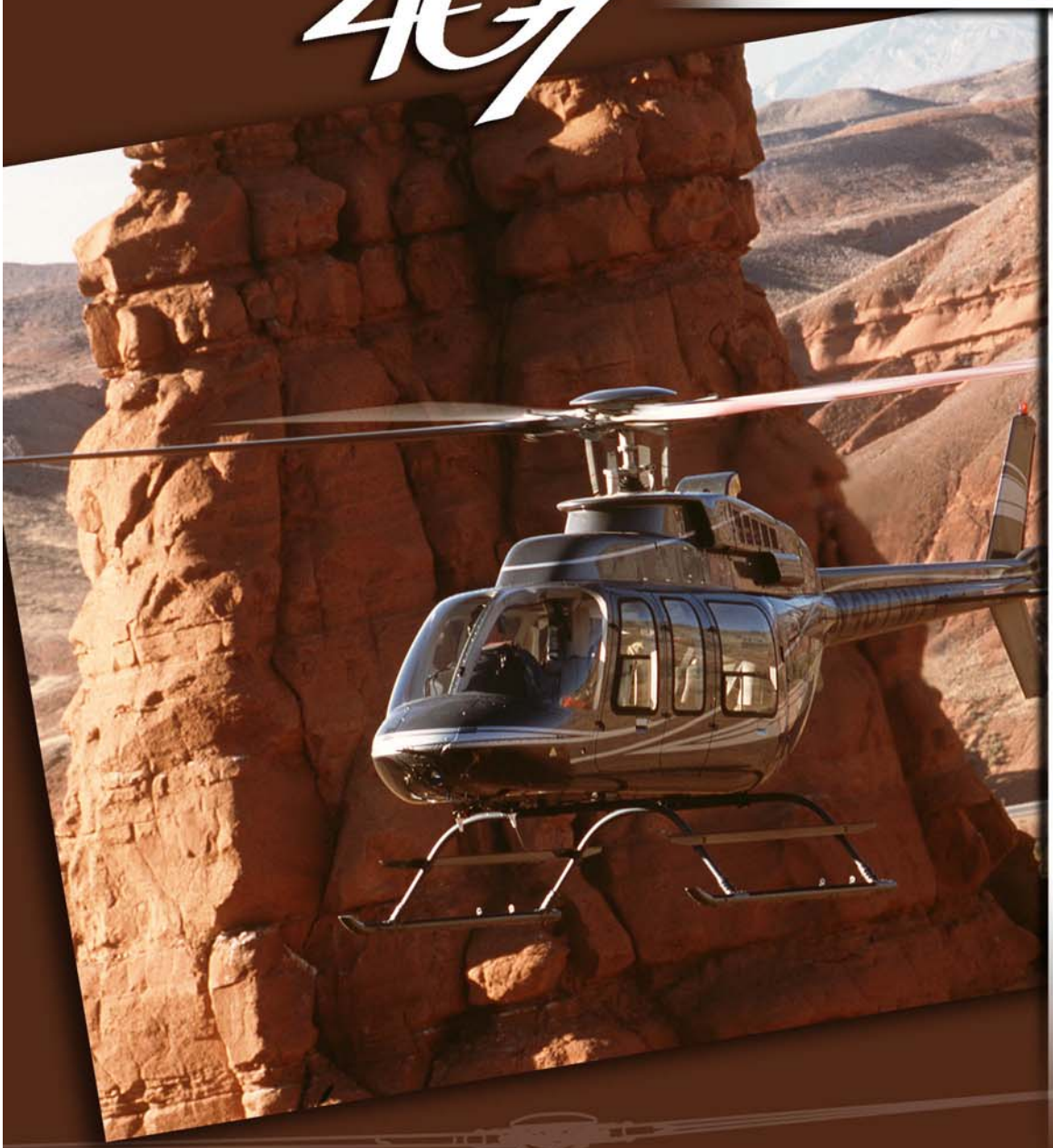
Bell 407

Bell Helicopter
A Textron Company



SPECIFICATIONS

PRODUCT SPECIFICATIONS
JANUARY 2005

For additional information visit the Bell Helicopter Textron Website

Homepage: www.bellhelicopter.com

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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.

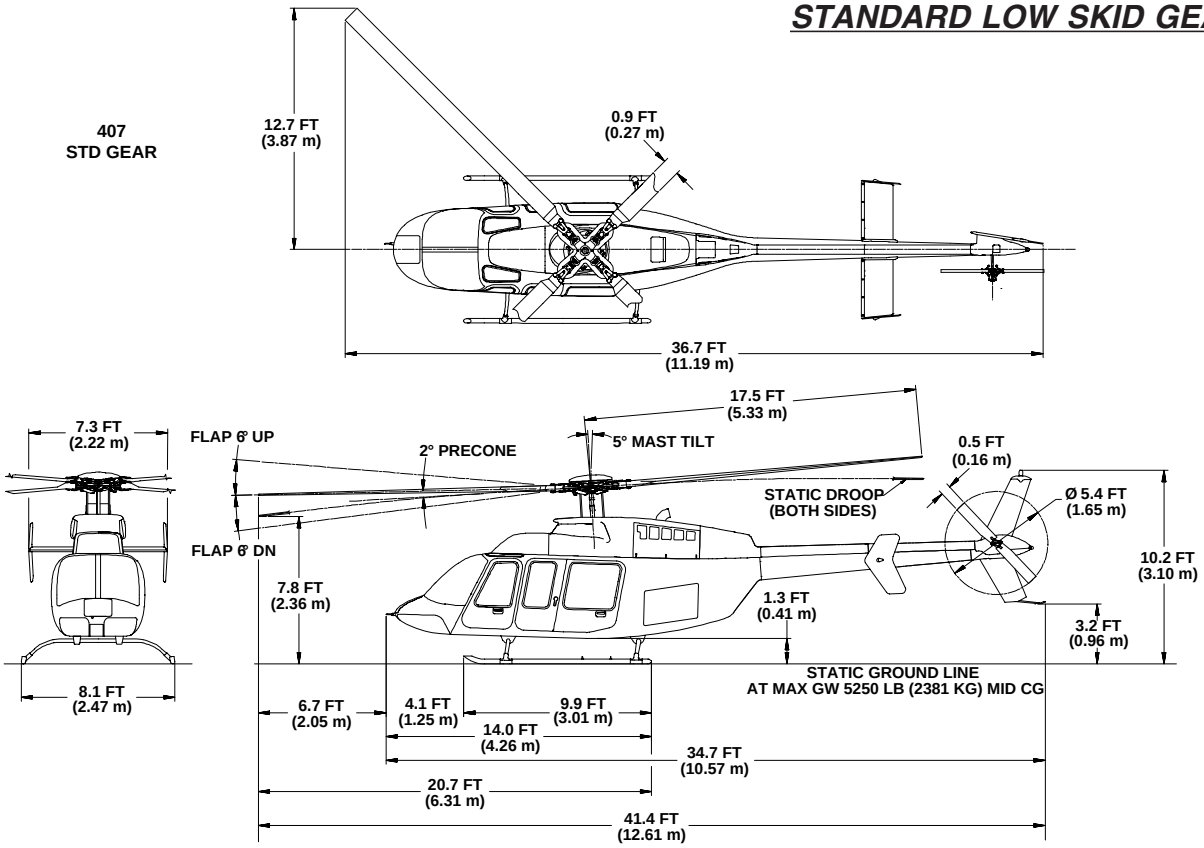
Disclosure, reproduction, or use of any material in this document by persons other than BHTI employees, and BHTI independent representatives [International Dealers] is **forbidden** without written permission from Bell Helicopter Textron.

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.

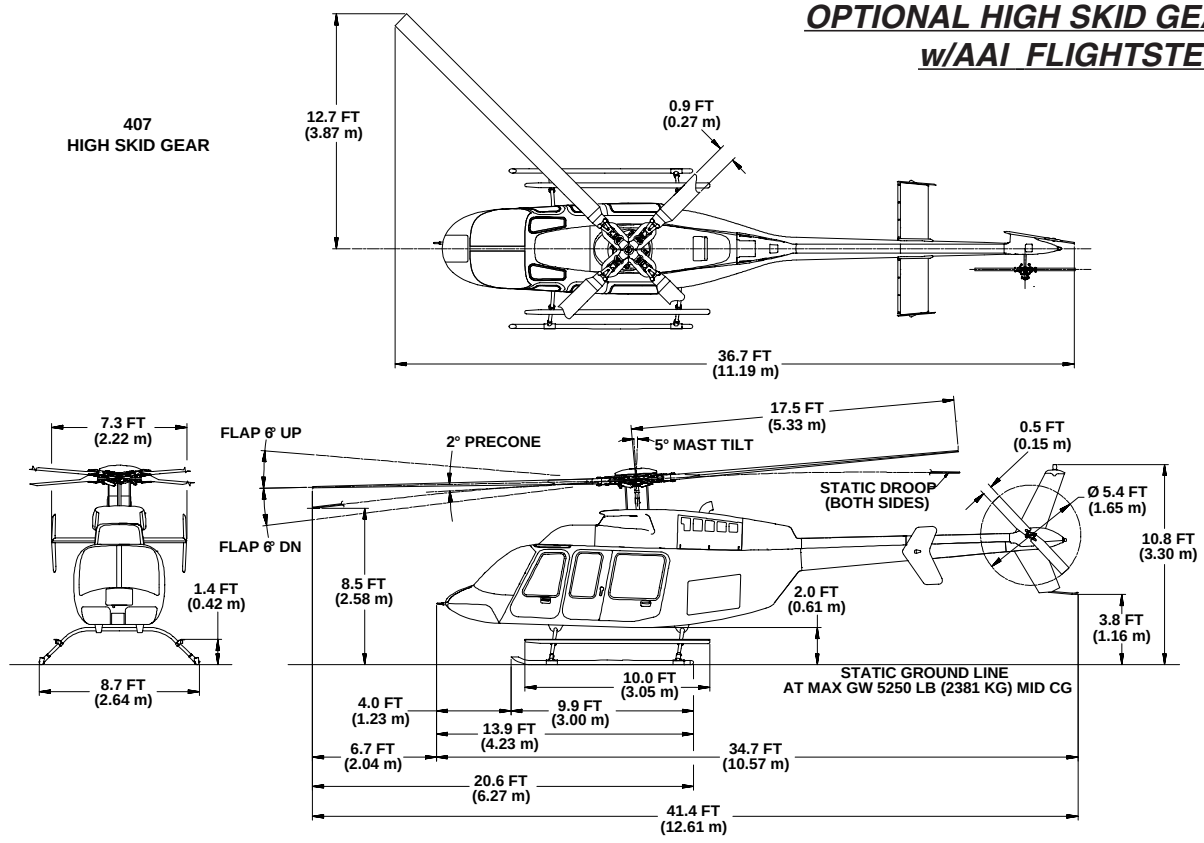
The SPECIFICATIONS, WEIGHTS, DIMENSIONS, AND PERFORMANCE DATA shown in this document are subject to change without notice.

