

TRUE BLUE POWER® 
A division of Mid-Continent Instrument Co., Inc.

STC
APPROVED

R44

Robinson R44 Raven II Helicopter
Certified Lithium-ion Aircraft Battery Upgrade

Robinson R44 Raven II



Less Weight. Less Maintenance. **More Power.**



TB17 Certified Lithium-ion Aircraft Battery

The TB17 Certified Lithium-ion Aircraft Battery features the most sophisticated lithium-ion chemistry available, providing R44 operators with an unmatched advantage of increased power, reduced weight, extended useful life, 2-year maintenance intervals, lower direct operating cost and higher profit potential.

The intelligent battery system's Nanophosphate[®] lithium-ion cells provide 3x the energy per kilogram and are rated up to 10,000 cycles, per cell. This results in a battery that is 13.9 pounds (47%) lighter than lead-acid alternatives.

Safety is addressed on multiple levels, including cell chemistry, cell design, containment and the integration of electronic protections. The TB17 is a 'smart pack' engineered to protect against overcharge, over-discharge, over-current, short circuit, over-temperature and under-temperature conditions.

Ideal for high utilization and rugged environments, the TB17 starts the aircraft's engine quickly and offers superior hot and cold weather performance, supplemented by the battery's internal heaters.

A Supplemental Type Certificate (STC) approves installation of the TB17 on all 28-volt Robinson R44 serial numbers.

Product Comparison

	Battery Technology	Voltage Output	Capacity (1C rate)	Weight	Maintenance	Useful Life
TB17	Lithium-ion	26.4 VDC	17 amp-hour	15.6 pounds	2 years	8 years (average)
RG24-15	Lead-acid	24 VDC	13.6 amp-hour	29.5 pounds	Annual	2 – 4 years

R44 Certified Lithium-ion Aircraft Battery Upgrade

Operational Value

- + Reduces empty weight and increases useful load
13.9 pounds less when compared to lead-acid
- + Significantly reduced maintenance
Capacity check every two years
- + Superior high temperature and cold weather performance
-40°C to +70°C (-40°F to +158°F)
- + Total value of all cost savings, including maintenance, future replacement and installation cost, fuel, and aircraft appreciation
Potential to exceed \$6,500 over 10 years when compared to lead-acid batteries
- + Environmentally friendly
No heavy metals and easy disposal
Reduced carbon emissions



The MD41-1817 ACU combines the necessary battery annunciations and heater control required for proper pilot interface to the battery system



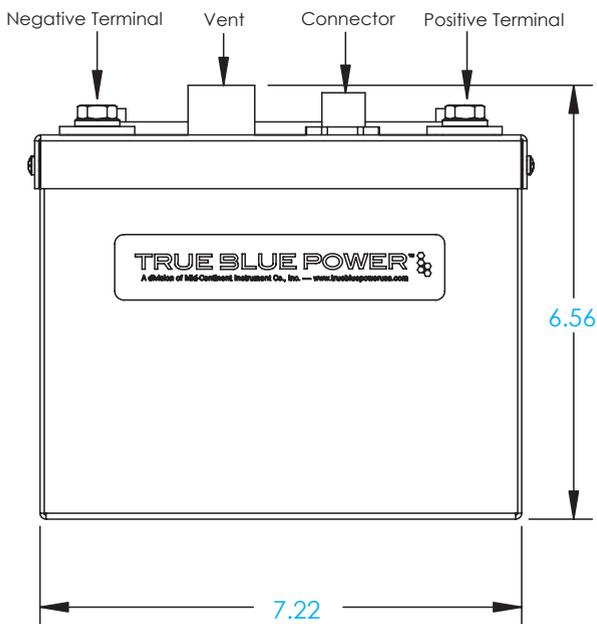
Installation of TB17 Certified Lithium-ion Battery in Robinson R44

Benefits

- + Significant weight savings
- + 8 year (average) useful life
- + Reduced direct operating costs
less fuel consumption
less maintenance
- + Reduced turn times
- + Increased dispatch reliability
- + Increased engine & component life
- + Increased asset value
- + Faster engine starts
- + Increased useful load
more cargo
more passengers
more fuel
- + Increased customer satisfaction
- + Rapid recharge
- + Built-in, automatic heater for quicker dispatch in cold weather
- + Intelligent communication to the cockpit
- + Superior hot and cold weather performance

True Blue Power® lithium-ion batteries are a significant upgrade from heavy, maintenance-intensive lead-acid batteries. This simple modification has clear financial benefits that quickly translate to the bottom line.

TB17 Technical Specifications



CAPACITY

17 amp-hour

CHARGE VOLTAGE

28 VDC nominal

OUTPUT VOLTAGE

26.4 VDC nominal

OPERATING TEMPERATURE

-40°C to 70°C (-40°F to 158°F)

WEIGHT

15.6 pounds

MAINTENANCE

Capacity check every two years

TECHNOLOGY

Nanophosphate® lithium-ion cell chemistry from A123 Systems, LLC

PROTECTION

Overcharge, over-discharge, over-current, short circuit, over- and under-temperature and charge current limiting

MONITORING

Resistive temperature devices (RTDs) and discretes

CASE

Anodized aluminum, blue

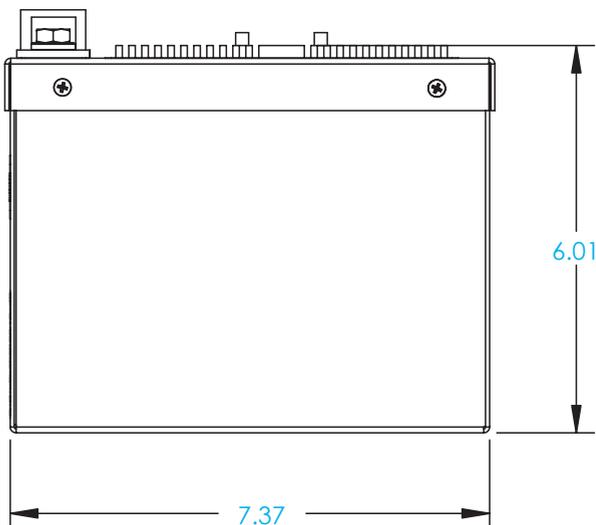
CERTIFICATION

FAA TSO certified to C179a

ETSO certified to C179a

RTCA DO-311, DO-160G qualified

UNDOT/IATA qualified





R44 Install Kit for Serial Numbers ≤10605

Lithium-ion technology benefits all 28-volt Robinson R44 serial numbers. Installation kits provide a complete and comprehensive solution for a TB17 certified battery upgrade. Installation flexibility is enhanced by the optional Battery Relocation Kit (shown below).



R44 Install Kit for Serial Numbers ≥10606



Battery Relocation Kit (optional)



MD41-1817



ACU Mounting Bracket (optional)

Annunciation Control Unit

The MD41-1817 is a compact, self-contained Annunciation Control Unit (ACU). The fully-integrated control unit provides annunciation for True Blue Power TB17 battery systems. It combines the necessary battery annunciations and heater control required for proper pilot interface to the battery system.

Highlighted features include long-life LEDs used for all lighting, internally backlit selection switch, daylight readable, deadfront inactive annunciations and automatic dimming. An external dimming adjustment is provided for balancing low-level light conditions.

