



# RED BOX AVIATION

Ground Power Equipment  
Tugs  
Tools and Tool Control

Providing Ground Support Equipment Since 1993



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Tugs Page 16 to 27

- Move up to 39000 Kg
- Gas and Electric powered
- Stand on or Walk Behind
- Various Lifting Systems

Start Units

Our fully comprehensive range of start units are designed to cover every possible start requirement.

The Red Box start units offer 12V, 24V, 26V and 28V starts using either gel lead acid or lithium batteries.

From light weight to high power. We cover all your starting needs.



RB75A 1700A

Unit	Max Amps	Starting Amps	Capacity	Voltage	Max Voltage	Size (cm)	Weight (kg)	Operating Temp.	Case	Voltage Indication	Auxiliary Protection	Aircraft Cable	Charger	Protection
PORTABLE START UNITS														
RB25A 12V	2600	2600	16 Amp Hrs @ 10 Hr rate	12V DC	13V DC	L 35 X W 9 X H 23	16	-40°C - +60°C	Stainless Steel	Digital to IP65	Circuit Breaker 20A	2m heavy duty, NATO connector	4 amp Electronic fixed input charger. Charge time, less than 2 hours from 50%	Reverse polarity warning
RB25A 24V	1300	800	32 Amp Hrs @ 10 Hr rate	24V DC	26V DC	L 35 X W 9 X H 23	16	-40°C - +60°C	Stainless Steel	Digital to IP65	Circuit Breaker 20A	2m heavy duty, NATO connector	2.5 Amp Electronic fixed AC input charger. Charging time less than 2 hours from 50%	Reverse polarity warning
RB50A 24V	2300	1500	27 Amp Hrs @ 10 Hr rate	24V DC	26V DC	L 35 X W 10 X H 38	23	-40°C - +60°C	Stainless Steel	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	8 A Electronic universal AC input. Charging time less than 2 hours from 50%	Reverse polarity warning
RB75A 24V	2600	1700	38 Amp Hrs @ 10 Hr rate	24V DC	26V DC	L 45 X W 10 X H 38	29	-40°C - +60°C	Stainless Steel	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	8 A Electronic universal AC input. Charging time less than 2 hours from 50%	Reverse polarity warning
RB50A TWIN 24V	4600	3000	54 Amp Hrs @ 10 Hr rate	24V DC	26V DC	2 X L 35 X W 10 X H 38	58	-40°C - +60°C	Stainless Steel	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	2 X 8 A Electronic universal AC input. Charging time less than 2 hours from 50%	Reverse polarity warning
RB75A TWIN 24V	5200	3500	76 Amp Hrs @ 10 Hr rate	24V DC	26V DC	2 X L 45 X W 10 X H 38	70	-40°C - +60°C	Stainless Steel	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	2 X 8 A Electronic universal AC input. Charging time less than 2 hours from 50%	Reverse polarity warning
RB80A 26V	2600	1700	38 Amp Hrs @ 10 Hr rate	26V DC	28V DC	L 45 x W 10 x H 38	31	-40°C - +50°C	Stainless Steel	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	8A Electronic universal AC input. Charging time less than 2 hours from 50%	Reverse polarity warning
RB60A 28V	2300	1500	27 Amp Hrs @ 10 Hr rate	28V DC	30V DC	L 45 X W X 10 X H 38	27	-40°C - +60°C	Stainless Steel	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	8 A Electronic universal AC input. Charging time less than 2 hours from 50%	Reverse polarity warning
RB60A TWIN 28V	4600	3000	54 Amp Hrs @ 10 Hr rate	28V DC	30V DC	2 X L 45 X W 10 X H 38	63	-40°C - +60°C	Stainless Steel	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	2 X 8 A Electronic universal AC input. Charging time less than 2 hours from 50%	Reverse polarity warning
RB85A 28V	2600	1700	38 Amp Hrs @ 10 Hr rate	28V DC	30V DC	L 50 X W 10 X H 38	33	-40°C - +60°C	Stainless Steel	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	8 A Electronic universal AC input. Charging time less than 3 hours from 50%	Reverse polarity warning
RB85A TWIN 28V	5200	3500	76 Amp Hrs @ 10 Hr rate	28V DC	30V DC	2 X L 50 X W 10 X H 38	75	-40°C - +60°C	Stainless Steel	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	2 X 8 A Electronic universal AC input. Charging time less than 3 hours from 50%	Reverse polarity warning
PORTABLE LITHIUM UNITS														
RBL2500	2500	800	16 Amp Hrs @ 10 Hr rate	28V DC	30V DC	L 35 X W 10 X H 38	7.2	-30°C - +60°C	Aluminium	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	4 A Electronic universal AC input	Reverse polarity warning
RBL4000	4000	1500	28 Amp Hrs @ 10 Hr rate	28V DC	30V DC	L 35 X W 10 X H 38	11.6	-30°C - +60°C	Aluminium	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	4 A Electronic universal AC input	Reverse polarity warning
RBL4000 TWIN	8000	3000	56 Amp Hrs @ 10 Hr rate	28V DC	30V DC	2 x L 35 X W 10 X H 38	23.2	-30°C - +60°C	Aluminium	Digital to IP65	Circuit Breaker 40A	2m heavy duty, NATO connector	2 x 4 A Electronic universal AC input	Reverse polarity warning

