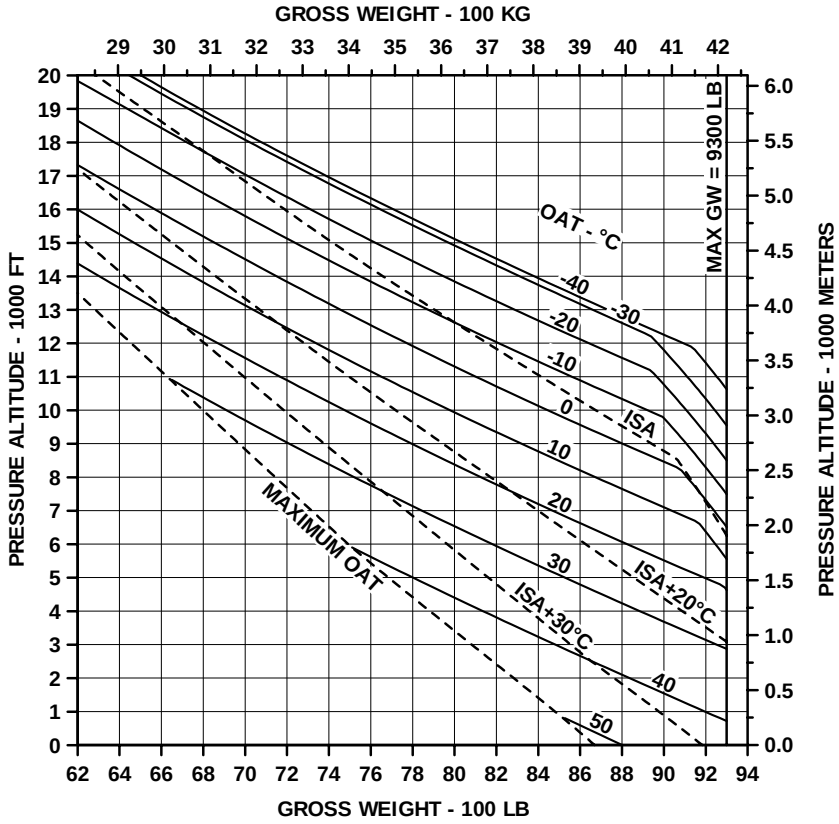
OGE HOVER PERFORMANCE

COMBINED WAT LIMITED AND HOVER CAPABILITY
TAKEOFF POWER [5 MINUTE]
BASIC INLET INSTALLED

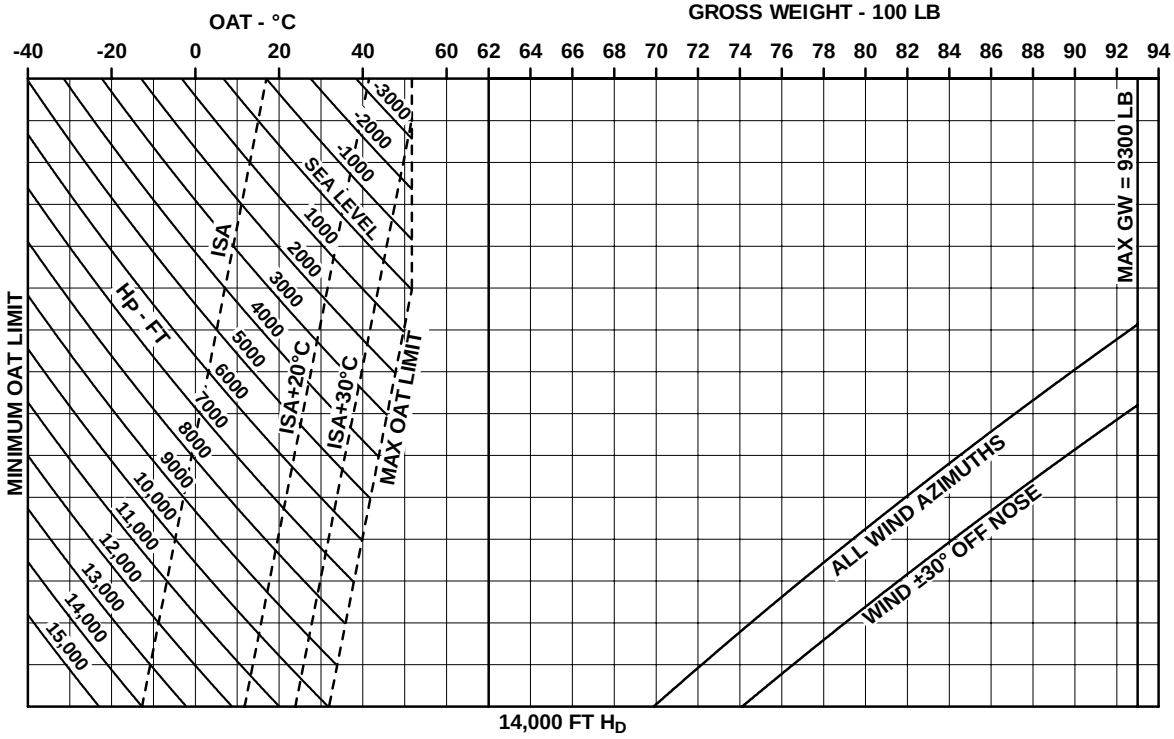
FOR USE OF THE CHART,
SEE THE EXAMPLE ON THE PRECEEDING PAGES

OGE HOVER CAPABILITY

Compare hover capability with WAT limitations. The lower of the two gross weights determined is the correct hover performance.

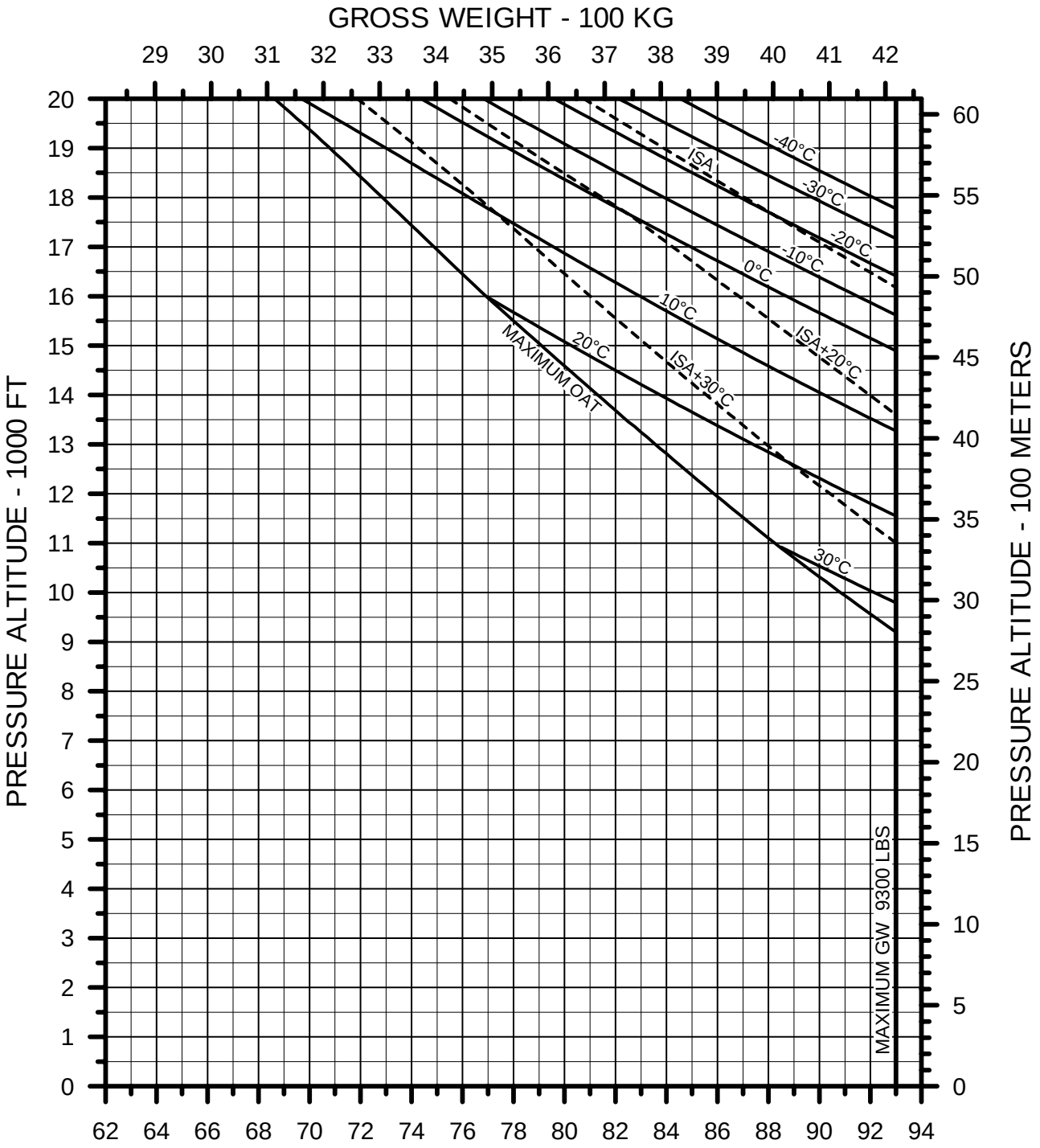


OGE HOVER WAT LIMITATION



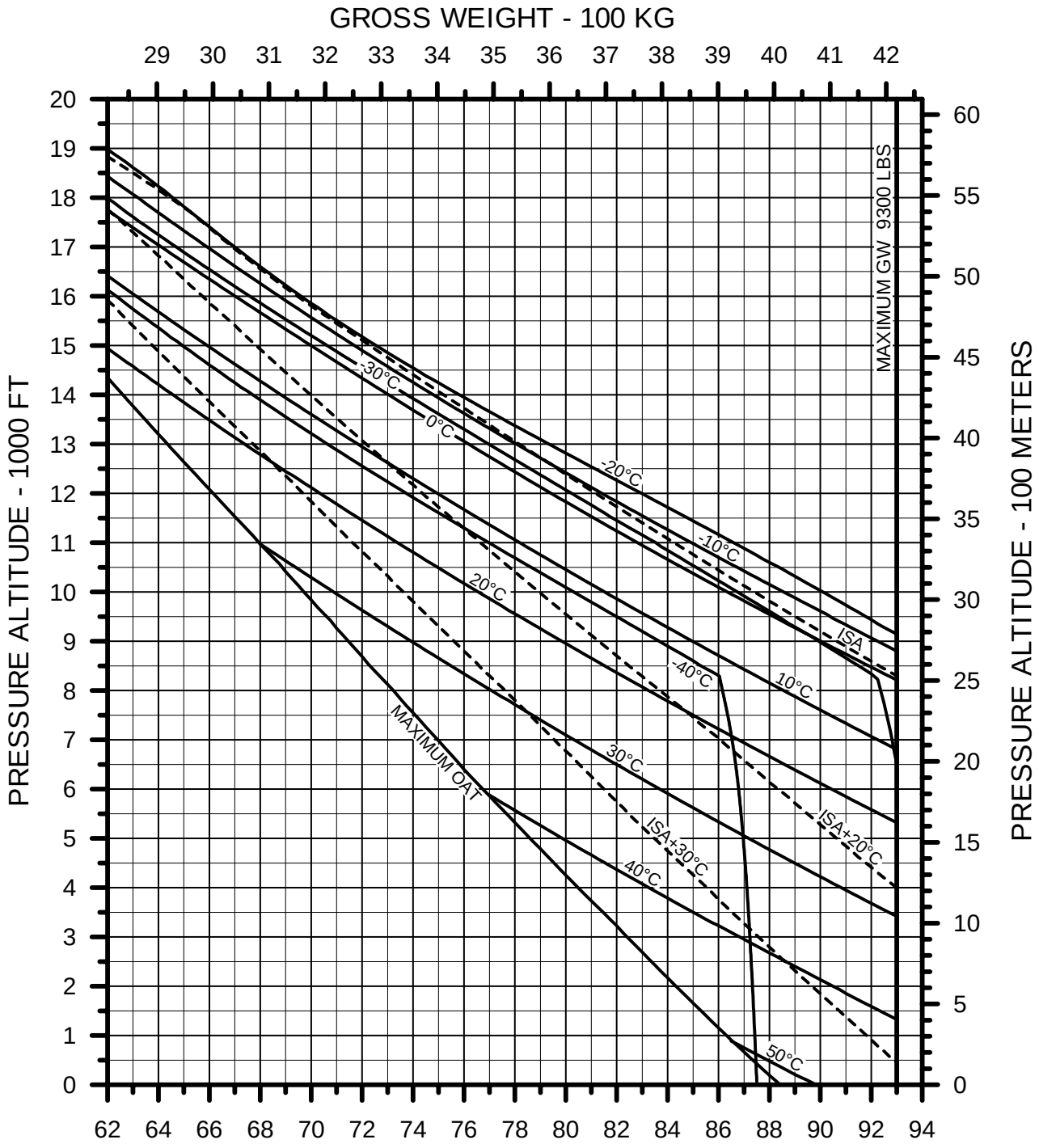
NOTE: TAKEOFF AND LANDING HAS NOT BEEN DEMONSTRATED AND IS NOT APPROVED ABOVE 14,000 FEET / 4267 METERS ***DENSITY ALTITUDE***.

SERVICE CEILING
TWIN ENGINE OPERATION AT MAXIMUM CONTINUOUS POWER
BASIC INLET INSTALLED



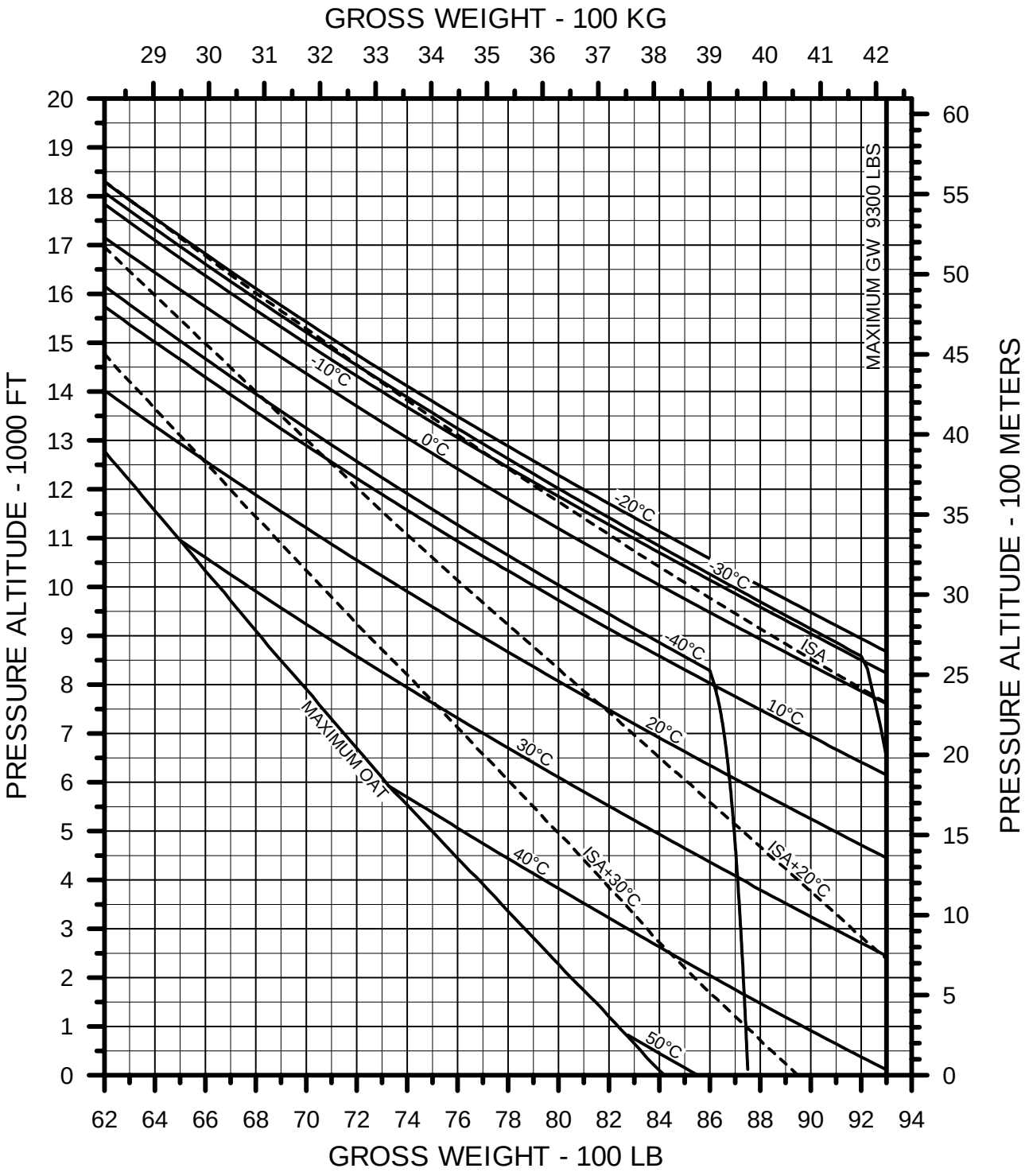
THE DATA SET FORTH ON THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL.