EXTERIOR DIMENSIONS

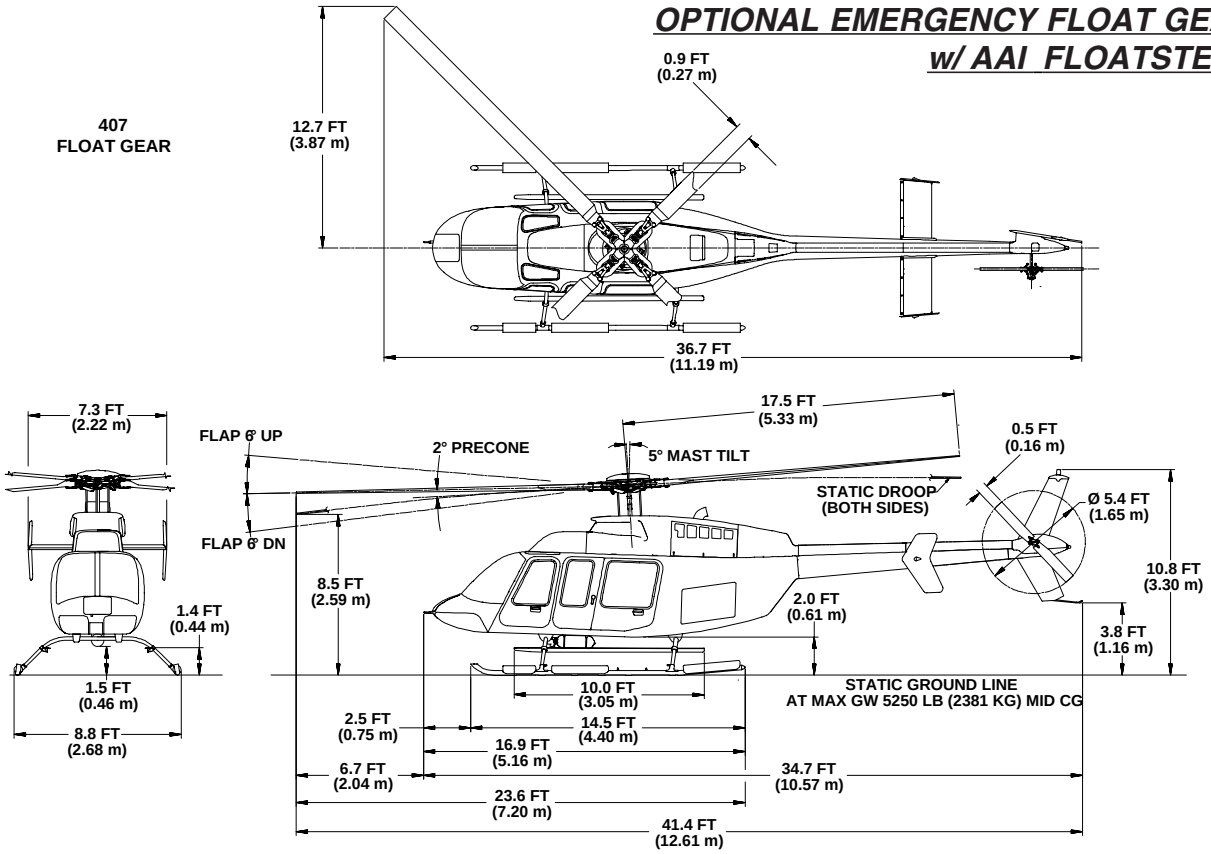
STANDARD LOW SKID GEAR



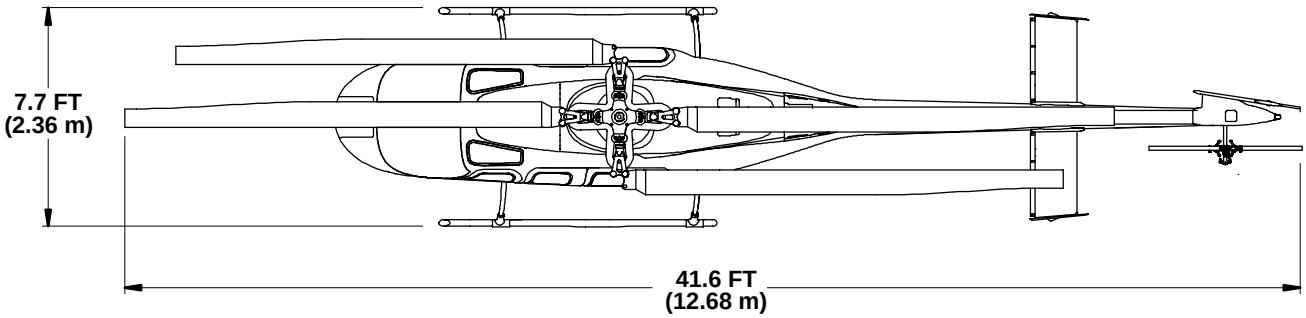
OPTIONAL HIGH SKID GEAR w/AAI FLIGHTSTEP®



OPTIONAL EMERGENCY FLOAT GEAR w/ AAI FLOATSTEP®



OPTIONAL BLADE FOLDING KIT DIMENSIONS



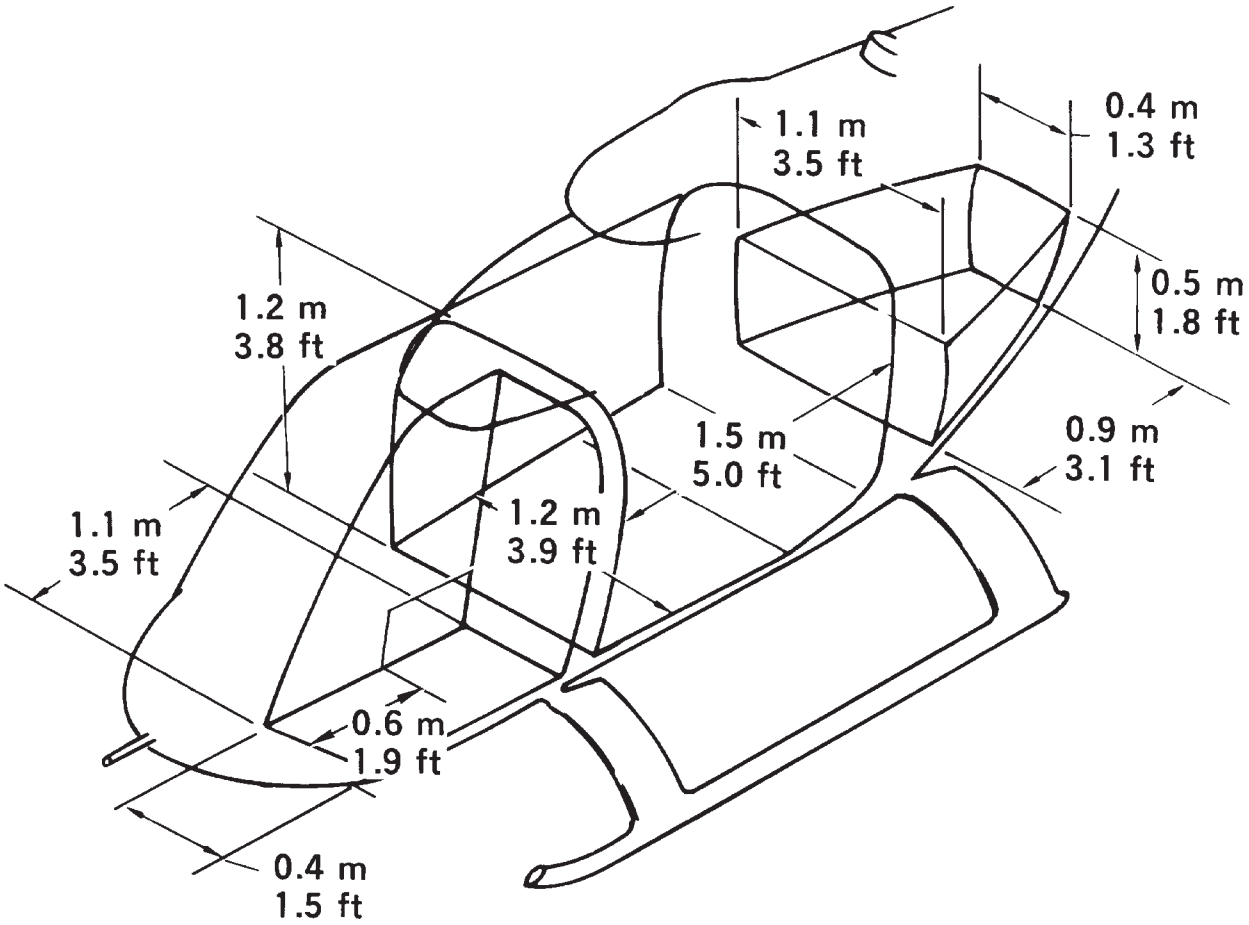
MINIMUM HANGAR SIZE*
ROTOR NOT FOLDED
25.1 FT X 36.6 FT
[7.7 M X 11.2 M]

MINIMUM HANGAR SIZE*
ROTOR FOLDED
7.7 FT X 41.6 FT
[2.4 M X 12.7 M]

*ALLOWANCE SHOULD BE MADE FOR HIGH SKID GEAR, GROUND WHEELS, EMPTY FUEL CONDITION, AND DOOR LIP WHEN CONSIDERING HANGAR DOOR WIDTH AND HEIGHT

INTERNAL DIMENSIONS

[APPROXIMATE]



Approximate cargo space:
Aft Cabin-2.4 cubic meters (85 cubic feet)
Left front-0.6 cubic meters (20 cubic feet)
Baggage compartment-0.45 cubic meters (16 cubic feet)

Floor loading:
Cabin-3.7 kg/sq. meter (75 lb/ sq. foot)
Baggage-4.2 kg/sq. meter (86 lb/sq. foot)

Max Baggage weight-113 kg (250 pounds)

INTENTIONALLY LEFT BLANK

SPECIFICATION SUMMARY (U. S. Units)

WEIGHTS (Serial No. 53633 & Subsequent)

	LBS
Standard Configuration Weight (Note 1)	2668
Internal Gross Weight [Normal / Optional](*Note 2)	5000 / 5250*
External Load Gross Weight	6000
Useful Load [Gross Wt - Standard Configuration Wt] {Normal / Optional}(*Note 2)	2332/ 2582*
Maximum External Load [Cargo Hook Limit]	2646

Note 1: The Standard Configuration Weight includes 7-place upholstered interior with individual seat belts, carpeting, and soundproofing material. Ballast is not included since it is a function of installed optional equipment. 13 pounds of oil is included.

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	4000	4500	5000	5250
IGE Hovering Ceiling	ISA	ft	19,200	15,600	12,200	5400*
(4.5 ft Skid Height)	ISA+20C	ft	15,600	11,700	7900	3150*
	ISA+30C	ft	13,250	8850	4600	2050*
OGE Hovering Ceiling	ISA	ft	17,600	13,850	10,450	5400*
	ISA+20C	ft	13,800	9650	5750	3150*
	ISA+30C	ft	11,050	6500	1850	(5200lb@SL)*
Service Ceiling @ MCP	ISA	ft	20,000+	20,000+	17,600	16,050
(100 ft/min)	ISA+20C	ft	20,000+	17,750	14,300	12,650
Cruise at Long Range Cruise Speed (LRC)						
Range [standard fuel]	SL, ISA	nm	342	336	330	326
LRC Speed		kn	120	120	121	121
Range [standard fuel]	4000 ft, ISA	nm	383	375	364	357
LRC Speed		kn	118	120	120	120
Maximum Cruise Speed	SL, ISA	kn	136	135	133	132
@ Takeoff Gross Weight	SL, ISA+20C	kn	130	129	126	125
	4000 ft, ISA	kn	140	138	135	133
	4000 ft, ISA+20C	kn	133	130	126	123
Endurance @ Loiter 60 kn	SL, ISA	hr	4.0	3.9	3.8	3.7
	4000 ft, ISA	hr	4.5	4.4	4.2	4.1

Note 2: Operation at Internal Gross Weight above 5000 pounds / 2381 Kilograms requires the Optional Increased Internal Gross Weight Kit (Performance data shown on Page 19).

ENGINE RATING:

Rolls-Royce 250-C47B with Full Authority Digital Electronic Control:

Takeoff Horsepower(Uninstalled Thermodynamic Capability)	SHP	813
(Mechanical Limit)	SHP	674
Maximum Continuous(Uninstalled Thermodynamic Capability)	SHP	701
(Mechanical Limit)	SHP	630

TRANSMISSION RATING (Engine Output):

Takeoff Horsepower (5 minutes)	SHP	674
Maximum Continuous	SHP	630

FUEL CAPACITY (USABLE):

Standard	127.8 US Gallons
Auxiliary(Optional)	19 US Gallons

SPECIFICATION SUMMARY (Metric Units)

WEIGHTS (Serial No. 53633 & Subsequent)

	Kg
Standard Configuration Weight (Note 1)	1210
Internal Gross Weight [Normal / Optional](*Note 2)	2268 / 2381*
External Load Gross Weight	2722
Useful Load [Gross Wt - Standard Configuration Wt] {Normal / Optional}(*Note 2)	1058/ 1171*
Maximum External Load [Cargo Hook Limit]	1200

Note 1: The Standard Configuration Weight includes 7-place upholstered interior with individual seat belts, carpeting, and soundproofing material. Ballast is not included since it is a function of installed optional equipment. 6 kilograms of oil is included.

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	1814	2041	2268	2381
IGE Hovering Ceiling	ISA	m	5852	4755	3718	1646*
(1.4 M Skid Height)	ISA+20C	m	4755	3566	2408	960*
	ISA+30C	m	4039	2697	1402	625*
OGE Hovering Ceiling	ISA	m	5364	4221	3185	1646*
	ISA+20C	m	4206	2941	1753	960*
	ISA+30C	m	3368	1981	564	(2358kg@SL)*
Service Ceiling @ MCP	ISA	m	6096+	6096+	5364	4892
(0.5 m/s)	ISA+20C	m	6096+	5410	4359	3856
Cruise at Long Range Cruise Speed (LRC)						
Range [standard fuel]	SL, ISA	km	634	623	612	604
LRC Speed		km/h	222	222	224	224
Range [standard fuel]	1200m, ISA	km	710	695	675	661
LRC Speed		km/h	219	222	222	222
Maximum Cruise Speed	SL, ISA	km/h	250	250	246	244
@ Takeoff Gross Weight	SL, ISA+20C	km/h	241	239	234	231
	1200m, ISA	km/h	259	256	250	246
	1200m, ISA+20C	km/h	246	241	234	228
Endurance@ Loiter 111 km/h	SL, ISA	hr	4.0	3.9	3.8	3.7
	1200m, ISA	hr	4.5	4.4	4.2	4.1

Note 2: Operation at Internal Gross Weight above 5000 pounds / 2381 Kilograms requires the Optional Increased Internal Gross Weight Kit (Performance data shown on Page 19).

ENGINE RATING:

Rolls-Royce 250-C47B with Full Authority Digital Electronic Control:

Takeoff Horsepower(Uninstalled Thermodynamic Capability)	kW	606
(Mechanical Limit)	kW	503
Maximum Continuous(Uninstalled Thermodynamic Capability)	kW	523
(Mechanical Limit)	kW	470

TRANSMISSION RATING (Engine Output):

Takeoff Horsepower (5 minutes)	kW	503
Maximum Continuous	kW	470

FUEL CAPACITY (USABLE):

Standard	484 Liters
Auxiliary(Optional)	72 Liters

407 SEATING

CREW SEATING *- Two individual ergonomically designed seats with adjustable lumbar support, each equipped with seat belt, double strap shoulder harness and inertia reel, are located in the cockpit. The color and upholstery material for the seats, and interior trim of the cockpit match that which is selected for the cabin. The seat belts are black.*

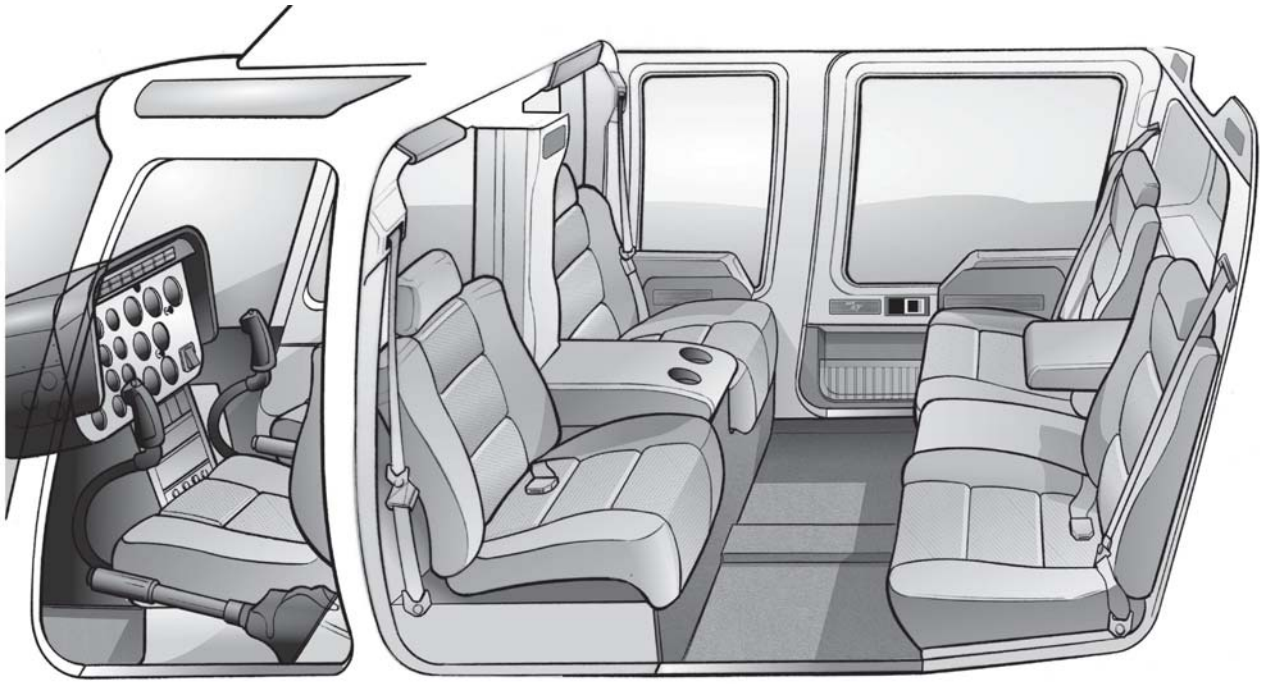
STANDARD SEATING & INTERIOR TRIM

STANDARD SEATING & INTERIOR TRIM - The standard cabin seating consists of ***five*** *ergonomically designed seats with individual seat belts and single strap shoulder harness, arranged with three equal width forward facing seats across the rear of the cabin and two individual rearward facing seats aft of the cockpit. Available with Grey, Blue, Red, or Tan upholstery fabric with Black seat belts. All vinyl or vinyl surround / fabric insert upholstery is available as an extra cost option.* ***The standard interior trim*** *consists of full plastic closeouts on all airframe areas, vinyl covered arm rests, and molded plastic outboard headliners. The floor is covered in low loop blend carpet. The standard seating and interior trim are included in the basic aircraft weight.*

Specifications subject to change without notice.