Unit	Max Amps	Starting Amps	Capacity	Voltage	Max Voltage	Size (cm)	Weight (kg)	Operating Temp.	Case	Voltage Indication	Auxiliary Protection	Aircraft Cable	Charger	Protection	Towbar	Handlebar and Castors
START CART UNIT																
TC400/6	7800	5000	114 Amp @ 10 Hr rate	24V DC	26V DC	L 78 X W 35 X H 30	135	-40°C - +60°C	Zinc Coated Steel	Digital to IP65	Circuit Breaker 40A	3m heavy duty, NATO connector	20A Electronic 110/230v. Charging time less than 2 hours from 50%	Reverse polarity warning	50mm ball (optional)	Optional
TC400/8	10400	7000	152 Amp @ 10 Hr rate	24V DC	26V DC	L 78 X W 35 X H 30	165	-40°C - +60°C	Zinc Coated Steel	Digital to IP65	Circuit Breaker 40A	3m heavy duty, NATO connector	20A Electronic 110/230v. Charging time less than 2 hours from 50%	Reverse polarity warning	50mm ball (optional)	Optional
TC400/28	5200	3500	115 Amp Hrs @ 10 Hr rate	28V DC	30.3V DC	L 78 X W 54 X H 30	140	-40°C - +60°C	Zinc Coated Steel	Digital to IP65	Circuit Breaker 40A	3m heavy duty, NATO connector	20A Electronic 110/230v. Charging time less than 2 hours from 50%	Reverse polarity warning	50mm ball (optional)	Optional

Unit	Max Amps	Starting Amps	Capacity 24/28V	Capacity 12/14V	Voltage	Max Voltage	Size (cm)	Weight (kg)	Operating Temp.	Case	Voltage Indication	Auxiliary Protection	Auxiliary Input	Aircraft Cable	Charger	Protection
DUAL-VOLTAGE START UNITS																
RB25A 12/24	1600/3200	800/1600	17 Amp Hrs @ 10 Hr rate	34 Amp Hrs @ 10 Hr rate	12/24V DC		13/26V DC	L 40 X W 23 X H 21	23	-40°C - +60°C	Stainless Steel	Digital IP65	Circuit Breaker 20A	29V DC	2m heavy duty	4 amp universal AC input. Charging time less than 4 hours from 50%
RB50A 12/24	2300/4600	1500/3000	27 Amp Hrs @ 10 Hr rate	54 Amp Hrs @ 10 Hr rate	12/24V DC		13/26V DC	L 40 X W 23 X H 28	32	-40°C - +60°C	Stainless Steel	Digital IP65	Circuit Breaker 40A	29V DC	2m heavy duty	4 amp universal AC input. Charging time less than 2 hours from 50%



# Continuous Power – Battery Units

Our continuous battery units are designed to offer continuous power to aircraft when mains power is not available, or if a silent power supply is required.



Unit	Max Amps	Starting Amps	Capacity	Run Time	Voltage	Max Voltage	Size (cm)	Weight (KG)	Operating Temp	Case	Voltage Indication	Auxiliary Protection	Aircraft Cable	Charger	Optional Extras
TC400/28C	5200	3500	115 Amp Hrs @ 10 Hr rate	95A for 1 hour, 50A for 2 hours, 30A for 3 hours	28V DV	30.3V DC	L 78 X W 35 X H 30	140	-40°C - +60°C	Zinc Coated Steel	Digital to IP64	Circuit Breaker 40A	3m heavy duty with connector	20A Electronic 110/230V. Charging time less than 4 hours from 50% (larger chargers available)	longer cables
TC400/28T	10400	7000	272 Amps Hrs @ 10 Hr rate	190A for 1 hour, 100A for 2 hours, 65A for 3 hours	28V DV	30.3V DC	L 200 X W 108 X H 150	400	-40°C - +60°C	Zinc Coated Steel	Digital to IP65	Circuit Breaker 40A	3m heavy duty with connector	20A Electronic 110/230V. Charging time less than 4 hours from 50% (larger chargers available)	Cable horns, longer cables
TC400/28TR	15600	10400	357 Amp Hrs @ 10 Hr rate	250A for 1 hour, 125 for 2 hours, 85A for 3 hours	28V DV	30.3V DC	L 200 X W 108 X H 150	500	-40°C - +60°C	Zinc Coated Steel	Digital to IP65	Circuit Breaker 40A	3m heavy duty with connector	40A Electronic 110/230V. Charging time less than 3 hours from 50% (larger chargers available)	Cable horns, longer cables
TC400/28QU	20800	14000	476 Amp hrs @ 10 Hr rate	340A for 1 hour, 170A for 2 hours, 120A for 3 hours	28V DV	30.3V DC	L 200 X W 108 X H 150	600	-40°C - +60°C	Zinc Coated Steel	Digital to IP65	Circuit Breaker 40A	3m heavy duty with connector	50A Electronic 110/230V. Charging time less than 4 hours from 50% (larger chargers available)	Cable horns, longer cables

# Continuous Power

Our continuous power supplies offer clean 14V and 28V DC power at up to 600 Amps. From hand portable to mobile carts we cater for all DC aircraft requirements.