OEI SERVICE CEILING
OEI 30 MINUTE POWER
BASIC INLET INSTALLED



THE DATA SET FORTH ON THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL.

OEI SERVICE CEILING
OEI CONTINUOUS POWER
BASIC INLET INSTALLED



CATEGORY A PERFORMANCE

GROUND LEVEL OR ELEVATED HELIPAD

DAY AND NIGHT

ROLLS-ROYCE 250-C40B ENGINE / BASIC INLET INSTALLED

EQUIPMENT REQUIRED [INSTALLED AND FUNCTIONAL] TO PERFORM CATEGORY A OPERATIONS:

4-TUBE EFIS
DUAL CONTROLS
PILOT & COPILOT ICS
RADAR ALTIMETER [PRESENTED ON EFIS]
SCAS
Vne OVERSPEED WARNING COMPUTER
PILOT & COPILOT VARIABLE Vne AIRSPEED INDICATORS

FOR CATEGORY A NIGHT OPERATIONS:

SECOND LANDING LIGHT

NOTE: ***ELEVATED HELIPAD*** *CATEGORY A OPERATIONS* ***REQUIRE*** *PILOT AND COPILOT;*
GROUND LEVEL HELIPAD *CATEGORY A OPERATION MAY BE ACCOMPLISHED BY ONE PILOT*

INFORMATION ON THE FOLLOWING PAGES PROVIDES A ***BRIEF*** *EXPLANATION OF CATEGORY A OPERATION CAPABILITY FOR THE BELL 430. THE WAT CHART INCLUDED MAY BE USED TO DETERMINE TAKEOFF OR LANDING WEIGHT CAPABILITY FOR BOTH GROUND LEVEL AND ELEVATED HELIPAD OPERATIONS. FOR SIMPLIFICATION, ONLY ILLUSTRATIONS DESCRIBING TAKEOFF ARE SHOWN. ADDITIONAL INFORMATION FOR OTHER TYPES OF CATEGORY A OPERATION (REDUCED DROP DOWN HEIGHT, SHORT AND LONG RUNWAY) IS AVAILABLE IN THE ROTORCRAFT FLIGHT MANUAL SUPPLEMENT.*

DEFINITIONS:

CATEGORY "A" TAKEOFF; *OPERATION OF THE HELICOPTER IN SUCH A MANNER THAT IF ONE ENGINE FAILS AT ANY TIME AFTER THE START OF THE TAKEOFF THE HELICOPTER CAN:*

1. *PRIOR TO THE* ***TDP*** *(TAKEOFF DECISION POINT) RETURN TO AND SAFELY STOP ON THE TAKEOFF AREA;* ***RTO*** *(REJECTED TAKEOFF) ; OR*

2. *AT OR AFTER THE* ***TDP*** *, CLIMB OUT FROM THE POINT OF FAILURE AND ATTAIN SINGLE ENGINE FORWARD FLIGHT;* ***CTO*** *(CONTINUED TAKEOFF).*

CATEGORY "A" LANDING; *OPERATION OF THE HELICOPTER IN SUCH A MANNER THAT IF ONE ENGINE FAILS AT ANY TIME DURING THE LANDING APPROACH THE HELICOPTER CAN:*

1. *AT OR PRIOR TO THE* ***LDP*** *(LANDING DECISION POINT) CLIMB OUT FROM THE POINT OF FAILURE AND ATTAIN SINGLE ENGINE FORWARD FLIGHT; OR*

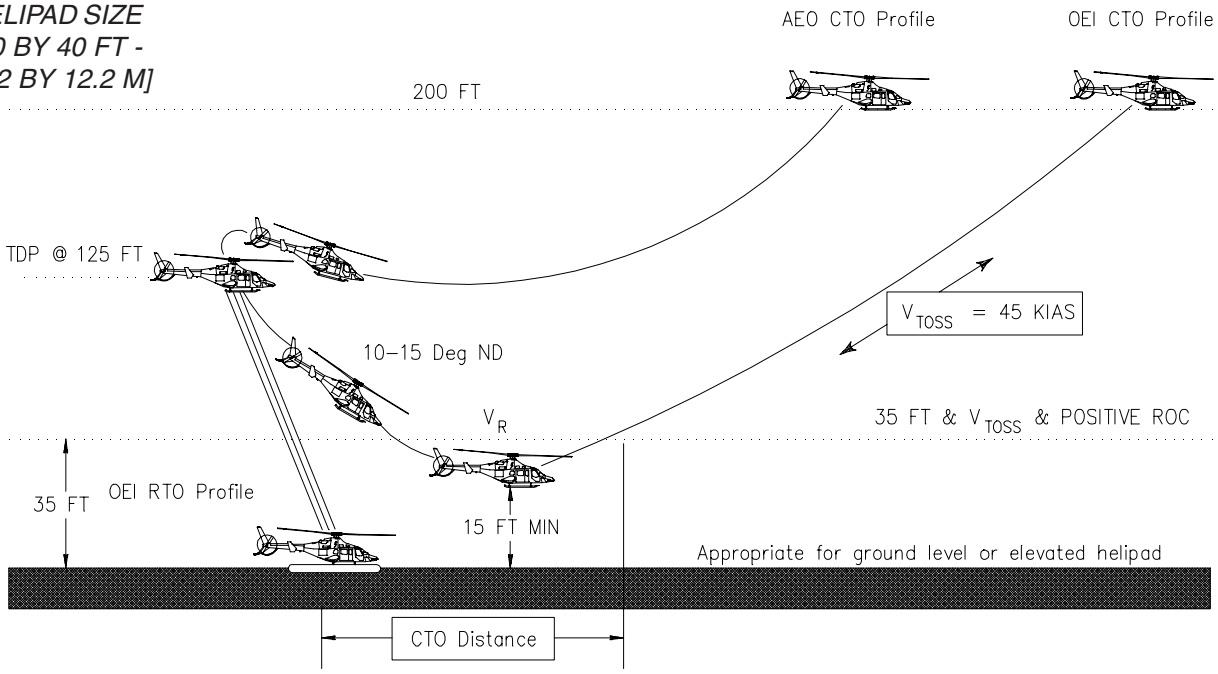
2. *AFTER THE* ***LDP*** *, SAFELY STOP ON THE LANDING AREA.*

GROUND LEVEL AND ELEVATED HELIPAD EXPLANATIONS

GROUND LEVEL HELIPAD TAKEOFF PROFILE DAY AND NIGHT

[HELIPAD SIZE - 40 BY 40 FT - 12.2 BY 12.2 M]

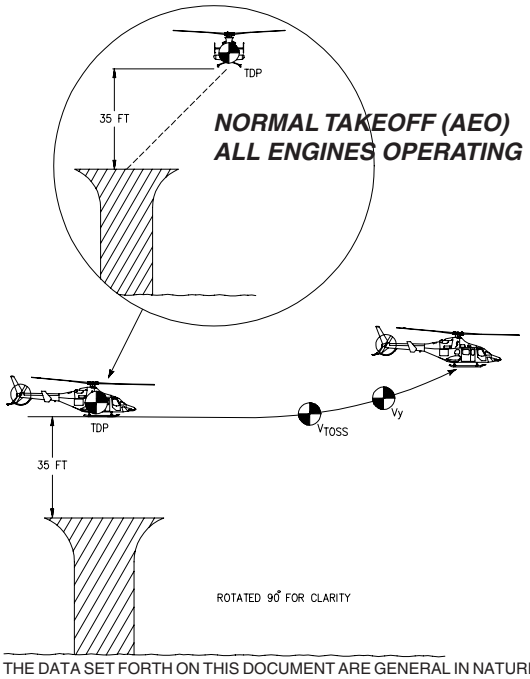
*THE GROUND LEVEL TAKEOFF TECHNIQUE CONSISTS OF A VERTICAL-REARWARD TAKEOFF TO 125 FT TO THE **TDP**; THEN ACCELERATION TO V_{TOSS} (45 KIAS), WITH SUBSEQUENT CLIMBOUT AT V_Y (65 KIAS), TO 200FT.*

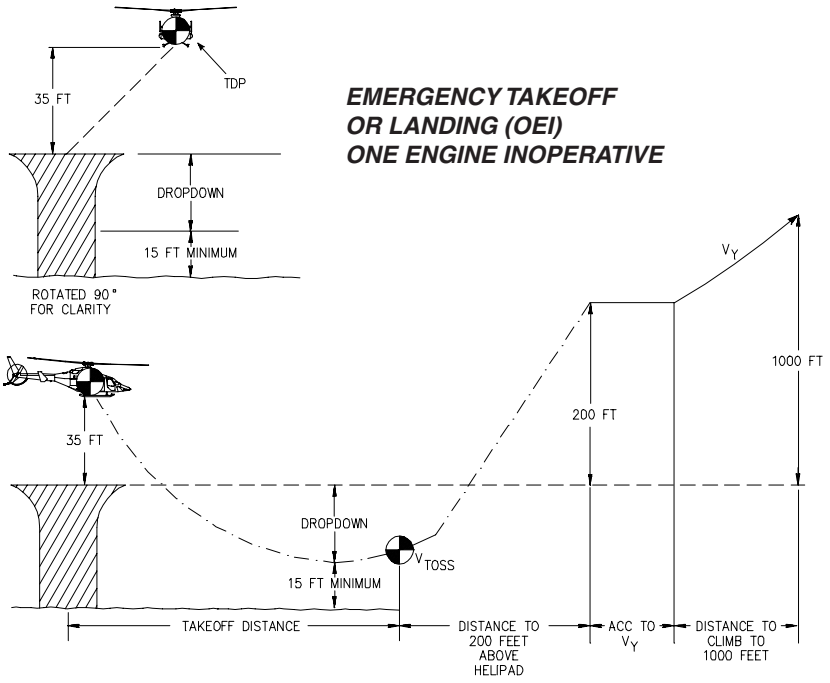


ELEVATED HELIPAD TAKEOFF PROFILE DAY OR NIGHT

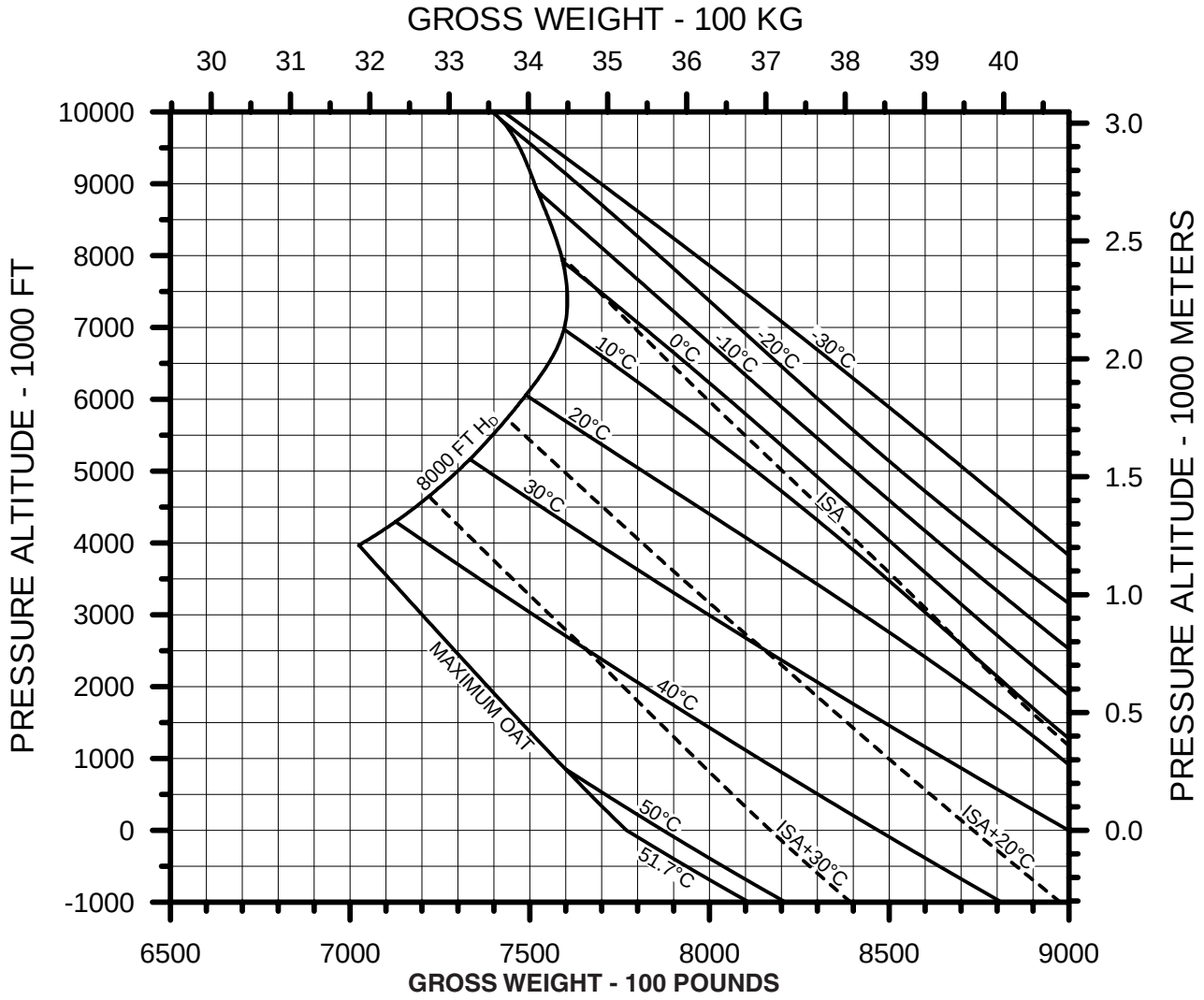
[HELIPAD SIZE - 40 BY 40 FT - 12.2 BY 12.2 M]

*THE TAKEOFF TECHNIQUE CONSISTS OF A VERTICAL TAKEOFF TO 35 FT, AND LATERAL MOVEMENT 35 FT FROM THE CENTER OF THE HELIPAD TO THE **TDP**; THEN ACCELERATION TO V_{TOSS} (45 KIAS), WITH SUBSEQUENT CLIMBOUT AT V_Y (65 KIAS), TO 200FT.*





CATEGORY A TAKEOFF AND LANDING LIMIT
GROUND LEVEL OR ELEVATED HELIPAD
DAY AND NIGHT
ROLLS-ROYCE 250-C40B ENGINE / BASIC INLET INSTALLED



USING THE CHART;

1. *ENTER THE CHART AT THE **PRESSURE ALTITUDE** OF THE TAKEOFF / LANDING HELIPAD*
2. *FOLLOW THE GRAPH LINE HORIZONTALLY TO THE APPROPRIATE **OAT** (OUTSIDE AIR TEMPERATURE) TREND LINE.*
3. *FOLLOW THE GRAPH LINE VERTICALLY TO THE APPROPRIATE **GROSS WEIGHT.***
4. *THE INDICATED GROSS WEIGHT IS **TAKEOFF / LANDING CAPABILITY WITH ZERO HEADWIND.***

