

Aircraft Batteries Theory and Maintenance



VAI Southeast Asia Aviation Safety Conference
May 27 – 29 2026

Tony Vella



Presenter



Tony Vella
APAC Technical Sales Manager



NSCA – FW & RW – Aerial Firefighting, Search & Rescue, Air Ambulance
Hawker Pacific - FW & RW – aircraft sales, maintenance, defense & aftersales support
Heli-Centre – RW operator, sales, maintenance and overhaul
Concorde 2020



Agenda

Aircraft Batteries – Theory & Maintenance Training

4 Hour Online

2 Day Onsite

Both Certificate



Agenda

- Concorde Battery Corporation
- Batteries
- Technical Publications
- Safety
- Technical Characteristics
- Commissioning a Battery
- Airworthiness
- Servicing and Charging
- Failure Modes and Remedies
- Other Technologies
- Additional Information
- Reminders and Recap



Concorde History / Accomplishments

- Founded in 1977 – Almost **50 years of experience** manufacturing certified batteries
- Concorde obtains first Government Mil Spec Qualified Product Listing in 1979
- Concorde's first FAA-PMA in 1981 (CB Series)
- Concorde was the first battery company to conditionally qualify the sealed D8565/5-1 and D8565/5-2 to Government Mil Spec QPL in 1986
- Concorde's first FAA-PMA for the sealed, recombinant gas aircraft battery, RG® Series, in 1987
- The F-117 and F/A-18 among first approvals
- Austell, Georgia manufacturing facility opened in 2015
- Developed in person and virtual IA Renewal series to support the industry

Section 1

- Batteries



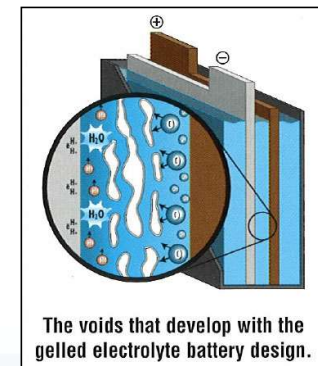
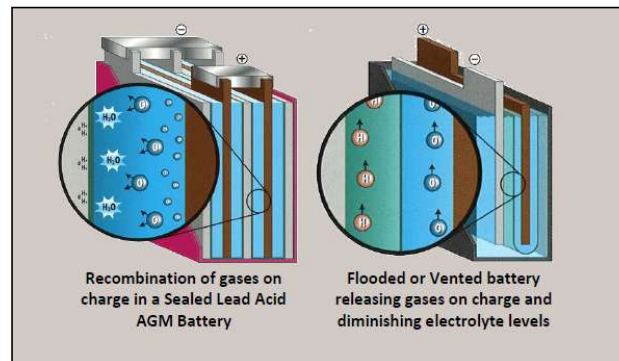
Batteries

- Electrochemical Power Source
 - Takes stored chemical energy and converts it to electrical energy
 - Two Types
 - Primary
 - Secondary
- Technologies Currently Available
 - Lead Acid
 - NiCd
 - Lithium Ion



Batteries

- Flooded
- Gel
- Sealed – Recombinant Gas (RG®), also known as Absorbent Glass Mat (AGM), Valve Regulated Sealed Lead Acid (VRSLA) or Valve Regulated Lead Acid (VRLA)
- Reblockable



Batteries

- Lead Acid Battery
 - Lowest acquisition cost
 - Lowest maintenance cost
 - HazMat Shipping Exemptions!
- NiCad
 - More expensive
 - MUST be serviced regularly
 - HazMat shipping
- Lithium Ion
 - High expense
 - High energy / low weight
 - Shipping constraints

Batteries

- Lead Acid Battery
 - Copper Terminals
 - Improve high-rate discharge
 - Efficient engine starting
 - Intercell Connections
 - Affects charge / discharge efficiency
 - Robust Shock and Vibration Tolerance
 - Electrodes / Plates
 - Quantity / surface area determine battery capacity
 - Thickness is adjusted for application



Batteries

- Lead Acid Battery
 - Cell Groups
 - Determines nominal voltage
 - AGM Separator
 - Retains electrolyte
 - Improves durability
 - Polyguard® Separator
 - Additional protection against shock and vibration



Batteries

- Recombinant Gas (RG®) Valve regulated lead acid (VRLA) and Valve Regulated Sealed Lead Acid (VRSLA)
 - No free electrolyte
 - Internal pressure is regulated by a pressure relief valve
 - NOTE: It is NOT removable!



Relief Valve

Batteries

- Recombinant Gas (RG®) Valve regulated lead acid (VRLA) and Valve Regulated Sealed Lead Acid (VRSLA)
 - Internal pressure is regulated by a pressure relief valve



Section 2

- Technical Publications



Technical Publications

- Technical Documents
- CMM 5-0171 covers a majority of Concorde battery product
- Batteries with a dedicated CMM
 - RG-450
 - RG-150-1 and RG150-2
 - RG-441
 - RG-380E/44H
 - RG-380E/60H
 - RG-390E/H
 - RG-380E/GH Series

Technical Publications

- Technical Documents
 - CMM Applicability Identification Documents
 - <https://www.concordebattery.com/knowledge-base.html?media=cmm>
 - Provides the CMM reference and Date of FAA Authorization Letters
 - Emergency Batteries Authorized per FAA TSO-C173
 - Main Batteries Authorized per FAA TSO-C173
 - Non-TSO Emergency & Main Batteries