SEATING *(continued);*

CORPORATE SEATING & INTERIOR TRIM



CORPORATE SEATING & INTERIOR TRIM - The corporate cabin seating consists of ***five*** *'Overstuffed Style' seats with individual seat belts and single strap shoulder harness, arranged with two extra wide forward facing* ***outboard*** *seats and a* ***middle*** *seat for occasional use across the rear of the cabin (with a fold down arm rest between the outboard seats) and two individual rearward facing seats aft of the cockpit. 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.* ***The corporate interior trim*** *consists of full plastic closeouts on all airframe areas, fabric covered outboard headliner blankets, and armrests covered with color coordinated leather. Carpet is 100% wool cut pile. Selection of the corporate interior trim also specifies installation of* ***Corporate Soundproofing****, which provides a reduced interior noise level. The corporate seating and interior trim (and corporate soundproofing)* ***increase*** *the basic aircraft empty weight* ***9 lbs. (4.1 kg.).***

Specifications subject to change without notice.

Standard Configuration
(Items Included in List Price)

AIRFRAME

Cabin; bonded aluminum honeycomb, and semi-monocoque structure with composite side panels and aft fuselage skins
Doors (five), one hinged double door & copilot door on left side, pilot & passengers on right side, all doors are composite material
Landing gear, tubular skid type with replaceable skid shoes
Locks for cabin doors and luggage compartment
Luggage compartment (16 cu ft, 250 lbs capacity), with composite door
Provisions for mooring, jacking and single point lifting
Tail boom, monocoque structure with vertical fin and fixed stabilizer
Tail skid (tail rotor guard)
Windows (except windshield), gray tinted plexi-glass [sliding panels in doors are available as a no-cost option]
Three color exterior paint schemes
Standard paint schemes A, B, and C, as shown on paint selector page at rear of this book. Custom paint schemes are quoted on request.

INTERIOR

7-place interior with soundproofing, carpeting, and data case. Color options available for upholstery and carpet
7-place shoulder harnesses, dual straps in cockpit, single strap in cabin
Fire extinguisher, cabin
First aid kit
Parcel shelf (behind aft seat)
Ram air ventilation system
Storage area behind pilot & copilot seats

POWERPLANT

Rolls-Royce Model 250-C47B gas turboshaft engine with FADEC and Direct Reversion to Manual Governor
Fuel pump, engine driven
Fuel pumps (4 canister type) w/ 2 boost pumps submerged in main tank, and 2 transfer pumps in the forward fuel tanks
Fuel system, 127.8 gal [484 liter] usable capacity
Oil system, 1.5 gal [5.7 liter] capacity, with sight glass
Compressor wash provisions
Engine mounted 10-micron oil filter
Airframe Fuel Filter [eliminates requirement for PRIST]

ROTORS AND CONTROLS

Main rotor, soft in plane flex beam hub with four fiberglass blades, CHOICE of STANDARD [black top-white bottom] or HIGH VISIBILITY [orange/white top-white bottom] painted rotor blades
Tail rotor; two fiberglass blades, semirigid
Hydraulic boost system for Main & Tail Rotor (separate pump and reservoir)
Mechanical flight control linkages throughout
Airspeed Activated Pedal Stop [AAPS] with built in test function, electrical override release switch, and manual override release

TRANSMISSION DRIVE SYSTEM

Soft mounted pylon isolation system
Freewheeling unit (between engine and main transmission)
Kaflex input drive shaft
Gearbox, tail rotor, 90° reduction
Main transmission
Oil cooler
Oil filter with replaceable type cartridge
Oil pump, constant pressure

Specifications subject to change without notice.

Standard Configuration (continued)

FLIGHT AND ENGINE INSTRUMENTS

Clock, digital w/ OAT & Volt Meter
Compass, magnetic
Dual tachometer (rotor and engine)
Inclinometer
Indicator, airspeed
Indicator, altimeter
Indicator, IVSI
Indicator LCD, engine oil pressure / temperature
Indicator LCD, fuel quantity with forward cell quantity switch
Indicator LCD, fuel pressure / generator load meter
Indicator LCD, NG speed *w / EXCEEDANCE MONITERING
Indicator LCD, Torque *w / EXCEEDANCE MONITERING
Indicator LCD, transmission oil pressure / temperature
Indicator LCD, T. O. T. *w / EXCEEDANCE MONITERING
Hour meter (located in battery compartment)
Maintenance download ports (FADEC & LCD instruments)

MONITORING SYSTEM

Caution indication lights:
- Auto relight
- Baggage door
- Battery hot
- Battery relay
- Check instruments
- Cyclic Centering
- Engine anti-ice
- Engine chip detector
- Engine out and low rotor RPM warning lights and horn with mute switch. (Low RPM or engine out)
- Engine overspeed
- Fuel boost pump inoperative, left & right
- Fuel transfer pump inoperative, left & right
- Fuel filter bypass indicator
- Fuel valve in transit
- Fuel low
- Fadec fault
- Fadec fail
- Pedal Stop
- Fadec degraded
- Fadec manual
- Generator failure
- Hydraulic system
- Litter door
- Restart Fault
- Start
- Tail rotor gearbox chip detector
- Transmission oil pressure
- Transmission oil temperature
- Transmission(& Freewheeling unit) chip detector

ELECTRICAL

28 volt DC system
Battery, 17 amp-hr nickel cadmium
External power and grounding receptacle
Lights:
- Anticollision strobe
- Cockpit/map
- Instrument
- Aft cabin
- Landing (two 250 watt)
- Position

Starter-generator (180 ampere)
Solid state voltage regulator
28 volt outlet in cabin
Heated pitot tube & Static ports

MISCELLANEOUS

Covers, engine inlet and exhaust stack
Cover pitot tube
Flight bag
Ground handling wheels with lift tube
Operating manuals:
- Aircraft log book
- Engine log book
- Engine operating & maintenance manual
- Engine parts manual
- Flight manual
- Illustrated parts catalog
- Maintenance and overhaul manual

Tiedown assemblies, main rotor and tail rotor

Specifications subject to change without notice.

Optional Accessories

[BHT Manufactured Kits]

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

Part Number	Kit Description	Wt (lbs)	Wt (Kg)	Notes
AIRFRAME				
407-706-007-103	HIGH SKID GEAR with FLIGHTSTEPS	32.1	14.6	(1, 2
407-706-008-105	EMERGENCY POPOUT FLOATS (LANDING GEAR)	83.8	38.0	(1, 3, 18
407-706-008-107	EMERGENCY POPOUT FLOATS (FLOTATION KIT)	88.9	40.3	(18
407-706-008-109	EMERGENCY POPOUT FLOATS (RESERVOIR KIT)	68.7	31.2	(18
407-706-010-101	SKID GEAR FAIRINGS for LOW SKID ONLY	11.9	5.4	
407-706-011-101	AUX. FUEL TANK PROVISIONS (19 GAL)	5.0	2.3	
407-706-011-113	AUX. FUEL TANK EQUIPMENT (19 GAL)	29.6	13.4	
407-706-702-111	DUAL CONTROLS	12.3	5.6	
AUDIO				
407-705-003-101	AFT AUDIO ICS - 3 STATION with 3 HEADSETS & DROP CORDS	8.6	3.9	
407-705-003-103	AFT AUDIO ICS - 5 STATION with 5 HEADSETS & DROP CORDS	13.5	6.1	
AVIONICS				
407-705-001-103	VHF EQUIPMENT (KX-155) for OMNI w/KI-208 ONLY	8.1	3.7	(4
407-705-001-105	VHF EQUIPMENT (KX-165) for ANY KCS-55A w/HIS KI-525A	8.8	4.0	(4
407-705-001-107	ADF EQUIPMENT (KR-87)	6.3	2.9	(4
407-705-001-109	TRANSPONDER PROVISIONS (KT-76A) MODE C	0.9	0.4	(5
407-705-001-111	TRANSPONDER EQUIPMENT (KT-76A) MODE C	2.5	1.1	(5
407-705-001-113	TRANSPONDER PROVISIONS (DIGITAL) (KT-70)	0.7	0.3	(5
407-705-001-115	TRANSPONDER EQUIPMENT (DIGITAL) (KT-70)	3.8	1.7	(5
407-705-001-117	GPS PROVISIONS (KLN-89B)	4.4	2.0	
407-705-001-119	GPS EQUIPMENT (KLN-89B w/KA33 BLOWER)	5.3	2.4	(5, 6
407-705-001-121	OMNI w/CDI KI208 for KX-155 ONLY	3.6	1.6	
407-705-001-125	COMM#2 KY196A EQUIPMENT	3.4	1.5	
407-705-001-127	AVIONICS MASTER SWITCH (standalone-NO ENC. ALT.)	1.4	0.6	
407-705-001-129	COMM#2 KY196A PROVISIONS	1.7	0.8	
407-705-001-133	VHF/ADF PROVISIONS w/AUDIO PANEL (KMA24H-71)	9.1	4.1	
407-705-002-101	COMPASS SYSTEM KCS-55A PROVISIONS w/KI-525A	3.9	1.8	
407-705-002-103	COMPASS SYSTEM KCS-55A EQUIPMENT w/KI-525A	7.6	3.4	(7
407-705-002-115	COMPASS SYSTEM KCS-55A PROV w/KI-525A (GPS COMPAT.)	4.9	2.2	
407-705-002-117	COMPASS SYSTEM KCS-55A EQIP W/ KI-525A (GPS COMPAT.)	8.3	3.8	(7, 8
407-706-001-101	ENCODING ALTIMETER w/AVIONICS MASTER SWITCH	2.3	1.0	(1, 5
407-706-003-107	TURN & SLIP / ATTITUDE INDICATOR	3.7	1.7	
407-706-003-105	DIRECTIONAL GYRO	4.5	2.0	(7
407-706-005-101	ELT POINTER 4000 W/3001 WHIP ANTENNA	3.9	1.8	
407-706-009-101	ADF ANTENNA RELOCATION	-2.0	-0.9	(4
407-706-012-107	VHF ANTENNA RELOCATION	3.0	1.4	(4
407-706-021-101	C. I. S. [Russian] CERTIFICATION PROVISIONS	1.2	0.5	(9
ENGINE				
206-706-212-131	PARTICLE SEPARATOR WITH BLEED AIR NETWORK	17.0	7.7	(1, 10
407-706-025-101	ENGINE FIRE DETECTION	2.0	0.9	
407-706-016-109	QUIET CRUISE	1.5	0.7	
407-706-020-103	5250 POUND GROSS WEIGHT OPTION	0.0	0.0	

Specifications subject to change without notice.

Optional Accessories (continued)

[BHT Manufactured Kits]

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

Part Number	Kit Description	Wt (lbs)	Wt (Kg)	Notes
EQUIPMENT				
206-706-208-103	SNOW BAFFLE	5.2	2.4	
407-706-300-115	EXPANDABLE BLADE BOLTS (2 EACH)	1.5	0.7	(1
206-706-341-109	CARGO HOOK EQUIPMENT	16.7	7.6	
206-706-341-123	CARGO HOOK PROVISIONS	4.2	1.9	
206-706-502-109	ROTOR BRAKE	5.5	2.5	
407-705-201-103	CARGO RESTRAINT INTERNAL PROVISIONS	1.9	0.9	
407-706-004-101	28 AMPS HOUR BATTERY	24.9	11.3	
407-706-013-101	COCKPIT STORAGE KIT	1.4	0.6	
407-706-631-101	LITTER EQUIPMENT (ONE)	22.0	10.0	(11
407-706-631-155	SKI PROVISIONS (for Single Litter ONLY)	1.5	0.7	(11
407-706-631-159	LITTER PROVISIONS for Single Litter	5.7	2.6	
INTERIOR				
407-705-602-109	INTERIOR, CORPORATE	7.3	3.3	(1, 12
407-705-603-103	SOUND-PROOFING, CORPORATE	8.2	3.7	(1, 12
407-705-604-111	STANDARD HEADLINER with A/C DUCTS	4.7	2.1	(1
407-705-605-103	ARM RESTS, CORPORATE (pair)	0.3	0.1	(1, 12
407-705-702-111	CORPORATE SEATS	7.7	3.5	(1
407-706-301-103	WINDOWS, SLIDING PASSENGER	2.5	1.1	(1
PAINT				
HIGH VISIBILITY	MARKINGS FOR HIGH VISIBILITY M/R BLADES (WHITE & ORANGE)	0.0	0.0	(14
Credits				
EQUIPMENT				
206-706-146-103	GROUND HANDLING WHEELS	95.0	43.1	
PAINT				
NO EXTERIOR	NO EXTERIOR PAINT	-16.7	-7.6	
WHITE	WHITE PAINT ONLY	0.0	0.0	

Optional Accessories [VENDOR KITS] (continued)

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

Part Number	Kit Description	Wt (lbs)	Wt (Kg)	Notes
STC's				
AIRFRAME				
407-511-103	DOOR OPENERS CREW	2.8	1.3	
407-512-103	DOOR OPENERS PASSENGER	2.8	1.3	
407-510-213	DOOR OPENERS BAGGAGE	1.0	0.5	
407-531-001	STEP / HANDLE (ONE STEP)	1.0	0.5	
407-536-101	MAINTENANCE STEP FOLDING L/H	2.0	0.9	
407-536-102	MAINTENANCE STEP FOLDING R/H	2.0	0.9	
407-539-101	MAINTENANCE STEP FIXED L/H	2.0	0.9	
407-539-102	MAINTENANCE STEP FIXED R/H	2.0	0.9	
407-600-201	SLIDING DOOR L/H	10.6	4.8	(13
407-600-202	SLIDING DOOR R/H	10.6	4.8	(13
ENVIRONMENT				
407EC-201-1	AIR CONDITIONER (SINGLE FORWARD EVAPORATORS)	95.4	43.3	(4, 15
407EC-201-2	AIR CONDITIONER (DUAL FORWARD EVAPORATORS)	105.6	47.9	(4, 15
407H-200-2	BLEED AIR HEATER W/ CHIN BUBBLE DEFROSTER	22.6	10.3	(10
407H-202-2	BLEED AIR ARCTICHEATER W/ CHIN BUBBLE DEFROST	23.6	10.7	(10
407H-500-1	ENGINE BLEED AIR NETWORK	3.8	1.7	(10
407V-100-2	FORCED AIR VENTILATION	28.4	12.9	(15
EQUIPMENT				
407BF-100-1	PARAVION BLADE FOLDING KIT W/2 EXPANDABLE BOLTS	1.8	0.8	(16
965-37401-001	WIRE STRIKE - RECOMMENDED KIT - SEE NOTE 17	12.1	5.5	(17
INTERIOR				
407-450-001	FLOOR PROTECTOR (CREW AND PASSENGER)	8.3	3.8	
407-453-101	FLOOR PROTECTOR (BAGGAGE)	5.3	2.4	
407-460-001	SPACEMAKER	6.0	2.7	

Optional Accessories [EXPLANATORY NOTES] (continued)

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

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) Kit includes Flitesteps (STC # 407-326-003) [weight; 28 lbs (12.7 kgs)].