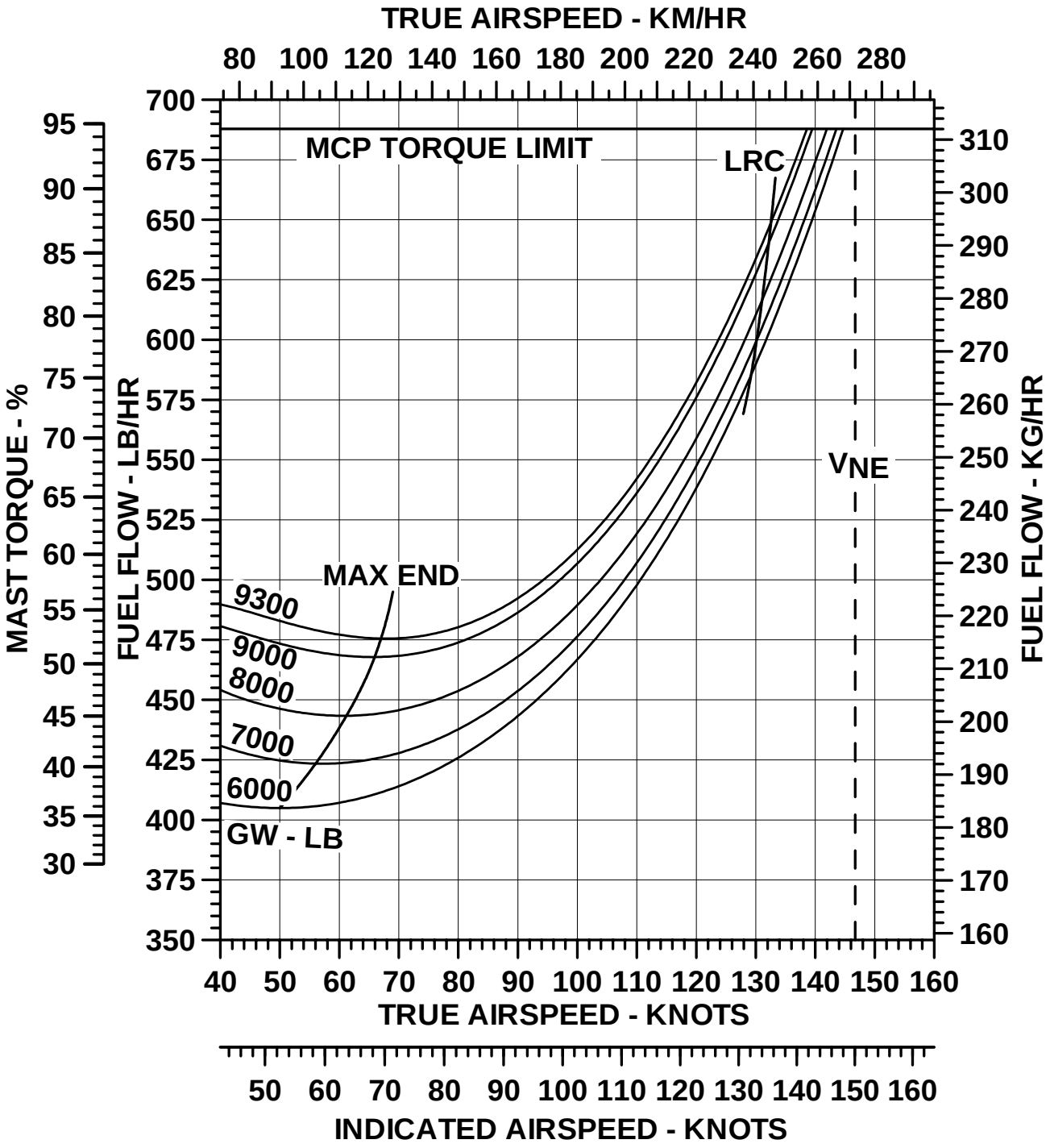
NOTE: CATEGORY A TAKEOFF AND LANDING HAS NOT BEEN DEMONSTRATED AND IS NOT APPROVED ABOVE 8,000 FEET / 2438 METERS ***DENSITY ALTITUDE***.

LEFT BLANK

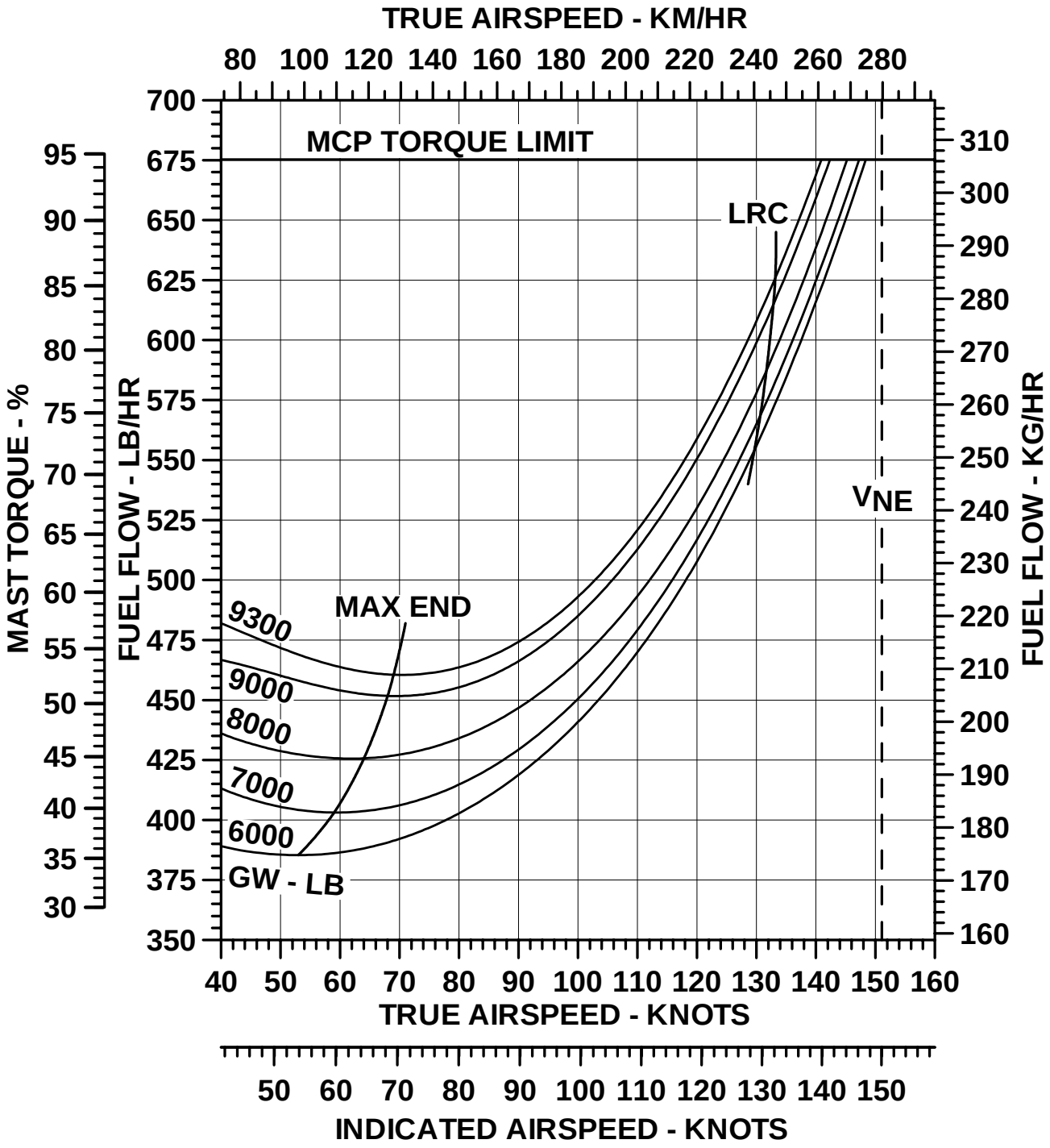
FUEL FLOW vs AIRSPEED
ISA & ISA+20°C
ROLLS-ROYCE 250-C40B ENGINES
BASIC INLET INSTALLED

FOR PARTICLE SEPARATOR INSTALLED;
INCREASE FUEL FLOW FOUR(4)LB/HR[TWO(2)KG/HR]

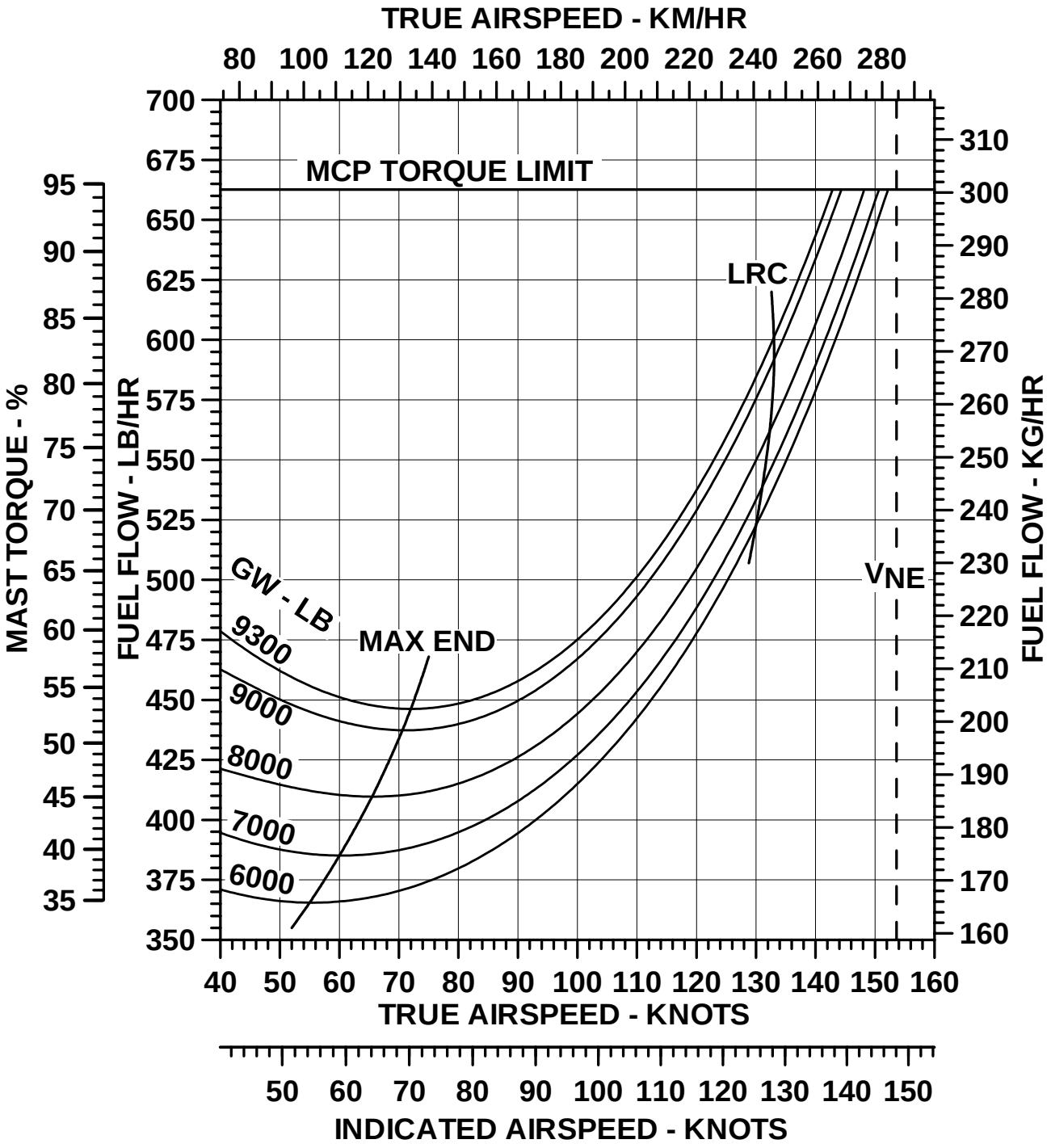
SKID LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = SEA LEVEL
OAT = +15°C



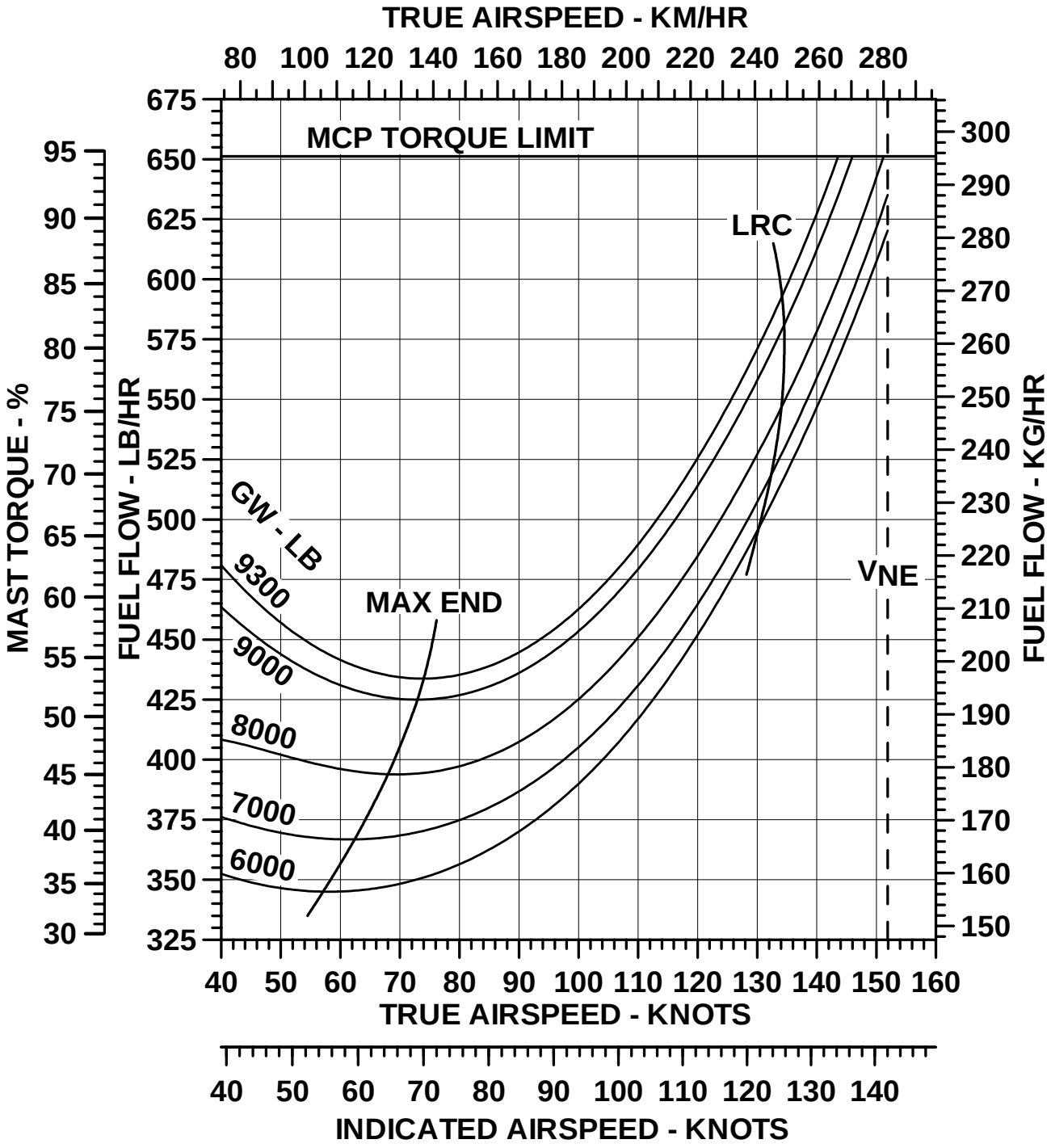
SKID LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 2000 FT
OAT = +11°C