Technical Publications

- Technical Documents
 - Owner Operator Manual
 - Provides additional technical information:
 - Safety Summary
 - Installation Procedures
 - And More!
- All are available for download:
 - <https://www.concordebattery.com/knowledge-base.html>

Section 3

- Safety



Safety

- Refer to Concorde Battery **Component Maintenance Manual** page INTRO 2 for complete details:
- <https://www.concordebattery.com/knowledge-base.html>
- [Battery Safety](#)



Safety



- Aircraft batteries are certified to have a certain minimum capacity for emergency operations in the event of an electrical system failure.
- NEVER use a battery that has less than 80% of it's rated capacity available!
- NEVER jump start or use a GPU to start an aircraft that has a dead or discharged battery.
- Danger of equipment damage!



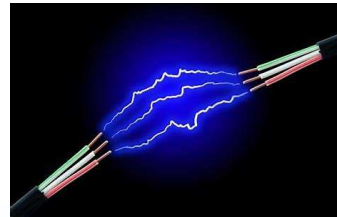
Safety

- Proper Lifting
 - Avoid back injuries
 - Two person lift if necessary
 - Use the Handles



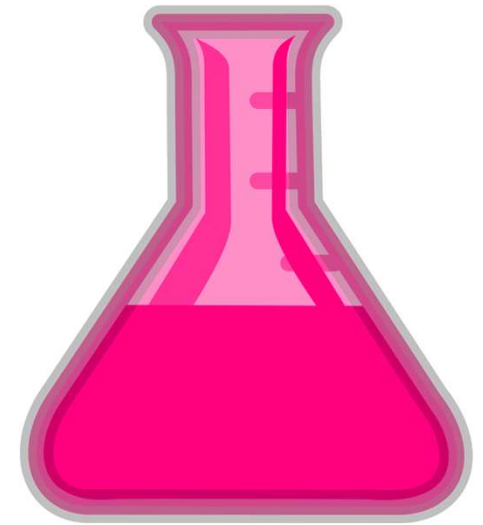
Safety

- Be aware of shock hazards
- Elcon connector cover
- Terminal caps



Safety

- Electrolyte
 - Acid
- Gas Evolution
 - Hydrogen gas evolved during charging
 - No sparks please!



Safety

- Shorting spring / wire on the main connector!
 - NiCd batteries use them
 - Lead acid batteries **DO NOT!**



Airworthiness

- What Is the Open Circuit Voltage (OCV) of a fully charged lead acid battery?
 - OCV – Voltage of the battery at rest (no charging or discharging current present)
- DON'T BE FOOLED!
- SOC $\neq$ SOH



Airworthiness

- Is an aircraft airworthy with a dead or discharged battery?



Airworthiness

Open Circuit Voltage (OCV)		State of Charge (SOC)
12V Battery	24V Battery	
12.9 or above	25.8 or above	100%
12.6	25.2	75%
12.3	24.6	50%
12.0	24.0	25%
11.7 or below	23.4 or below	0%

Airworthiness

- How Do You Know When A Lead Acid Battery is Fully Charged?
 - Per the CMM, do a Constant Potential (CP) charge until the charge current drops below 5% of the rated capacity of the battery, e.g. 2.1 Amps for a 42 Ah battery.
 - Then, continue charging for **an additional four hours**.
 - **Stop** the charging process if the charge current does **NOT** drop below **5%** of the rated capacity after eight hours of charging.

Airworthiness

Concave / Bulging Sides – Normal!



Airworthiness

- Damage
 - If an aircraft battery has been dropped, what is the acceptable type of damage that the case may have and still be considered airworthy?