(3) Kit includes Floatsteps (STC # 407-303-003) [weight; 29 lbs(13 kgs)].

(4) When ANY Airconditioner Kit is installed, and VHF and/or ADF are installed, the antennas must be relocated.

(5) Encoding Altimeter or Blind Encoder (customizing) is required to enable Mode C/Mode S altitude reporting and/or GPS altitude input. Customer must obtain Aircraft ID code for Mode S.

(6) One Geographic Database must be selected and installed concurrently with GPS Equipment KLN-89B.

(7) When ANY Compass System KCS-55A is installed the Directional Gyro is **NOT** required.

(8) For GPS compatible KCS-55A to function, GPS Provisions & Equipment must be installed.

(9) Requires installation of VHF/ADF Prov. and VHF/eqpt.; Flight Inst.; ELT; and Engine Fire Det.

(10) Particle separator and Bleed Air Heaters both include Bleed Air Network. If both kits are installed subtract 3.8 lb(1

(11) Requires installation of -159 Litter provisions.

(12) Corporate interior **requires** corporate soundproofing and corporate arm rests.

(13) Sliding door(s) **require** sliding door arm rest(s) 407-705-605-105 which subtracts 1.9 lb (0.9kg) per door.

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

(15) Requires Standard Headliner with A/C ducts (407-705-604-105), weight 4.0 lb(1.8kg).

(16) Weight is for provisions only.

(17) For High Skids or floats, weight is 12.7 lb(5.8kg). 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.

(18) Complete Emergency Popout Floats Kit requires Landing Gear, Flotation, and Reservoir Kits. **[242 lbs (109.8 kg)**

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.

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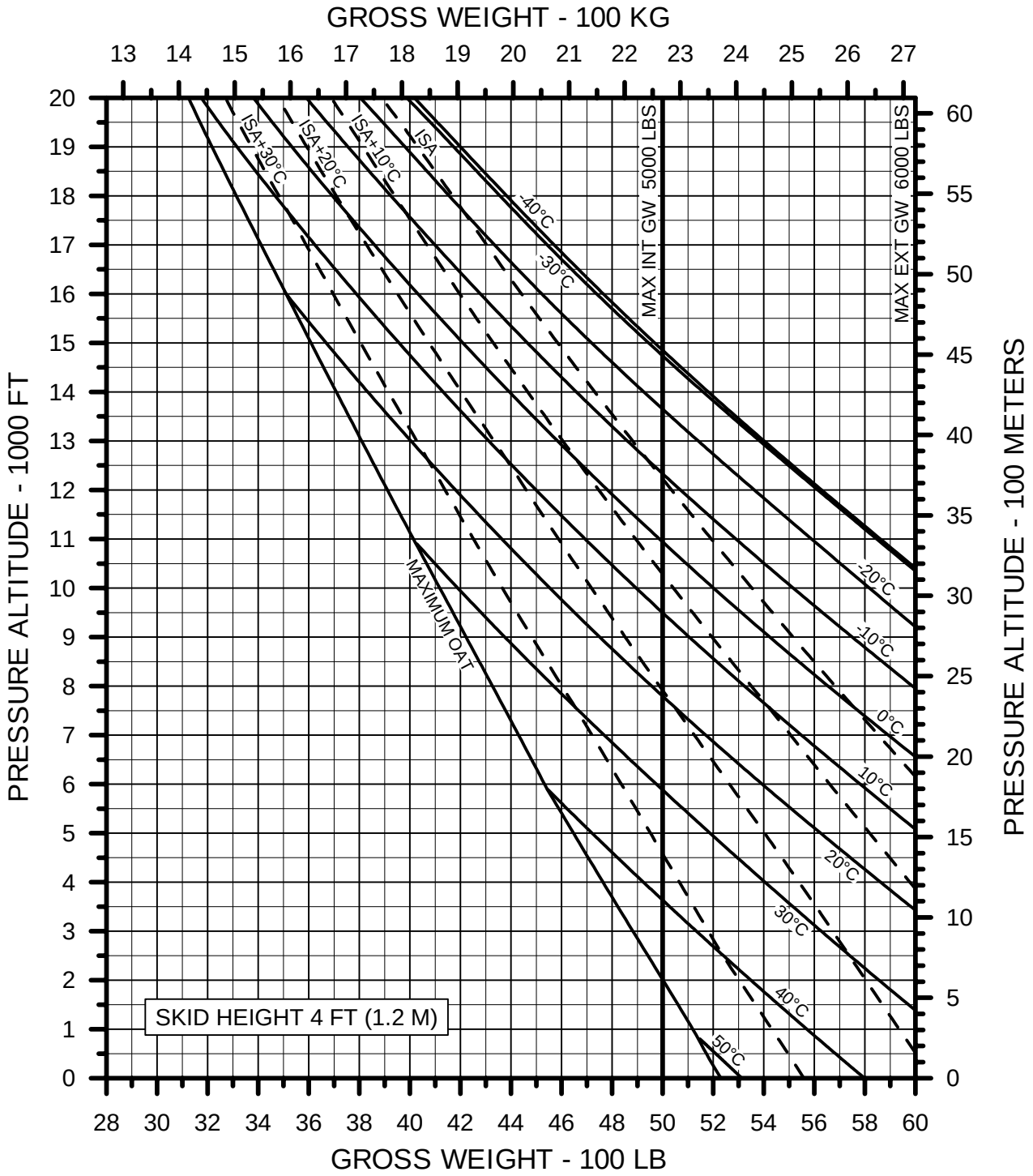
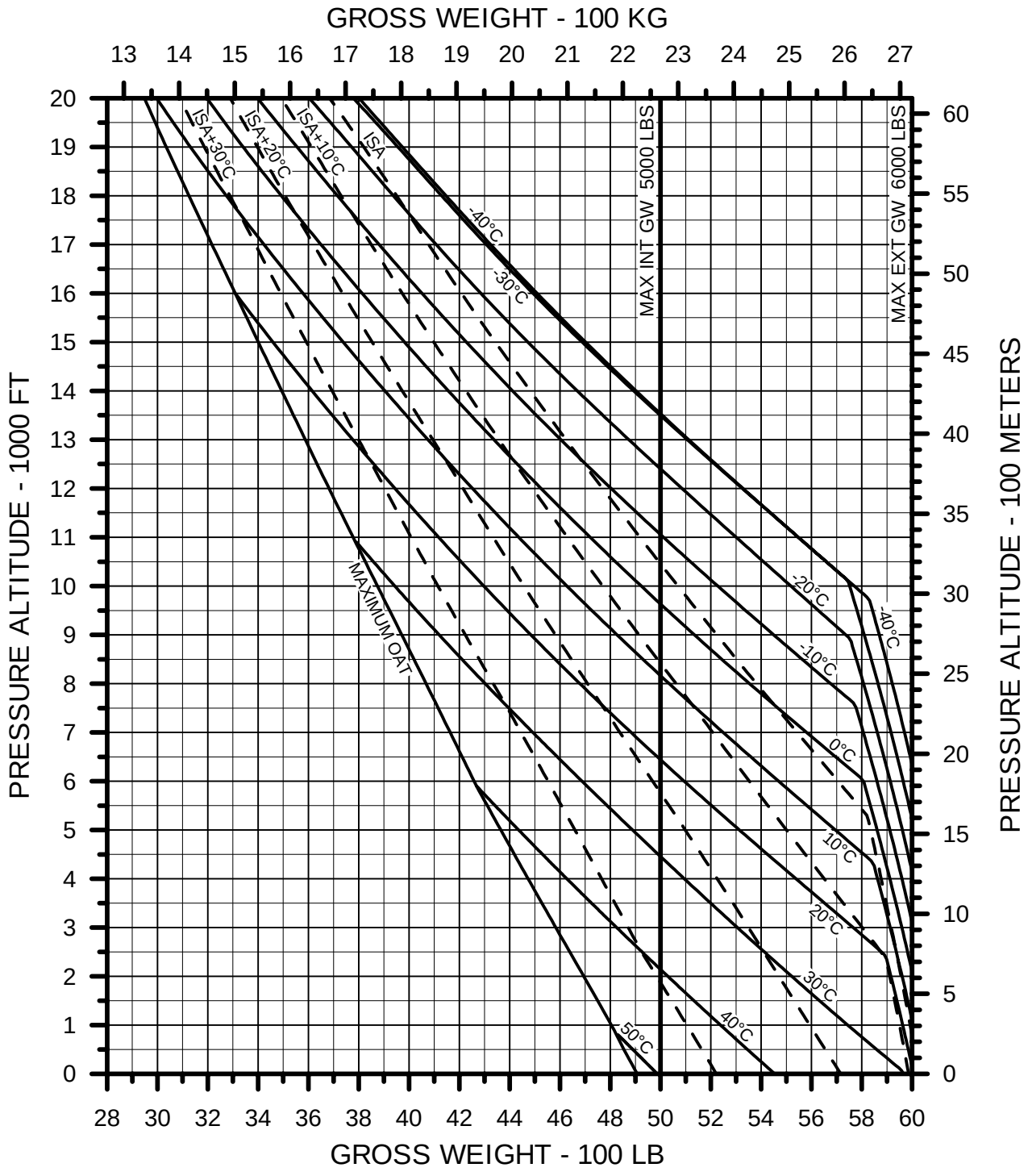
HELICOPTER PERFORMANCE
IGE & OGE HOVER, SERVICE CEILING
ROLLS-ROYCE 250-C47B ENGINE
BASIC INLET INSTALLED
MINIMUM SPEC. ENGINE

IGE HOVER CEILING
ROLLS-ROYCE 250-C47B ENGINE AT TAKEOFF POWER
BASIC INLET INSTALLED



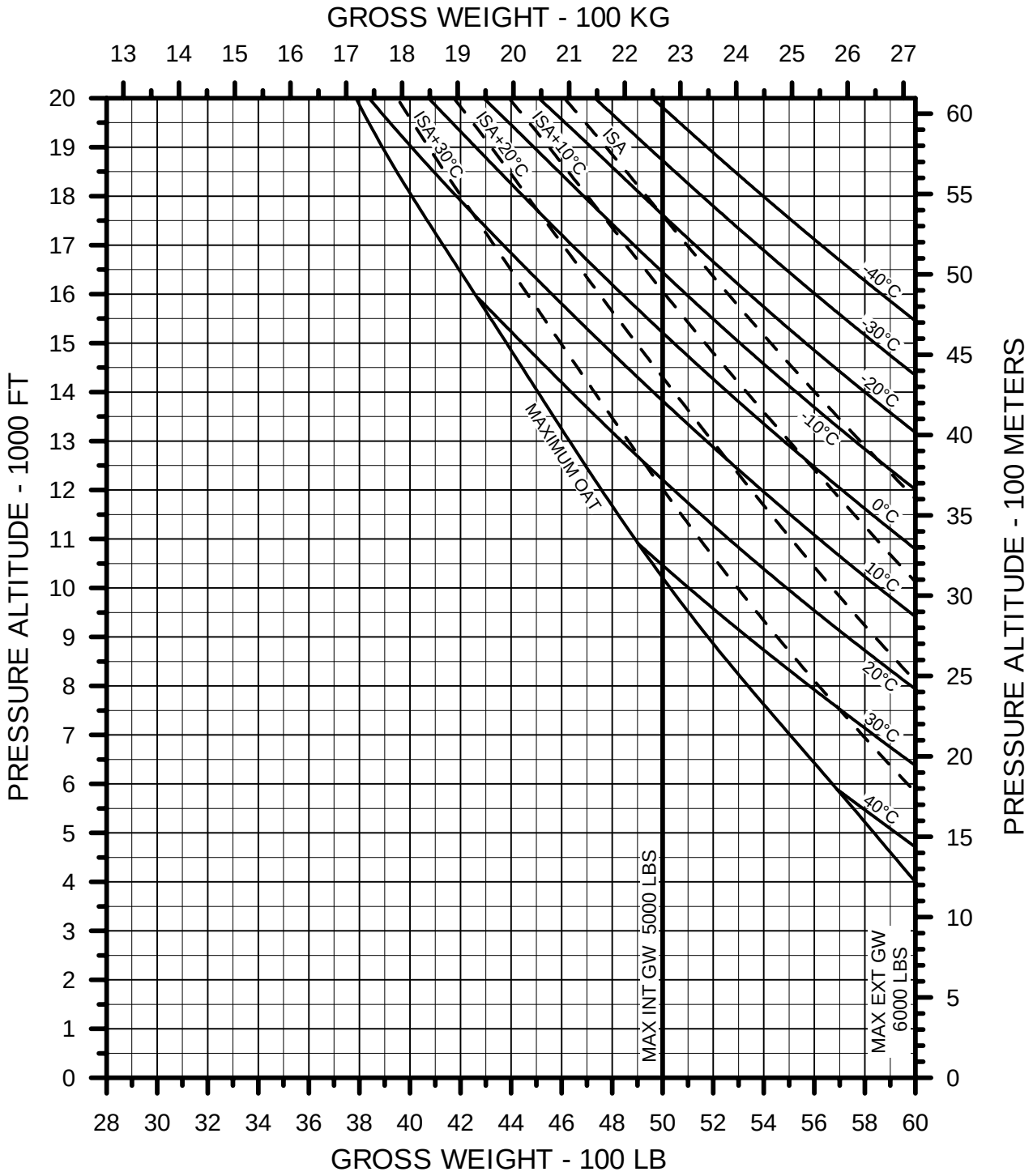
NOTE: TAKEOFF AND LANDING HAS NOT BEEN DEMONSTRATED AND IS NOT APPROVED ABOVE 17,000 FEET / 5182 METERS ***DENSITY ALTITUDE***.