RBSC100

Unit	Output Current	Output Voltage	Output Ripple	Input Frequency	AC Input Supply	Phase	Power Factor Correction	Input Rating	Dims Body (cm)	Weight (kg)	LED Voltmeter/ Ammeter Display
RBPS25	25 amps	14/28V DC	<150 mV	47-63 Hz	104V-264V	1Ø	Included	775 VA	L 13 x W 46 x H 22	5	YES
RBPS50	50 amps	14/28V DC	<150 mV	47-63 Hz	104V-264V	1Ø	Included	1550 VA	L 13 x W 46 x H 22	6.5	YES
RBSC100	100 amps	14/28V DC	<150mV	47-63 Hz	95V-264V	1Ø	Included	3000 VA	L 45 x W 20 x H 23	9	YES
RBSC150	150 amps	14/18 V DC	<250mV	45-65 Hz	95V-270V	1Ø or 3Ø	Included	5280 VA	L 94 X W 78 X H 45	46	YES
RBSC225	225 amps	14/18 V DC	<250mV	45-65 Hz	95V-270V	1Ø or 3Ø	Included	7920 VA	L 94 X W 78 X H 45	56	YES
RBSC300	300 amps	28V DC	<250mV	45-65 Hz	200V-460V	3Ø	Included	10500 VA	L 91 X W 80 X H 61	70	YES
RBSC450	450 amps	28 VDC	<250mV	45-65 Hz	200V-460V	3Ø	Included	16200 VA	L 91 X W 80 X H 77	80	YES
RBSC600	600 amps	28VDC	<250mV	45-65 Hz	200V-460V	3Ø	Included	21600 VA	L 91 X W 80 X H 77	90	YES



RBSC100 on a TBM910



# Combination Start and Continuous

Combing the quality and function of both our start and continuous units into one easy to manoeuvre cart.



TC3000/150-6



TC3000/300-6

Unit	Max Amps	Starting Amps	Capacity	Starting Voltage	Max Start Voltage	Continuous Voltage	Continuous Power	AC Input	Size (cm)	Weight (kg)	Operating Temperature	Case	Voltage Indication	Performance Monitoring	Aircraft Cable	Charger	Handle Bar and Castors or Towbar
TC3000/50-4	5200	3500	76 Amp hrs @ 10 Hr rate	24V DC	26V DC	28.5V DC	50 amps	95v-270v 1Ø	L 94 X W 78 X H 45	111	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	50A Electronic inbuilt. Charging time less than 60min from 50%	Optional
TC3000/50-6	7800	5200	114 amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	50 amps	95v-270v 1Ø	L 94 X W 78 X H 45	135	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	50A Electronic inbuilt. Charging time less than 60min from 50%	Optional
TC3000/100-4	5200	3500	76 Amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	100 amps	95v-270v 1Ø	L 94 X W 78 X H 45	115	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	100A Electronic inbuilt. Charging time less than 60min from 50%	Optional
TC3000/100-6	7800	5200	114 amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	100 amps	95v-270v 1Ø	L 94 X W 78 X H 45	139	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	100A Electronic inbuilt. Charging time less than 30min from 50%	Optional
TC3000/150-4	5200	3500	76 Amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	150 amps	95v-270v 1Ø or 3Ø	L 94 X W 78 X H 45	120	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	150A Electronic inbuilt. Charging time less than 30min from 50%	Optional
TC3000/150-6	7800	5200	114 amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	150 amps	95v-270v 1Ø or 3Ø	L 94 X W 78 X H 45	150	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	150A Electronic inbuilt. Charging time less than 30min from 50%	Optional
TC3000/225-4	5200	3500	76 Amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	225 amps	95v-270v 1Ø or 3Ø	L 94 X W 78 X H 45	125	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	225A Electronic inbuilt. Charging time less than 30min from 50%	Optional
TC3000/225-6	7800	5200	114 amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	225 amps	95v-270v 1Ø or 3Ø	L 91 X W 80 X H 77	160	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	225A Electronic inbuilt. Charging time less than 30min from 50%	Optional
TC3000/300-4	5200	3500	76 Amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	300 amps	200V-460V	L 91 X W 80 X H 77	135	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	300A Electronic inbuilt. Charging time less than 30min from 50%	Handle Bar and Castors
TC3000/300-6	7800	5200	114 amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	300 amps	200V-460V	L 91 X W 80 X H 77	160	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	300A Electronic inbuilt. Charging time less than 1 hour from 50%	Handle Bar and Castors
TC3000/300-8	10400	7000	152 amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	300 amps	200V-460V	L 91 X W 80 X H 77	185	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	300A Electronic inbuilt. Charging time less than 1 hour from 50%	Handle Bar and Castors
TC3000/450-6	7800	5200	114 amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	450 amps	200V-460V	L 91 X W 80 X H 107	210	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	450A Electronic inbuilt. Charging time less than 30min from 50%	Handle Bar and Castors
TC3000/450-8	10400	7000	152 amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	450 amps	200V-460V	L 91 X W 80 X H 107	235	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	450A Electronic inbuilt. Charging time less than 30min from 50%	Handle Bar and Castors
TC3000/600-6	7800	5200	114 amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	600 amps	200V-460V	L 91 X W 80 X H 107	235	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	600A Electronic inbuilt. Charging time less than 30min from 50%	Handle Bar and Castors
TC3000/600-8	10400	7000	152 amp hrs @ 10 Hr rate	24V DC	26V DC	28 V DC	600 amps	200V-460V	L 91 X W 80 X H 107	235	-40°C+60°C	Zinc Coated Steel	LED display	LED display	3 m heavy duty	600A Electronic inbuilt. Charging time less than 30min from 50%	Handle Bar and Castors

# Hybrid Units

Providing up to 170A @ 28V DC of continuous and up to 5200A for starting. These compact units are ideal for remote locations.