Airworthiness

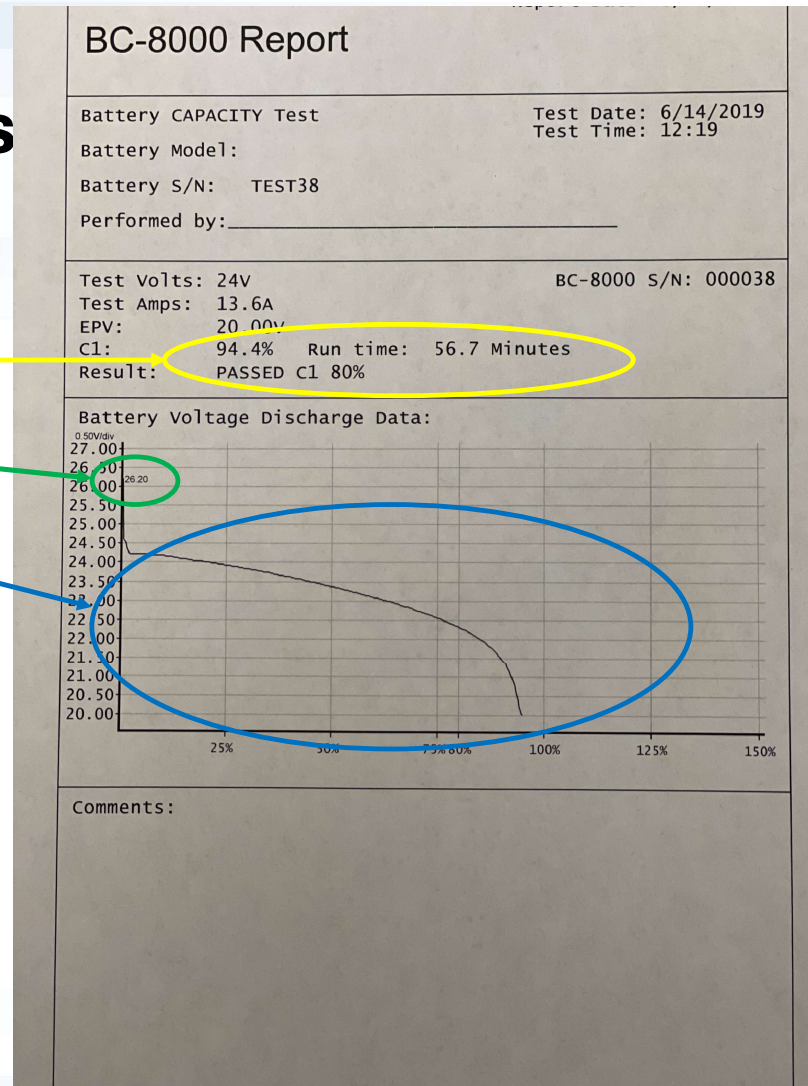
- Self Discharge Rates
 - Flooded cell battery **loses 25%** of charge
 - Every 30 days at 77°F
 - Every 15 days at 95°F
 - Every 7 days at 113°F
 - An **RG® battery** will discharge at **1/3** that rate.
 - To lose the same 25% charge
 - Every 90 days at 77°F
 - Every 45 days at 95°F
 - Every 21 days at 113°F
- SportAviation Vol. 6 No. 7/July 2011 pp.84-88.

Airworthiness

- At what point in your battery's life is it no longer airworthy?
- The ONLY way to determine this is with a Capacity Test
- Maintenance Intervals
 - Can vary based on:
 - Operational profile
 - Location (Impact of Ambient Temperature)
 - Aircraft system loads
 - Refer to Concorde Battery Technical Bulletin 14 for adjusting maintenance intervals
- **Let the DATA do the talking**

Airworthiness

- BC8000 Reports
- OCV
- Results
- Discharge Curve



Airworthiness

- BC8000 Reports

CONCORDE BATTERY CORPORATION

Report Date: 05/08/2020

BC-8000 Report

Battery CAPACITY Test
Battery Model: RG-380E/44
Battery S/N: 41005555
Performed by: _____

Test Date: 05/08/2020
Test Time: 10:51

Test Volts: 24V
Test Amps: 42.0A
EPV: 20.00V
C1: 58.1% Run time: 34.8 Minutes
Result: FAILED C1 85%

BC-8000 S/N: 000430

Battery Voltage Discharge Data:

FAILED!

Comments:

BC Report 3.08, BC-8000 2.01
USB data

Airworthiness

- Documentation
 - Must use approved maintenance documentation
 - Component Maintenance Manual (CMM)
 - Owner Operator Manual (OOM)
 - Are shipped with every battery
 - Must be current revision level
 - Available on Concordebattery.com website
 - <https://www.concordebattery.com/knowledge-base.html>

Airworthiness

- When should an aircraft battery be replaced?
 - When it fails the capacity test
 - If it is damaged
 - If it will not charge within prescribed time limits

REJECTED

W/O: _____ Re: _____

Description: _____

Mfr: _____ Model: _____

P/N: _____ S/N: _____

Remarks: _____

Removed By: _____ Date: _____

Airworthiness: Technical Bulletin 11

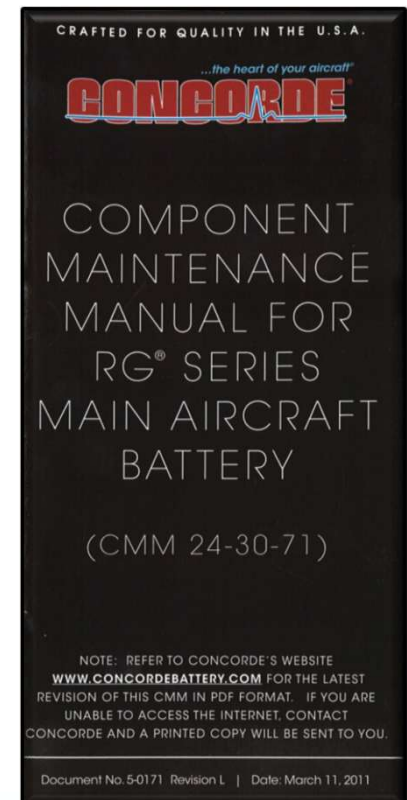
Connector Maintenance & Terminal Inspection

- Unlocking / Locking the Elcon connector
- Worn connectors lead to increased resistance (heat)



Servicing and Charging

- Concorde VRLA Batteries may be serviced in any battery facility, including Ni-Cd service facilities. VRLA batteries are sealed to prevent cross contamination of electrolyte.