OGE HOVER CEILING
ROLLS-ROYCE 250-C47B ENGINE AT TAKEOFF POWER
BASIC INLET INSTALLED

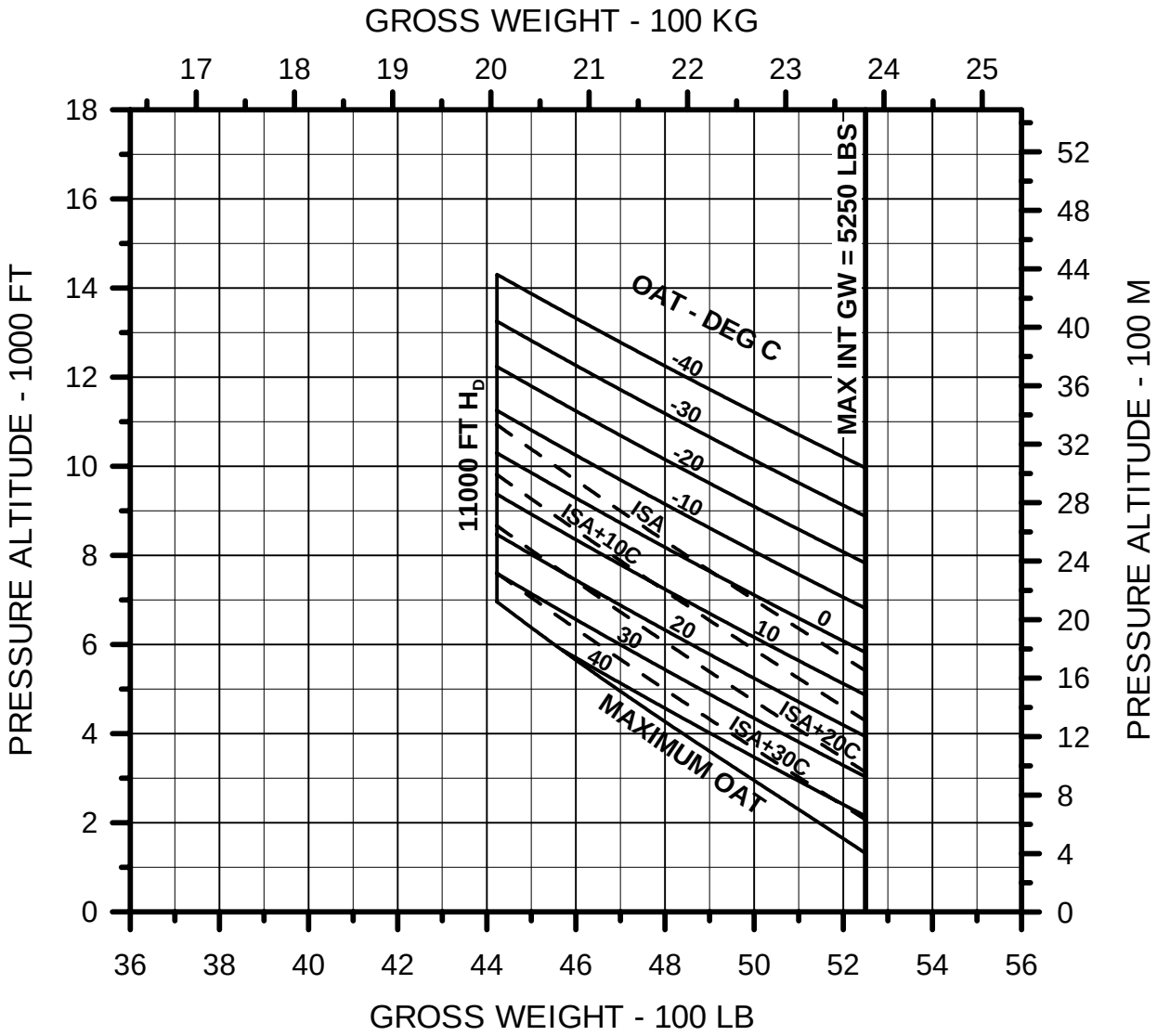


NOTE: TAKEOFF AND LANDING HAS NOT BEEN DEMONSTRATED AND IS NOT APPROVED ABOVE 17,000 FEET / 5182 METERS ***DENSITY ALTITUDE***.

SERVICE CEILING
ROLLS-ROYCE 250-C47B ENGINE AT MAXIMUM CONTINUOUS POWER
BASIC INLET INSTALLED



TAKE OFF & LANDING LIMITATION
OPTIONAL 5250 LB / 2381 KG INTERNAL GROSS WEIGHT KIT
ROLLS-ROYCE 250-C47B ENGINE AT TAKEOFF POWER
BASIC INLET INSTALLED



NOTE: TAKEOFF AND LANDING WITH OPTIONAL 5250 LB / 2381 KG INTERNAL GROSS WEIGHT HAS NOT BEEN DEMONSTRATED AND IS NOT APPROVED ABOVE 11,000 FEET / 3353 METERS ***DENSITY ALTITUDE***.

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FUEL FLOW vs AIRSPEED
ISA & ISA+20° C
ROLLS-ROYCE 250-C47B ENGINE
BASIC INLET INSTALLED
LOW SKID GEAR WITHOUT FAIRINGS
with PLUS ENGINE DATA*

FOR PARTICLE SEPARATOR INSTALLED;
INCREASE FUEL FLOW TWO(2)LB/HR[ONE(1)KG/HR]
FOR CROSS TUBE FAIRINGS;
INCREASE AIRSPEED THREE(3)KNOTS[FIVE(5)KM/HR]

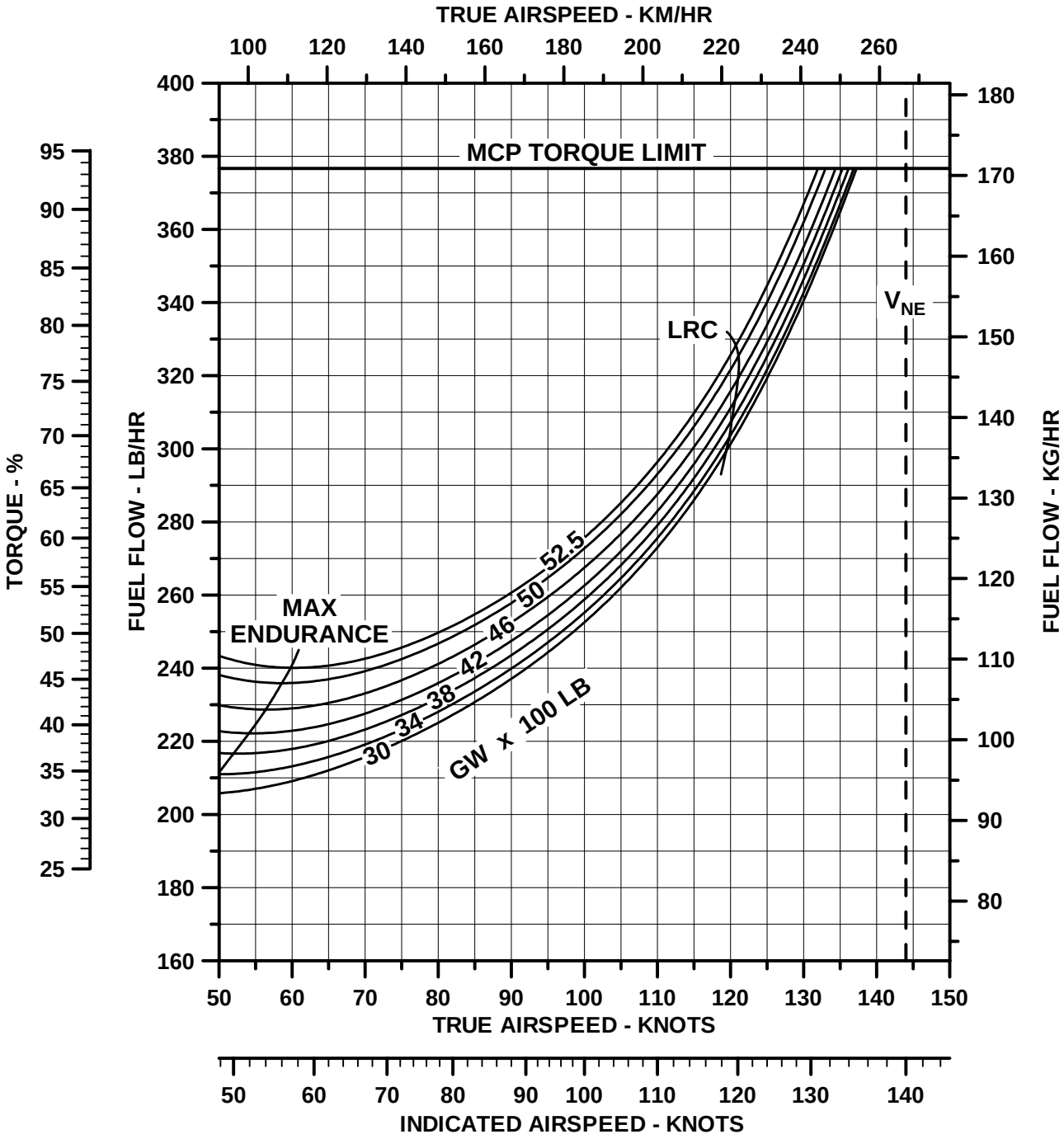
NOTES:

THE BEST ALLOWABLE CRUISE SPEED IS EITHER LONG RANGE CRUISE SPEED [LRC], OR WHEN SPEED IS LIMITED BY MAXIMUM CONTINUOUS CRUISE POWER [MCP] OR V_{NE}, THE MAXIMUM SPEED PERMITTED.

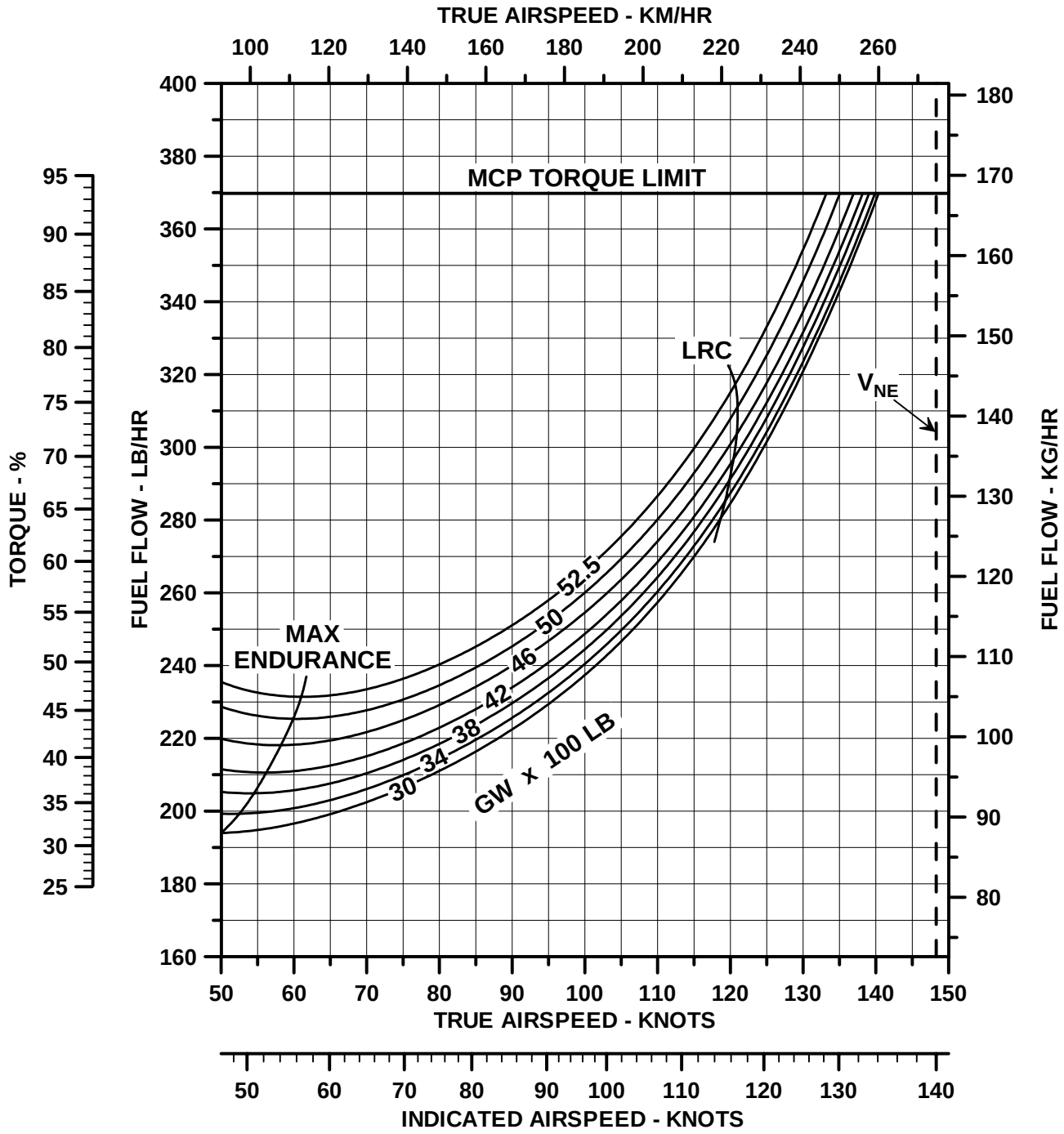
**** PLUS ENGINE DATA IS SHOWN WHERE THERE IS A SIGNIFICANT DIFFERENCE BETWEEN MINIMUM SPECIFICATION ENGINE POWER (A "ZERO" ENGINE) AND EITHER MAXIMUM CONTINUOUS POWER OR THE ENGINE MECHANICAL POWER LIMIT. THIS DATA IS PROVIDED TO ASSIST PLANNING OF OPERATIONS WHERE FAST CRUISE SPEED IS DESIRED, BUT THE CONTINUOUS OPERATION LIMITS OF 93.5% TORQUE AND / OR 727 °C ENGINE MGT ARE OBSERVED. THE MAXIMUM ATTAINABLE FAST CRUISE SPEED WILL BE DETERMINED BY SPECIFIC ENGINE HEALTH (POWER ASSURANCE), AND OPERATIONAL LIMIT (TORQUE, MGT, NG, OR V_{NE}, WHICHEVER OCCURS FIRST).***

PLUS ENGINE PERCENT CAN BE DETERMINED DURING THE ENGINE POWER ASSURANCE CHECK BY SETTING THE MGT AND RECORDING TORQUE. THE DIFFERENCE BETWEEN THE RECORDED TORQUE AND THE MINIMUM CHART VALUE IS THE PLUS PERCENT FACTOR.

