

# **MD500 SERIES**

# **Technical Description**





Marketing and Sales 4555 E. McDowell Road Mesa, Arizona 85215-9797

Comments and/or questions may be directed to:

Sales: (480) 346-6300 Fax: (480) 346-6339 e-mail: helicoptersales@mdhelicopters.com

#### **Revised** January 2001

© 2001 MD Helicopters, Inc. All rights reserved. MD 500E<sup>®</sup>. MD 530F<sup>®</sup>, MD 520N<sup>®</sup> are trademarks of MD Helicopters, Inc. This Technical Description is not subject to a revision service. It is the manufacturer's practice to continuously improve its products and therefore the right is reserved to make changes without notice in the design or manufacture of the MD 500 series helicopter which may be considered necessary.

# MD52ON CONTENTS

Paragra	ph	Page
1.0	LAW ENFORCEMENT CONFIGURATION	50
2.0		51-61
3.0	EQUIPMENT	62
4.0	PERFORMANCE SPECIFICATIONS	63
4.1	HIGE	
4.2	HOGE	
4.3	Gross Weight Worksheet	
4.4	Payload & Range	67
4.5	Speed for Best Range	68
4.6	Speed for Best Endurance	69
4.7	Fuel Consumption	70-73
6.0	DIRECT OPERATING COST	74-76



### **1.0 MD 520N Airborne Law Enforcement Configuration**

Fast:	Vne of I75 miles per hour (250 kph) 154 Miles per hour cruise speed (244 kph)
Agile:	Zero -0.5 g maneuvers NOTAR system precision attitude/directional control
Powerful:	Useful load at maximum gross weight: 1,764 pounds (800 kg) internal 2264 pounds (1027 kg) external HOGE at 6,000 ft (1829 m) @ISA HIGE at 11,200 ft (3414 m) @ ISA ROC of 1775 feet per minute (9.0 m/s)
Versatile:	20,000 foot (6096 m) Maximum Operating Altitude Operating temperature range of -40oC to +52oC 15 degree slope landings
Safety & Environment:	Elimination of tail rotor hazards Quiet operations - Flyover at 500 feet AGL = 72.5 dbA

#### 2.0 MD 520N Design Description

The MDHI MD 520N is a fast, agile, lightweight, turbine powered, all-purpose helicopter. Advanced technology has been used in the design and construction of the aircraft, resulting in excellent speed capabilities, high payload-to-empty-weight ratio, passenger/crew safety and handling and performance capabilities.

The MD 520N has been designed to allow a wide variety of rapid configuration options. The aircraft may be converted rapidly from a personnel transport to a utility cargo configuration. Typical uses include:

Airborne Law Enforcement

Search and rescue

Surveillance and crowd control

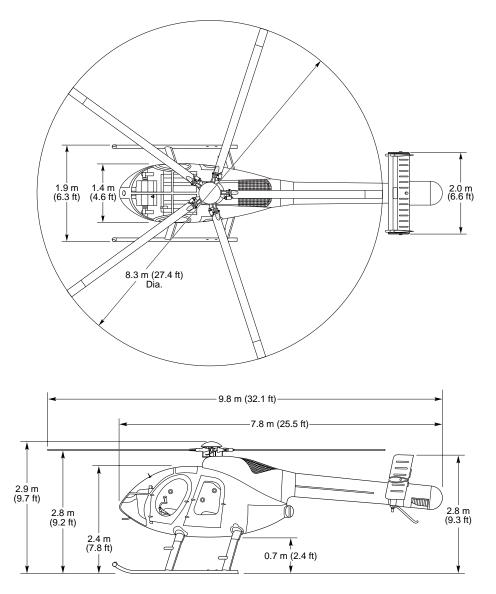
Aerial survey, patrol and photographic missions

Forestry and fire fighting applications

The MDHI MD 520N helicopter is a turbine powered, rotary-wing aircraft constructed primarily of aluminum alloy while the NOTAR® system components are primarily graphite composites. The main rotor is a fully articulated six bladed system which provides excellent control and maneuverability characteristics. Power from the turboshaft engine is transmitted through the main drive shaft to the main rotor transmission. The main transmission drives an intermediate gearbox to the NOTAR systems fan. An over-running (one-way) clutch placed between the engine and main rotor transmission, permits freewheeling of the rotor system during autorotation.

The airframe structure is egg-shaped and provides very clean aerodynamic lines. A rigid, three-dimensional truss-type structure increases crew safety by means of its roll bar design and reduces the potential for airframe collapse into the crew and passenger compartments. The airframe structure is designed to be energy absorbing while maintaining rotor hub integrity.

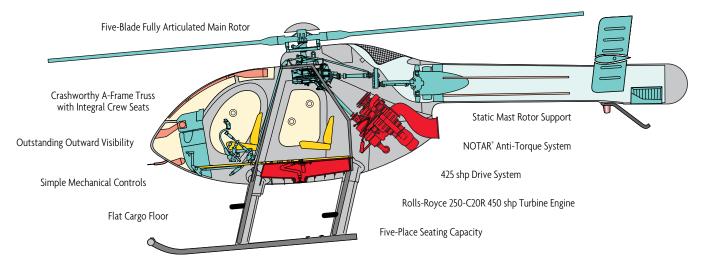




#### **MD 520N Outside Dimensions**

The fuselage is a semimonocoque structure that is divided into two main sections. The forward section is composed of the pilot/co-pilot compartment and directly aft, separated by a bulkhead, a cabin compartment. The pilot compartments equipped with seats for the pilot and either two passengers on the co-pilot. A canopy of transparent tinted acrylic panels provides excellent visibility.

An instrument panel is located forward of the seat structure along the aircraft centerline. The panel incorporates standard flight and engine instruments in addition to warning and caution lights. The panel also contains adequate space for avionics and flight instruments. An optional "slant panel" is available which increases the panel space available when extensive avionics suites are selected or when armament systems are installed.



**MD 520N Inboard Profile and Features** 

The crashworthy designed fuselage structure beneath the pilot/copilot floor contains space for the aircraft battery and provision for small cargo storage or installation of avionics equipment. Access to the compartments is through two floor panels.

The cargo compartment is the center of the aircraft contains provisions for the installation of passenger seats, auxiliary fuel tanks or cargo/baggage. During cargo-carrying operations, the compartment floor serves as the cargo deck. The cargo floor is designed to accommodate a range of cargo requirements.

The aft section includes the structure of the tailboom attachment, NOTAR® system fan and the engine compartment. Access to the engine compartment is provided through clamshell doors contoured to the shape of the fuselage.

The lower section is divided by the center "keel beam" and provides housing for the two fuel cells containing a total of 64 U.S. gallons (242 l) of fuel.



#### MD 520N On Patrol

Four doors are installed on the MD 520N - two on each side. The two forward doors permit access to the forward compartment for pilot and copilot/passengers. The two aft doors allow entry to the passenger/cargo compartment. The design permits flight with doors removed without major speed restrictions. Transparent tinted windows are contained in the doors.

An Allison Model 250-C20RS gas turbine engine with a takeoff power rating of 450 shp powers the MD 520N. Only 425 shp at I00 percent N2 rpm is used for takeoff; 375 maximum continuous shp provides power for all other flight modes.

An overrunning clutch transmits power from the engine to the main drive shaft. The clutch has no external controls and disengages automatically during autorotation and engine shutdown. The main drive shaft connects to the main rotor transmission input shaft. The engine oil cooler blower is belt-driven off the main drive shaft and draws cooling air from the air inlet fairing to supply ambient air to the engine and transmission oil coolers and to the engine compartment. The main rotor transmission is mounted on the airframe structure above the passenger/cargo compartment. The transmission is lubricated by its own air-cooled oil lubrication system. The main rotor static mast is non-rotating and is rigidly mounted to the fuselage mast support structure. This static mast is used to separate the lift and torque loads of the rotor.

Torque is transmitted independently to the rotor through an internal main rotor drive shaft. Lifting loads reacted by the static mast are prevented from being imposed through the drive shaft onto the main transmission, thus eliminating thrust loading of transmission parts. This accomplishes a design that reduces main transmission weight and reduces the probability of injury during a crash

The MD 520N utilizes a five-blade, fully articulated main rotor assembly. The MDHI strap pack design provides restraint and allows all three degrees of rotor hub and rotor blade travel. The strap configuration, while secured firmly to the hub, allows the centrifugal load exerted by one blade to be countered by the force exerted by the opposite two blades.

Thus, very light centrifugal loads are sensed by the hub. The "V" legs of the strap pack rotate as driving members to turn the blades and allow feathering, lead, lag and flapping of the blades. The main rotor blades are secured to the hub with quick-release lever type pins.

Adjustable pedal controls are provided for rudder/thruster control. Adjustable friction devices are incorporated in the cyclic, collective and throttle controls. In addition, electrical cyclic trim actuators allow flight loads to be trimmed out. Control forces are low; hence, a hydraulic boost system is not required.

The landing gear is a skid type attached to the fuselage at l2 points and is not retractable. Aerodynamic faring cover the struts. Nitrogen charged landing gear dampers act as springs and shock absorbers to cushion landings and provide ground resonance stability. Provisions for ground handling wheels are incorporated on the skid tubes.

#### Maintenance made easy

The MD 520N incorporates proven engineering features that are unsurpassed for design simplicity, safety, reliability and ease of maintenance. There are no hydraulic boost systems, intermediate drive shaft bearings or grease fittings on any MD 500 series helicopters.

#### Blade Retention System:

The mechanical simplicity of the main rotor system provides high reliability at low cost. Main rotor blades are retained by an exclusive strap pack system that accommodates main rotor blade flapping, lead-lag and feathering motions. Fewer parts result in higher reliability.

#### Main Rotor Transmission:

The main transmission has four gears and two gear meshes. It is light but rugged for maximum reliability. The static mast design allows one mechanic to easily change the transmission without removing any other component on the rotor head.

### Interchangeability

Parts and assemblies listed below are interchangeable.