Servicing and Charging

- Four types of chargers
 - Constant Current Chargers
 - Constant Potential Chargers
 - Maintenance Chargers
 - Pulse Chargers
- Concorde endorsed chargers
 - BatteryMINDer 128CEC2-AA-S5
 - BatteryMINDer 244CEC2-AA-S5
 - BC-8000
 - BC-9000



Servicing and Charging – Recently Endorsed - ATEQ

Charger

- BC 1500

Battery Analyzer

- BA 1500



PLUG & PLAY

Operation Programmed with
Concorde Battery Models +
Maintenance Programs

NOW AVAILABLE THROUGH CONCORDE DISTRIBUTION



Servicing and Charging

- Charger Specifications

Description	Source	Part Number	Purpose
Constant Voltage Power Supply, capable of 14.00 – 14.25 VDC and at least 0.2C1 ADC* output.	Commercially Available	N/A	Constant Potential Charging
Constant Current Power Supply, capable of C1/10 ADC and at least 17 VDC output.	Commercially Available	N/A	Constant Current Charging
Constant Voltage Power Supply, capable of 28.00 – 28.50 VDC and at least 0.2C1 ADC* output.	Commercially Available	N/A	Constant Potential Charging
Constant Current Power Supply, capable of C1/10 ADC and at least 34 VDC output. *The output current of the constant potential charging equipment should be set as high as possible. RG® Series batteries can accept charging rates of up to 8 x C1.	Commercially Available	N/A	Constant Current Charging

Servicing and Charging

- All Test Equipment Must be Calibrated
 - BC-8000:
 - [Microsoft Word - BC-8000 55A Field Calibration Procedure.docx \(concordebattery.com\)](#)
 - BC-9000:
 - [Microsoft Word - BC-9000 Field Calibration Procedure_01_18_2018.pdf.docx \(concordebattery.com\)](#)
 - Must be done annually
 - Must be documented
 - Use a calibration decal to show compliance



Servicing and Charging

- Battery Minder
 - PN: Model 244CEC2-AA-S5 (24V)
 - PN: Model 128CEC2-AA-S5 (12V)
- Note:
 - It MUST be plugged into power
 - Or it becomes a parasitic load!



Servicing and Charging

- Recharging A Dead Battery
 - If an aircraft with dead battery(ies) is started with external power, how long does it take to recharge lead acid batteries with the aircraft generating system?



Servicing and Charging

- Is it OK to fast charge a lead acid battery?



YES – As long as the voltage is regulated!!

Servicing and Charging

- What is the best way to clean my battery?
 - Clean it when it is being prepared for a capacity test
 - DO NOT use solvents as they will damage the battery!
 - Lint free cloth and tap water is all you need

Section 8



- Failure Modes and Remedies

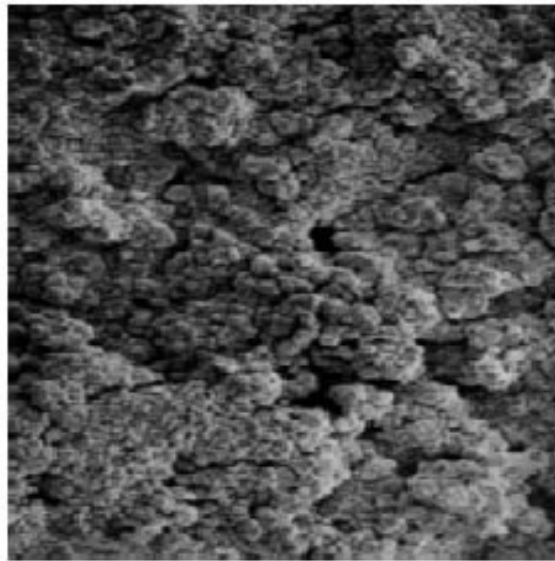
Failure Modes and Remedies

What Is The Minimum Voltage That A Lead Acid Battery Can Be Discharged to Before Damaging It Internally?

- A) 11 volts for a 12 volt battery OR 22 volts for a 24 volt battery
- B) 10 volts for a 12 volt battery OR 20 volts for a 24 volt battery
- C) 9 volts for a 12 volt battery AND 18 volts for a 24 volt battery
- D) 0 volts for EITHER a 12 or 24 volt battery

Failure Modes and Remedies

- What is sulfation?



New and spongy plates



Hardening Lead Sulfate Crystals

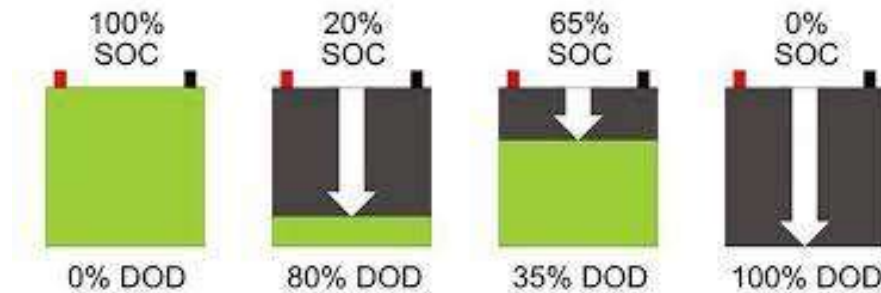
Failure Modes and Remedies

- If you have a dead battery - Why?
 - Parasitic Load Test Adapter (PLTA)
 - Makes it easy to measure the parasitic load of aircraft batteries equipped with an MS3509 (Elcon) Style quick disconnect receptacle
 - Is designed to connect between the battery receptacle and the aircraft's mating plug, with separate test leads for connection to a calibrated digital multi meter
 - A standard battery, with exposed terminals, can be tested without the PLTA
 - Refer to Concorde Battery Technical Bulletin 10 for troubleshooting parasitic loads



Failure Modes and Remedies

- Depth of Discharge
 - Shallow vs deep depth of discharge
 - Directly affects service life of the battery
 - Shallow discharge = longer service life



Failure Modes and Remedies

- Hard sulfation is caused by:
 - Leaving a battery discharged
 - Repetitive undercharging
 - Parasitic loads that slowly drain the battery
- The longer these conditions persist, the harder it is to reverse the sulfation.
- If the plates are heavily sulfated, the battery may not be recoverable and must be scrapped.