HybRED170/6

Visit [www.redboxaviation.com](http://www.redboxaviation.com) or call us on +44 (0) 2380 254285 for more information about our hybrid units



Unit	Continuous Power From Engine	Continuous Voltage	Starting Voltage	Max Start Voltage	Voltage Indication	Max Amps	Starting Amps	Capacity	Engine Size/Fuel	Engine Starting	Engine Fuel Tank	Engine Exhaust	Engine Battery	Engine Protection	Cooling	Operation	Operating Temperature	Dimensions (cm)	Weight (kg)	Accessories
HybRED 170/4	170 amp	28V Dc	24V DC	26V DC	Digital IP65	5200	3500	76 amp hrs @ 10 Hr rate	392CC -Unleaded petrol engine developing 13 HP. EPA compliant integrated fuel filtering	Electric - Hand pull back-up	7.9 Litre	Super Low tone system spark arrestor in exhaust	Separate isolated 12 volt	Low oil auto shutdown	Fan cooled	All weather	- 30 to 40 C	L 95 X W 55 X H 64 -Main body	150	Handle and casters, towbar and longer cable available
HybRED 170/6	170 amp	28V Dc	24V DC	26V DC	Digital IP65	7800	5200	114 amp hrs rate@ 10 Hr rate	392CC -Unleaded petrol engine developing 13 HP. EPA compliant integrated fuel filtering	Electric - Hand pull back-up	7.9 Litre	Super Low tone system spark arrestor in exhaust	Separate isolated 12 volt	Low oil auto shutdown	Fan cooled	All weather	- 30 to 40 C	L 95 X W 55 X H 64 -Main body	175	Handle and casters, towbar and longer cable available





RBC5600

# Fixed, Mobile and Semi-Mobile Frequency Converters

Red Box Frequency Converters have been developed and manufactured for more than a decade now.

These units deliver an output of 200V 3 phase 400Hz and 28V DC to the aircraft through a SINGLE or DUAL OUTPUT contactor and can be connected to a standard 380V to 415V 3 phase 50Hz mains or other. These units can support AC and DC power output simultaneously as long as the total load power does not exceed power of the unit. The units use high frequency IGBT technology to guarantee a sinewave input with low THDI (1.5%) and unit power factor (PF=1). perfect for civil airport and military applications, we guarantee a minimum impact on the mains power sources upstream. This unit is highly reliable, efficient and easy to operate. The units come with 28V DC options, 300A continuous and 1200A peak Or 600A continuous an 2400A peak.

Units available: 30KVA, 45KVA, 60KVA, 90KVA with the option of 28V DC 300A or 600A continuous and 1200A or 2400A start.

- Highly Efficient and Fully Compliant GPU
- CE Mark Certified (IEC 61000-6-4:2006+AMD2010 - Electromagnetic
- Compatibility (EMC). Part 6-2: Generic standards - immunity for industrial environments; Low Voltage Directive (LVD) 2014/35/EU
- State of the art semiconductor technology (IGBT) guarantee Unity Power Factor and Low Input Harmonics (THDi <65dBA@1m)
- Voltage compensation (Load Dependent or via Remote Feedback)
- No break power transfer compatibility (NBPT)
- User friendly control panel Data logging IP54 enclosures for outdoor use in extreme environmental conditions
- Green standby function (20W power consumption when GSF is activated) Low noise emission (<65dBA@1m)

## Transformer Rectifier Unit

When mains are available for both start and continuous power then this is the perfect unit.

Providing 600A @ 28V DC of continuous power and up to 2000A for starting.



## RBC5600

INPUT:	
Voltage	380 TO 460VAC, 3-Phase with or without neutral
Frequency	50Hz or 60Hz, +/- 6%
Current Harmonics	EN61000-3-12 EMC – Harmonic Limits
Power Factor	0.93
Inrush	Limited to 50 Amp
Connections	63 Amp, 10 metre, 5 core cable with BS4343 plug or H/W
OUTPUT:	
Voltage	28.5V DC
Voltage Regulation	Steady-state: +/-5%, dynamic 0-100% step load: +/-15% recovering to steady-state within 50mS
Peak Amps	600 Amps continuous and 2000 Amps peak

PROTECTION:	
Input Protection	63 Amp circuit breaker with current limiting
Thermal Overload	Thermal sensors located in main rectifier, transformer and power module.
SYSTEM:	
Ambient Temperature Range	-20 to 50 deg C
Humidity	Less than 90% non condensing
Altitude	All specifications quoted at < 2000m above sea level
Acoustic Noise	Typically 65dB
Efficiency	85% to 95%
EMC	EN61000-3-12 EMC – Harmonic Limits EN61000-6-2 EMC – Immunity for Industrial Environments EN61000-6-4 EMC – Emission Standards for Industrial Environments
Casing	Zinc plated steel, powder coated RAL No. BS3020. Size 103cm High x 71cm Wide x 110cm Deep without castors
Case Rating	IP54 EN60529 – IP Ratings for Enclosures
Meters	Digital readout for output Amps and Volts
Panel	Status lights for input and output conditions, and alarms
VARIANTS	
Castor Version	Size 118cm High x 71cm Wide x 110cm Deep
Tow Bar	1200mm long with 50mm eye (with trailer version only)
Stationary Version	Size 118cm High x 71cm Wide x 110cm Deep