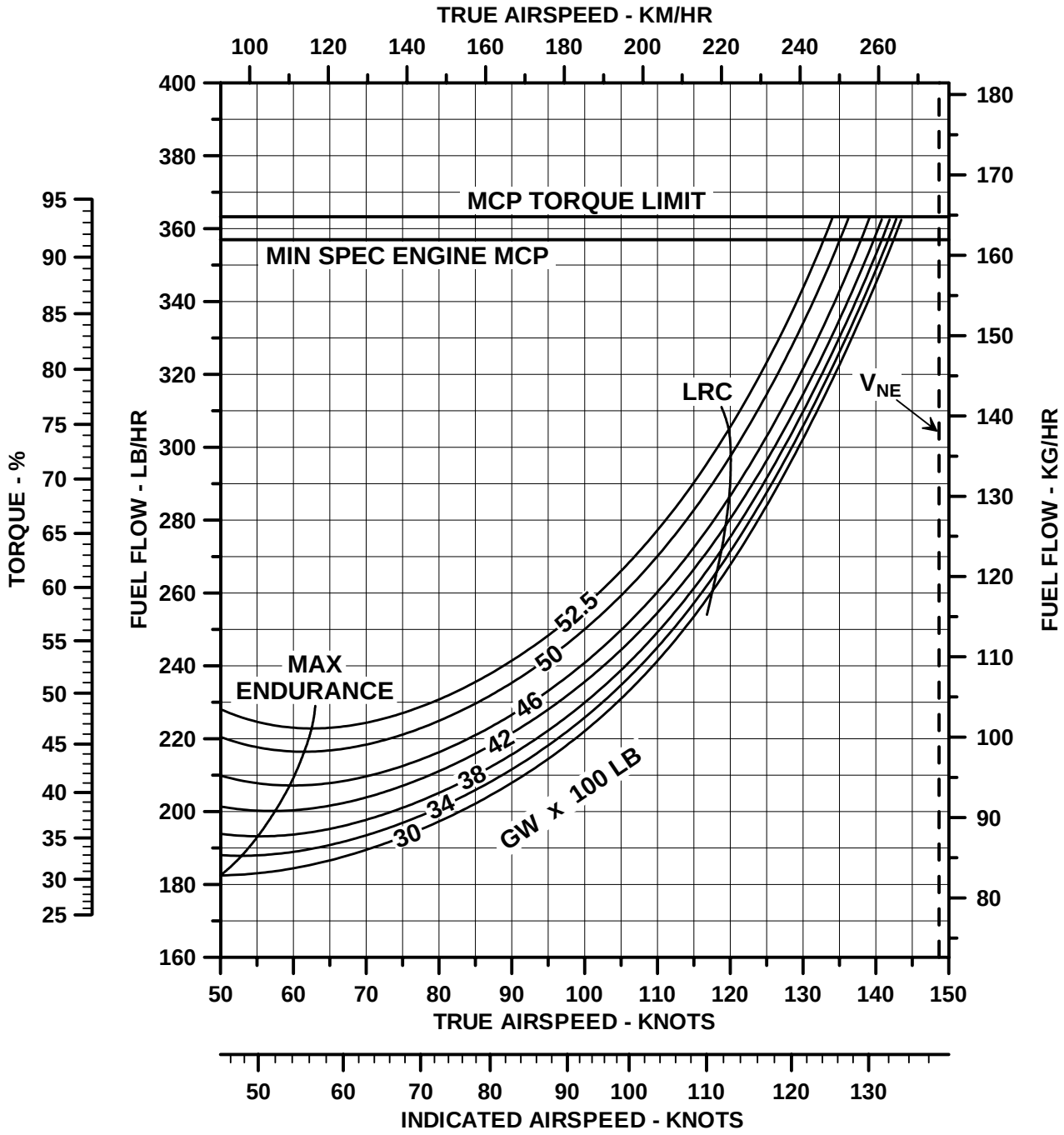
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = SEA LEVEL
OAT = +15°C



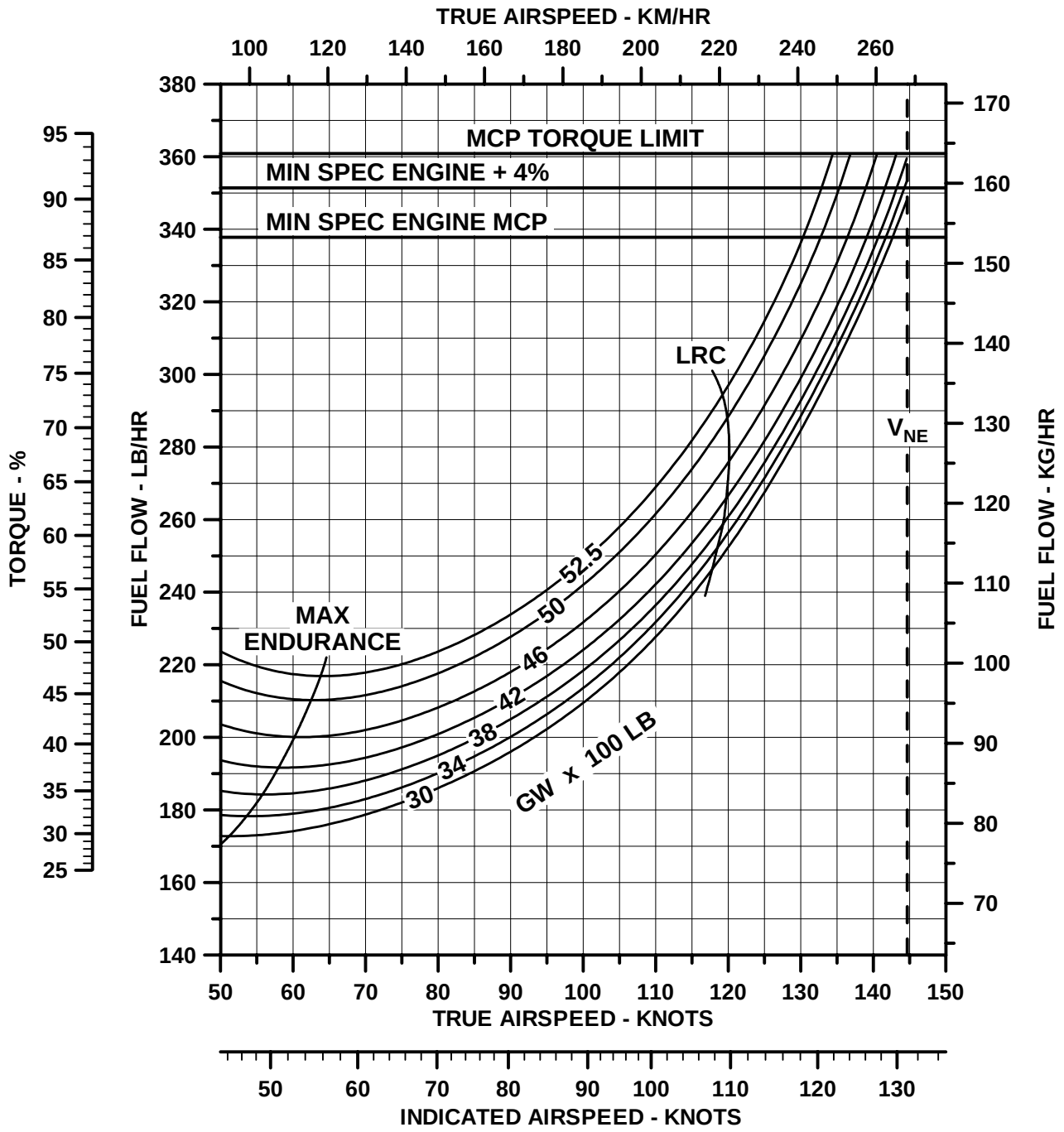
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 2000 FT
OAT = +11°C



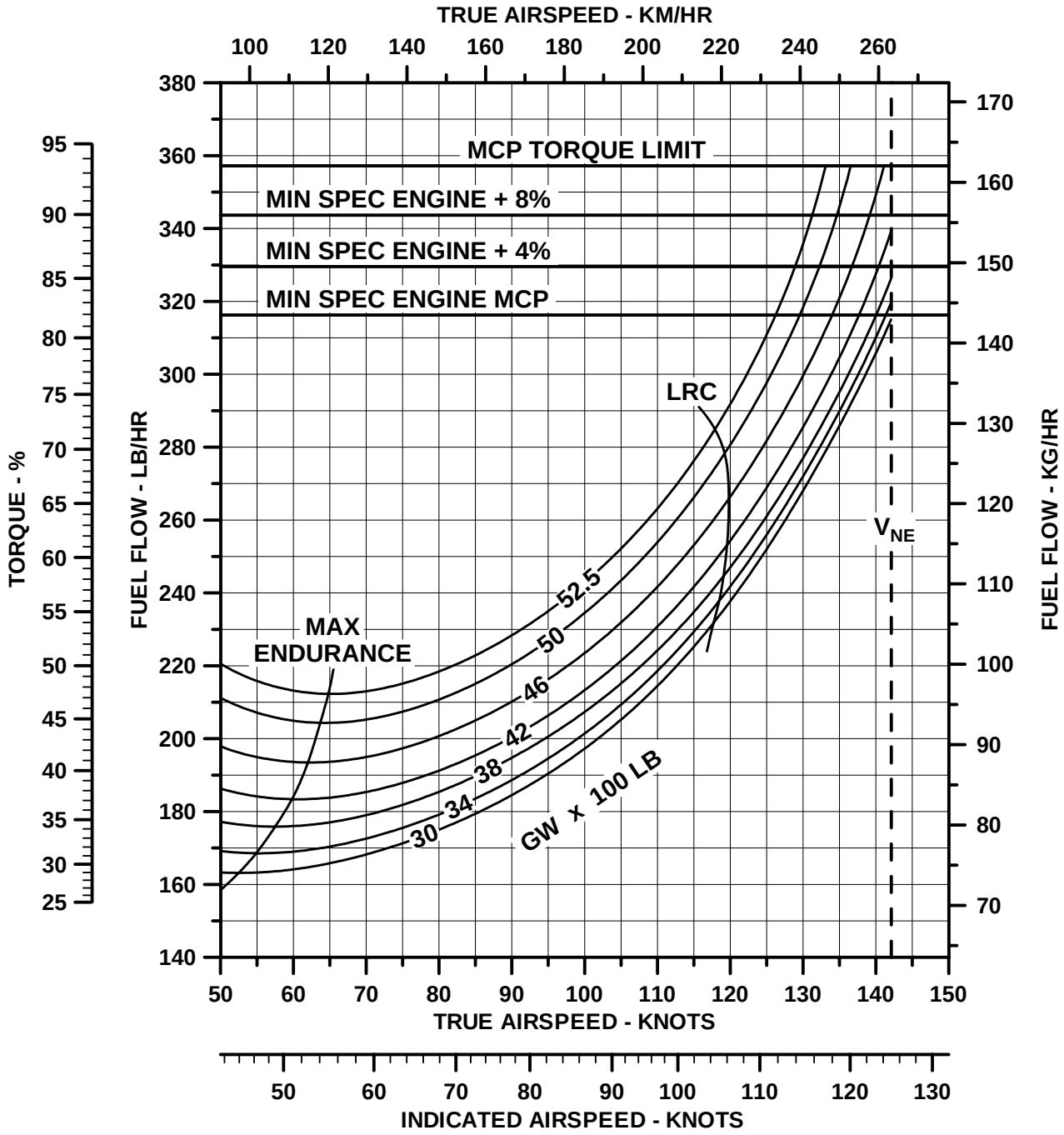
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 4000 FT
OAT = +7°C



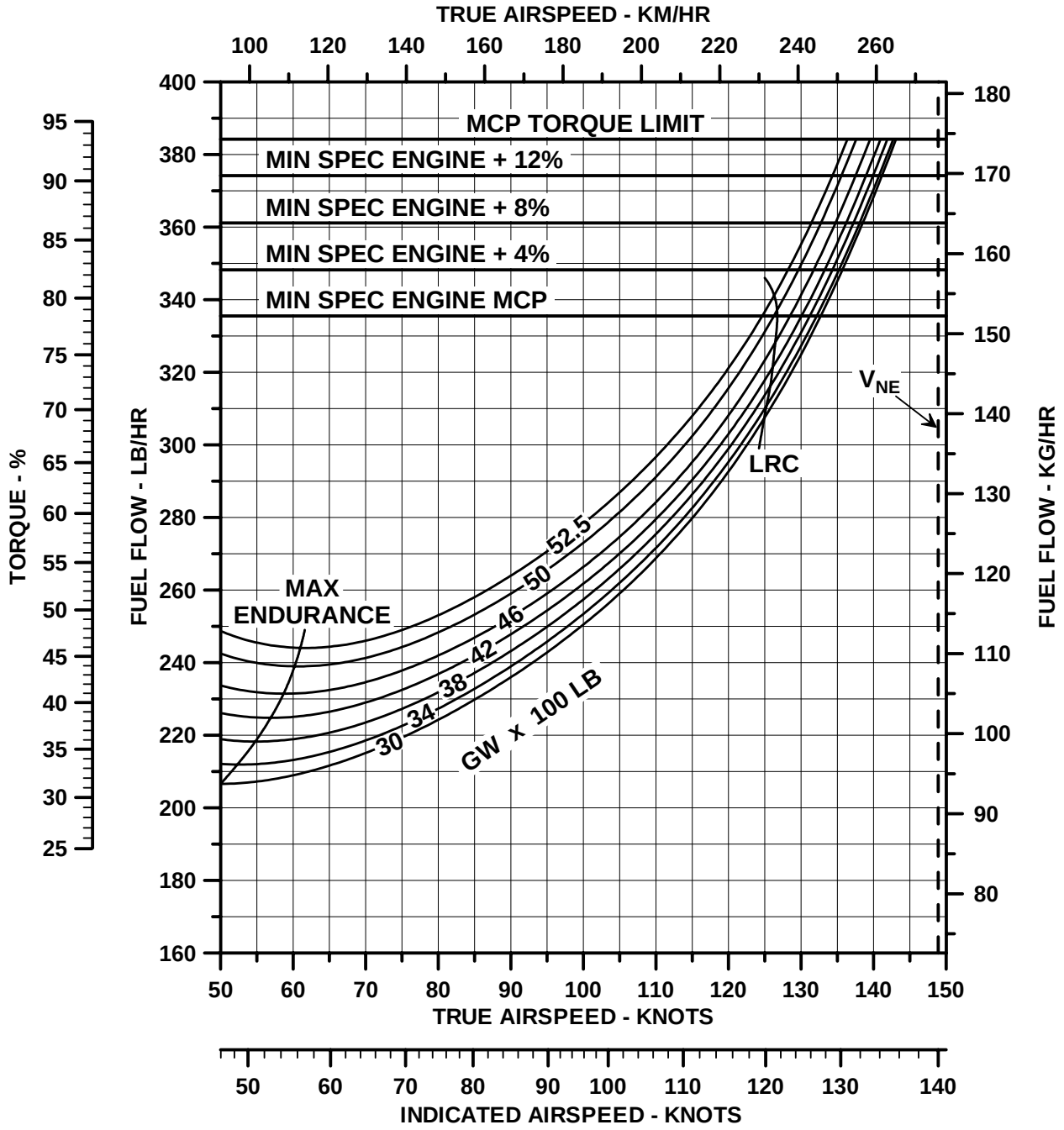
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 6000 FT
OAT = +3°C