Failure Modes and Remedies

- What can be done to correct lead acid batteries that are “sulfated” due to inactivity or being over discharged and will not accept a charge?



Failure Modes and Remedies

- **Condition Charge Procedure***

- Discharge the battery at the C1 rate to an EPV of 20 volts for 24 volt batteries / 10 volt EPV for 12 volt batteries. If the battery is already discharged to this EPV skip this step.
- Immediately connect the battery to the constant current charging equipment
- Charge at a constant current rate of C1/10 (i.e. 4.2 Amps for a 42Ah battery) for 16 hours and then discontinue charging. The conditioning charge does not need to be continuous i.e. pauses may be included.
- After charging, allow the battery to cool down for at least 8 hours or until the battery is within 10°C/ 18°F of the ambient temperature before any other tests are done.

*Per Concorde Battery RG Series Main Aircraft Battery CMM (5-0171)

Failure Modes and Remedies

- **Deep Discharge Recovery Process***
 - Battery voltage is below 20 volts for 24 volt batteries / 10 volt for 12 volt batteries.
 - Immediately connect the battery to the constant current charging equipment
 - Charge at a constant current rate of C1/10 (i.e. 4.2 Amps for a 42Ah battery) until battery reaches 31V (15.5V for 12 volt battery) then continue charging for four hours.
 - Note: If battery reaches 31V (15.5V for 12 volt battery) within two hours, continue to charge until it reaches the 31V (15.5V for 12 volt battery) trigger point a second time, then continue to charge for an additional four hours.
 - If the battery does not reach the 31V threshold within 24 hours, discontinue the charge, it is not recoverable.
 - After charging, allow the battery to cool down for at least 8 hours or until the battery is within 10°C/ 18°F of the ambient temperature before any other tests are done.

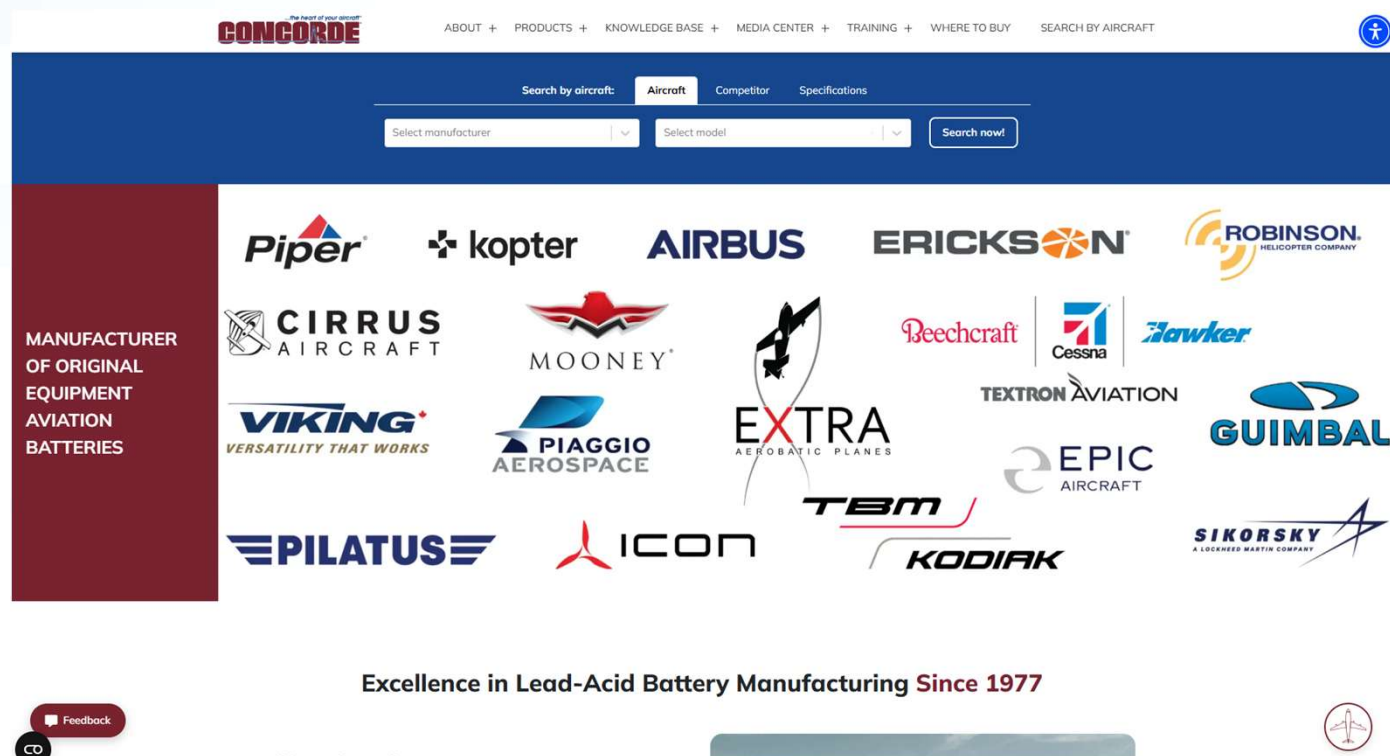
*Per Concorde Battery RG Series Main Aircraft Battery CMM (5-0171)