- 1. Main rotor blade (tracking of new blades may be required)
- 2 Main rotor hub assembly
- 3. Lead-lag damper
- 4. Main rotor drive shaft
- 5. Main rotor mast
- 6. Main transmission
- 7. Overrunning clutch
- 8. Main drive shaft
- 9. Engine assembly
- 10. Engine mount
- 11. Engine exhaust duct
- 12. NOTAR drive shaft
- 13. NOTAR gearbox
- 14. NOTAR blades
- 15. Control system components
- 16. Oil tank
- 17. Oil coolers (engine and main transmission)
- 18. Tail boom assembly
- 19. Vertical and Horizontal stabilizers
- 20. Fuel cells (left and right)
- 21. Electronic component assemblies and associated wire harnesses
- 22. Instruments
- 23. Landing gear assembly

#### **NOTAR® ANTI-TORQUE SYSTEM**

#### Greater Safety

U.S. FAA, NTSB and U.S. Army Studies have shown that 22% of all crashes are due to tailrotor strikes and loss of tail rotor effectiveness. NOTAR® systems eliminate these problems.

#### Reduced Noise

Designed and tested to be 50% quieter than any other helicopter. This results in detection distances that are far superior to other aircraft.

#### Reduced Pilot Workload

Using the Coanda Effect to provide tail boom lift and anti-torque, the system is more stable and easier to control. This effect reduces the sensitivity to wind direction on helicopter control, through providing an important tactical advantage during combat operations.

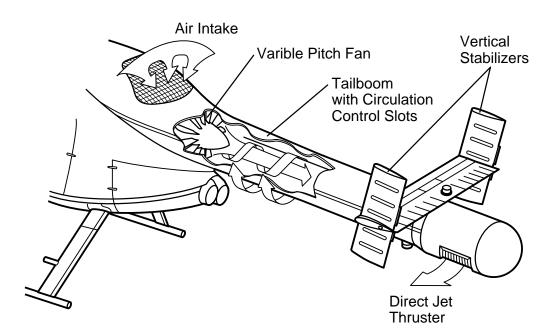
#### Low Pressure Air System

Since the NOTAR system uses low-pressure air, it is not sensitive to holes made in the tailboom by fire from automatic weapons. Studies have shown the NOTAR® system is 60% less vulnerable to small arms fire than tail rotor systems on comparable helicopters.



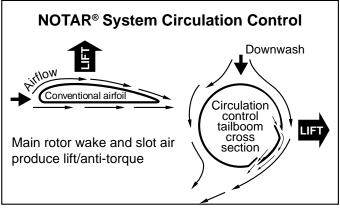
### **DESCRIPTION OF THE NOTAR® SYSTEM**

The NOTAR system is an anti-torque system made up of an enclosed fan driven by the main rotor transmission, a circulation control tailboom, a direct jet thruster and a horizontal stabilizer with two vertical stabilators.



#### **NOTAR® System Components**

The vertical stabilizers are connected to the pilot's anti-torque (rudder) pedals. The left stabilizer moves through approximately 29 degrees of motion and provides sufficient control power for autorotation. It serves the additional purpose of unloading the thruster during forward flight to permit optimum cruise performance.



Boundary Layer Control Produces Anti-Torque Force

In hover flight, the circulation control tail boom provides the majority of the required main rotor anti-torque. This is accomplished by two slots along the tailboom that energize the downwash flow from the main rotor. The result is lift in a horizontal direction that replaces the push of a conventional tail rotor. The direct jet thruster provides the remaining anti-torque and maneuverability for yaw control and directional changes.

In forward flight, the vertical stabilators in conjunction with the direct-jet thruster provide the required anti-torque and directional control.

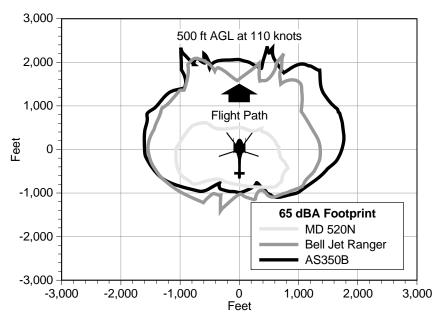


## **REDUCED AIRCRAFT VIBRATION**

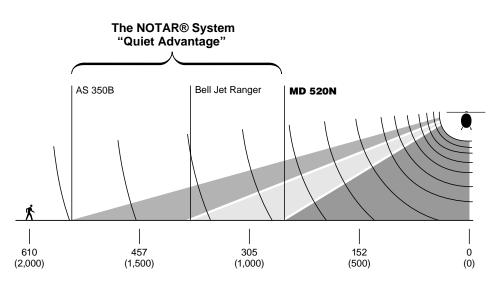
The inherent stability of the standard MD 500 is further improved by the elimination of the exposed tail rotor assembly, which reduces overall helicopter vibrations and increases passenger comfort while reducing pilot fatigue.

### LOW EXTERNAL NOISE

The elimination of the high-tip-speed tail rotor assembly makes the MD 520N the quietest turbine helicopter in the world. Recent comparative FAA tests conducted by MDHI indicate the MD 520N is a minimum of 50 percent quieter than comparable helicopters. This lower noise signature makes the MD 520N a "good neighbor' when used in areas where noise is objectionable. Lower noise levels also increase survivability in hostile operational roles.



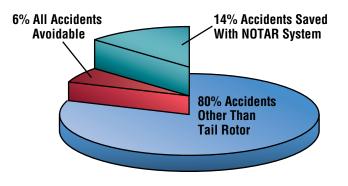
Noise inside each respective contour is 65 dBA or greater, about the same level as a noisy residential environment



**Observer's Distance from Helicopter Meters/(Feet)** 

### **INHERENT SAFETY**

The NOTAR anti-torque system eliminates accidents and mishaps caused by the exposed tail rotor striking objects in flight, and significantly reduces ground incidents with people or equipment. Potential damage caused by foreign objects is also eliminated. Inherent design capabilities of the MD 520N reduces the susceptibility to loss of tail rotor effectiveness and the problems associated with quartering tail winds. The MD 520N's power and stability in various wind conditions increase operational safety.



#### **IMPROVED HANDLING**

The excellent handling qualities of the MD 500 series have been further improved with the addition of the NOTAR system. The MD 520N has high control response provided by the fully articulated five-blade rotor system. Transient positive load factors of 2.8 g's and negative load factors of 0.0g's are attainable with the MD 520N. The NOTAR system allows side and rearward flight speeds above 30 knots, low sensitivity to wind direction, 80% fewer pilot controls inputs and rapid turning rates.

# **MD52ON** STANDARD EQUIPMENT

## 3.0 Equipment.

#### Airframe

- Tinted canopy panels
- Tinted door/window panel-left front
- Tinted door/window panel-left rear
- Tinted door/window panel-right front
- Tinted door/window panel-right rear
- Rain gutter set
- Short landing gear
- Keyed locks (4)
- Fuselage hard points
- Jacking fittings
- Passenger steps
- Anti-collision lights (3)
- Landing light, nose mounted
- Position lights
- Paint 1 color standard

#### Interior

- Crew seats with 4-point harness restraint
- Passenger seats with 3-point harness restraint
- Vinyl and fabric cushions 5 seats
- Vinyl interior trim panels
- Crew and cabin compartment floor carpet
- Map case
- Fire extinguisher
- First aid kit
- Crew ashtray and lighter/28-volt utility outlet
- Cabin lighter/28-volt utility outlet
- Battery-heavy duty Marathon 17-ampere-hour
- Ventilation system
- Cockpit utility light
- Cabin convenience light
- Instrument lighting
- Cabin soundproofing
- Cargo tie-down fittings

## Engine and Electrical

- Allison 250-C20R engine, 450 shp (336 kw)
- Automatic engine reignition
- Engine wash kit, MD 500 series
- Engine compressor anti-ice
- 64 gallon (242 l) fuel system
- 85 amp starter generator
- External power receptacle
- Facet oil filter

#### **Rotor and Controls**

Flight controls, single, left hand command

#### Flight and Engine Instruments

- Dual tachometer, N<sub>R</sub> and N<sub>2</sub>
- Engine oil pressure indicator
- Engine torque meter
- N<sub>1</sub> tachometer
- Hobbs engine running time meter
- Fuel quantity indicator
- Digital chronometer
- Airspeed indicator
- Barometric altimeter
- DC ammeter
- Outside air temperature indicator
- Magnetic compass
- Digital/analog turbine outlet temp indicator
- Engine oil temp indicator

### **Annunciator Panel**

- Battery overtemp warning light
- Engine chip detector warning light
- Engine out warning light
- Fan transmission chip detector warning light
- Fuel filter obstruction warning light
- Fuel low warning light
- Generator out warning light
- Low rotor rpm warning light
- Main transmission chip detector warning light
- Main transmission oil pressure warning light
- Main transmission oil temp warning light

#### Miscellaneous

- Ground handling wheels
- Engine and airframe log books
- Engine maintenance manual
- Battery manual
- Flight manual
- Handbook of maintenance instructions
- Illustrated parts catalog
- Engine exhaust cover
- Engine inlet cover
- Pitot tube cover
- Main rotor blade tie-downs
- NOTAR inlet, thruster and tailboom cover