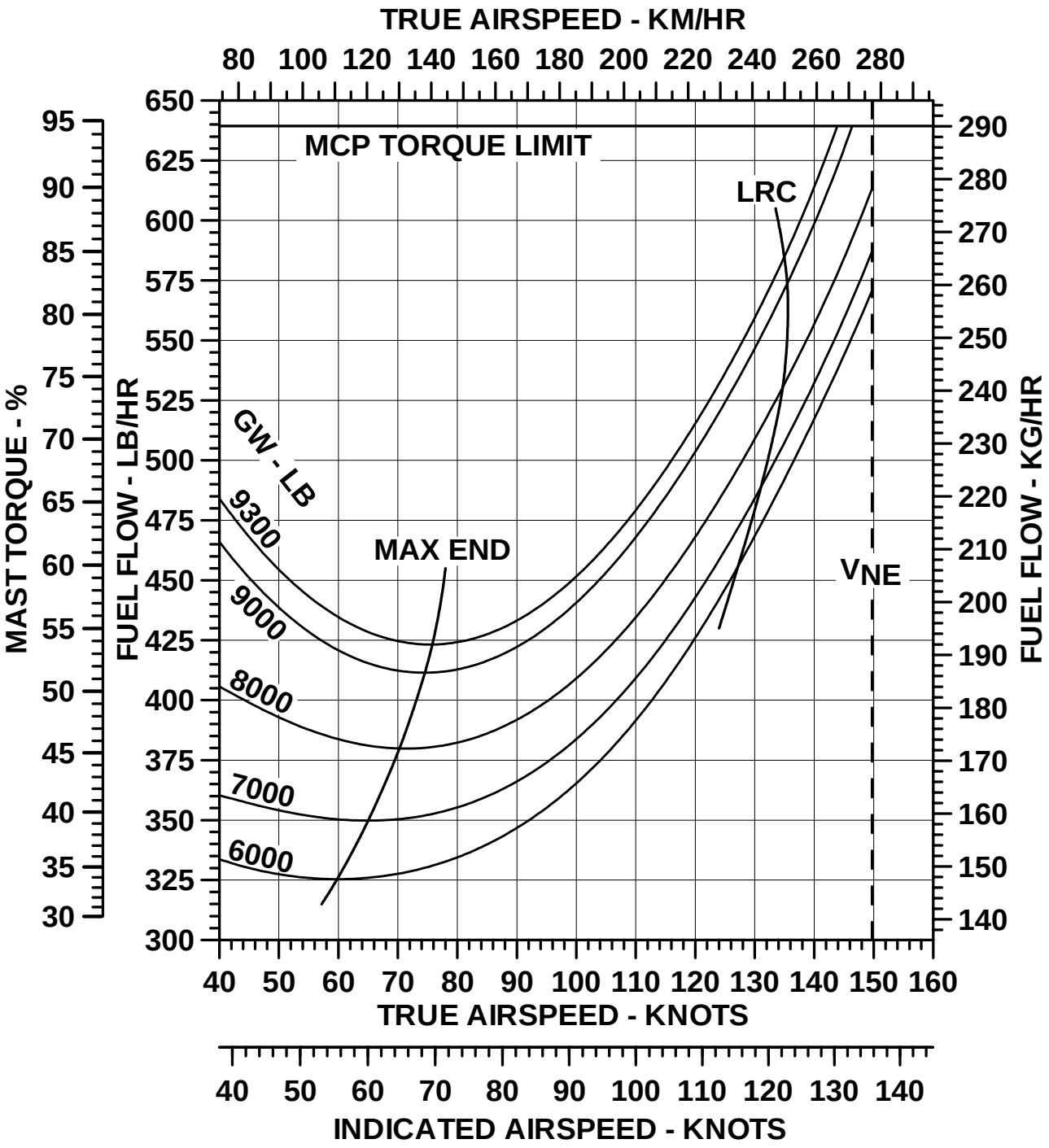
SKID LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 4000 FT
OAT = +7°C



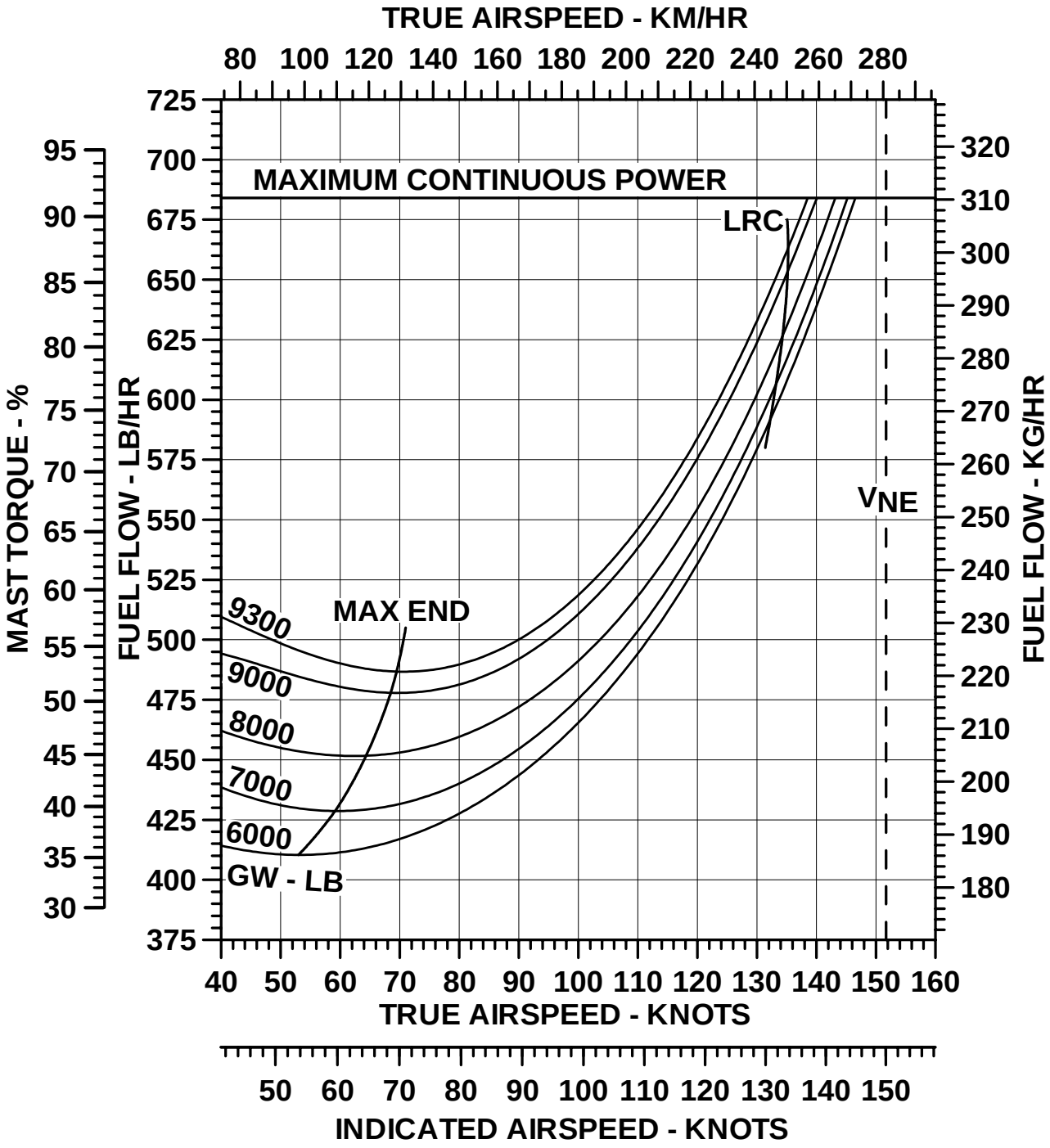
SKID LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 6000 FT
OAT = +3°C



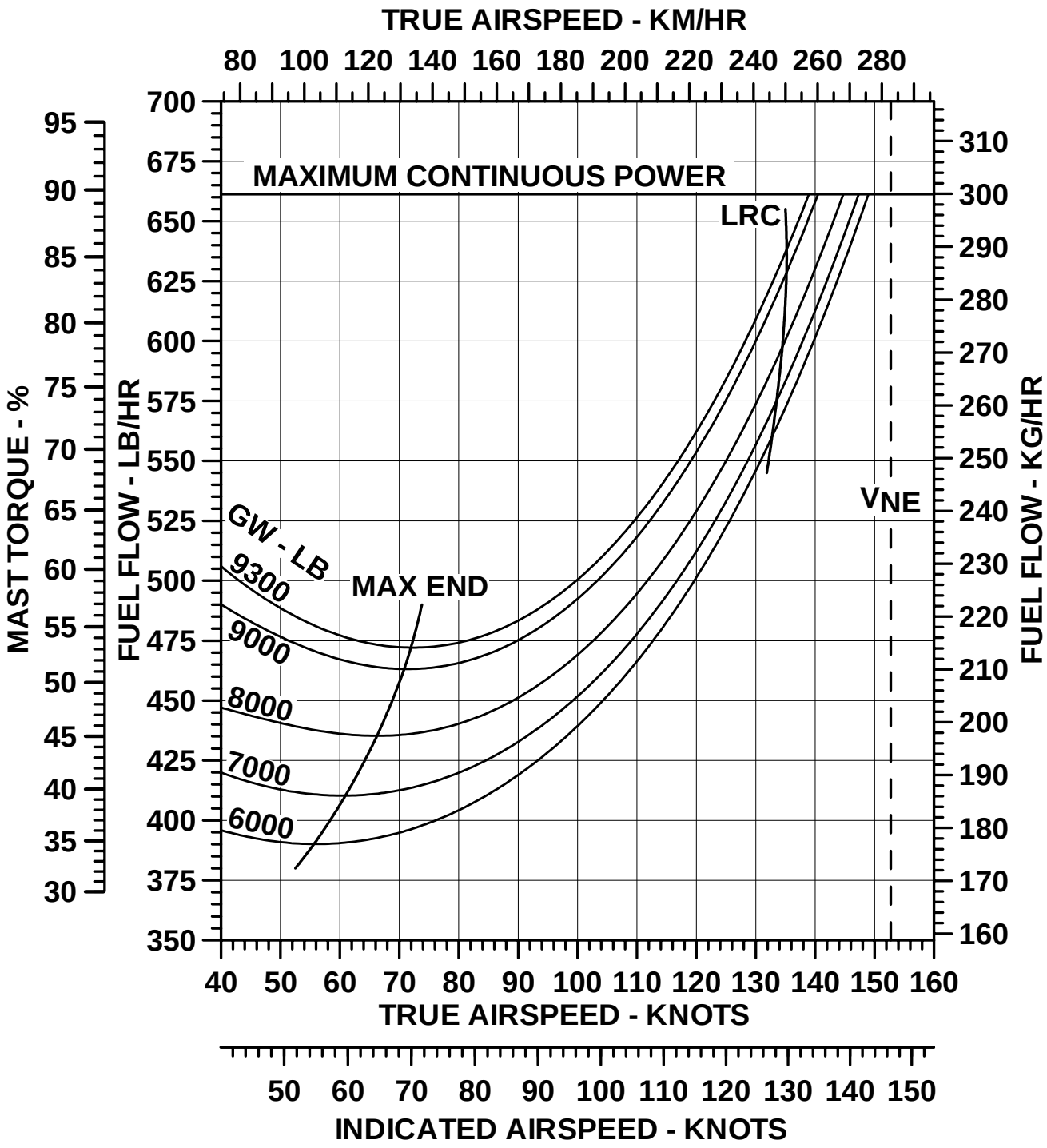
SKID LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 8000 FT
OAT = -1°C



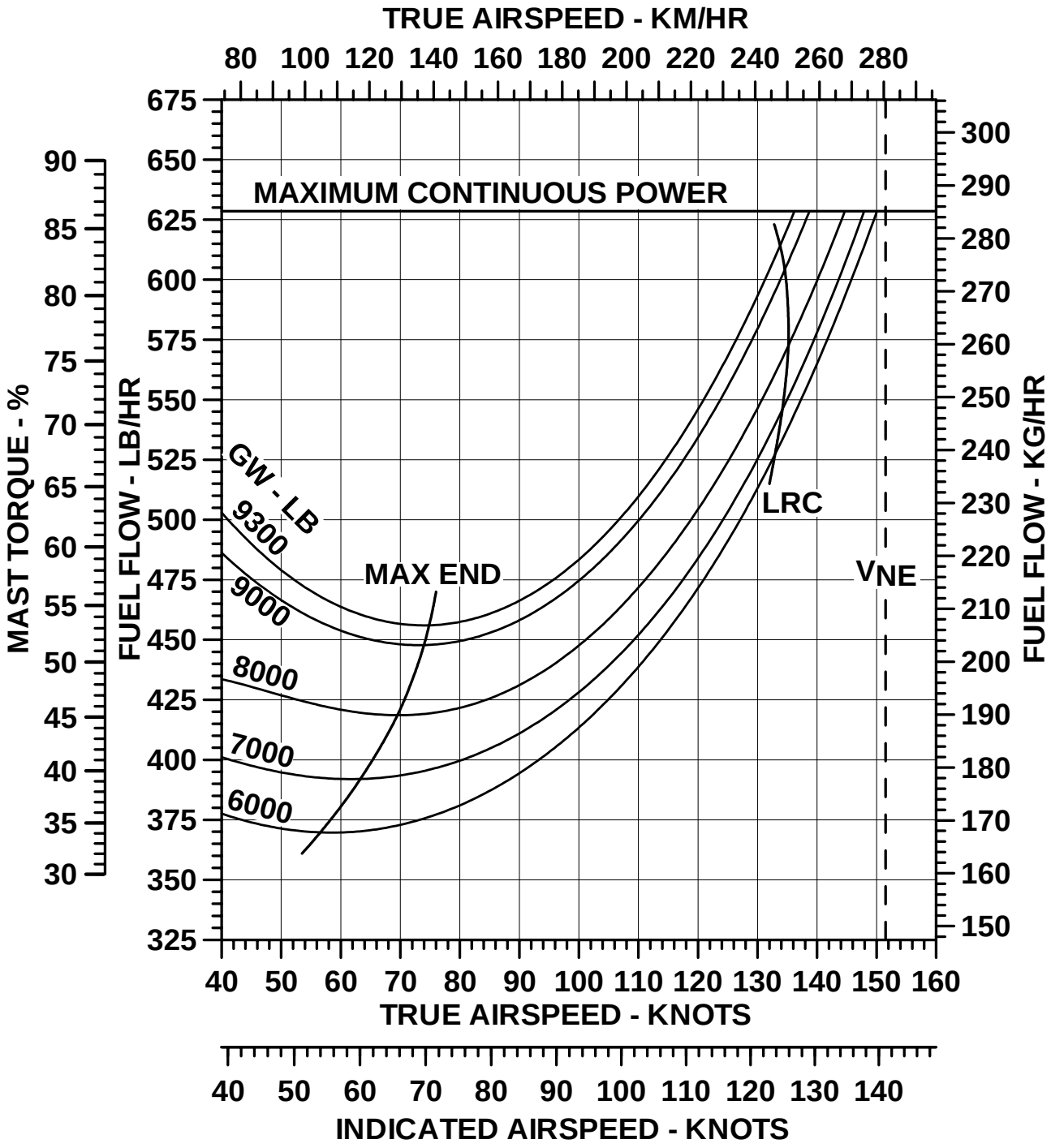
SKID LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = SEA LEVEL
OAT = +35°C



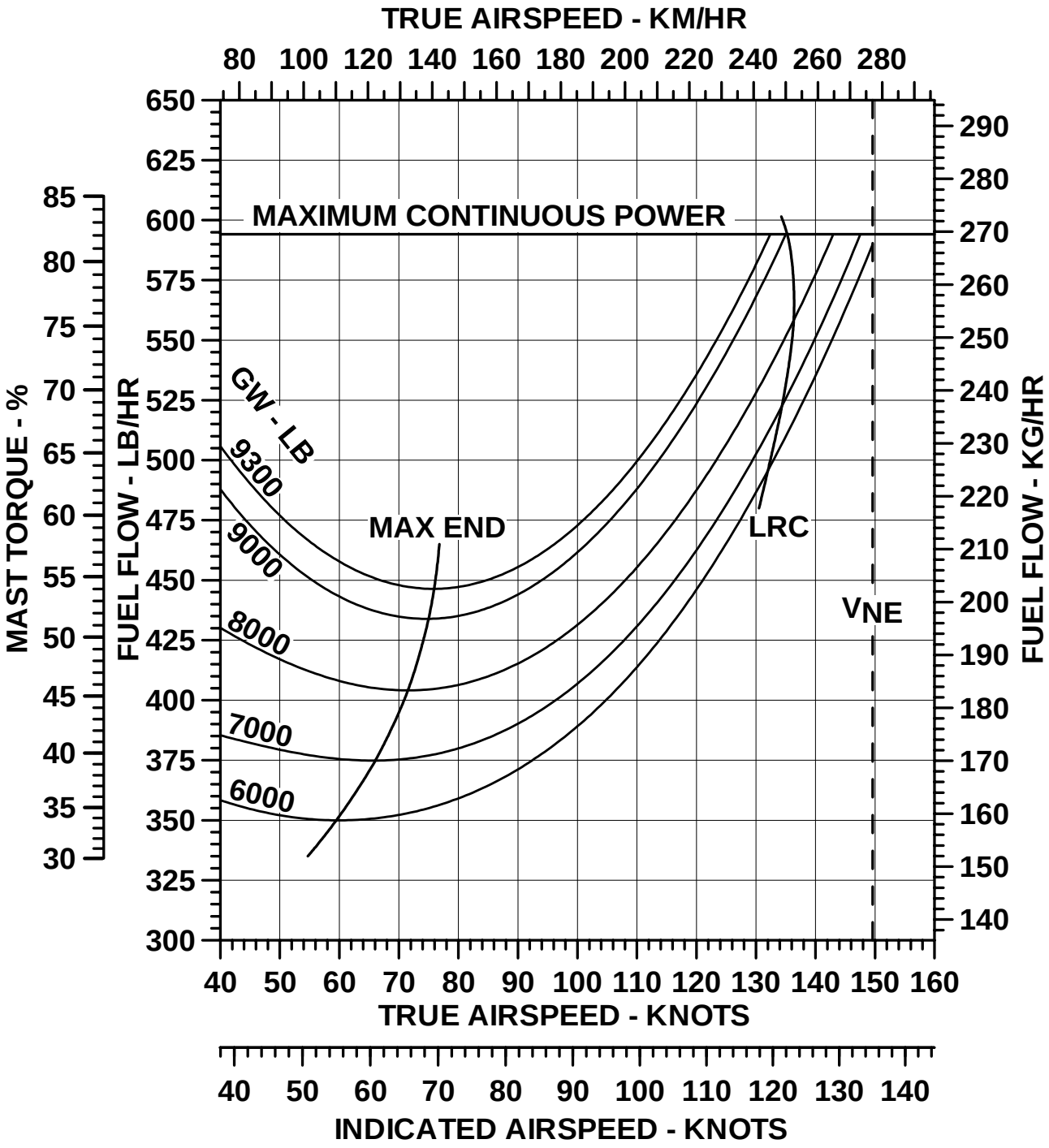
SKID LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 2000 FT
OAT = +31°C