Failure Modes and Remedies

- **Boost / Maintenance Charging Process***
 - Batteries in storage / inventory or aircraft with limited flight hours / month
 - Maintain Battery above 12.75 / 25.5 Volts
 - Periodically check battery voltage
 - If voltage is $< 12.75 / 25.5 \text{ V}$ and $\geq 12.5 / 25.0 \text{ V}$, boost charge per CP Charge Procedure
 - Apply a constant potential of $14.125 \pm 0.125 \text{ V}$ (double for 24 V batteries) with current capability of at least $0.2C_1$
 - NOTE: Set output current as high as possible
 - Charge until current drops below 5% of the rated capacity of the battery
 - Continue to charge for an additional four hours.
 - NOTE: Terminate charging if charge current does not drop below 5% of C_1 rating within eight hours

*Per Concorde Battery RG Series Main Aircraft Battery CMM (5-0171)

Section 9



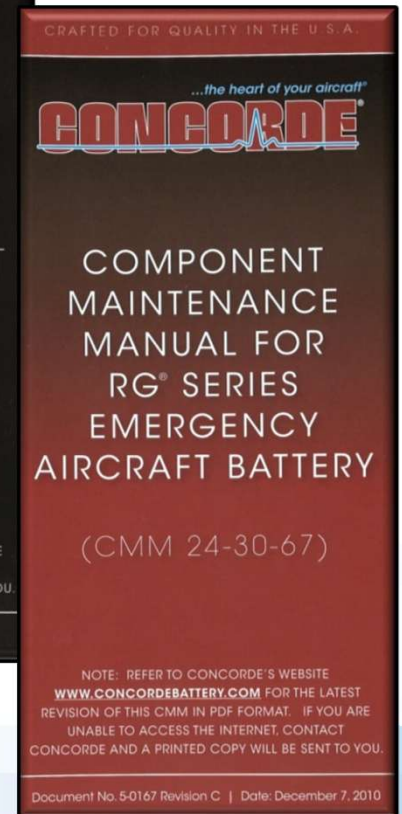
- Additional Information

- New Website - <https://aircraftbattery.com/>



Storage

- Storage Conditions
 - Temperature is $< 20^{\circ}\text{C} / 68^{\circ}\text{F}$
 - Boost Charge when OCV
 - = 25.0V for a 24V Battery
 - = 12.5V for 12V Battery
 - If OCV $< 25.0\text{V}$ for a 24V Battery or 12.5V for 12.0V Battery
 - Recharge and a Capacity Test
 - In storage > 24 months
 - Capacity Test



Storage

- Storage Facilities
 - Because Concorde batteries are sealed, they may be stored and serviced in any battery facility, including NiCd service facilities.
 - NEVER service batteries in an airtight or sealed enclosure. Work area must be well ventilated.



Transportation

- If OCV < 25.5V (12.75 for 12V battery), charge per Section 6 of CMM.
- Battery should be packaged in its original container.
 - If not available, follow local packaging regulations applicable to mode of transport.
- Classified as “NONSPILLABLE BATTERY”
 - Comply with hazardous shipping exceptions of IATA DG Regulations, IMDG Code and USDOT.
 - May be shipped as non-hazardous by any means when packaged in original container and terminals are protected from short circuit.
 - Refer to SDS for additional information, including paper requirements.
 - [Hazard Rating \(concordebattery.com\)](http://concordebattery.com)

Battery Disposal

- Sealed lead acid batteries are 100% recyclable
- For additional information:
 - https://c.ymcdn.com/sites/batterycouncil.site-ym.com/resource/resmgr/Brochures/BCI_Sustainability_recycling.pdf
- To find a recycling drop off near you:
 - <https://www.call2recycle.org/>

LEAD BATTERIES



are the
**MOST RECYCLED
PRODUCT**
in the United States¹

¹ Advancing Sustainable Materials Management: 2014 Fact Sheet,
Environmental Protection Agency, Nov. 2016

Warranty

- Piston Engine Starting batteries
 - 24 months or 1200 hours of operation
- Turbine Engine Starting batteries
 - 12 months (365 days) or 600 hours of operation
- Full Warranty Credit
 - 180 days or less
 - 300 hours or less
 - Whichever occurs first
- Pro Rata (Based on useful service life remaining)
 - 181 – 730 days
 - 301 – 1200 hours
 - Whichever occurs first



Warranty / Service / Support / Returns

(626) 813 - 1234

Shelley Johnson, Ext. 239

sjohnson@concordebattery.com

Gloria Cordero, Ext. 229

gcordero@concordebattery.com

Ashley Fausto, Ext. 245

afausto@concordebattery.com

Warranty Updates

orderentry@concordebattery.com

(626) 813 - 1235 fax



[**www.concordebattery.com**](http://www.concordebattery.com)

Section 11

- Reminders and Recap



Reminders and Recap

- Keep It Charged
- Keep It Airworthy
 - Understand what that means
 - Battery Capacity
- Remedies
 - Condition Charge
 - Deep Discharge Recovery
- Concorde technical and product support
- Always refer to the latest revision of the applicable CMM or overriding maintenance document



STC's

Leonardo AB139 & AW139 Certified Sealed Lead Acid Battery Installation

HELICOPTER IMAGE PROVIDED COURTESY OF ADUSTA WESTLAND

FAA STC SR03072NY
Canada STC SH11-47
Brazil STC 2012S04-04
EASA ESTC 10043385

Main Battery Upgrade –

Marathon M3-44-22 is replaced with
RG-380E/44L (1 each – 24V/42Ah)
or RG-380E/60L (1 each 24V/48Ah).