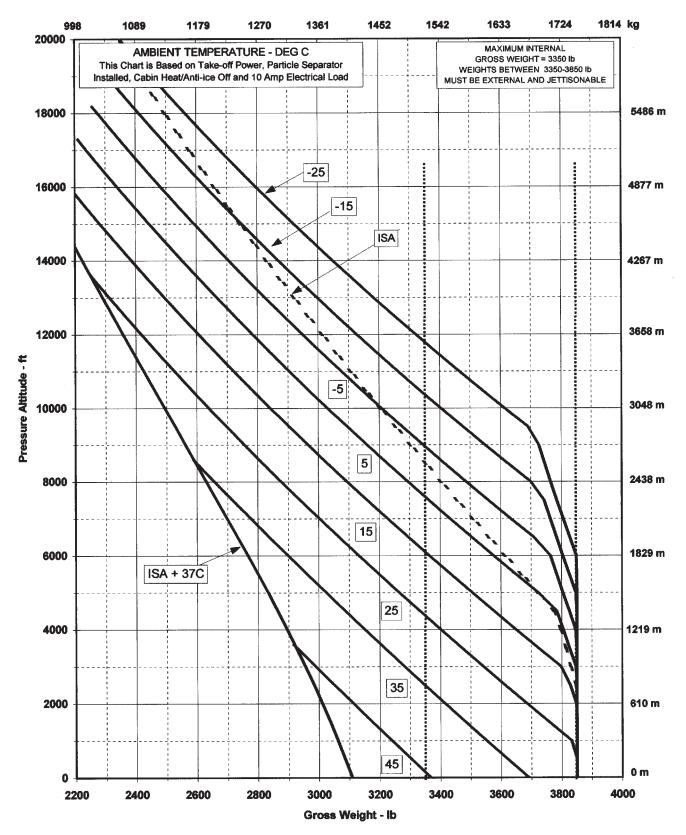
# MD52ON WITH NOTAR SYSTEM

## 4.0 **Performance Specifications**

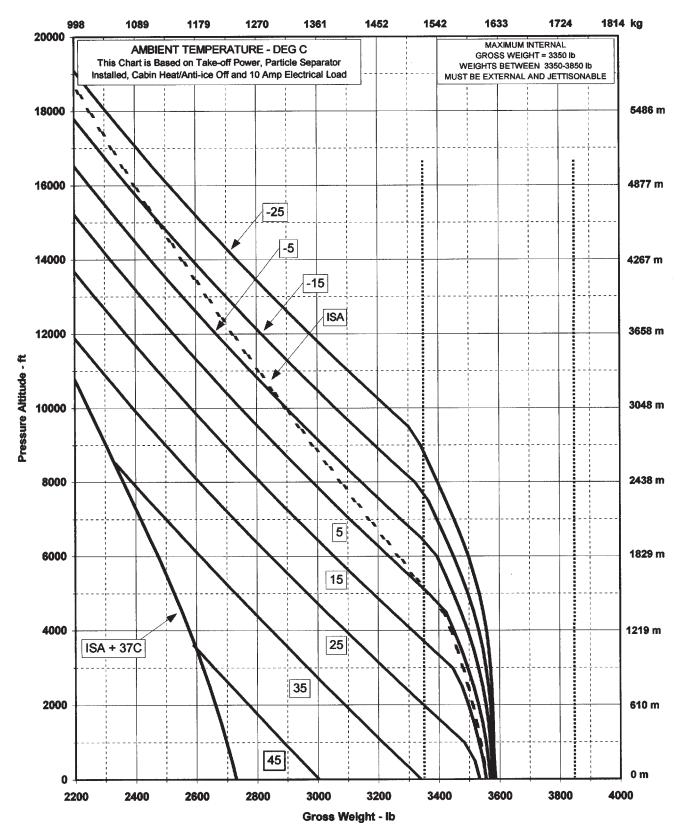
Characteristics		Metric	Imperial	Metric	Imperial
at Gross Weight		1361 kg	3,000 lb	1519 kg	3,350 lb
Maximum Cruise Speed:	Sea level 1524 m (5,000 ft)		128 kt (147 mph) 132 kt (152 mph)		23 kt (142 mph) 24 kt (143 mph)
Maximum Permitted Speed:	$V_{NE}$ at sea level	282 km/hr 1	152 kt (175 mph)	282 km/hr 15	52 kt (175 mph)
Maximum Range:	Sea level 1524 m (5,000 ft)		204 nm (235 mi) 222 nm (256 mi)		97 nm (227 mi) 10 nm (242 mi)
Maximum Endurance:	Sea level	2.4 hr	2.4 hr	2.2 hr	2.2 hr
Maximum Rate of Climb:(TOP)	Sea level, Standard day ISA +20° C day	9.7 m/sec 8.6 m/sec	1,913 fpm 1,687 fpm	7.9 m/sec 6.5 m/sec	1,546 fpm 1,280 fpm
Maximum Operating Altitude:	Density altitude	6097 m	20,000 ft	6097 m	20,000 ft
Service Ceiling:	ISA	4970 m	16,300 ft	4024 m	13,200 ft
Maximum Hook Capacity:		907 kg	2,000 lb	907 kg	2,000 lb
Hovering Performance:					
In-ground effect: (extended landing gear)	Standard day ISA + 20° C day	3901 m 2743 m	12,800 ft 9,000 ft	2835 m 1554 m	9,300 ft 5,100 ft
Out-of-ground effect:	Standard day ISA + 20° C day	2865 m 1707 m	9,400 ft 5,600 ft	1707 m 427 m	5,600 ft 1,400 ft
WEIGHTS					
Characteristics				Metric	Imperial
Maximum gross weight:			al category al load operations	1519 kg 1746 kg	J ,
Empty weight:	Standard configuration Industrial configuration			719 kg 674 kg	
Useful load:	Standard configuration		al category al load operations	800 kg 1027 kg	,
	Industrial configuration		al category al load operations	845 k 1072 k	
Usable Fuel Capacity:	242 L (64 gal)			183 kg	403 lb
POWER PLANT					

Characteristics		Metric	Imperial
Allison Model 250-C20R gas turbine:	Rated power	336 kw	450 shp
Derated for reliability and safety to:	Takeoff power Max. continuous power	317 kw 280 kw	425 shp 375 shp

#### 4.1 Hover-In-Ground-Effect.



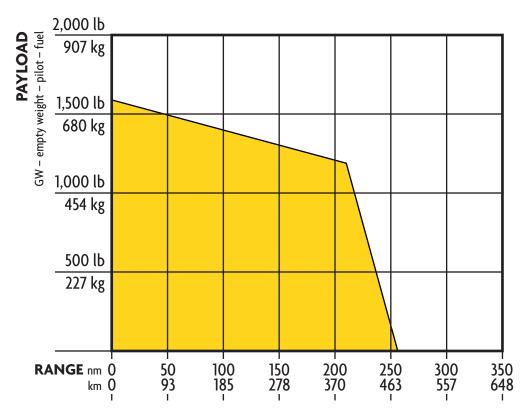
#### 4.2 Hover-Out of-Ground-Effect.



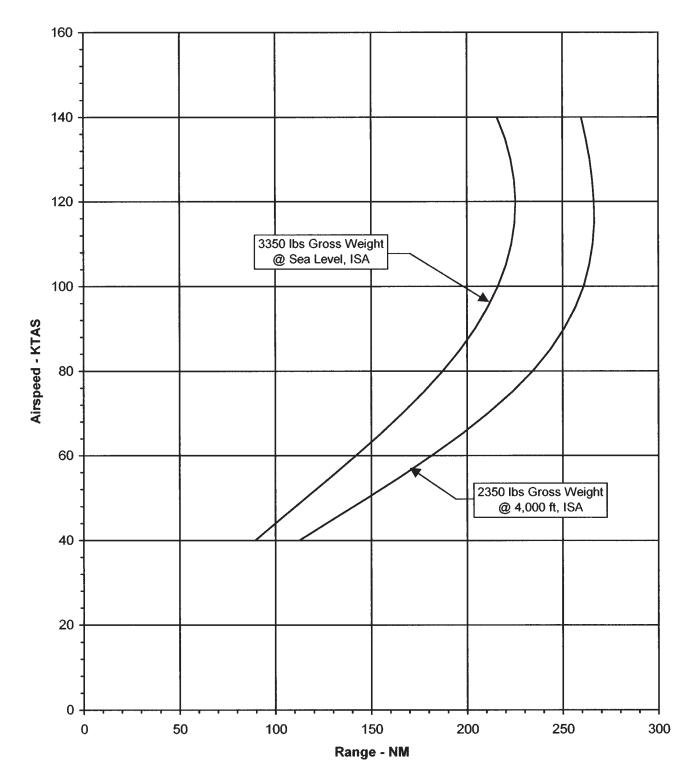
## 4.3 Takeoff Gross Weight Worksheet.

	Example	Mission #1	Mission #2
Empty Weight	1,585 lb (719 kg)		
Pilot	1 <i>7</i> 0 lb (77 kg)		
Fuel	403 lb (183 kg)		
Payload	1192 lb (540 kg)		
Takeoff GW	3,350 lb (1519 kg)		

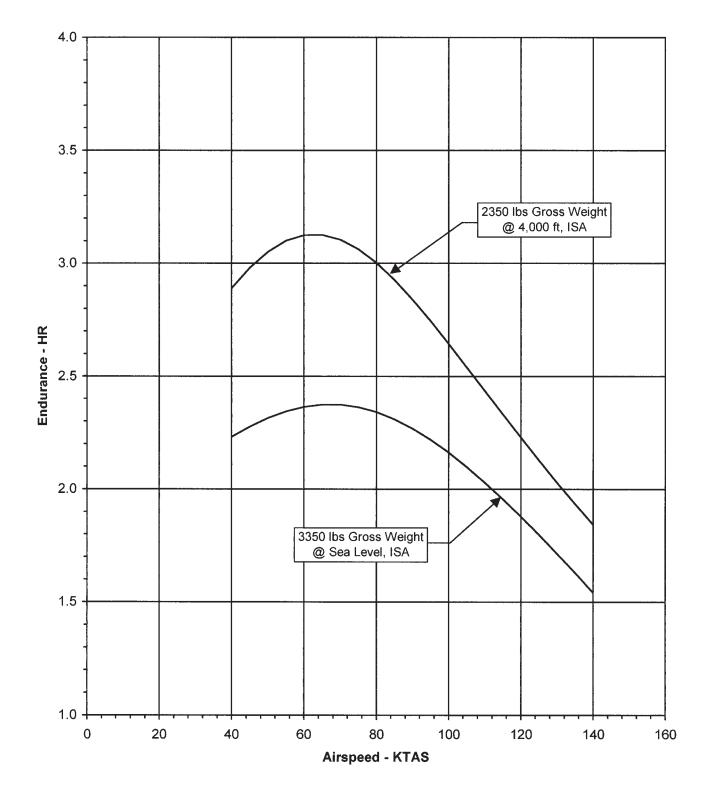
### 4.4 Payload vs Range (5000', ISA).