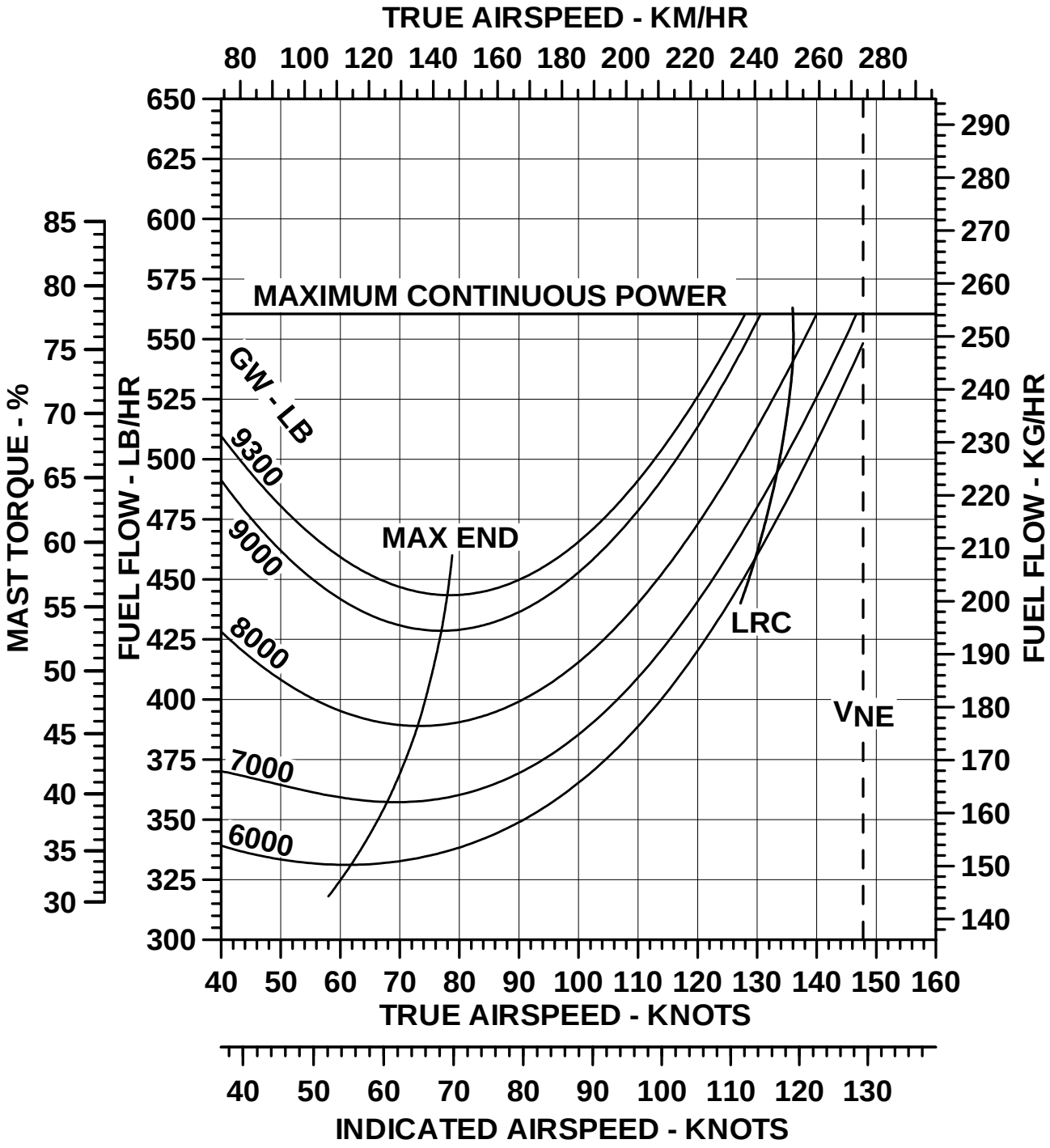
SKID LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 4000 FT
OAT = +27°C



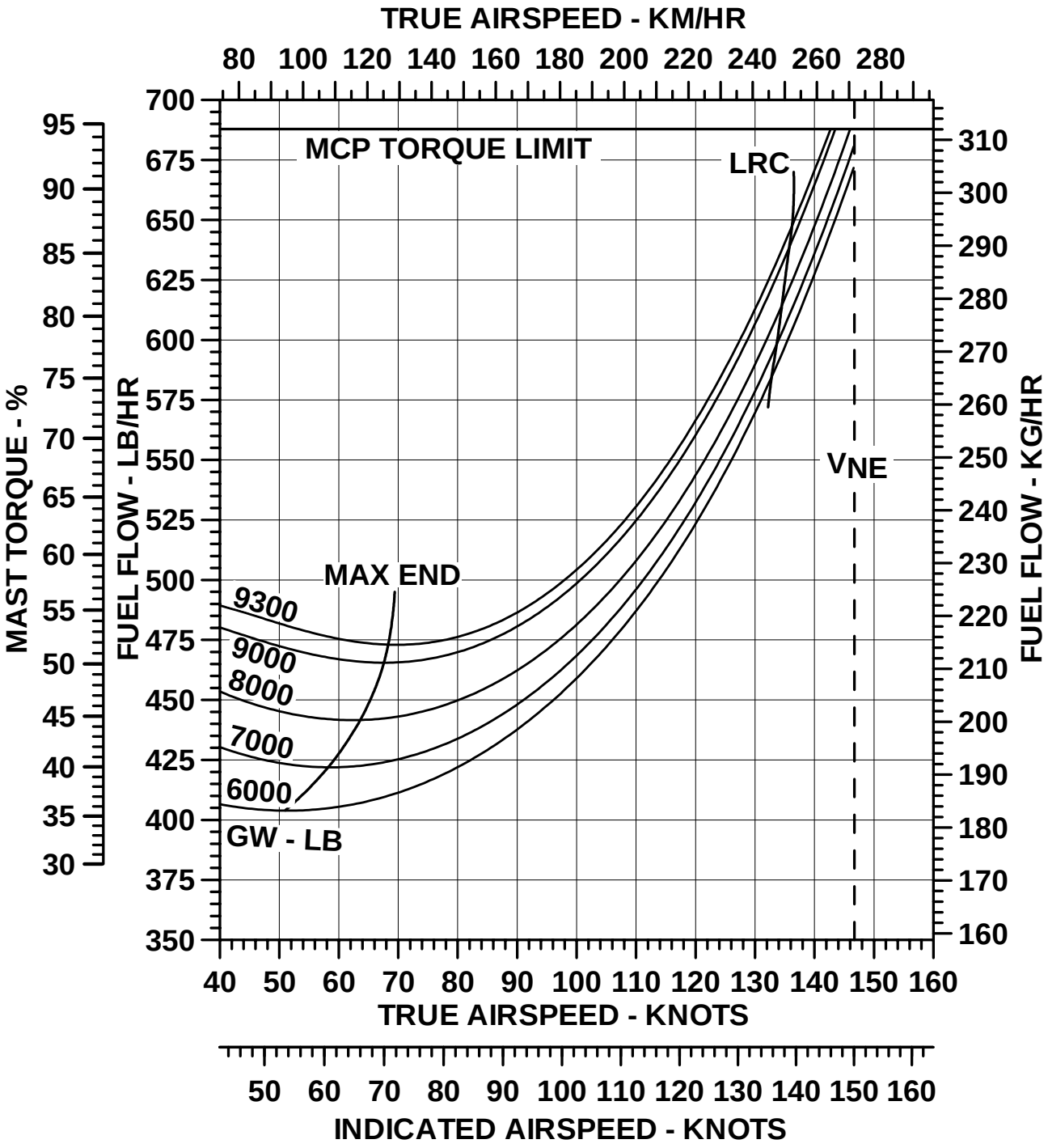
SKID LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 6000 FT
OAT = +23°C



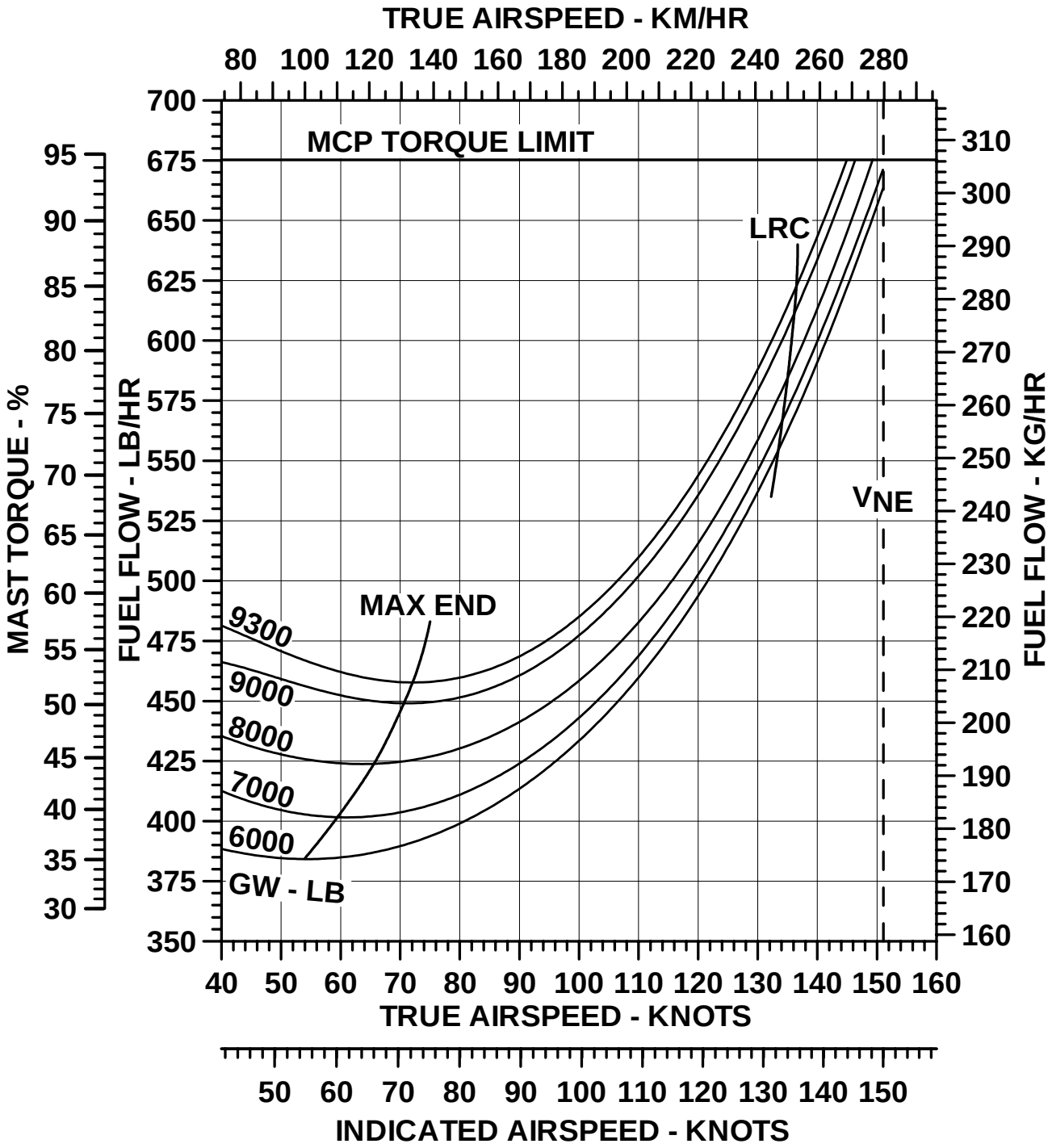
SKID LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 8000 FT
OAT = +19°C



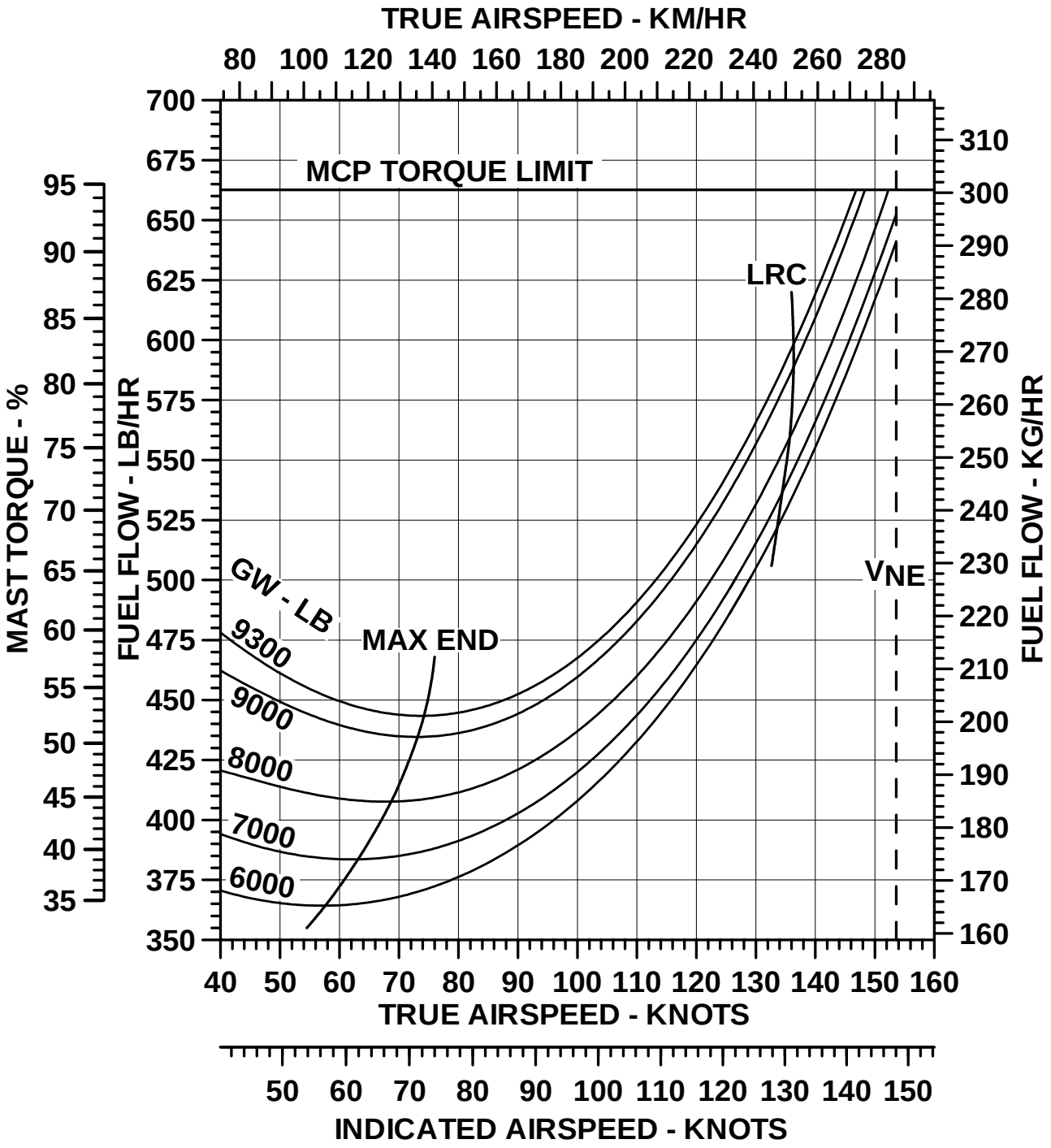
WHEEL LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = SEA LEVEL
OAT = +15°C