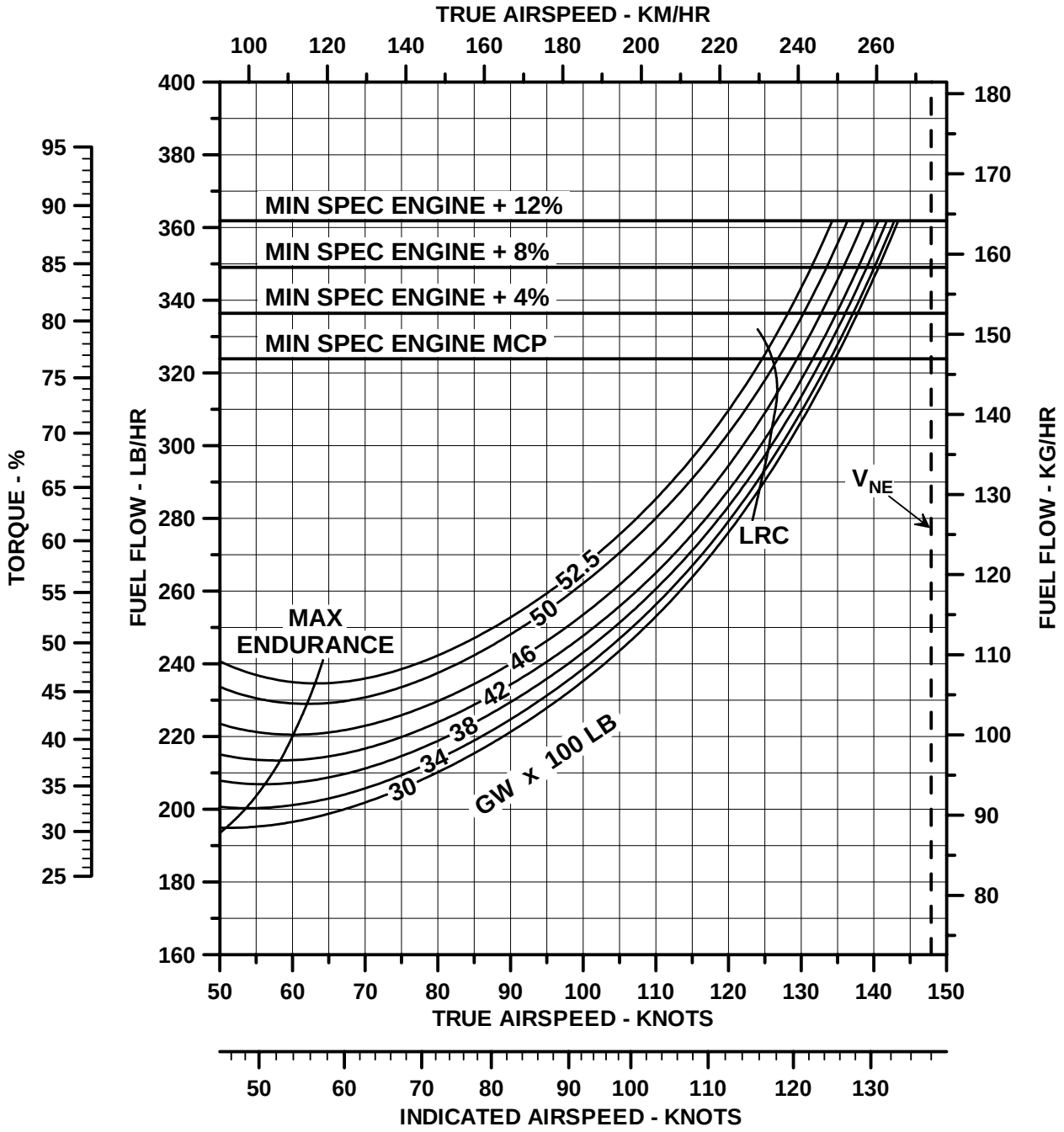
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 8000 FT
OAT = -1°C



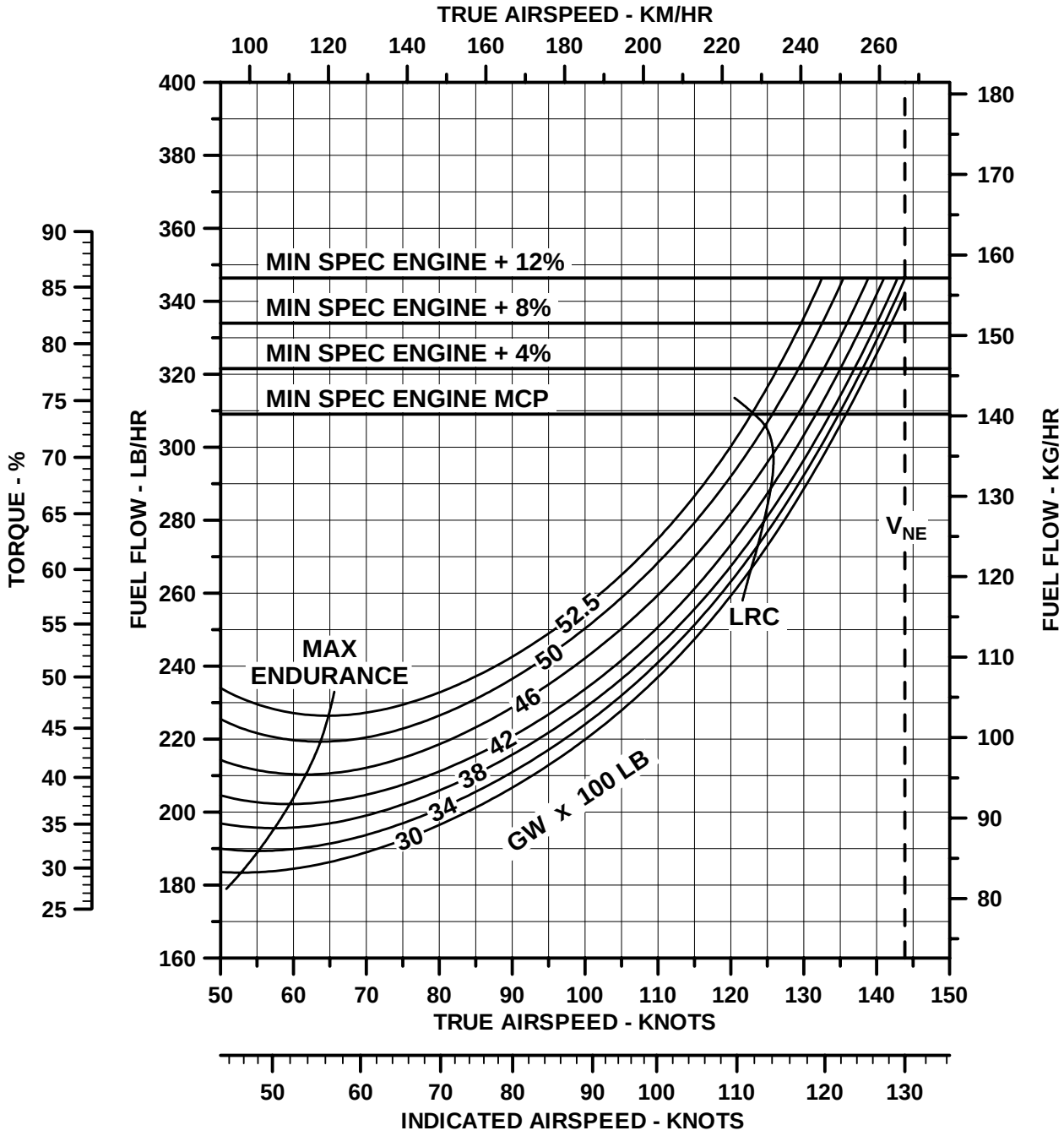
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = SEA LEVEL
OAT = +35°C



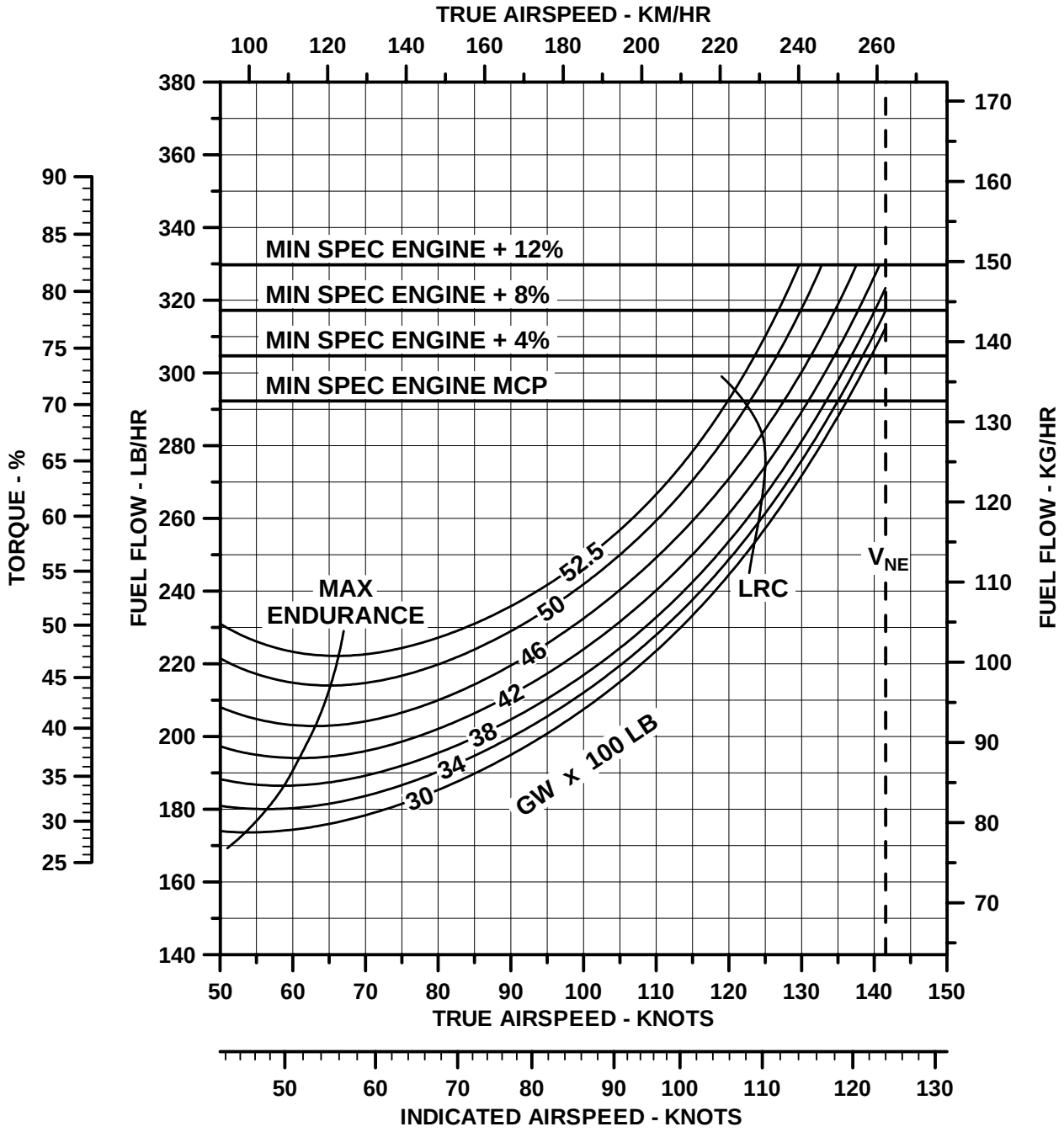
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 2000 FT
OAT = +31°C



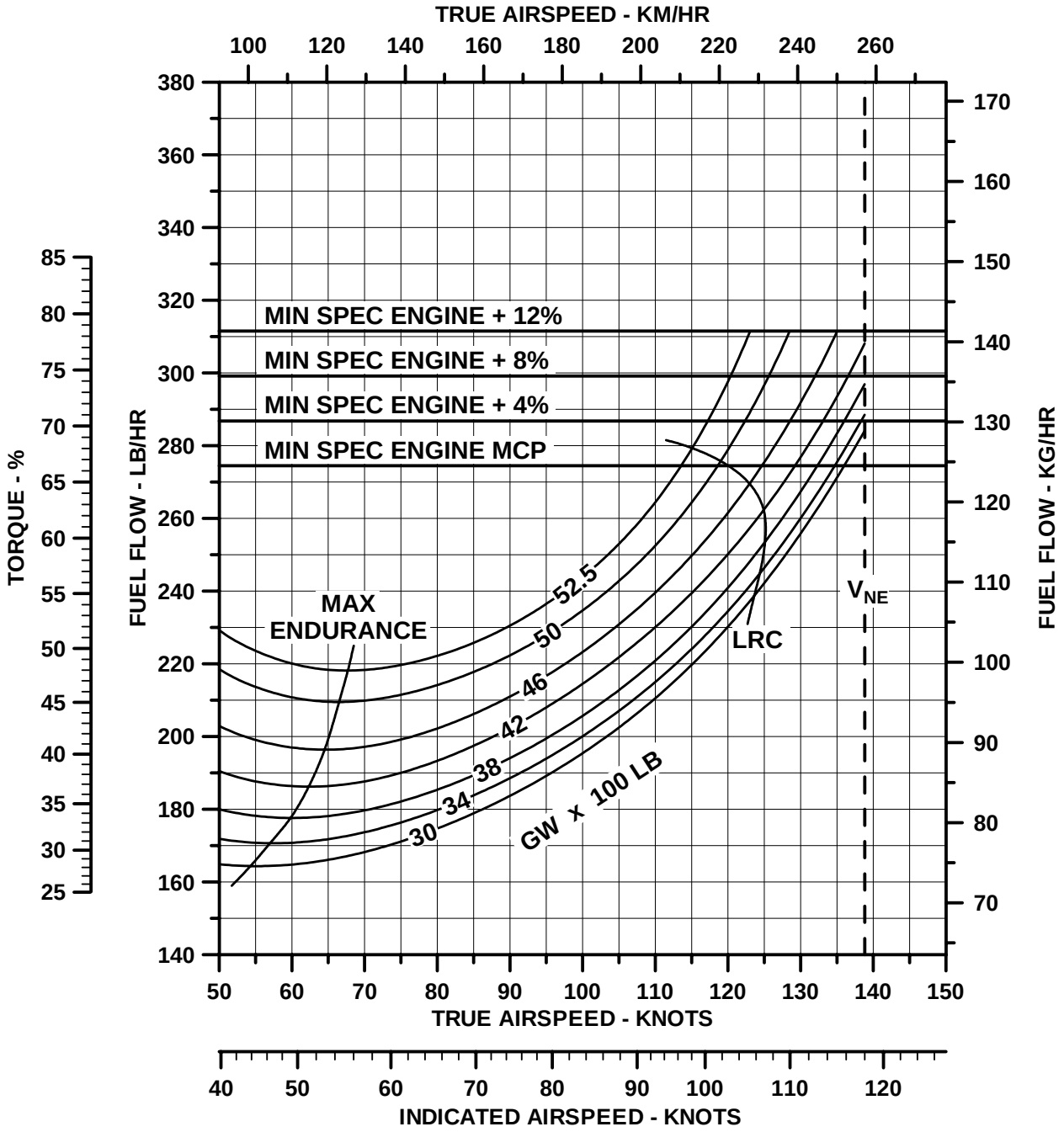
FUEL FLOW vs AIRSPEED
PRESSURE ALTITUDE = 4000 FT
OAT = +27°C



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



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 - DIRECT COST OF OPERATIONS
US DOLLARS PER FLIGHT HOUR

		OPERATOR OVERHAUL
Fuel, Lubricants		
Fuel: (Note 1) [46 gallons per hour]		$103.50
Lubricants: 3% of Fuel Cost		3.11
Airframe Direct Maintenance		
Labor: (Note 2)		
Inspection	(0.165 MH/FH)	10.73
Overhaul	(0.126 MH/FH)	8.22
Unscheduled and On-Condition	(0.832 MH/FH)	54.10
Parts:		
Inspections		1.63
Retirement		57.91
Overhaul		44.38
Unscheduled and On-Condition		67.09
Powerplant Direct Maintenance		
Overhaul (Including Accessories)		67.11
Line Maintenance (Labor)	(0.067 MH/FH)	4.33
Total Average Cost Per Hour		***$422.11***

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)

M/R Hub	2,500	Swashplate	2,500	K-Flex Drive Shaft	2,500
Mast Assy	2,500	T/R Gearbox	3,500	Rotor Brake	5,000
Transmission	3,500	T/R Hub	2,500	Starter Generator	1,000
		Freewheeling Assy	2,500		

COMPONENT OVERHAUL NOTE: Analysis of Lead - the - Fleet performance data continues to permit extension of TBO's beyond 2500 hours for drive train components.