### 4.5 Speed for Best Range.

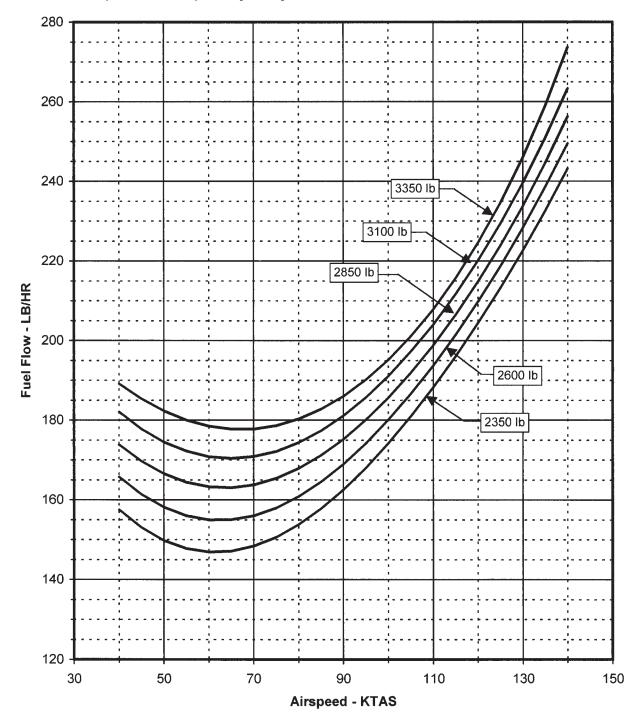


### 4.6 **Speed for Best Endurance.**





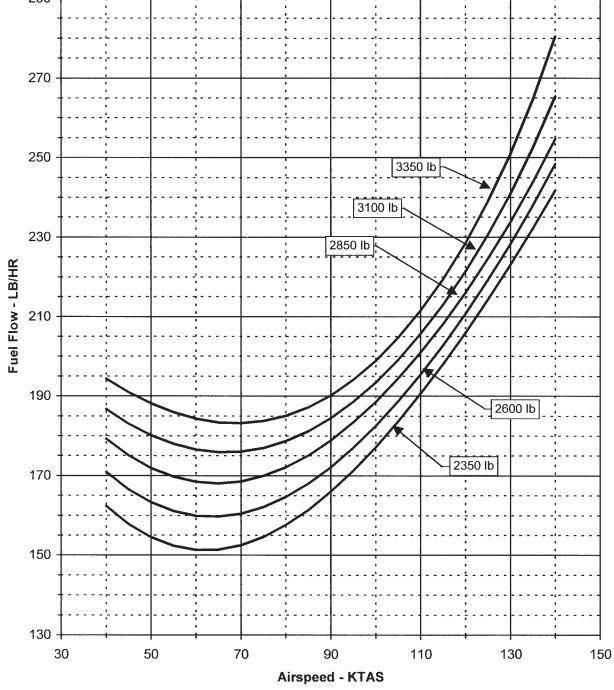
4.7 Fuel Flow, Sea Level, ISA (15°C).



Note: Use for Estimates Only. Not FAA Approved. Based on clean aircraft, level flight performance, minimum specification engine, particle separator and 10 ampere electrical load.



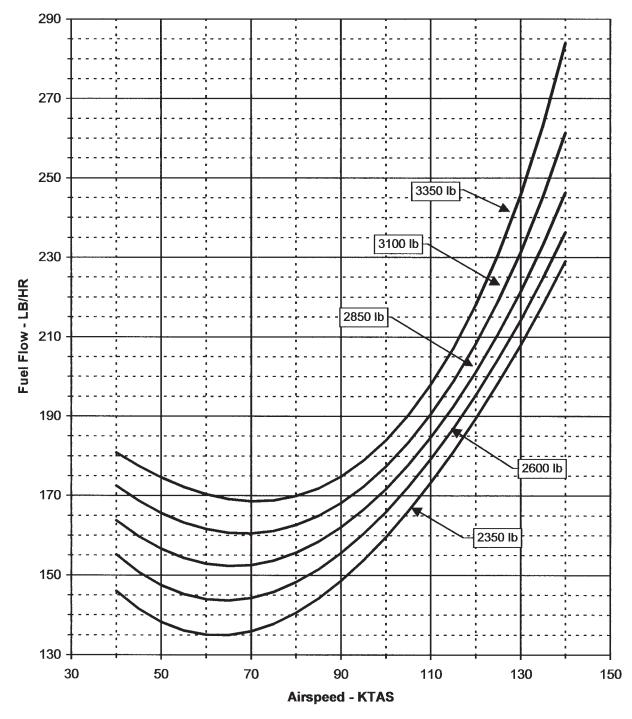




Note: Use for Estimates Only. Not FAA Approved. Based on clean aircraft, level flight performance, minimum specification engine, particle separator and 10 ampere electrical load.

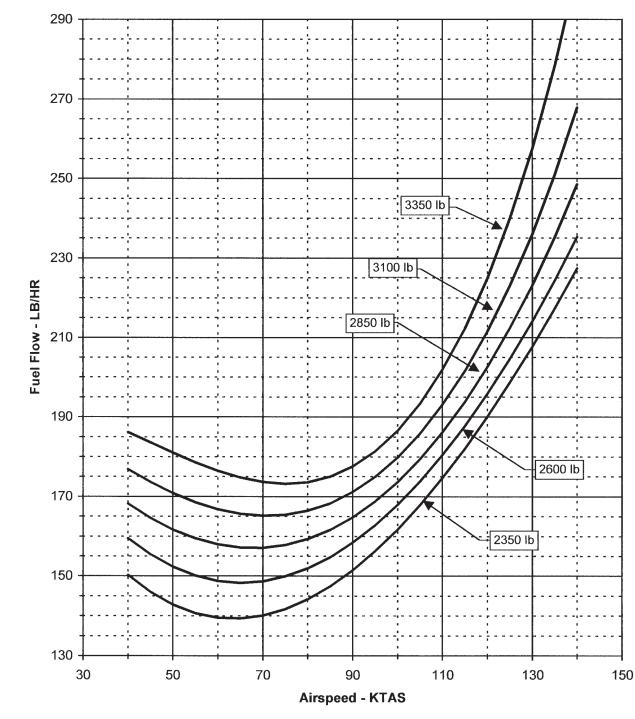


4.9 Fuel Flow, 4,000 feet, ISA (7°C).



Note: Use for Estimates Only. Not FAA Approved. Based on clean aircraft, level flight performance, minimum specification engine, particle separator and 10 ampere electrical load.





## 4.10 Fuel Flow, 4,000 feet, ISA +20°C (27°C).

Note: Use for Estimates Only. Not FAA Approved. Based on clean aircraft, level flight performance, minimum specification engine, particle separator and 10 ampere electrical load.

## MD520N

### 2001 ESTIMATED DIRECT OPERATING COST

#### 5.0 **Direct Operating Cost.**

Estimated Direct Operating Cost Per Hour (Based upon year 2001 US \$)	COODS Engine
<ul> <li>Fuel and Lubricants<sup>1</sup>: Fuel @ \$2.06* per gallon @ approx. 27 gallons per hour\$ 55.62 Lubricants @ 3% of fuel</li></ul>	C20RS Engine
<ul> <li>Airframe Maintenance and Spares<sup>2</sup>: Maintenance labor costs: Scheduled (.15 Manhours/Flight Hours) @ \$58.00/Hour*\$ 8.70 Unscheduled (.26 Manhours/Flight Hours) @ \$58.00/Hour*15.08</li> </ul>	
Spares Cost: Scheduled (Inspection) Parts: Used during periodic inspection i.e. filters, seals, o-rings, etc	\$ 104.87
<ul> <li>Engine<sup>3</sup>: Scheduled maintenance labor &amp; parts\$ 3.00 Reserve for engine overhaul, spares and accessories</li></ul>	\$ 46.76
Total Direct Operating Cost <sup>4</sup>	\$ 208.92

\* Fuel Cost and labor rate is based on Conklin & deBecker book, "The Aircraft Cost Evaluator" dated Spring 2000.

<sup>1</sup> Average cost while operating under the following conditions: Gross Weight: 10% less than maximum certified Speed: Maximum Range Speed, 117 KIAS Altitude: 1,000 feet on a standard day

<sup>2</sup> Overhaul costs (Projected) are based on participation in factory exchange program.

<sup>3</sup> Engine fleet maintenance costs provided by Rolls Royce Engine Company.

<sup>4</sup> Indirect costs such as insurance, hangar, salary, etc., are excluded.

Preliminary Data Subject to Change Without Notice

Cost figures shown are extrapolated from a broad data base and are intended for example purposes only. Actual costs will vary, depending on local operating conditions, pricing and supplier practices. We encourage you to compare these figures with other manufacturers', using the same unit costs for fuel, labor, etc.