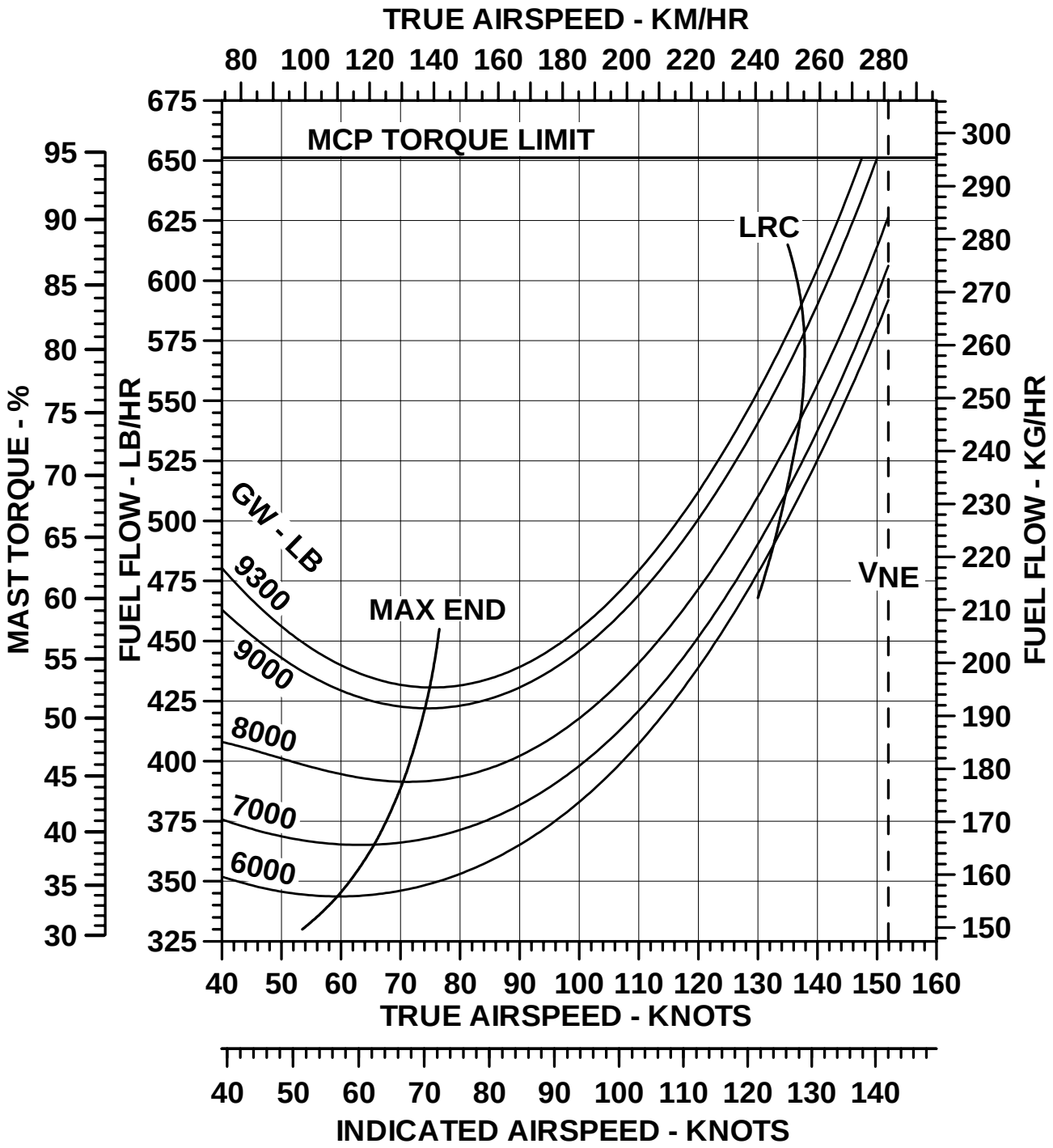
WHEEL LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 2000 FT
OAT = +11°C



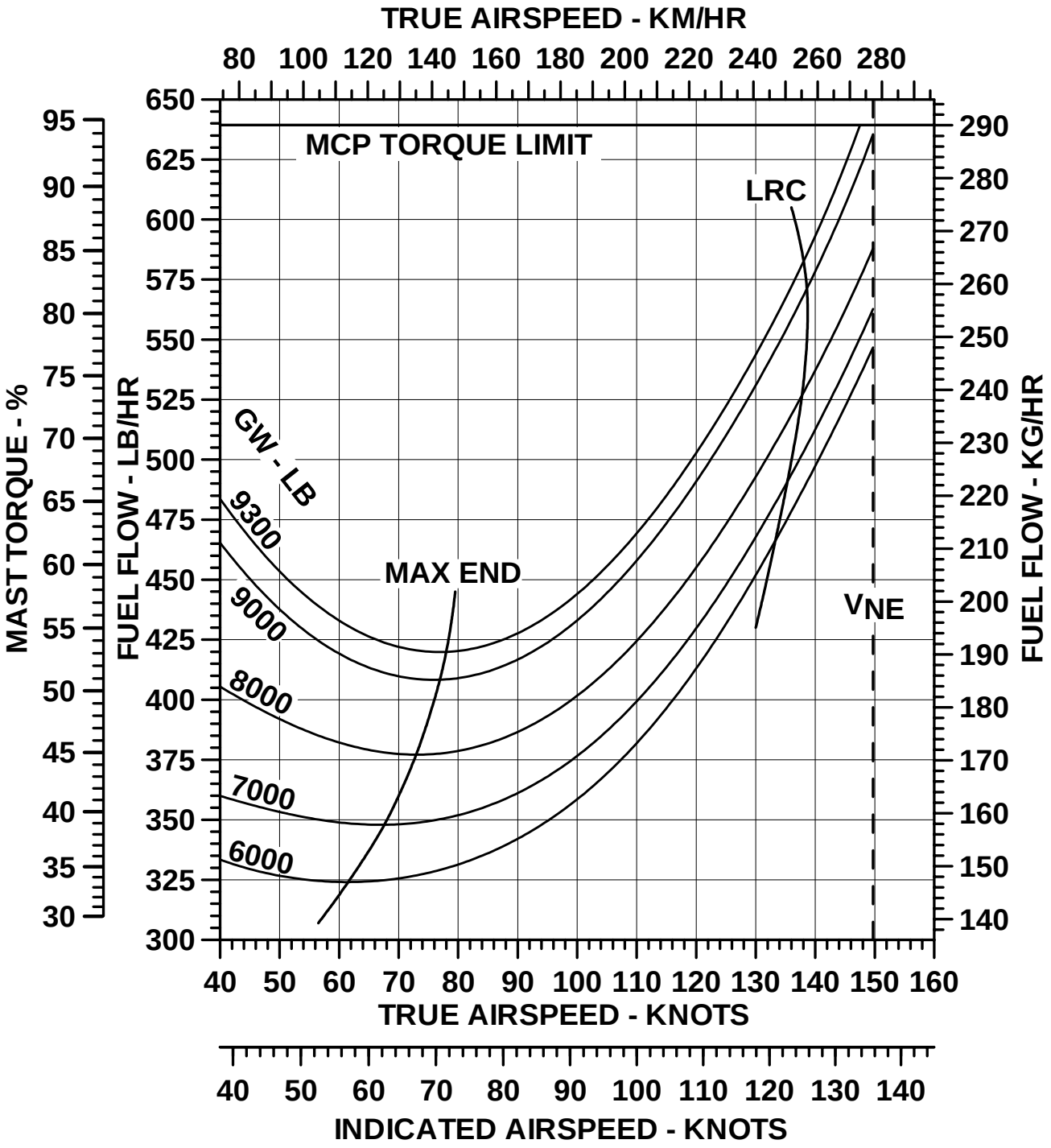
WHEEL LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 4000 FT
OAT = +7°C



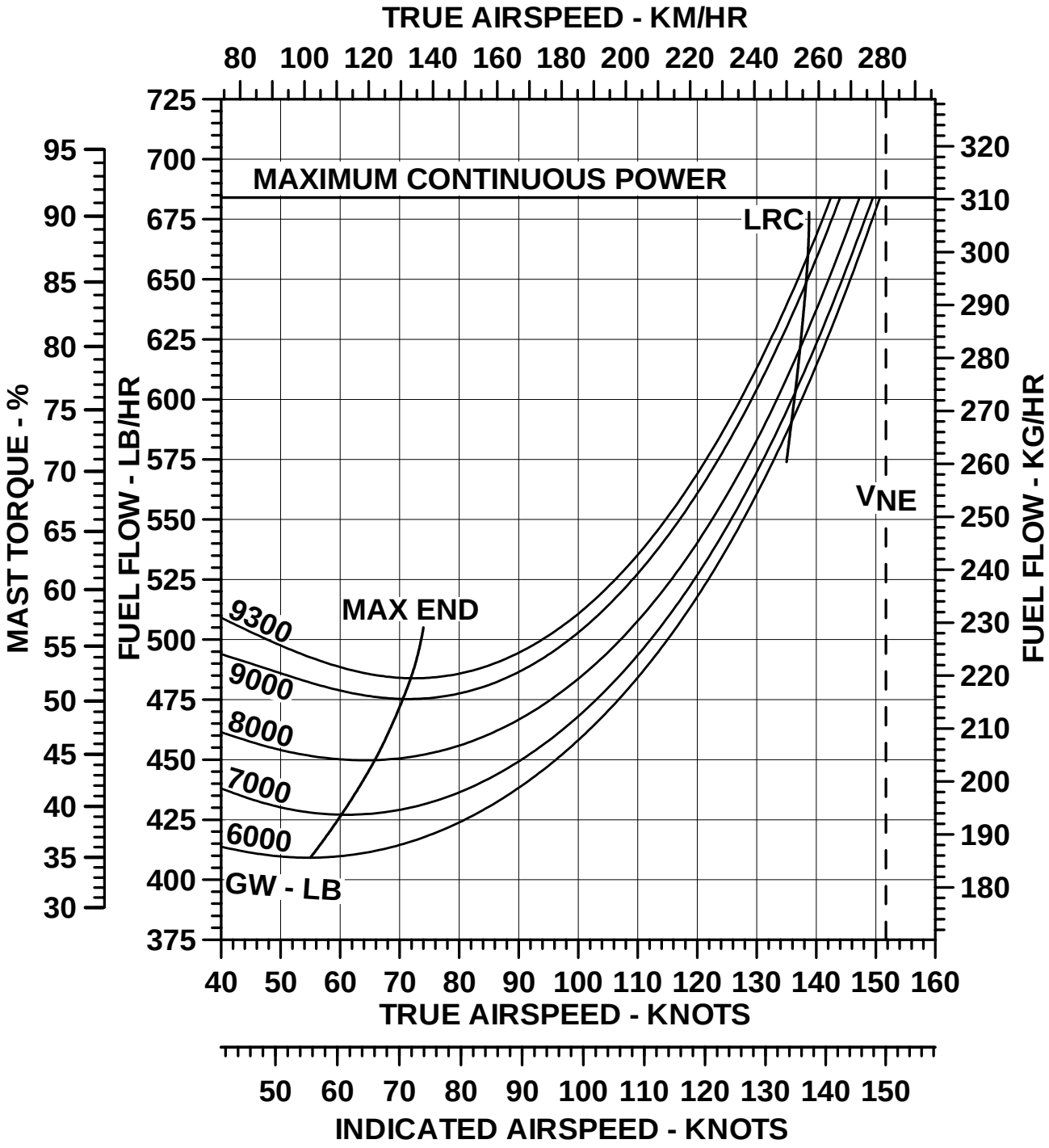
WHEEL LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 6000 FT
OAT = +3°C



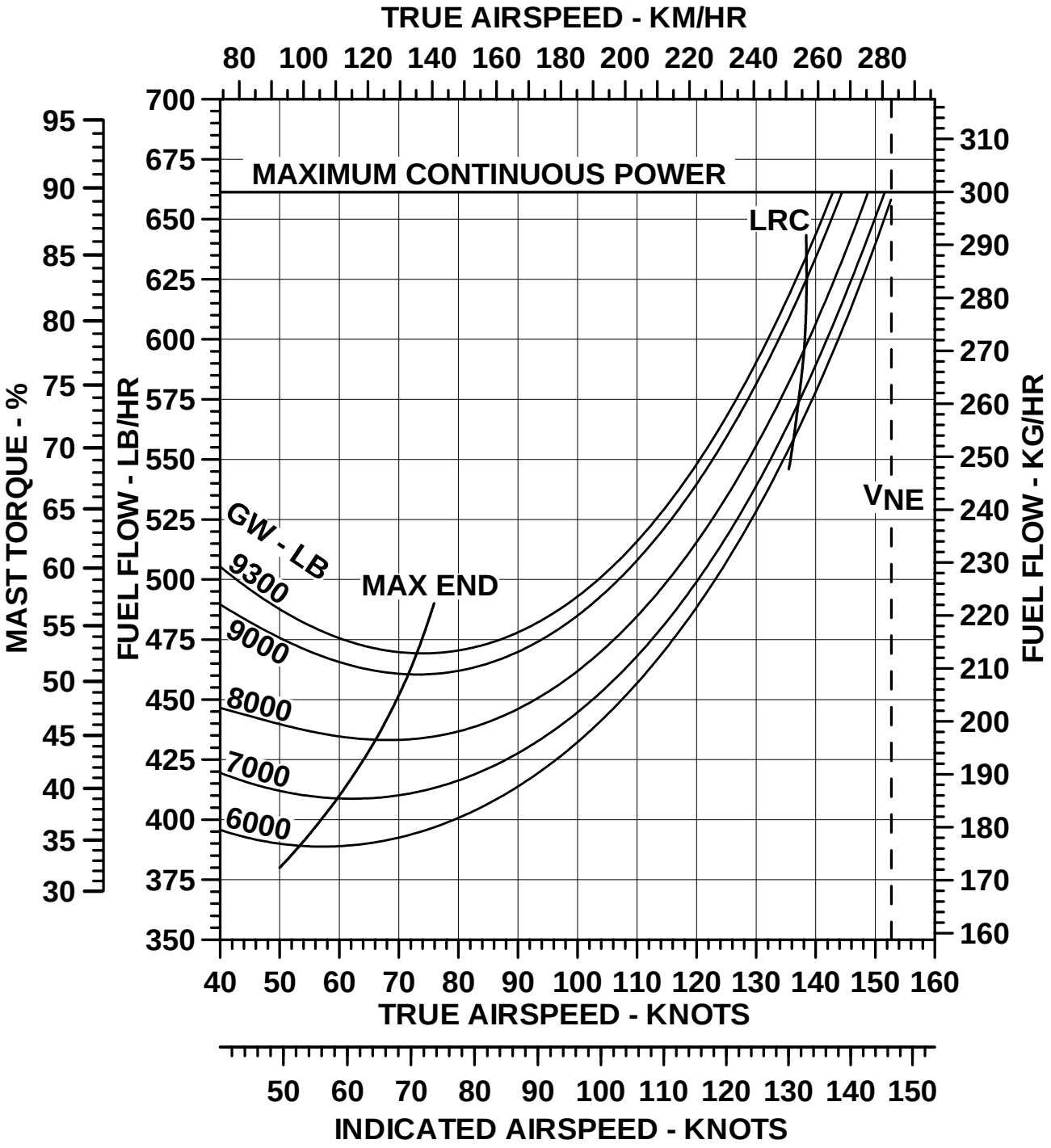
WHEEL LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 8000 FT
OAT = -1°C