## Power Quality – Input

- State of the art semiconductor technology (IGBT) Rectifier
- Power Factor Correction (PF=1)
- 95% efficiency
- 4 quadrant operation (better response of the system and safer operation for NBPT)
- Low input harmonics (<1.5% THDi), to comply with the strictest regulations at any load

## Output

- Voltage Compensation (Load dependent or via remote).Feedback - Real plug and play connect GPU to aircraft and voltage compensation is done automatically, no user adjustment required or additional accessories)
- 4 Quadrant Operation (better response of the system and safer operation for NBPT)
- Vector control inverter for better response and higher efficiency

## Efficiency

- Up to 94% -30KVA to 90KVA at load PF= 0.8 to 1.0
- 90% < 30kVA at load PF= 0.8 to 1.0
- Green standby function - losses: 20W
- No load losses <1.5kW

## Protection and Safety

- Enclosure Protection class up to IP55
- No break power transfer compatibility (NBPT)
- Over/under voltage at output
- Overload capability designed for:
  - Power stage 150% - Continuous
  - Magnetics 120% - Continuous
  - Regulator overload protections set at: - 120% for 600 seconds - 150% for 60 seconds - 200% for 2 seconds
- Variable fan speed for internal temperature control
- Over temperature protection
- Short circuit proof by electric current limiting and shutdown
- 90% switch interlock
- Neutral voltage supervision
- Broken neutral supervision
- Leakage current supervision

## Protection & Safety (DC)

- Over/under voltage <20V (4 sec)
- Over/under voltage >34 (4 sec)
- Short circuit <5V (4 sec)
- Overload Capability designed for: Power Stage 150% - Continuous
- Magnetics 120% - Continuous
- Overload protections set at - 125% for 600 seconds
- 150% for 60 seconds
- 400% for 5 seconds
- Over temperature protection

Fixed Combination Frequency Converter and 28V DC Unit



Mobile Frequency Converter



Visit [www.redboxaviation.com](http://www.redboxaviation.com) or call us on +44 (0) 2380 254285 for more information about Fixed, Mobile and Semi-Mobile Frequency Converters

# Shadow Foam for your existing tools

If you have all of the tools you need but they are never quite tidy enough, we have the perfect solution for you... Shadow Foam.

Red Box offer a complete Shadow Foam service. We take your tools, scan them, we then lay them out in specially designed, 2 colour, routed foam. We can offer solutions for your mobile tool kit, garage, business, or anywhere where tool storage and control is of importance.

It's easy to do and you can do one of three things.

1. Bring the tools to us
2. We will come to you
3. We send you a pack to draw around your tools

The end result of all the options is a perfect shadow foamed tool kit.



Shadow foam is the perfect approach to tool organisation.

Shadow Foam is durable and designed to withstand daily use. It can be shaped to fit your tools, to allow safety and to keep your tools organised. The two toned foam used to produce Shadow Foam allows you to spot instantly when a tool is missing, making it easy to check at the end of the day that you have all of your tools together in one place.



# Design your own Tool Kit

Designing your own kit could not be easier...

1. Choose the case or cabinet you would like.

2. Choose the individual tools from our wide selection of BAHCO tools.

3. Send to us to receive a quote and design.

We will come back to you quickly with a price. We will also let you know about any extra options that are available to you, should you want them.

Once agreed, we will go ahead and create the design for your customised tool kit.

Designing your own kit allows you to have the perfect tool kit to suit your needs. We have a range of different cases including:

- HD Rigid Cases
- HD Rigid Cases With Draws
- Metallic Boxes
- Trolleys
- Canvas Cases



You can view the range of cases and tools on our website [www.redboxaviation.com](http://www.redboxaviation.com) where you can place an order online.

## Individual Tools

We have a huge range of individual tools available to purchase on our website:

[www.redboxaviation.com](http://www.redboxaviation.com)

Here you will be able to find tools ranging from wrenches, screwdrivers and pliers to drills, torque tools and protective equipment and much more.

All of our tools are high quality BAHCO tools that come with a lifetime guarantee.

To receive a quote you can:

- Go to our website and browse our tool categories.
- Click "Add to basket".
- Go to checkout and complete your order.

## Laser Etching

We offer a full laser etching service for your tools.

We can engrave numbers, characters and pictures onto your tools. This service can be done at our facility or one of our Etching Engineers can come to you.





# Predesigned Tool Kits

Using high quality, 2 color, skydrol resistant foam in various tool chests, cases and cabinets we produce industry standard tool kits.

Our kits have been designed by the engineers that use them. From avionics kits to aircraft specific kits, our tool control kits are used by leading airlines, MRO's and military organisations across the world.



## Avionics Tool Kits

Model Number	Description	Number of Tools	Measurement
RBI8400	Mechanic Hand Carry Tool Kit with Tools	134	Imperial / Metric
RBI9300	Avionics Measurement Supply Kit	-	
RBI9600T	Avionics Toolkit	213	Imperial
RBI9650T	Avionics Toolkit	218	Imperial



## Hand Carry Tool Kits

Model Number	Description	Number of Tools	Measurement
RBI8400	Mechanic Hand Carry Tool Kit with Tools	134	Imperial / Metric

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## General Aviation Tool Kits

Model Number	Description	Number of Tools	Measurement
Flight Aid GM	Tool Kit in Nylon Bag with Tools	45	Metric
Flight Aid IMP	Tool Kit in Nylon Bag with Tools	47	Imperial