# **MD520N**

## TOTAL COST OF OPERATION WORKSHEET

Direct Operating Cost per Hou	ar		
Fuel and Lubricants			
Fuel @ \$ per gallon @ ap	prox gallons per hour	\$	
Lubricants @ % of fuel			
Total Fuel Cost		\$	(A)
Airframe Maintenance and Spares			
Scheduled maintenance labor rate	e @ \$ per hour		
	our=\$)	\$	
Unscheduled maintenance labor i	rate @ \$ per hour		
(Maintenance man-hour/flight ho	our=\$)	\$	
Scheduled (Inspection) Parts:		\$	
On-Condition/Unscheduled Part .		\$	
Reserves: Component Overhaul (	_TBO)	\$	
Reserves: Limited-Life Parts		\$	
Total Airframe Cost		\$	(B)
Engine			
Scheduled maintenance labor rate	e @ \$ per hour		
(Maintenance man-hour/flight ho	our=\$)	\$	
Unscheduled maintenance labor i	rate @ \$ per hour		
(Maintenance man-hour/flight ho	our=\$)	\$	
Reserves for engine overhaul and	I spares	\$	
Total Engine Cost		\$	(C)
Total Direct Maintenance/Spares Cost (B-	+C)	\$	
<b>Total Direct Operating Cost</b> (A+B+C)	)	\$	(D)
Fixed Operating Cost			
Depreciation			
Hull insurance		\$	
Liability insurance			
Pilot salary			
Hangar rental			
Total Annual Fixed Operating			
Total Hours () flown annua			_ 、 /
Total Fixed Operating Cost Per Hou	• • • •	\$	(G)
Total Direct Operating Cost Per Hou			. ,
Total Housey Fixed Operating Cost		¢	
Total Hourly Fixed Operating Cost (	,רט+ט,ונס+ט	·····	

# **MD520N**

#### **COMPONENT MAINTENANCE SCHEDULE**

#### LIMITED-LIFE PARTS

Component	Finite Time (hr)
Main Rotor Blade	3,430
Blade Pin	7,600
Main Rotor Hub	8,900
Pitch Housing/MR	9,100
Retention Strap/MR	2,770
Bolt-Lead Lag/MR	6,120
Lead Lag Link/MR	11,080
Drive Shaft	3,260
Mast Assy	10,450
Coupling	3,200
Bellcrank	2,870
Control Rod	7,740
Fan Drive Shaft	2,620
Fan - Blade Assy	7,500
Fan Hub	7,500
Pitch Plate	7,500
Rotating Cone Assembly	10,000
Tailboom Assembly	10,000
Tube, Torque	5,000
Idler Long. Pitch Mixer	6,050

#### **OVERHAUL SYSTEMS**

Component	Finite Time (hr)
Transmission/MR	5,000
M/R Swashplate	2,770
M/R Hub	2,770
Overrunning Clutch	1,800
Starter Generator	1,200
Blower Bearings	1,200
Blower Belt	1,200
Fan Bearings	2,400
Fan Pitch Plate Bearings	2,400
Landing Gear Dampers	1,000

# MD500 SERIES MDHI PRODUCT SUPPORT PLAN

With the launch of the new helicopter company, MD Helicopters, Inc. announces its new Product Support Plan. Named *The MDHI Support Plan 2000*, it signifies MDHI's commitment to satisfy the operators of its products now and well into the next century.

#### 6.0 The MDHI Support Plan 2000

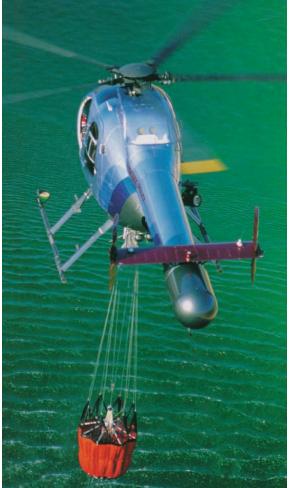
MDHI is dedicated to a successful fielding of its new helicopters and to improve the support it currently offers operators of its commercial helicopters. The following items highlight how the MDHI helicopters will be the best-supported aircraft of its type anywhere in the world.

### Operator Input

Input from many of our existing fleet operators has been actively solicited by our support team. We have created Customer Satisfaction Advisory Teams, composed of operators from all over the world who are chartered to work together with MDHI technical representatives to lower operating costs, and to improve our products and the way we support them. As a result of this improved level of two-way communication, many improvements suggested by our customers are being included in our production, publications, and maintenance procedures.

## Training

MDHI offers pilot and maintenance training to our new customers at no extra charge. Customers will be trained at the MDHI Commercial Training Center by our staff of specially trained pilots and technical representatives. At the training center, we stress hands-on experience in both our flight and ground schools. The materials we use for our school are continually updated to reflect the latest product and maintenance developments by our technical staff.



# MD500 SERIES MDHI PRODUCT SUPPORT PLAN

#### Ilnitial Fielding

All new aircraft customers will be greeted at their facility by a Customer Support Technical Representative who is trained specifically on the operation and maintenance of MDHI helicopters. These Technical Representatives are backed up by a factory team of MDHI Product Support Engineers who can be called upon at any time to support specific technical issues or questions that may arise. The Technical Representatives will spend as much time with the customers as required to familiarize them with their new aircraft.

#### Regular Maintenance

Follow-up visits by our Customer Support Technical Representatives will be performed as required at the regularly scheduled maintenance periods. This provides the customer with the latest maintenance information, and provides the factory with feedback on the operation, reliability and maintainability of their new aircraft. In addition, we plan to offer all models maintenance and parts manuals on CD-ROM.

#### Direct Operating Costs

The operating costs of MDHI helicopters are planned to be clearly the lowest in their classes. The plan is to keep the parts costs down, maximize the reliability of the helicopter systems, and minimize maintenance hours. This is accomplished by "benchmarking" all of these areas against the existing fleet of MD 500<sup>®</sup> helicopters, already one of the most reliable turbine helicopter lines in the world. Every part, system and maintenance procedure has undergone scrutiny before being incorporated on new production aircraft.

#### Spare Parts

The MDHI recognizes the importance of timely deliveries of spare parts to our customers. A thorough review of spare parts utilization has been conducted with the intent to significantly improve turnaround time of AOG spares. Additionally, we will increase our activities in using customer advanced spares requirement notification to eliminate known spare part requirements. On-line spares ordering and statusing is in our near future. Additionally, we have established a MDHI Support Center in Europe, where a significant inventory of spare parts, exchange components and tools are maintained.

# MD500 SERIES TRAINING

#### 7.0 Training

The MDHI Commercial Training Center offers cost-effective factory designed training courses for MD 500 series pilots and maintenance crews. This training, given by senior instructors with extensive experience in our products, provides our customers/students

with the detailed knowledge of our products that will increase safety, reduce insurance costs and result in more efficient operation of the aircraft. Training is customarily conducted at our facility in Mesa, but offsite training at the customer's facility can also be arranged. We can also arrange for pilot training in the customer's aircraft, as long as MDHI's insurance requirements are met before training begins.



#### Pilot Training

The transition flight training course is designed to familiarize a rated helicopter pilot with the operation of the MD 500 series helicopter. This five-day course introduces the student to all the associated company publications as well as detailed explanations of all aircraft systems and daily/preflight inspection procedures. The ground school, including the exam and exam review, requires 16 to 20 hours to complete. The student will be expected to pass an exam demonstrating basic knowledge of the aircraft. The flight training syllabus includes five hours of instructor time and is broken down into four flight lessons:

- Normal Operations (pattern and hover work)
- Normal Operations and emergency procedures
- Heavy Weight Performance
- Emergency Procedures (autorotations)

Recurrent pilot training consists of a two-day refresher course for any pilot who has previously attended the transition flight training course. Ground school includes a closed-book exam, review of AD's and notices, and a daily/preflight inspection review. A BFR (biennial flight review) can also be given in conjunction with this course and includes review of FAR Part 91 and an open book exam. Flight training consists of three hours of intensive emergency procedures review.

# MD500 SERIES TRAINING

#### Maintenance Training

The Airframe Maintenance Course is designed to familiarize a licensed A & P mechanic with the maintenance and inspection of all major systems on the aircraft. This 2-week course will require the student to learn and demonstrate the skill and knowledge required to safely perform selected maintenance tasks on the MD 500 series. The 1-week course is available to selected students with prior knowledge of MD products (the 500 series aircraft). The 80-hour syllabus is comprised of the following sections:

- Intro to helicopter design
- Landing gear
- Fan assembly
- Rotor assembly, controls and rigging
- Lubrication/fuel
- Engine controls

- Airframe
- Drive system
- Anti-torque
- Track and balance
- Powerplant
- Electrical systems

#### Other Training

The other types of training that are currently available to 500 series customers are:

- Instructor pilot training
- Maintenance test flight pilot training

Airspeed/Time	16	<i>kg</i>
ASTROTECH LC-6 CLOCK	0.3	0.1
DAVTRON N877 CLOCK	0.2	0.1
HEATED PITOT	0.4	0.2
Altitude	/b	kg
KRA10-00 RADAR ALT W/KI250 IND	4.4	2.0
KRA405B-15 RADAR ALT W/KNI416 IND	10.5	4.8
UNITED 5035 ENCODING ALTIMETER	3.7	1.7
UNITED 5120 BLIND ENCODER	2.0	0.9
UNITED 7130-C41 IVSI	2.5	1.1
Altitude/Heading AIM ATITUDE GYRO 510-1B AIM DIRECTIONAL GYRO 205-1BL EHS 40 ELECTRONIC FLIGHT INTRUMENT SYSTEM KCS55A-01 COMP SYS WKI525A HSI, KA51B KI229-00 RADIO MAGNETIC INDICATOR MID-CONTINENT 9510 3-INCH TURN AND BANK INDICATOR UNITED 9551 2-INCH TURN AND BANK INDICATOR	15 3.1 3.0 23.9 10.3 2.0 1.6 1.4	kg 1.4 10.8 4.7 0.9 0.7 0.6