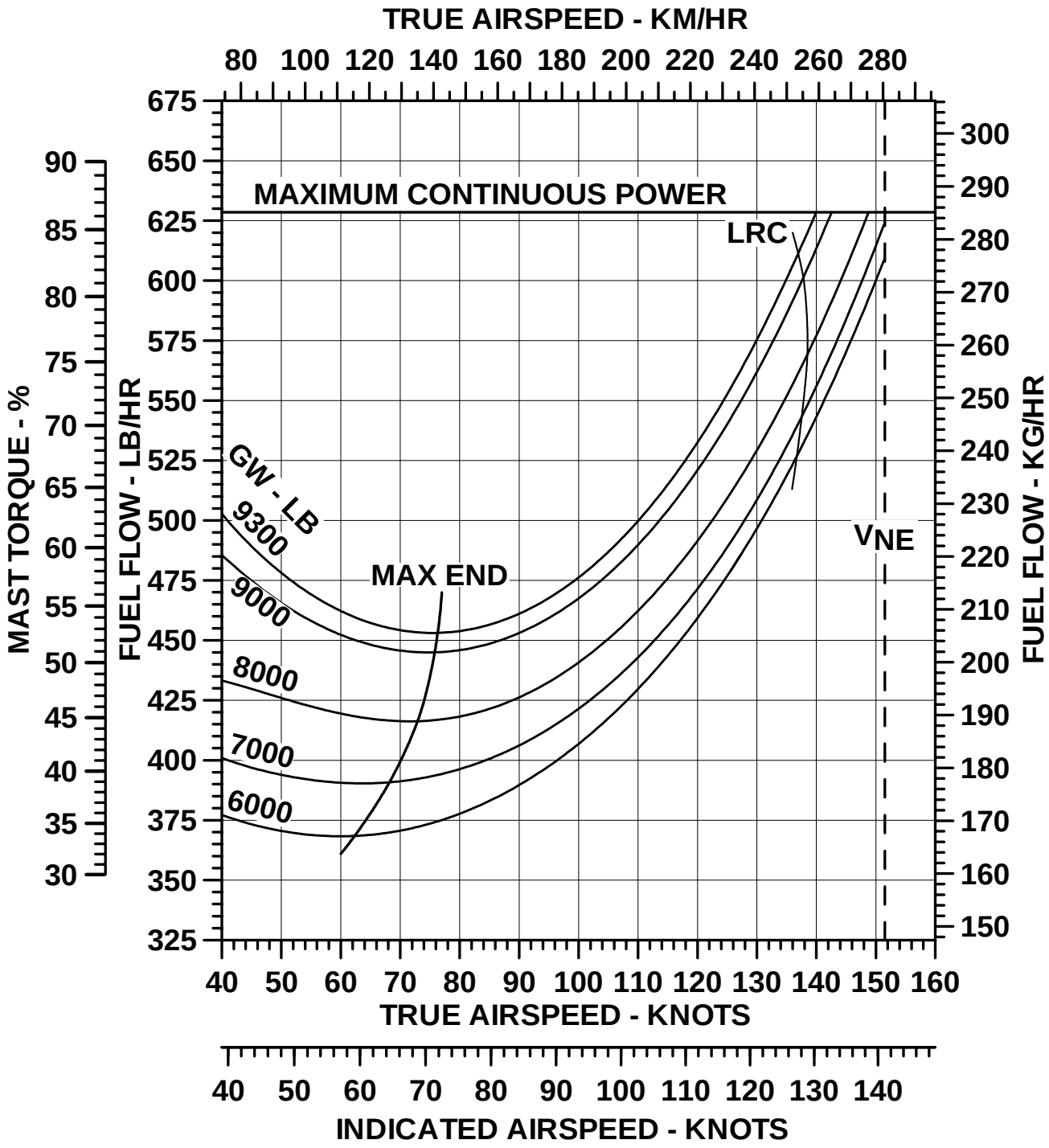
WHEEL LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = SEA LEVEL
OAT = +35°C



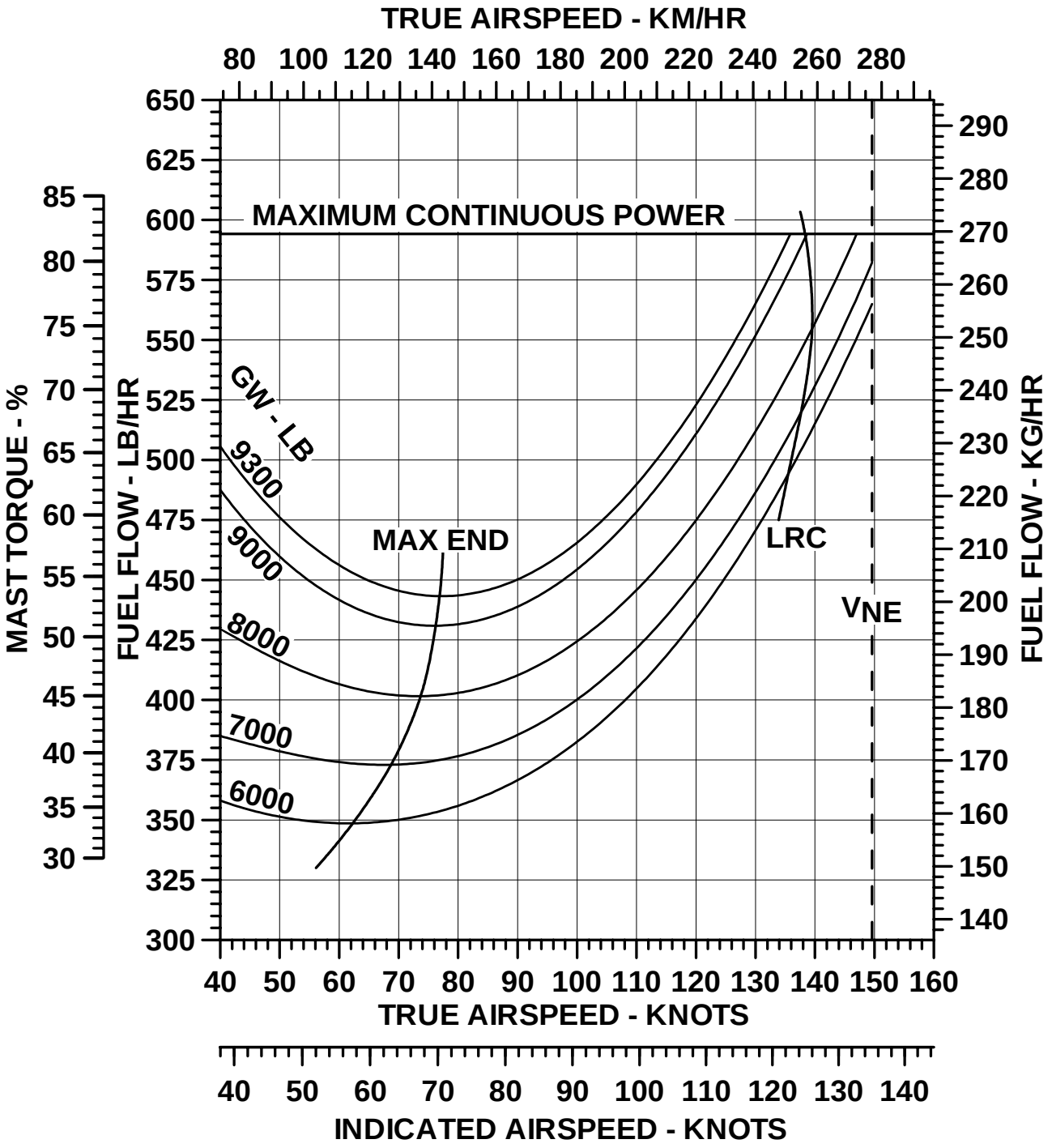
WHEEL LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 2000 FT
OAT = +31°C



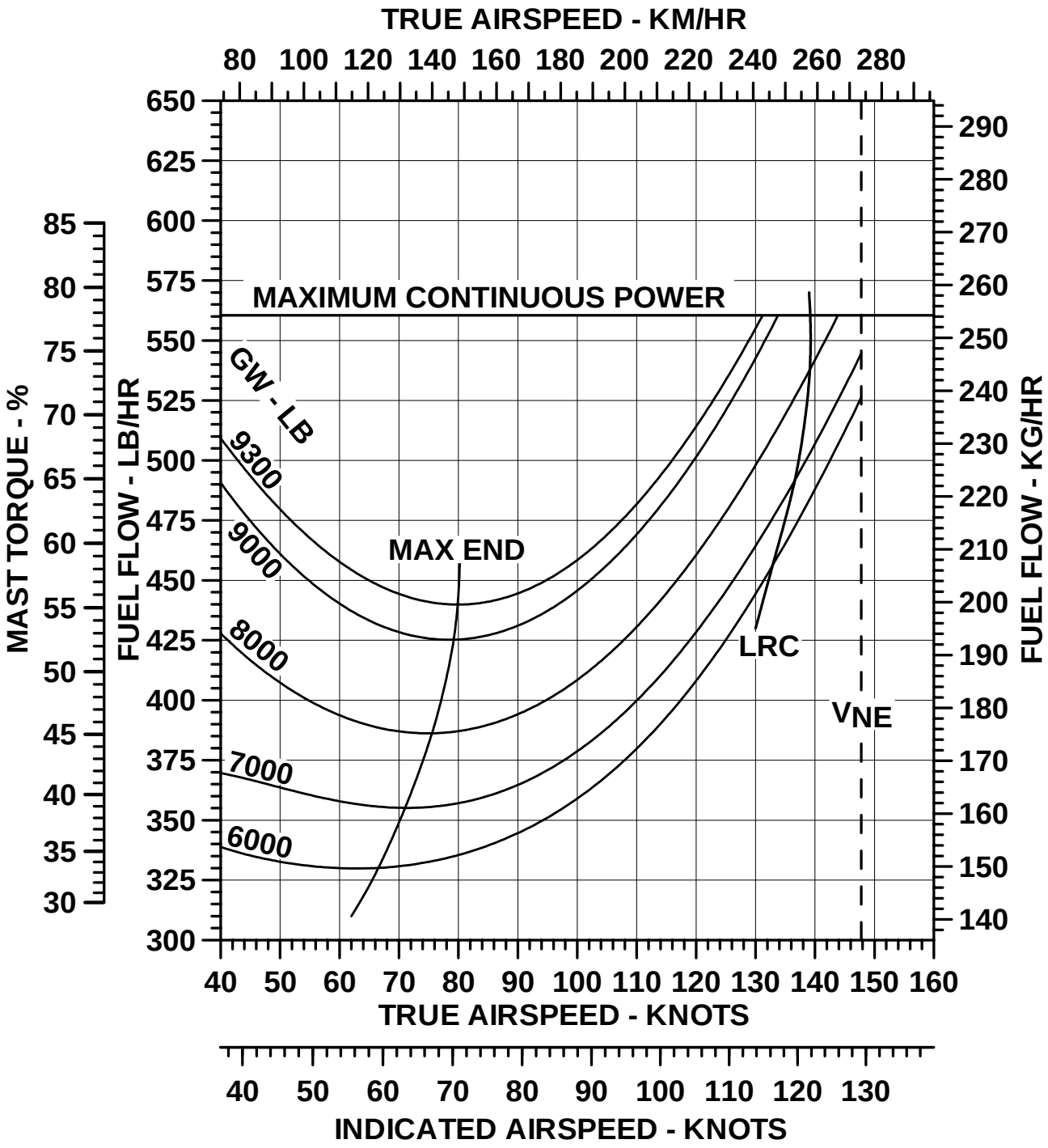
WHEEL LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 4000 FT
OAT = +27°C



WHEEL LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 6000 FT
OAT = +23°C



WHEEL LANDING GEAR
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 8000 FT
OAT = +19°C



COST OF OPERATIONS

INTRODUCTION

Bell Helicopter Textron's cost of operations data for current production helicopters is based on information from Bell operators and service facilities.

BHT's Product Support organization accumulates cost data from a diverse group of operators - large, small; sub-polar, subtropical; inland, coastal; corporate, charter. This information is analyzed to generate sample data for each production model which are averages of the field experience.

BHT intends to continue monitoring actual costs to enable annual updates of the data to maintain its currency.

The following discussion is provided to review the variables involved in the helicopter's direct and indirect cost of operations as well as its cost of ownership.

The total cost of helicopter ownership and operation involves both direct and indirect costs. The direct costs are those which are incurred essentially by the flight hour and include:

Fuel, Lubricants
Basic Airframe Maintenance
Powerplant Maintenance

The indirect costs are not directly dependent upon the number of hours flown and include:

Insurance
Facilities (hangar, workshop, etc.)
Crew Compensation
Financial Factors (depreciation, investment tax credit, financing costs, etc.)

Sample direct operating cost data is available for each current production model. Detailed estimates for total costs relating to specific operations are available through the BHT regional marketing manager or corporate office using input data supplied by customer/prospect.

DIRECT COSTS

Fuel, Lubricants

A typical average value of fuel and lubricant costs is included in the sample data provided for each model.

Fuel consumption depends upon speed, temperature, externally-mounted accessories, sling loads, etc. A band of approximately 10% more or less than sample value will cover these factors for normal operations.

Fuel pricing varies considerably based on where the fuel is purchased geographically and whether it is purchased retail or in bulk. The sample cases use average retail purchase price prevalent at the time of the sample data are prepared.

Basic Airframe Maintenance

Airframe maintenance is divided into four categories:

Periodic Inspections
Overhauls
Replacement of Retirement Parts
Unscheduled

Periodic inspections include those inspection tasks, with their part requirements, listed in the Maintenance Manual for each model.

Man hours for periodic inspections can vary from the sample value provided because of differences in personal experience, tool and parts availability, facilities, environmental effects such as extremes in working temperatures. Man hour costs/hour are also variable among the Authorized Service Centers as a result of differences in local costs, overhead expenses and volume of work. The sample value is an average of costs per hour at Authorized Service Centers at the time of publication.

Overhauls include removal, disassembly, inspection, parts replacement, reassembly and reinstallation of certain components/assemblies at the periods stated in the BHT Maintenance Manual.

Overhaul man hour and parts requirements are subject to considerable variation depending upon the helicopter's operations and environments. The sample data reflect average values.

COST OF OPERATIONS (continued)

Retirement parts are those which are subject to disposal after an operating time stated in the Maintenance Manual. These are normally components of the rotors/control systems which are subject to oscillatory loads and are designed and tested for use over a finite number of flight hours rather than on their condition. The replacement at the required intervals requires some labor which is included in the man hour data in the sample.

Unscheduled maintenance encompasses labor and parts replacement for major maintenance not covered under the formal Maintenance Manual requirements for inspections and overhauls. It also includes those additional maintenance requirements imposed by the manufacturer through issue of Service Bulletins.

The sample data for periodic inspections provide for some minor unscheduled maintenance tasks resulting from the inspection.

Powerplant Maintenance

The powerplant (engine [s]) requires periodic inspection and overhauls. The overhaul periods are based on the number of operating hours or on the number of cycles, whichever is the first limit to be attained. Start cycles are a factor because thermal cycles are important in the design of the turbine engine's rotating components. Overhauls are performed by the engine manufacturer and/or at authorized facilities.

Powerplant overhaul can be performed for the engine as a unit, or in some cases for individual modules. (Modules can be gearbox, compressor, turbine, for example.) Each module can have its own overhaul period. Modular overhaul can be cost-effective for some operations and it use should be evaluated.

Engine or module exchanges can be made in lieu of overhaul. For details, contact the engine manufacturer or his authorized distributors/ service centers. The sample costs are based on an average exchange.

The powerplant may also require unscheduled maintenance (unscheduled removals for repair, parts replacement).

INDIRECT COSTS

Insurance

Insurance rates are based on a number of factors including claim experience, type of operations, and crew qualifications. Rates can be obtained from insurance agent/broker.

Facilities

Facilities can include hangar, workshop, parts storage area, tools, ground support equipment and administrative area as appropriate to the specific operation.

Crew Compensation

The number of aircrew personnel depends on the individual operation; i. e., whether the normal crew consists of one or two pilots, hours per day flown, backup requirements for illness, vacation, etc.

Bell regional marketing managers can advise typical local costs for estimation purposes.

Financial Factors

Funding a helicopter purchase can be accomplished in a variety of ways, including cash, short term note, long term note, partnership, etc. For investment accounting, several depreciation methods also exist; straight line, double declining, sum of the years digits, etc. Value of resale is a significant factor.

Miscellaneous Factors

Staff expenses (other than aircrew and direct maintenance personnel), utilities, office expenses, etc.

OWNERSHIP ANALYSIS PROGRAM

Bell Helicopter Textron uses the **Life Cycle Cost 2005** computer program provided by **Conklin & de Decker Associates, Inc.** to determine ownership costs for an operators planned period of utilization for the aircraft. Conklin's Rotorcraft Analysis Office may be contacted at: Phone; (817)277-6403 or Fax; (817)277-6402.

Bell's regional marketing managers or corporate office personnel will be able to assist in preparing an ownership analysis which is customized for our customers specific individual conditions and needs.

SAMPLE - COST OF OPERATIONS
US DOLLARS PER FLIGHT HOUR

		OPERATOR OVERHAUL
Fuel, Lubricants		
Fuel: (***Note 1***) [88 gallons per hour]		$198.00
Lubricants: 3% of Fuel Cost		5.94
Airframe Direct Maintenance		
Labor: (***Note 2***)		
Inspection	(0.353 MH/FH)	23.00
Overhaul	(0.069 MH/FH)	4.46
Unscheduled and On-Condition	(0.585 MH/FH)	38.04
Parts:		
Inspections		1.04
Retirement		78.15
Overhaul		37.79
Unscheduled and On-Condition		109.25
Powerplant Direct Maintenance		
Overhaul (Including Accessories)		141.92
Line Maintenance (Labor-***Note 3***)	(0.133 MH/FH)	8.50
Total Average Cost Per Hour		***$646.09***

Note 1: Fuel at $2.25 per gallon. Average fuel consumption for LRC at 1000 feet, ISA, (Jet-A at 6.8 Lb/Gal.)
Note 2: Labor rate assumed at $65.00 per hour.
Note 3: Includes all scheduled and unscheduled maintenance and life limited parts replacement assuming normal operating environment.