## Metal Step Cases

Model Number	Description	Number of Tools	Measurement
RBI4100T	Ground Support Equipment Kit	116	Imperial / Metric
RBI8500TM	Airbus A320 Tool Kit	114	Imperial
RBI9000TM	Mechanic Metal Step Case with Tools	129	Imperial
RBI9100TM	Mechanic Metal Step Case with Tools	148	Imperial
RBI9150TM	4 Drawer Metal Step Case	148	Metric
RBI9700TM	Mechanic Metal Step Case with Tools	149	Imperial
RBI9900TM	Mechanic Metal Step Case with Tools	193	Metric



## Trolley Cases

Model Number	Description	Number of Tools	Measurement
RBI4000T	Travelling Mechanic Tool Kit	147	Imperial / Metric
RBI8000ST	Helibox Trolley Case with Tools and spare foam	236	Imperial / Metric
RBI8000T	Helibox Trolley Case with Tools	236	Imperial / Metric
RBI8100ST	Boeing Kit	200	Imperial
RBI8100T	Boeing Kit	200	Imperial
RBI8200T	UAV Kit	171	Imperial / Metric
RBI250T	UAV Kit	229	Imperial / Metric
RBI8300T	Airbus Kit	107	Imperial
RBI8400	Mechanic Hand Carry Tool Kit with Tools	134	Imperial / Metric
RBI9400T	Mechanic Hand Trolley Case with Tools	159	Imperial
RBI9600T	Avionics Toolkit	213	Imperial
RBI9650T	Avionics Toolkit	218	Imperial



## Cases with Spare Foam

Model Number	Description	Number of Tools	Measurement
RBA3ST	Mechanic Hand Trolley Case	149	Metric
RBI8000ST	Helibox Trolley Case with Tools and spare foam	236	Imperial / Metric
RBI8100ST	Boeing Kit	200	Imperial
RBI9400ST	Mechanic Hand Trolley Case	161	Imperial
RBI9500ST	Mechanic trolley case with spare foam layer	160	Imperial
RBI9600ST	Avionics kit with spare foam	213	Imperial
RBI9650ST	Avionics toolkit with spare foam	218	Imperial



## Workshop Cabinets

Model Number	Description	Number of Tools	Measurement
RBA6	Mechanic Cabinet with Tools	287	Metric
RBI9200C	Airbus Kit	243	Imperial
RBI9210C	Airframe and Powerplant Kit	119	Imperial
RBI9220C	Electrical Aviation Kit	130	Imperial / Metric
RBI9230C	Aircraft General Servicing	374	Imperial / Metric
RBI9260C	Cessna 172 Central Kit	130	Imperial / Metric
RBI9270C	Large Workshop Cabinet with Tools	284	Imperial / Metric
RBI9280C	Light Aircraft Ground Maintenance	201	Imperial / Metric



## Draw Cases

Model Number	Description	Number of Tools	Measurement
RBA3TDR	Mechanic Hand Trolley Case	149	Metric
RBI4000T	Travelling Mechanic Kit	147	Imperial / Metric
RBI8000TDR	Helibox	236	Imperial / Metric
RBI8100TDR	Boeing Tool Kit	199	Imperial
RBI9400TDR	Mechanic hand trolley case	161	Imperial
RBI9500TDR	Mechanic Hand Carry Tool Kit	160	Imperial
RBI9600TDR	Avionics kit	213	Imperial
RBI9650TDR	Avionics Trolley Case	92	Imperial



# Tugs

Priceless Tugs have been in production and continued development since 1997.

We guarantee our pulling weights.



Tug	Size	Engine	Fuel	MGTOw* (kg / lbs)	Electric Start	Cirrus Attachment	Use	Towing Mechanism	Drive
701E	400 w	Electric	Electric	2,050 / 4,500	Key	Alternate	Aeroplane	Various	Variable Speed
701EL	400 w	Electric	Electric	2,050 / 4,500	Key	Alternate	Aeroplane	Various	Variable Speed
709	340 cc	Honda	Gas	4,300 / 9,500	Button	-	Aeroplane	Lazy Susan	4 Speed Transmission 1 Reverse
717	340 cc	Honda	Gas	7,050 / 15,500	Key	Option	Aeroplane	Clamp & Lift	Hydrostatic Transmission
727	340 cc	Honda	Gas	7,050 / 15,500	Key	Option	Aeroplane	Pan	Hydrostatic Transmission
737C	340 cc	Honda	Gas	7,050 / 15,500	Key	Option	Aeroplane	Clamp & Lift	Hydrostatic Transmission
737P	340 cc	Honda	Gas	7,050 / 15,500	Key	Option	Aeroplane	Pan	Hydrostatic Transmission
747C	23 hp	Vanguard	Gas	15,900 / 35,000	Key	Option	Aeroplane	Pan	Hydraulic Wheel Motor
757	725 cc	Honda	Gas	11,400 / 25,000	Key	Option	Aeroplane	Pan	Hydrostatic Transmission
757CFBO-NJ	35 hp	Vanguard	Gas	22,700 / 50,000	Key	Option	Aeroplane	Pan	Hydraulic Wheel Motor

## Priceless Aircraft Tugs...

For Private Aircraft, Corporate Aircraft, Maintenance Shops & FBO facilities

The latest technology for the movement of aircraft. Priceless Aviation Products make it easy for one person to maneuver aircraft quickly and safely in tightly stacked hangars or staging on the ramp. Our tugs range from a small electric unit that can tow up to 4,500 lbs to the 850FBO that will tow up to 85,000 lbs. MGTOw. The list above is a quick reference to the models and their basic specifications. All units have mechanical and electrical tug component warranties.