Comm/Intercom	lb	kg
FLIGHT TRAILS AVIONICS MASTER SWITCH		
FLIGHT TRAILS AVIONICS MASTER SWITCH	1.5 0.5	0.7 0.2
FLIGHT TRAILS COPILOT ICS FOOT SWITCH FLIGHT TRAILS CYCLIC REMOTE FREQ SWITCH ONLY	.3	
FLIGHT TRAILS REAR SEAT TRANSMIT	.3 2.5	
HEADSET BOSE SERIES II	2.5	
HEADSET BOSE SERIES X	1.1	
HEADSET DAVID CLARK H10-56	1.1	0.5
HEADSET WIRE HARNESS (W/O ICS) W/ADAPTS	2.0	0.9
KFM985 FM TRANSCEIVER		1.4
KHF990-00 HF SYSTEM WITH BELLY MOUNTED ANT	22.5	
KMA24H-71 AUDIO CONTROL/INTERCOM (5-PLACE)	3.1	1.4
KMA24H-71 DUAL AUDIO CONTROL/INTERCOM	6.2	
KY196A-30 TRANSCEIVER	5.2	_
KY196A-30 TRANSCEIVER W/CYCLIC REMOTE SWITCH	5.5	2.4
MOTOROLA DVP-DVS ENCODER	0.0	
NAT 138 FMNPX HIGH BAND TRANSCEIVER	3.1	
NAT 150 VHF HI BAND TRANSCEIVER	8.5	
NAT 403-00 UHF TRANSCEIVER	0.0	
NAT 806 UHF 800MHZ BAND TRANSCEIVER	6.0	2.7
NAT AA22-163 100 WATT PA AND SIREN	21.6	
NAT AA22-163 220 WATT PA AND SIREN	21.4	
NAT AA34-200 UNIVERSAL RADIO INTERFACE	0.0	
NAT AA94-SSD DUAL CHANNEL AUDIO CONTROLLER	2.3	
NAT AA95-512 SINGLE CHANNEL AUDIO CONTROLLER	2.5	
NAT AA95-512 SINGLE CHANNEL AUDIO DUAL CONTROLLERS		2.3
NAT AA97-400 SINGLE CHANNEL AUDIO CONTROLLER	2.5	1.1
NAT AMS44 DUAL CHANNEL AUDIO CONTROLLER	2.8	1.3
NAT CC250 COMMUNICATIONS CONTROLLER	3.0	1.4
NAT CC450 COMMUNICATIONS CONTROLLER	2.5	1.1
NAT DTE12-001 DATA ENCODER KEYBOARD	0.8	0.4
NAT TH250-7NN MASTER CONTROL HEAD	0.0	0.0
NAT TH350-2 MASTER CONTROL HEAD	3.0	1.4
PROVISIONS C1000-10 FLEXCOMM CONTROL HEAD	0.0	0.0
PROVISIONS C5000-1 FLEXCOMM CONTROL HEAD	0.0	0.0
TECHNISOFT TFM-403 FM COMM	4.5	2.0
TFM-138 VHF HIGH BAND TRANSCEIVER	3.1	1.4
WULFSBERG C1000-10 FLEX COMM CONTROL HEAD	2.6	1.8
WULFSBERG RT138F-0 TRANSCEIVER	7.5	3.4
WULFSBERG RT30-0 TRANSCEIVER (WIDEBAND)	8.3	3.8
WULFSBERG RT406F-0 TRANSCEIVER	7.5	3.4
WULFSBERG RT5000-01 TRANSCEIVER	27.2	12.3
WULFSBERG C5000-1 FLEX COMM CONTROL HEAD	4.2	1.9

Comm/Nav	lb	kg
Emergency LOC TRANS, ARTEX-100HM	6.9	3.1
Emergency LOC transmitter pointer 3000	4.0	1.8
FOXTRONICS 3050 wide band antennna	0.0	0.0
KDF806-00 ADF w/KFS586 freg selector	5.0	2.3
KI202-00 VOR/LOC indicator	1.3	0.6
KI203-00 VOR/LOC indicator	1.0	.5
KI204-02 VOR/LOC/GS indicator	3.0	1.4
KI206-04 VOR/LOC/GS indicator	3.0	1.4
KI208-00 VOR/LOC indicator	2.4	1.0
KI209-01 VOR/LOC/GS indicator	1.2	0.5
KN53-00 NAV receiver w/GLS	3.0	1.4
KN62A-01 DME	2.6	1.2
KN63-04 DME w/KDI 572 indicator	3.6	1.6
KN75-02 glideslope receiver	1.6	0.7
KR22-00 marker beacon receiver	1.6	0.7
KR87-16 ADF	6.8	3.1
KR87-16 ADF W/KI227-00 IND	8.2	3.7
KT70-00 S-MODE TRANSPONDER	5.2	2.4
KT71-00 A AND C-MODE DIGITAL TRANSPONDER	4.0	1.8
KT76A-01 A AND C-MODE TRANSPONDER	4.2	1.9
KX155-39 NAV/COMM TRANSCEIVER	7.9	3.6
KX155-39 NAV/COMM W/KI208 VOR IND	9.7	4.4
KX155-43 NAV/COMM TRANSCEIVER W/GLS	7.9	3.6
KX155-43 NAV/COMM W/GS W/KI209 VOR/GLS IND	9.7	4.4
KX165-25 NAV/COMM W/GS W/KI206 VOR/GLS IND	10.6	4.8
Controls	lb	kg
FLIGHT CONTROLS-DUAL, LH COMMAND	10.4	4.7
FLIGHT CONTROLS-DUAL, RH COMMAND	10.4	4.7
Electrical System	lb	kg
BATTERY -500E SAFT HEAVY DUTY, 17 AMP	14.1	6.4
BATTERY -500E SAFT HEAVY DUTY, 17 AMP BATTERY -500N/530FF HD, SAFT	14.1 0.0	6.4 0.0
BATTERY -500E SAFT HEAVY DUTY, 17 AMP BATTERY -500N/530FF HD, SAFT BATTERY -520N NOSE MOUNTED	14.1 0.0 8.0	6.4 0.0 3.6
BATTERY -500E SAFT HEAVY DUTY, 17 AMP BATTERY -500N/530FF HD, SAFT BATTERY -520N NOSE MOUNTED BATTERY -LEAD ACID KIT AND BATTERY	14.1 0.0 8.0 23.0	6.4 0.0 3.6 10.4
BATTERY -500E SAFT HEAVY DUTY, 17 AMP BATTERY -500N/530FF HD, SAFT BATTERY -520N NOSE MOUNTED BATTERY -LEAD ACID KIT AND BATTERY FLIGHT TRAILS 28V RECP FRONT AND REAR	14.1 0.0 8.0 23.0 0.0	6.4 0.0 3.6 10.4 0.0
BATTERY -500E SAFT HEAVY DUTY, 17 AMP BATTERY -500N/530FF HD, SAFT BATTERY -520N NOSE MOUNTED BATTERY -LEAD ACID KIT AND BATTERY FLIGHT TRAILS 28V RECP FRONT AND REAR KA-33 AVIONICS COOLING FAN	14.1 0.0 8.0 23.0 0.0 2.2	6.4 0.0 3.6 10.4 0.0 1.0
BATTERY -500E SAFT HEAVY DUTY, 17 AMP BATTERY -500N/530FF HD, SAFT BATTERY -520N NOSE MOUNTED BATTERY -LEAD ACID KIT AND BATTERY FLIGHT TRAILS 28V RECP FRONT AND REAR KA-33 AVIONICS COOLING FAN VOLTMETER-DAVTRON M450 DIGITAL BATTERY	14.1 0.0 8.0 23.0 0.0 2.2 0.0	6.4 0.0 3.6 10.4 0.0 1.0 0.0
BATTERY -500E SAFT HEAVY DUTY, 17 AMP BATTERY -500N/530FF HD, SAFT BATTERY -520N NOSE MOUNTED BATTERY -LEAD ACID KIT AND BATTERY FLIGHT TRAILS 28V RECP FRONT AND REAR KA-33 AVIONICS COOLING FAN	14.1 0.0 8.0 23.0 0.0 2.2	6.4 0.0 3.6 10.4 0.0 1.0

Engine	lb	kg
ENGINE COMPRESSOR ANTI-ICE	0.0	0.0
ENGINE OIL EXHAUST BREATHER	0.0	0.0
FACET OIL FILTER - MD530FF	3.7	1.7
HOBBS COLLECTIVE RUNNING TIME METER	0.5	0.2
MIST ELIMINATOR	4.2	1.9
PARTICLE SEPARATOR	13.0	5.9
SYSTRON DONNER FIRE DETECTION SYSTEM	0.0	0.0
Environmental	lb	kg
AERO-AIRE BOOST FAN	0.0	0.0
AIR CONDITIONING, INTEGRATED FLIGHT SYSTEMS	88.8	40.3
HEATER/DEFOGGER	8.1	3.7
Exterior Accessories	lb	kg
BREEZE CARGO HOOK, MD 500 SERIES	6.3	2.9
ONBOARD SYSTEMS CARGO HOOK	7.0	3.2
ONBOARD SYSTEMS CARGO HOOK LOAD WEIGHT SYSTEM	5.0	2.3
PROVISIONS FLIR 4000-SAFIRE BELLY MOUNT	20.0	9.1
PROVISIONS FLIR REAR MONITOR MOUNT	0.0	0.0
PROVISIONS ULTRA 7000 FLIR -NOSE MOUNTED	10.0	4.5
PROVISIONS ULTRA 7000 FLIR -LEFT SIDE MOUNTED	10.0	4.5
PROVISIONS ULTRA 7000 FLIR -NOSE MOUNT	20.0	9.1
PROVISIONS ULTRA 7000 FLIR -RIGHT SIDE MOUNTED	10.0	4.5
WATER PROOF COVER	0.0	0.0
WIRE STRIKE KIT, MD 500 SERIES	17.0	7.7
FLOAT LIGHT KIT	4.8	2.2
NIGHTSCANNER 400K CPWR SEARCHLIGHT	23.0	10.4
NIGHTSCANNER, IR LENS KIT	0.8	0.4
NIGHTSCANNER, SUPER 800K CPWR	24.1	10.9
NIGHTSCANNER, SUPER, IR LENS KIT	0.8	0.4
PROVISIONS SX16 SEARCHLIGHT LEFT SIDE MOUNTED	30.0	13.6
PROVISIONS SX16 SEARCHLIGHT NOSE MOUNTED	30.0	13.6
PROVISIONS SX16 SEARCHLIGHT RIGHT SIDE MOUNTED	30.0	13.6
PROVISIONS SX5 SEARCHLIGHT LEFT SIDE MOUNTED	23.5	10.7
PROVISIONS SX5 SEARCHLIGHT NOSE MOUNTED	23.3	10.6
PROVISIONS SX5 SEARCHLIGHT RIGHT SIDE MOUNTED	23.5	10.7
SX16 SEARCHLIGHT LEFT SIDE MOUNTED	65.0	29.5
SX16 SEARCHLIGHT NOSE MOUNTED	65.0	29.5
SX16 SEARCHLIGHT RIGHT SIDE MOUNTED	65.0	29.5
SX5 SEARCHLIGHT LEFT SIDE MOUNTED	14.8	6.7
SX5 SEARCHLIGHT NOSE MOUNTED	14.8	6.7
SX5 SEARCHLIGHT RIGHT SIDE MOUNTED	14.8	6.7