COMPONENT OVERHAUL INTERVALS (Hours)

Swashplate & Support	5,000	T/R Hub Assembly	2,500	T/R Gearbox	5,000
Mast Assembly	5,000	Transmission	5,000	Hyd. Actuators	COND.
Oil Cooler Blower (2)	3,000	Main Shaft Assys.	5,000	Hanger Assys.	3,000/3YR

LIFE LIMITED PARTS

PART NUMBER	COMPONENT	LIFE (RET HRS)	LIST PRICE	PER A/C	DOC (FLT HR)
MAIN ROTOR COMP					
430-010-127-101	Pin Assy	10000	$ 4,322	8	$3.46
430-010-109-101	Adapter	10000	$ 18,234	4	$7.29
430-010-115-101	Pitch Horn	10000	$ 5,294	4	$2.12
430-310-104-105	Damper Blade Set	10000	$ 35,177	4	$14.07
430-310-101-107	Shear Restraint	10000	$ 9,369	4	$3.75
430-010-105-105	Clamp Plate Set	10000	$ 4,339	4	$1.74
430-010-124-103	Drive Bushing	5000	$ 1,967	8	$3.15
430-010-126-101	Drive Plate	10000	$ 7,401	1	$0.74
20-065-08083	Bolt	5000	$ 118	8	$0.19
MAIN ROTOR CONTR					
430-010-411-105	Pitch Link Assy	10000	$ 5,275	2	$1.05
430-010-411-107	Pitch Link Assy	10000	$ 5,275	2	$1.05
430-010-410-101	Drive Hub Assy	10000	$ 3,600	1	$0.36
430-010-408-101	Drive Link Assy	10000	$ 2,626	1	$0.26
430-010-409-105	Ldler Link Assy	10000	$ 3,153	1	$0.32
430-010-401-105	Rotating Ring Assy	10000	$ 5,394	1	$0.54
430-010-402-101	Non-Rotating Ring Assy	10000	$ 6,541	1	$0.65
430-010-412-105	Cyclic Link Assy	10000	$ 1,918	2	$0.38
430-010-412-106	Cyclic Link Assy	10000	$ 1,851	2	$0.37
430-010-404-101	Swashplate Support	10000	$ 13,538	1	$1.35
430-010-403-105	Ball Sleeve Assy	10000	$ 15,056	1	$1.51
430-010-405-105	Collective Lever Assy	10000	$ 8,165	1	$0.82
430-010-407-101	Idler Link	10000	$ 2,059	1	$0.21
430-010-406-101	Cyclic Lever Assy	10000	$ 3,269	2	$0.65
222-040-125-001	Actuator Support Assy	5000	$ 11,918	1	$2.38
CONTROL SYSTEM BOLTS AND PINS					
20-057C5-19	Drv Hub to Drv Hub Bolt	5000	$ 165	1	$0.03
430-010-442-101	Ball Slv to Col Lvr Pin	5000	$ 3,247	2	$1.30
430-310-455-101	Collective Lever Pin	5000	$ 882	2	$0.35
50-047C6-28	Univ. to Pitch Link Bolt	5000	$ 523	4	$0.42
50-047C6-32	Pit Lnk to Rot Ring Bolt	5000	$ 188	4	$0.15
50-047C6-32	S/P NR Rng to Cyc Lnk Bolt	5000	$ 188	2	$0.08
50-047C6-32	Cyc Lnk to Cyc Lvr Bolt	5000	$ 188	2	$0.08
50-047C6-36	Pit Horn to Pit Lnk Bolt	5000	$ 410	4	$0.33
50-047C6-49	Drv Lnk to Rot Ring Bolt	5000	$ 489	1	$0.10
50-047C6-99	Drv Hub to Idler Lnk Bolt	5000	$ 1,022	1	$0.20
50-047C6-99	Idler Lnk to Drv Lnk Bolt	5000	$ 1,022	1	$0.20
50-047C8-135	Col Lvr to Idler Lnk Bolt	5000	$ 1,513	1	$0.30
50-047C8-31	Cyc Lvr to MR Pwr Act Bolt	5000	$ 243	2	$0.10
50-047C8-31	Col Lvr to MR Pwr Act Bolt	5000	$ 243	1	$0.05
50-047C8-82	Idler Lnk to S/P Supp Bolt	5000	$ 1,114	1	$0.22
TAIL ROTOR HUB & BLADES					
222-016-001-131	Tail Rotor Blade	5000	$ 13,678	2	$5.47
222-012-702-109	Tail Rotor Yoke	5000	$ 14,536	1	$2.91
222-012-703-107	Tail Rotor Trunion Assy	5000	$ 4,480	1	$0.90
DRIVE SYSTEM					
430-040-130-109	Main Rotor Mast	10000	$ 42,692	1	$4.27
222-042-402-009	Shaft	5000	$ 14,540	1	$2.91
PYLON SYSTEM					
430-310-200-107	Fluid Mount	10000	$ 46,895	2	$9.38
			TOTAL		**$78.15**

Prices and hours are subject to change without notice.

PAINT SELECTION NOTES:

1. COLOR RENDERINGS (ORIGINAL) MUST BE PROVIDED FOR ANY DEVIATION TO THE STANDARD SCHEMES (ALL MODELS).

2. CUSTOM PAINT SCHEMES TO CUSTOMER SPECIFICATION ARE AVAILABLE, AND A PRICE QUOTE WILL BE PROVIDED ON REQUEST. PLEASE PROVIDE AS MUCH DETAIL AS POSSIBLE WHEN DESCRIBING SPECIAL INSTRUCTIONS AND CUSTOM PAINT SCHEMES.

3. THE DANGER ARROW IS ALWAYS APPLIED ON THE TAIL BOOM BETWEEN THE HORIZONTAL STABILIZER AND THE TAIL ROTOR, NOT WITHSTANDING ANY OTHER ILLUSTRATIONS.

4. UNLESS CLEARLY SPECIFIED (LOCATION, DIMENSION, COLOR), REGISTRATION MARKINGS WILL BE APPLIED PER FAA REGULATIONS (ALL MODELS).

5. METALLIC PAINT CAN NOT BE APPLIED OVER RADOME AREAS WHEN A RADAR IS INSTALLED.

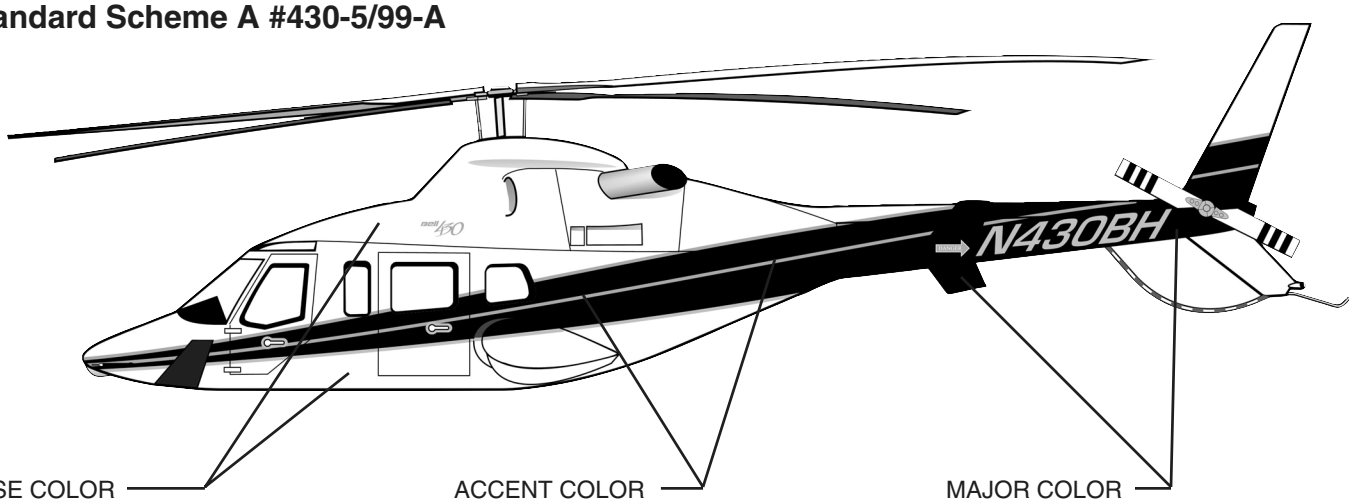
6. PLACEMENT OF BELL MODEL LOGOS IS EFFECTED BY INDIVIDUAL PAINT SCHEMES, AND WILL BE APPLIED AT THE DISCRETION OF BELL HELICOPTER UNLESS OTHERWISE SPECIFIED BY THE CUSTOMER.

CUSTOMER

SERIAL NO.

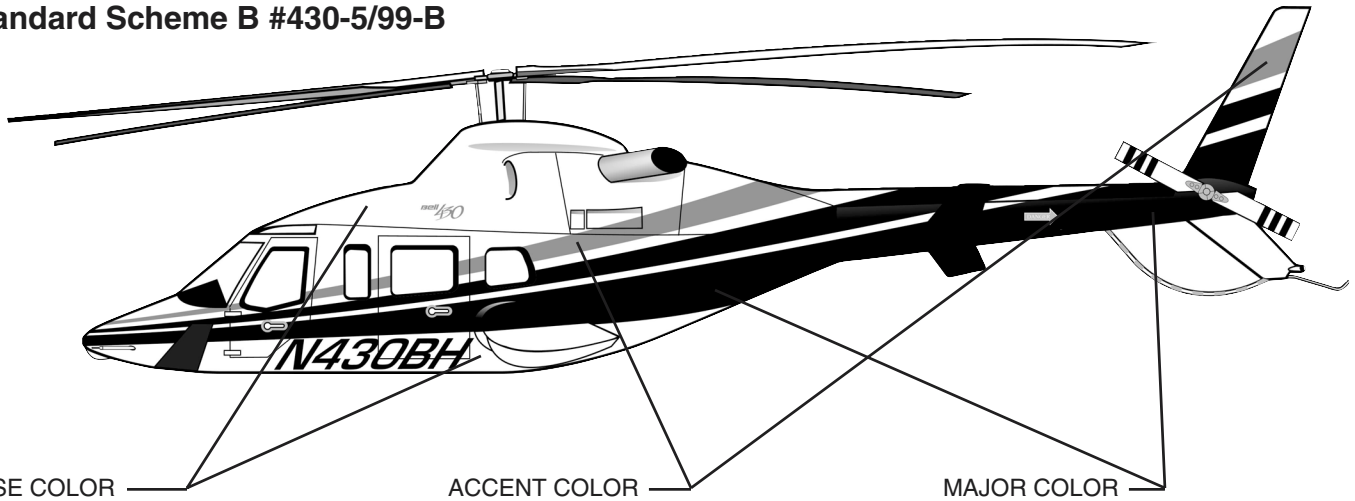
REGISTRATION NO.

Standard Scheme A #430-5/99-A



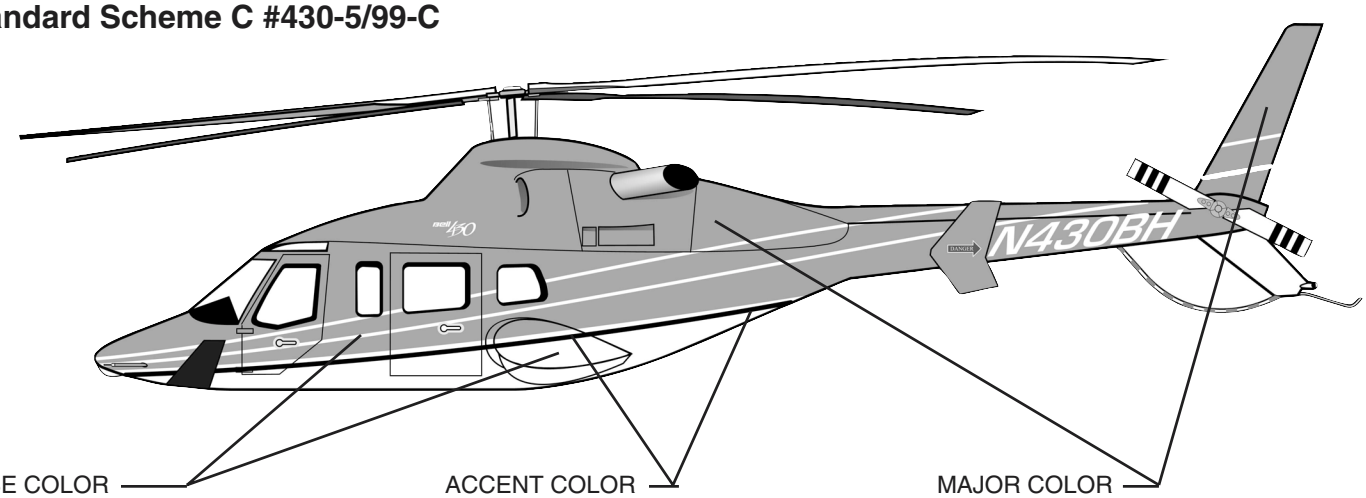
BASE COLOR	ACCENT COLOR	MAJOR COLOR
NAME	NAME	NAME
NUMBER	NUMBER	NUMBER

Standard Scheme B #430-5/99-B



BASE COLOR	ACCENT COLOR	MAJOR COLOR
NAME	NAME	NAME
NUMBER	NUMBER	NUMBER

Standard Scheme C #430-5/99-C



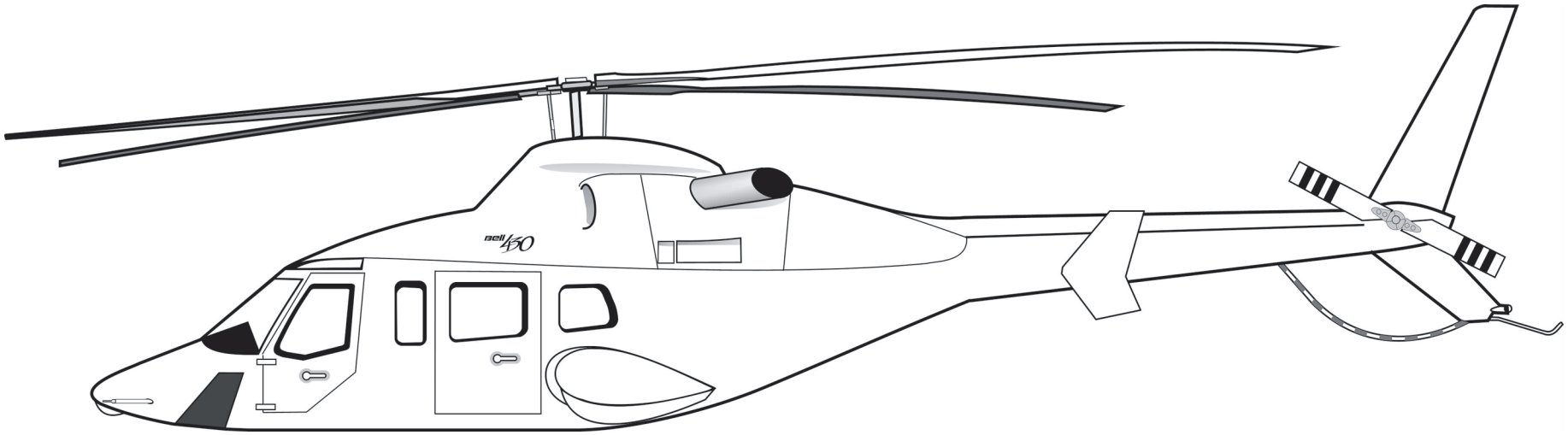
BASE COLOR	ACCENT COLOR	MAJOR COLOR
NAME	NAME	NAME
NUMBER	NUMBER	NUMBER

Custom Scheme

CUSTOMER

SERIAL NO.

REGISTRATION NO.



BASE COLOR

NAME

NUMBER

ACCENT COLOR

NAME

NUMBER

MAJOR COLOR

NAME

NUMBER

Bell 430

STANDARD PAINT SCHEMES
COLOR SELECTION SAMPLES

A

430-5/99-A

B

430-5/99-B

C

430-5/99-C

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