Auxiliary Battery Upgrade –

SAFT 2778 is replaced with RG-407
(1 each – 24V/27Ah).

- Increased power for cooler starts and reduced engine wear
- Lower cost of acquisition
- Reduced cost per flight hour
- No memory effect or cycling requirement
- Hazmat Exempt
- Fully recyclable – the green solution



RG-407 (27 Ah)



RG-380E/60L (48 Ah)

Auxiliary Battery

1) Rotorcraft must be modified per Leonardo Technical Bulletin No. 139-045, 139-138 or later approved bulletin for installation of the auxiliary battery P/N RG-407.

2) Mounting modification relocates auxiliary battery inboard and shim is installed to support battery against rotated angle.

- STC includes installation plans and two placards (P/N 6228).
- Lead acid batteries do not require a temperature sensor so the existing over temperature sensor connectors will be capped and stowed.
- Batteries utilize existing OEM mounting hardware.
- No materials or kit parts are included as part of this STC.

Main Battery

- 1) Panel reinforcement, per STC drawing 4003983, is required to support weight increase for RG-380E/44L or RG-380E/60L installation.
- 2) STC Revision 3 provides an alternate installation for the main battery in aircraft not supplied with a battery tray (AW139 Plus S/N 41501 and on).

CONCORDE BATTERY CORPORATION
2009 San Bernardino Road | West Covina, CA 91790 USA
626-813-1234 | Fax 626-813-1235 | www.ConcordeBattery.com
ISO 9001 + AS9100 | Crafted for Quality in the U.S.A.

...the heart of your aircraft®
CONCORDE

CONCORDE BATTERY CORPORATION

...the heart of your aircraft®
CONCORDE

STC's

MD 369D, 369E, 369F, 369FF, 500N & 600N Certified High Capacity Sealed Lead Acid Battery Installation



FAA STC SR00864DE
EASA ESTC 10070116
Hong Kong STC-2018-16

RG-624 (24 Ah)

Main Battery Upgrade –

Marathon 369D/296503
(-BSC, -3, -5, -7, or -9)
(24V/17Ah) is replaced with
RG-624 (24V/24Ah).

- Lower cost of acquisition
- Reduced cost per flight hour
- No memory effect or cycling requirement
- Hazmat Exempt
- Fully recyclable – the green solution
- MD Helicopters® Endorsement via SL369D-133, SL369E-086, SL369F/FF-078, SL500N-033 and SL600N-027.

STC provides for the installation of RG-624 battery in place of the original equipment nickel cadmium battery or a lead acid RG-500, RG-600-1 or RG-600-2 installed under STC SR00716SE or SR01564LA.

Replacement of a 13Ah nickel cadmium battery requires MD Helicopter Maintenance Manual Section 96-05-10, Heavy Duty Battery (17 Amp, 20 Cell) Initial Installation and associated structural modifications be completed prior to incorporation of STC SR00864DE.

If rotorcraft has been modified per STC SR00716SE or SR01564LA skip to step 4.

- 1) Remove nickel cadmium battery. Disconnect wires from pins A and C of connector. Tag, cap the contacts and stow battery connector P108.
- 2) Obtain new wiring of the exact type, gauge and color coding as the existing wire disconnected above. Verify the new wires can be installed alongside disconnected wires and identify the new wires with addition of "Lead-Acid Battery".

- 3) Connect the two new wires to the contacts on Concorde supplied connector P/N 4002 and perform a continuity check.

- 4) Set the battery in its correct location and install the mounting hardware.

- 5) Connect battery quick-disconnect and close battery compartment

- 6) Install Placard, adjacent to the deactivated Battery Temp Warning lights. (placard may already be installed if 17Ah Lead Acid was previously installed).

- 7) Set constant voltage regulator in accordance with Aircraft Maintenance Manual.

When replacing 17 Ah nickel cadmium battery, STC includes installation plans, placard (P/N 8481) and 2 Wire Plug (P/N 4002).

When replacing RG-500, RG-600-1 or RG-600-2, STC includes installation plans and placard (P/N 8481).

Each installation utilizes the aircraft's original mounting support and hardware. Any additional materials required for the modification may be procured from MD Helicopters and are not supplied as part of the STC.

CONCORDE BATTERY CORPORATION
2009 San Bernardino Road | West Covina, CA 91790 USA
626-813-1234 | Fax 626-813-1235 | www.ConcordeBattery.com
ISO 9001 + AS9100 | Crafted for Quality in the U.S.A.