Fuel System	lb	kg
AIRFRAME FUEL FILTER	5.3	2.4
FARGO 21 GAL (79L) AUX FUEL TANK	44.5	20.2
POVISIONS FARGO 21 GAL (79L) AUX FUEL TANK	8.0	3.6
ROBERTSON 38.5 GAL (146L) AUX FUEL TANK	56.0	25.4
PROVISIONS ROBERTSON 38.5 GAL (146L) AUX FUEL TANK	9.0	4.1
SELF SEALING FUEL CELLS	21.2	9.6
SHADIN DIGIDATA FUEL AIR DATA SYSTEM	2.4	1.1
Gear/Handling	lb	kg
EMERGENCY FLOATS, AIR CRUISERS	152.0	68.9
EMERGENCY FLOATS, APICAL INDUSTRIES	115.0	52.2
EXTENDED LANDING GEAR	9.5	4.3
FLIGHT TRAILS CREW HANDLES (4)	5.0	2.3
FLIGHT TRAILS SKID MIRROR	2.0	
WINTERIZED H/D DAMPERS SET (4)	0.0	0.0
Interior Trim/Lights/Seats	lb	kg
D BENCH SEAT WITH CUSHIONS	-1.0	-0.5
D BENCH SEAT WITH MESH	-9.0	-4.1
D BENCH SEAT WITH MESH FLIGHT TRAILS CONSOLE FACE PLATE	-9.0 0.0	-4.1 0.0
FLIGHT TRAILS CONSOLE FACE PLATE	0.0	0.0
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY	0.0 6.0	0.0 2.7
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT	0.0 6.0 0.0	0.0 2.7 0.0
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS POST LIGHT MODIFICATION	0.0 6.0 0.0 0.0	0.0 2.7 0.0 0.0
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS POST LIGHT MODIFICATION FLIGHT TRAILS SLANT PANEL	0.0 6.0 0.0 0.0 3.0	0.0 2.7 0.0 0.0 1.4
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS POST LIGHT MODIFICATION FLIGHT TRAILS SLANT PANEL INTERIOR -SOUNDPROOF IN SPECIAL COLOR	0.0 6.0 0.0 0.0 3.0 119.9	0.0 2.7 0.0 0.0 1.4 54.4
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS POST LIGHT MODIFICATION FLIGHT TRAILS SLANT PANEL INTERIOR -SOUNDPROOF IN SPECIAL COLOR INTERIOR -LEATHER SEATS, PANELS, TRIM, MD 500	0.0 6.0 0.0 3.0 119.9 20.0	0.0 2.7 0.0 0.0 1.4 54.4 9.1
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS POST LIGHT MODIFICATION FLIGHT TRAILS SLANT PANEL INTERIOR -SOUNDPROOF IN SPECIAL COLOR INTERIOR -LEATHER SEATS, PANELS, TRIM, MD 500 INTERIOR -BASIC MILITARY BLACK	0.0 6.0 0.0 3.0 119.9 20.0 30.0	0.0 2.7 0.0 1.4 54.4 9.1 13.6
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS POST LIGHT MODIFICATION FLIGHT TRAILS SLANT PANEL INTERIOR -SOUNDPROOF IN SPECIAL COLOR INTERIOR -LEATHER SEATS, PANELS, TRIM, MD 500 INTERIOR -BASIC MILITARY BLACK INTERIOR -BASIC MILITARY GRAY	0.0 6.0 0.0 3.0 119.9 20.0 30.0 30.0	0.0 2.7 0.0 1.4 54.4 9.1 13.6 13.6
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS POST LIGHT MODIFICATION FLIGHT TRAILS SLANT PANEL INTERIOR -SOUNDPROOF IN SPECIAL COLOR INTERIOR -LEATHER SEATS, PANELS, TRIM, MD 500 INTERIOR -BASIC MILITARY BLACK INTERIOR -BASIC MILITARY GRAY INTERIOR -SOUNDPROOF IN BEIGE	0.0 6.0 0.0 3.0 119.9 20.0 30.0 30.0 119.9	0.0 2.7 0.0 1.4 54.4 9.1 13.6 13.6 54.4
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS POST LIGHT MODIFICATION FLIGHT TRAILS SLANT PANEL INTERIOR -SOUNDPROOF IN SPECIAL COLOR INTERIOR -LEATHER SEATS, PANELS, TRIM, MD 500 INTERIOR -BASIC MILITARY BLACK INTERIOR -BASIC MILITARY GRAY INTERIOR -SOUNDPROOF IN BEIGE INTERIOR -SOUNDPROOF IN GRAY	0.0 6.0 0.0 3.0 119.9 20.0 30.0 30.0 119.9 119.9	0.0 2.7 0.0 1.4 54.4 9.1 13.6 13.6 54.4 54.4
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS POST LIGHT MODIFICATION FLIGHT TRAILS SLANT PANEL INTERIOR -SOUNDPROOF IN SPECIAL COLOR INTERIOR -LEATHER SEATS, PANELS, TRIM, MD 500 INTERIOR -BASIC MILITARY BLACK INTERIOR -BASIC MILITARY GRAY INTERIOR -SOUNDPROOF IN BEIGE INTERIOR -SOUNDPROOF IN GRAY INTERIOR -SOUNDPROOF IN OPTIONAL COLORS	0.0 6.0 0.0 3.0 119.9 20.0 30.0 30.0 119.9 119.9 0.0	0.0 2.7 0.0 1.4 54.4 9.1 13.6 13.6 54.4 54.4 54.4 0.0
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS POST LIGHT MODIFICATION FLIGHT TRAILS SLANT PANEL INTERIOR -SOUNDPROOF IN SPECIAL COLOR INTERIOR -LEATHER SEATS, PANELS, TRIM, MD 500 INTERIOR -BASIC MILITARY BLACK INTERIOR -BASIC MILITARY GRAY INTERIOR -SOUNDPROOF IN BEIGE INTERIOR -SOUNDPROOF IN GRAY INTERIOR -SOUNDPROOF IN OPTIONAL COLORS INTERIOR -VELOUR PANELS IN BEIGE	0.0 6.0 0.0 3.0 119.9 20.0 30.0 30.0 119.9 119.9 0.0 36.0	0.0 2.7 0.0 1.4 54.4 9.1 13.6 13.6 54.4 54.4 54.4 0.0 16.3 16.3
FLIGHT TRAILS CONSOLE FACE PLATE FLIGHT TRAILS NVG LIGHTING COMPATABILITY FLIGHT TRAILS OAT GAUGE LIGHT FLIGHT TRAILS POST LIGHT MODIFICATION FLIGHT TRAILS SLANT PANEL INTERIOR -SOUNDPROOF IN SPECIAL COLOR INTERIOR -LEATHER SEATS, PANELS, TRIM, MD 500 INTERIOR -BASIC MILITARY BLACK INTERIOR -BASIC MILITARY GRAY INTERIOR -SOUNDPROOF IN BEIGE INTERIOR -SOUNDPROOF IN GRAY INTERIOR -SOUNDPROOF IN OPTIONAL COLORS INTERIOR -VELOUR PANELS IN BEIGE INTERIOR -VELOUR PANELS IN GRAY	0.0 6.0 0.0 3.0 119.9 20.0 30.0 30.0 119.9 119.9 0.0 36.0 36.0	0.0 2.7 0.0 1.4 54.4 9.1 13.6 13.6 54.4 54.4 54.4 0.0 16.3 16.3