LIMITED LIFE COMPONENTS

PART NUMBER	COMPONENT	LIFE LIMIT (HOURS)	QTY PER A/C	LIST PRICE (EA)	TOTAL COST (FLT HR)
MAIN ROTOR HUB AND BLADES					
406-010-108-125	Main Rotor Grip	5,000	4	$ 8,907	$ 7.13
407-010-103-113	Pitch Horn	5,000	4	$ 4,138	$ 3.31
406-010-115-119	Main Rotor Upper Plate	2,500	1	$ 5,480	$ 2.19
406-010-117-115	Main Rotor Lower Plate	2,500	1	$ 6,256	$ 2.50
407-010-107-103	Lower Cone Seat	10,000	1	$ 3,326	$ 0.33
406-010-126-107	Drive Ring Set	48000 RIN	1	$ 7,923	$ 0.83
MAIN ROTOR CONTROLS					
SWASHPLATE DRIVE					
406-010-413-133	M/R Pitch Link Tube	5000	4	$ 1,133	$ 0.91
406-010-426-101	Drive Link	5000	2	$ 1,706	$ 0.68
406-010-425-107	Drive Lever	5000	2	$ 2,492	$ 1.00
406-010-427-109	Gimbal Ring	5000	1	$ 2,716	$ 0.54
406-010-428-109	Drive Hub Set	5000	1	$ 2,254	$ 0.45
406-010-411-117	Swashplate Outer Ring	5000	1	$ 12,760	$ 2.55
406-010-410-121	Swashplate Inner Ring	5000	1	$ 7,547	$ 1.51
406-010-416-101	Clevis	5000	4	$ 410	$ 0.33
406-310-405-101	Bearing	5000	4	$ 2,790	$ 2.23
SWASHPLATE ANTI-DRIVE					
406-010-432-101	Anti-Drive Link	5,000	1	$ 2,848	$ 0.57
406-010-431-109	Anti-Drive Lever	5,000	1	$ 1,947	$ 0.39
406-010-406-119	Swashplate Support Assembly	5,000	1	$ 7,067	$ 1.41
406-010-409-107	Swashplate Sleeve Assembly	5,000	1	$ 7,908	$ 1.58
406-010-408-101	Collective Lever	5,000	1	$ 3,311	$ 0.66
406-010-407-101	Collective Idler Link	5,000	1	$ 729	$ 0.15
407-001-524-105	Collective Xmsn Bellcrank	5,000	1	$ 1,642	$ 0.33
407-001-526-105	Cyclic Longitudinal Bellcrank	5,000	1	$ 1,618	$ 0.32
407-001-528-105	Cyclic Lateral Xmsn Bellcrank	5,000	1	$ 1,576	$ 0.32
407-001-511-101	Bell Crank Support	5,000	1	$ 2,876	$ 0.58
407-001-500-105	Actuator Support Assembly	10,000	1	$ 8,888	$ 0.89
406-310-404-101	Rod End Bearing Assembly	5,000	1	$ 800	$ 0.16
TAIL ROTOR					
406-016-100-119	T/R Blade	5,000	2	$ 15,105	$ 6.04
406-012-102-109	T/R Yoke	5,000	1	$ 9,153	$ 1.83
DRIVE SYSTEM					
407-040-038-111	Main Rotor Mast	18000 RIN	1	$ 21,335	$ 5.93
206-340-300-105	Input Driveshaft	5,000	1	$ 30,731	$ 6.15
PYLON SUPPORT					
407-010-201-105	L/H Pylon Side Beam (1)	5,000	1	$ 5,853	$ 1.17
407-010-203-105	R/H Pylon Side Beam (1)	5,000	1	$ 5,825	$ 1.17
407-010-206-103	Pylon Restraint Spring	5,000	2	$ 4,466	$ 1.79
			TOTAL		**$ 57.91**

(1) Applies expected life limit of 39,000 RIN. DOC uses a 1/3 rd penalty of that value assuming 5 RIN per hour = 5,000 hour effective life.

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.

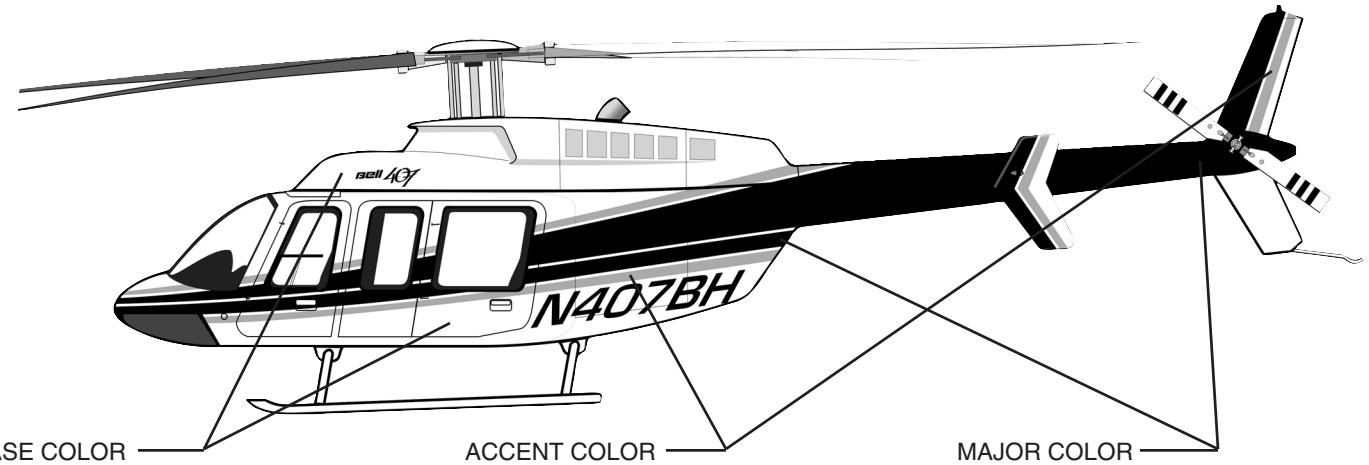
6. PLACEMENT OF BELL MODEL LOGOS IS EFFECTED BY INDIVIDUAL PAINT SCHEMES, AND WILL BE APPLIED AT THE DISCRETION OF BELL HELICOPTER UNLESS OTHERWISE SPECIFIED BY THE CUSTOMER.

CUSTOMER

SERIAL NO.

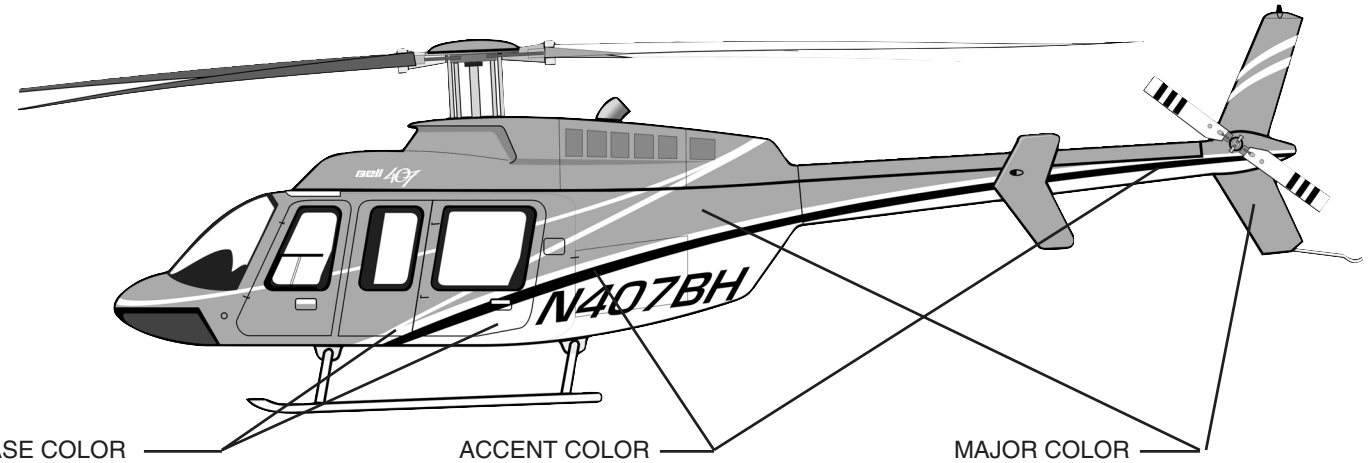
REGISTRATION NO.

Standard Scheme A #407-5/99-A



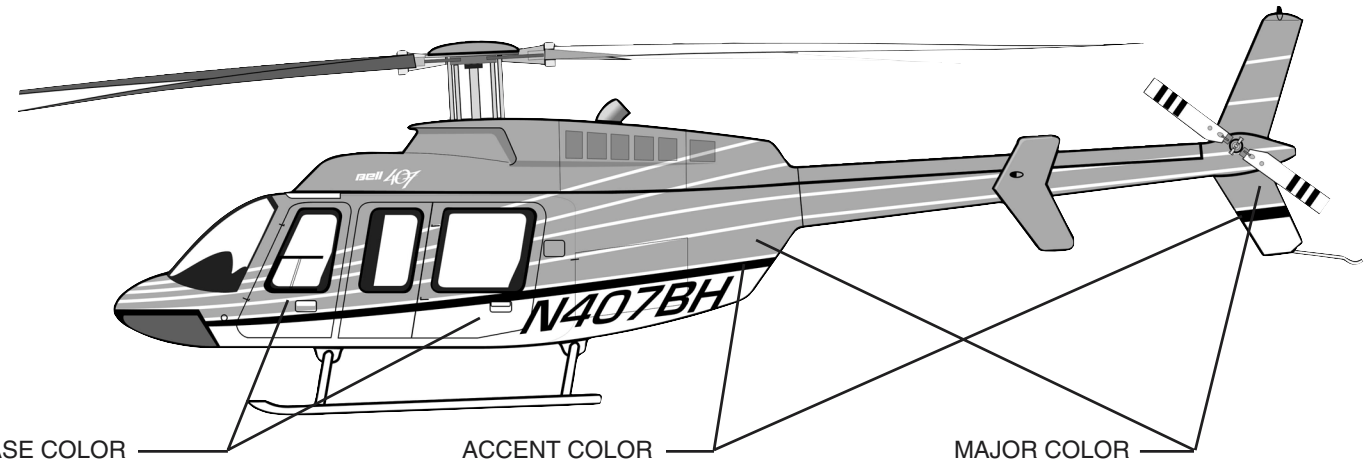
BASE COLOR	ACCENT COLOR	MAJOR COLOR
NAME	NAME	NAME
NUMBER	NUMBER	NUMBER

Standard Scheme B #407-5/99-B



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

Standard Scheme C #407-5/99-C



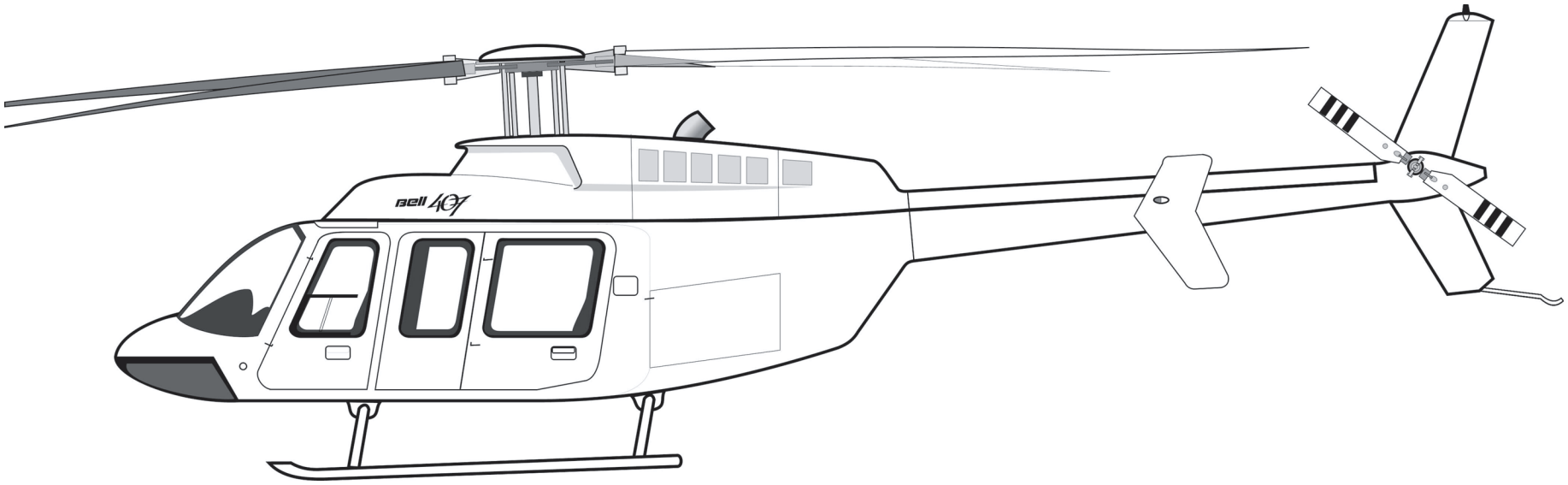
BASE COLOR	ACCENT COLOR	MAJOR COLOR
NAME	NAME	NAME
NUMBER	NUMBER	NUMBER

Custom Scheme

CUSTOMER

SERIAL NO.

REGISTRATION NO.



BASE COLOR

NAME

NUMBER

ACCENT COLOR

NAME

NUMBER

MAJOR COLOR

NAME

NUMBER

Bell 407

STANDARD PAINT SCHEMES
COLOR SELECTION SAMPLES

A

407-5/99-A

B

407-5/99-B

C

407-5/99-C

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