## LazySusan...

For Maneuverability and Ease of Handling

LazySusan® is our original towing mechanism and is the perfect way to move aircraft without damage to nose gear. The LazySusan® turntable gives our tug maneuverability and ease of handling. Turn an aircraft in its own wingspan or maneuver an aircraft in a tightly packed hangar or ramp area with ease and without over extending the nose gear. LazySusan® is available on model 707 and as options on models 727, 737P, 747C, 757, 757CFBO-NJ, 850FBO.



# Mover Types



## Ball Hitch

Designed for moving various trailers for utility purposes. Available on the model 701E, 701EL and 701D.



## Axle Attachment

For aircraft with or without wheel pants

The Axle Attachment is used on the the model 701 tug. It's use is for lightweight aircraft and is steered moving handles left to right and pivoting on the drive wheel while connected to the aircraft and shifting positions. Optional adapters available for many aircraft.



## LazySusan®

LazySusan® is our original towing mechanism and is the perfect way to move aircraft without damage to nose gear. The LazySusan® turntable gives our tug maneuverability and ease of handling. Reverse an aircraft in its own wingspan or maneuver an aircraft in a tightly packed hangar or ramp area with ease and without over extending the nose gear. LazySusan® is available on models 709, 709H and as an option on models 737P, 747C, 757, 757CFBO-NJ and 850FBO.



## Pan Style Lift

The Pan Style Lift is used for aircraft with wheel chins, with or without wheel pans or dual nose wheels and is available on models: 727, 737P, 747C, 757, 757CFBO-NJ and 850FBO. The LazySusan can be added as an option to the Pan Style Lift.



## Clamp & Lift™

The Clamp & Lift is used for single wheel aircraft with no wheel chins. It can be used with or without wheels pans and is available on models: 717 and 737C.



## Cirrus Attachment

The optional Cirrus Attachment is designed specifically for moving the Cirrus aircraft and can be attached to models: 717, 727, 737P, 747C, 757, 757CFBO-NJ and 850FBO.

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# 701E & 701EL

## Lightweight Aircraft

### Electric Power

#### Move aircraft up to 2,050kg / 4,500 lbs.\*MGTOW

Easily move small aircraft quickly and safely in tight areas. Turn without lifting tug. Optional ball hitch attachment for movement of small trailers & campers. The model 701EL is equipped with an extra-heavy-duty battery for longer life.

### Standard Features:

- 400W effective power
- 24V DC Electric motor
- 701E battery life approx. 1 hr (fully charged)  
2 - 12V sealed lead acid batteries
- 701EL battery life approx. 1 1/2 hour (fully charged)  
2 - 12V sealed dry-cell batteries
- Easily control steering with articulating swivel attachment
- Rocker switch for forward/reverse
- Adjustable speed
- Virtually silent when moving
- Environmentally friendly - no exhaust
- Universal adaptor for quick tool-free attachment to a wide range of aircraft
- Swivel attachment

### Options

Ball hitch attachment for easy movement of campers, boats & trailers.

Snow chains

Headlight





## 709

**Private Aircraft  
Corporate Aircraft  
Maintenance shops**

Move aircraft up to 4,300kg / 9,500 lbs.\*MGTOw, including single & dual wheel aircraft with chines. For aircraft without wheel pants.

Designed and built to save time and money for FBOs, Maintenance Shops, Corporate Aviation or anyone needing to move aircraft. The 709 LazySusan Tug makes it easy for one person to maneuver aircraft quickly and safely in tightly stacked hangars or staging on the ramp.

### Standard Features:

- 340cc Honda OHV Engine - EPA approved
- Gasoline (87-100LL)
- Electric start
- Electric winch
- Heavy-duty transmission
- Heavy-duty frame
- LazySusan turntable
- Quick-Lock strap to secure nose wheel
- High-traction pneumatic drive tires
- Battery tender
- Headlight



Single or dual nose wheel

### Options

- Snow chains
- Red Box Jump-Start



340cc Honda Engine

## 717

**Private Aircraft  
Corporate Aircraft  
Maintenance shops**

Move aircraft up to 7,050kg / 15,500 lbs.\*MGTOw

Designed and built to save time and money for FBOs, Maintenance Shops, Corporate Aviation or anyone needing to move aircraft.

The 717 Clamp&Lift™ Tug makes it easy for one person to maneuver aircraft quickly and safely in tightly stacked hangars or staging on the ramp.

### Standard Features:

- 340cc Honda OHV Engine - EPA approved
- Gasoline (87-100LL)
- Electric key start
- Heavy-Duty hydrostatic transmission
- Electro-Hydraulic nose wheel Clamp&Lift™ system
- Quick-Lock strap to secure nosewheel
- High-traction pneumatic drive tires
- Diamond deck riding platform
- Battery tender

### Options

- Forward/reverse alarm
- Cirrus attachment
- 2nd Headlight
- Amber strobe light
- Fire extinguisher
- Pintle hitch (helicopter dolly mover)
- Red Box Jump-Start



CLAMP&LIFT™



340cc Honda Engine



Optional Cirrus Attachment





727

**Private Aircraft**  
**Corporate Aircraft**  
**Maintenance shops**



Lazy Susan® Optional



MGTOw” to “Move aircraft up to 7,050kg / 15,500 lbs.\*MGTOw, including aircraft with chines.