Interior Accessories	lb	kg
CABIN LIGHTER/28-VOLT UTILITY OUTLET	0.0	0.0
COCKPIT UTILITY-MAP GOOSENECK LIGHT - NVG	3.1	1.4
COCKPIT UTILITY-MAP LUMINATOR LIGHT - NON-NVG	3.1	1.4
COCKPIT UTILITY-MAP LUMINATOR LIGHT - NVG	3.1	1.4
FLIGHT TRAILS INSTRUMENT PANEL MAP CASE	0.5	0.2
FLIGHT TRAILS LH FWD MAP CASE	0.3	0.1
LITTER KIT RIGHT HAND	66.0	29.9
ROTOR BRAKE LH COMMAND	6.7	3.0
ROTOR BRAKE RH COMMAND	6.7	3.0
Nav Special	lb	kg
ARGUS 5000 MOVING MAP DISPLAY	3.5	1.6
ARGUS 7000 MOVING MAP DISPLAY	0.0	0.0
FLIGHT TRAILS GPS-VOR SWITCH	0.3	0.1
	0.0	0
GARMIN 155 XL GPS	4.3	
GARMIN 155 XL GPS GARMIN 250 XL GPS/COMM	4.3 5.3	2.4
GARMIN 155 XL GPS GARMIN 250 XL GPS/COMM GARMIN GNS-430 MAP/COMM/VOR/GPS	4.3 5.3 7.8	2.4 3.5
GARMIN 155 XL GPS GARMIN 250 XL GPS/COMM GARMIN GNS-430 MAP/COMM/VOR/GPS GARMIN GNS-530 MAP/COMM/VOR/GPS	4.3 5.3 7.8 9.8	2.4 3.5 4.4
GARMIN 155 XL GPS GARMIN 250 XL GPS/COMM GARMIN GNS-430 MAP/COMM/VOR/GPS GARMIN GNS-530 MAP/COMM/VOR/GPS KLN90B-01 GPS NORTH AMERICA	4.3 5.3 7.8 9.8 8.4	2.4 3.5 4.4 3.8
GARMIN 155 XL GPS GARMIN 250 XL GPS/COMM GARMIN GNS-430 MAP/COMM/VOR/GPS GARMIN GNS-530 MAP/COMM/VOR/GPS KLN90B-01 GPS NORTH AMERICA KLN90B-01 GPS INTERNATIONAL	4.3 5.3 7.8 9.8 8.4 8.4	2.4 3.5 4.4 3.8 3.8
GARMIN 155 XL GPS GARMIN 250 XL GPS/COMM GARMIN GNS-430 MAP/COMM/VOR/GPS GARMIN GNS-530 MAP/COMM/VOR/GPS KLN90B-01 GPS NORTH AMERICA KLN90B-01 GPS INTERNATIONAL KLX135-00 GPS NORTH AMERICA	4.3 5.3 7.8 9.8 8.4 8.4 0.0	2.4 3.5 4.4 3.8 3.8 0.0
GARMIN 155 XL GPS GARMIN 250 XL GPS/COMM GARMIN GNS-430 MAP/COMM/VOR/GPS GARMIN GNS-530 MAP/COMM/VOR/GPS KLN90B-01 GPS NORTH AMERICA KLN90B-01 GPS INTERNATIONAL KLX135-00 GPS NORTH AMERICA KLX135-01 INTERNATIONAL	4.3 5.3 7.8 9.8 8.4 8.4 0.0 0.0	2.4 3.5 4.4 3.8 3.8 0.0 0.0
GARMIN 155 XL GPS GARMIN 250 XL GPS/COMM GARMIN GNS-430 MAP/COMM/VOR/GPS GARMIN GNS-530 MAP/COMM/VOR/GPS KLN90B-01 GPS NORTH AMERICA KLN90B-01 GPS INTERNATIONAL KLX135-00 GPS NORTH AMERICA KLX135-01 INTERNATIONAL MAGELLAN 5000 SKY-NAV GPS	4.3 5.3 7.8 9.8 8.4 8.4 0.0 0.0 3.0	2.4 3.5 4.4 3.8 3.8 0.0 0.0 1.4
GARMIN 155 XL GPS GARMIN 250 XL GPS/COMM GARMIN GNS-430 MAP/COMM/VOR/GPS GARMIN GNS-530 MAP/COMM/VOR/GPS KLN90B-01 GPS NORTH AMERICA KLN90B-01 GPS INTERNATIONAL KLX135-00 GPS NORTH AMERICA KLX135-01 INTERNATIONAL	4.3 5.3 7.8 9.8 8.4 8.4 0.0 0.0	2.4 3.5 4.4 3.8 3.8 0.0 0.0

Paint	lb	kg
HIGH VISIBILITY MAIN ROTOR BLADE PAINT	0.4	0.2
PAINT 0 COLOR PRIMER ONLY 500 SERIES	-20.0	-9.1
PAINT 2 COLOR AMBASSADOR	0.0	0.0
PAINT 2 COLOR CUSTOM 2	0.0	0.0
PAINT 2 COLOR DIPLOMAT	0.0	0.0
PAINT 2 COLOR ENVOY	0.0	0.0
PAINT 2 COLOR STATESMAN	0.0	0.0
PAINT 2 COLOR VICEROY	0.0	0.0
PAINT 3 COLOR AMBASSADOR	0.0	0.0
PAINT 3 COLOR CUSTOM 3	0.0	0.0
PAINT 3 COLOR DIPLOMAT	0.0	0.0
PAINT 3 COLOR ENVOY	0.0	0.0
PAINT 3 COLOR STATESMAN	0.0	0.0
PAINT 3 COLOR VICEROY	0.0	0.0
PAINT 4 COLOR AMBASSADOR	0.0	0.0
PAINT 4 COLOR CUSTOM 4	0.0	0.0
PAINT 4 COLOR DIPLOMAT	0.0	0.0
PAINT 4 COLOR ENVOY	0.0	0.0
PAINT 4 COLOR STATESMAN	0.0	0.0
PAINT 4 COLOR VICEROY	0.0	0.0
PAINT 5 COLOR AMBASSADOR	0.0	0.0
PAINT 5 COLOR CUSTOM 5	0.0	0.0
PAINT 5 COLOR DIPLOMAT	0.0	0.0
PAINT 5 COLOR ENVOY	0.0	0.0
PAINT 5 COLOR STATESMAN	0.0	0.0
PAINT 5 COLOR VICEROY	0.0	0.0
Windows/Canopy	lb	kg
	0 1	10
MEEKER QUICK RELEASE ENGINE BAY DOORS	2.1	1.0
MEEKER QUICK RELEASE ENGINE BAY DOORS MEEKER QUICK RELEASE DOOR HINGES (4) MD 500	2.1 7.0	1.0 3.2
MEEKER QUICK RELEASE DOOR HINGES (4) MD 500	7.0	3.2
MEEKER QUICK RELEASE DOOR HINGES (4) MD 500 PARAVION LEFT FRONT DOOR OPENER	7.0 1.2	3.2 0.5
MEEKER QUICK RELEASE DOOR HINGES (4) MD 500 PARAVION LEFT FRONT DOOR OPENER PARAVION LEFT REAR DOOR OPENER	7.0 1.2 1.2	3.2 0.5 0.5
MEEKER QUICK RELEASE DOOR HINGES (4) MD 500 PARAVION LEFT FRONT DOOR OPENER PARAVION LEFT REAR DOOR OPENER PARAVION RIGHT FRONT DOOR OPENER PARAVION RIGHT REAR DOOR OPENER TECH TOOL LF COMFORT W/POP OUT VENTS	7.0 1.2 1.2 1.5 1.5 0.0	3.2 0.5 0.5 0.7 0.7 0.0
MEEKER QUICK RELEASE DOOR HINGES (4) MD 500 PARAVION LEFT FRONT DOOR OPENER PARAVION LEFT REAR DOOR OPENER PARAVION RIGHT FRONT DOOR OPENER PARAVION RIGHT REAR DOOR OPENER TECH TOOL LF COMFORT W/POP OUT VENTS TECH TOOL LF COMFORT W/SLIDE	7.0 1.2 1.2 1.5 1.5 0.0 0.0	3.2 0.5 0.7 0.7 0.0 0.0
MEEKER QUICK RELEASE DOOR HINGES (4) MD 500 PARAVION LEFT FRONT DOOR OPENER PARAVION LEFT REAR DOOR OPENER PARAVION RIGHT FRONT DOOR OPENER PARAVION RIGHT REAR DOOR OPENER TECH TOOL LF COMFORT W/POP OUT VENTS TECH TOOL LF COMFORT W/SLIDE TECH TOOL LR COMFORT W/POP OUT VENTS	7.0 1.2 1.5 1.5 0.0 0.0 0.0	3.2 0.5 0.7 0.7 0.0 0.0 0.0
MEEKER QUICK RELEASE DOOR HINGES (4) MD 500 PARAVION LEFT FRONT DOOR OPENER PARAVION LEFT REAR DOOR OPENER PARAVION RIGHT FRONT DOOR OPENER PARAVION RIGHT REAR DOOR OPENER TECH TOOL LF COMFORT W/POP OUT VENTS TECH TOOL LF COMFORT W/SLIDE TECH TOOL LR COMFORT W/POP OUT VENTS TECH TOOL LR COMFORT W/SLIDE	7.0 1.2 1.5 1.5 0.0 0.0 0.0 0.0	3.2 0.5 0.7 0.7 0.0 0.0 0.0 0.0 0.0
MEEKER QUICK RELEASE DOOR HINGES (4) MD 500 PARAVION LEFT FRONT DOOR OPENER PARAVION LEFT REAR DOOR OPENER PARAVION RIGHT FRONT DOOR OPENER PARAVION RIGHT REAR DOOR OPENER TECH TOOL LF COMFORT W/POP OUT VENTS TECH TOOL LF COMFORT W/SLIDE TECH TOOL LR COMFORT W/POP OUT VENTS TECH TOOL LR COMFORT W/SLIDE TECH TOOL LR COMFORT W/SLIDE	7.0 1.2 1.5 1.5 0.0 0.0 0.0 0.0 0.0	3.2 0.5 0.7 0.7 0.0 0.0 0.0 0.0 0.0
MEEKER QUICK RELEASE DOOR HINGES (4) MD 500 PARAVION LEFT FRONT DOOR OPENER PARAVION LEFT REAR DOOR OPENER PARAVION RIGHT FRONT DOOR OPENER PARAVION RIGHT REAR DOOR OPENER TECH TOOL LF COMFORT W/POP OUT VENTS TECH TOOL LF COMFORT W/SLIDE TECH TOOL LR COMFORT W/POP OUT VENTS TECH TOOL LR COMFORT W/SLIDE TECH TOOL RF COMFORT W/POP OUT VENTS TECH TOOL RF COMFORT W/SLIDE	7.0 1.2 1.5 1.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0	3.2 0.5 0.7 0.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0
MEEKER QUICK RELEASE DOOR HINGES (4) MD 500 PARAVION LEFT FRONT DOOR OPENER PARAVION LEFT REAR DOOR OPENER PARAVION RIGHT FRONT DOOR OPENER PARAVION RIGHT REAR DOOR OPENER TECH TOOL LF COMFORT W/POP OUT VENTS TECH TOOL LF COMFORT W/SLIDE TECH TOOL LR COMFORT W/POP OUT VENTS TECH TOOL LR COMFORT W/SLIDE TECH TOOL LR COMFORT W/SLIDE	7.0 1.2 1.5 1.5 0.0 0.0 0.0 0.0 0.0	3.2 0.5 0.7 0.7 0.0 0.0 0.0 0.0 0.0