Designed and built to save time and money for FBOs, Maintenance Shops, Corporate Aviation or anyone needing to move aircraft. The 727 Tug makes it easy for one person to maneuver aircraft quickly and safely in tightly stacked hangars or staging on the ramp.

#### Standard Features:

- 340cc Honda OHV Engine - EPA approved
- Gasoline (87-100LL)
- Electric key start
- Heavy-Duty hydrostatic transmission
- Electro-hydraulic nose wheel pan
- Electric winch with 5,000 lb capacity & quick-lock strap to secure nosewheel
- High-traction pneumatic drive tires
- Diamond deck riding platform
- Battery tender



Pan Style Lift



340cc Honda Engine

#### Options

- Forward/reverse alarm
- Amber strobe light
- Fire extinguisher
- Cirrus attachment
- Pintle hitch (helicopter dolly mover)
- 2nd headlight
- Red Box Jump-Start
- LazySusan (single nose wheel)

737

#### EXTENDED MODEL

- Pilatus PC12
- Socata TBM



MGTOw” to “Move aircraft up to 7,050kg / 15,500 lbs.\*MGTOw

Designed and built to save time and money for FBOs, Maintenance Shops, Corporate Aviation or anyone needing to move aircraft.

The 737 Clamp&Lift™ Tug makes it easy for one person to maneuver aircraft quickly and safely in tightly stacked hangars or staging on the ramp.

#### Standard Features:

- Designed specifically for the Pilatus PC12 / Socata TBM
- 340cc Honda OHV Engine - EPA approved
- Gasoline (87-100LL)
- Electric key start
- Heavy-Duty hydrostatic transmission
- Electro-Hydraulic nose wheel Clamp&Lift™ system
- Quick-Lock strap to secure nosewheel
- High-traction pneumatic drive & steer tires
- Diamond deck riding platform
- Battery tender



737C - Clamp & Lift



737P - Pan Style

#### Options

- Forward/reverse alarm
- Amber strobe light
- Fire extinguisher
- Pintle hitch (helicopter dolly mover)
- Cirrus attachment
- 2nd headlight
- Red Box Jump-Start
- LazySusan for single nosewheel on model 737P only.



## 747C

**Private Aircraft**  
**Corporate Aircraft**  
**Maintenance shops**

Hydraulic Wheel Motor Drive High Speed  
(8 mph). Will move aircraft weighing up to  
15,900kg / 35,000 lbs.\*MGTO

### Standard Features:

- Power Steering
- Hydraulic nose wheel pan
- Electric winch & quick-Lock strap
- High-traction pneumatic drive tires
- Heavy-duty alternator keeps battery charged
- No-Skid riding platform surface
- Electric key start
- 23HP Vanguard Engine, EPA approved
- Gasoline (87-100LL)
- Parking brake: 2-wheel, disk brakes

### Options

- Forward/reverse alarm
- Amber strobe light
- Pintle hitch
- 2nd Headlight
- Fire extinguisher
- Cirrus attachment
- Red Box Jump-Start
- LazySusan for single or dual nose wheels



LazySusan® Optional



Controls



23 HP Vanguard Engine



## 757

**Corporate Aircraft**

Will move aircraft weighing up to  
11,400kg / 25,000 lbs.\*MGTO

Gas powered aircraft mover designed to move corporate jets, helicopters and transports for thousands of dollars less than the nearest competitor! The 757 Tug makes it easy for one person to maneuver aircraft quickly and safely in tightly stacked hangars or staging on the ramp.

### Standard Features:

- 725cc Honda Engine - EPA approved
- Gasoline (87-100LL)
- Electric key start
- Heavy-Duty hydrostatic transmission
- Electro-Hydraulic nose wheel pan
- Electric winch & quick-lock strap to secure nose wheel
- Super-duty solid traction-type tires
- Diamond deck riding platform
- Battery tender



LazySusan® Optional



### Options

- 2nd Headlight
- Amber strobe light
- Fire extinguisher
- Cirrus attachment
- Dual drive wheels
- Forward/reverse alarm
- Red Box Jump-Start
- Pintle hitch (helicopter dolly mover)
- LazySusan (single or dual nose wheel)





# 757CFBO-NJ

## Corporate Aircraft

Hydraulic Wheel Motor Drive  
High speed (8 mph). Will move aircraft weighing up to 22,700kg / 50,000 lbs.\*MGTOW

### Standard Features:

- Hydraulic nose wheel pan
- Electric winch & quick-Lock strap
- Limit switch for winch
- Super-duty solid traction tires
- Heavy-duty alternator keeps battery charged
- No-Skid riding platform surface
- Electric key start
- 35HP Vanguard Engine, EPA approved
- Gasoline (87-100LL)
- Parking brake: 2-wheel, disk brakes
- Power Steering



Electric Winch



35 HP Vanguard Engine



Pan Style Lift



Optional

Pintle hitch optional

### Options

- Pintle hitch
- 2nd Headlight
- Fire extinguisher
- Dual drive wheels
- Cirrus attachment
- Amber strobe light
- Forward/reverse alarm
- Red Box Jump-Start
- LazySusan (single or dual nose wheel)

Visit [www.redboxaviation.com](http://www.redboxaviation.com) or call us on +44 (0) 2380 254285 for more information about our commercial aircraft tugs.







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AVIATION

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