...the heart of your aircraft®
CONCORDE
MD 369D, 500N, 600N STC

0120

CONCORDE BATTERY CORPORATION

...the heart of your aircraft®
CONCORDE

STC's

Enstrom Helicopter Corporation 480 and 480B STC Certified Lead Acid Battery Installations

CONCORDE BATTERY CORPORATION



FAA STC SR01067DE

Main Battery Upgrade –
Original equipment lead acid battery, Gill 7641-20 or G-641, is replaced with RG-641 (24 volt, 17 Ah) TSO-C-173a Authorized battery.

- Premium Sealed Lead Acid Battery Technology
- Proprietary PolyGuard® Separator System
- Robust Turbine Starting Design for Improved Reliability, Safety and Sustainable Starting Power
- Fully Tested and Installation Ready
- Maintenance Free Operation
- Longer Battery Life
- Hazmat Exempt Transportation
- Fully Recyclable - the Green Solution
- Hassle Free Warranty
- TSO C173a Approved
- Available through a Worldwide Distribution Network

Made in the U.S.A.

Specifications:
STC provides for the installation of Concorde RG-641 valve regulated sealed lead acid (VRSLA) battery in place of the original equipment lead acid main battery in Enstrom Helicopter Corporation 480 and 480B models.

Concorde's RG-641 battery has the same design footprint and is interchangeable without airframe modification.

1. Remove the existing main battery from the aircraft in accordance with (IAW) Rotorcraft Maintenance Manual Section 6-28.
2. Install the RG-641 replacement battery IAW Section 6-31.
3. Update the rotorcraft's weight and balance.
4. Insert the Concorde FAA Approved ICA in the appropriate location in the AMM.
5. Complete the appropriate forms and return the rotorcraft to service.

Notes: The model 480 & 480B rotorcraft are also certified to use a 17 Ah nicd battery. This STC only provides for replacement of the original equipment lead acid battery options.

CONCORDE BATTERY CORPORATION
2009 San Bernardino Road | West Covina, CA 91790 USA
626-813-1234 | Fax 626-813-1235 | www.ConcordeBattery.com
ISO 9001 + AS9100 | Crafted for Quality in the U.S.A.

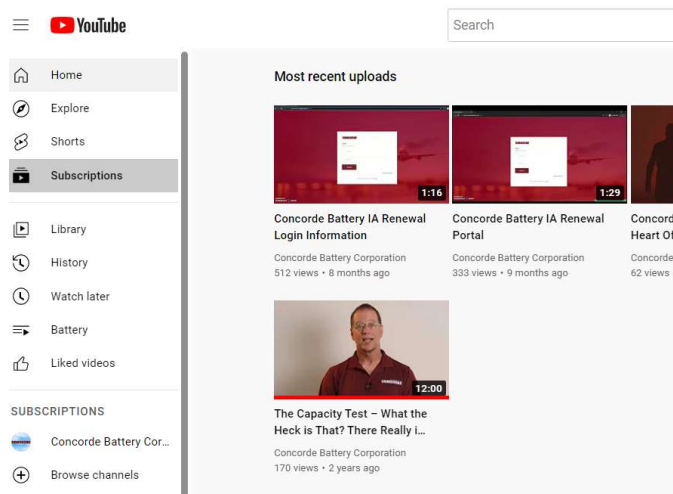
CONCORDE ...the heart of your aircraft®

...the heart of your aircraft®
CONCORDE

...the heart of your aircraft®
CONCORDE

Training

- Concorde Battery Training
- Videos are available on YouTube
 - <https://www.youtube.com/channel/UC9wOdm5LdQy66YpKg1o4l8Q>



Concorde Sales Team

Lynda Gardiner – VP Of Sales

Telephone: 626-813-1234 Ext:242

lgardiner@concordebattery.com

Noga Holck – VP Of Business Development

Telephone: 626-813-1234 Ext:246

nholck@concordebattery.com

**Walter Heine – Battery Technical Support Specialist
Service**

Telephone: 626-813-1234 Ext:243

wheine@concordebattery.com

Shelley Johnson – Director Of Customer

Telephone: 626-813-1234 Ext:239

sjohnson@concordebattery.com



Concorde Technical Sales Team

Chris Holder
Eastern U.S. Technical Sales Manager

Cell: 864-325-9835
cholder@concordebattery.com

Claudio Fonseca
Technical Sales Manager, South Florida,
Mexico/Central & South America

Cell: 954-629-8052
cfonseca@concordebattery.com

Dave Schiavone
North Eastern Technical Sales Manager

Cell: 914-479-8999
dschiavone@concordebattery.com

Dave Vega
Western Technical Sales Manager

Cell: 909-278-9358
Office: 626-813-1234 Ext. 216
dvega@concordebattery.com

Melinda Balazova
European Technical Sales Manager

Cell: +49 151 18706674
mbalazova@concordebattery.com

Tony Vella
APAC Technical Sales Manager

Cell: 011- 61-400-072-775
tvella@concordebattery.com

Matt Fullerton
Central U.S.- Technical Sales Manager

Cell: 316-218-2392
mfullerton@concordebattery.com

...the heart of your aircraft®
CONCORDE
AIRCRAFT BATTERIES

...the heart of your aircraft®
CONCORDE

Social Media



CONCORDE BATTERY CORPORATION



FOLLOW US ON *social media*



SCAN ME
YouTube



SCAN ME
LinkedIn



SCAN ME
Facebook

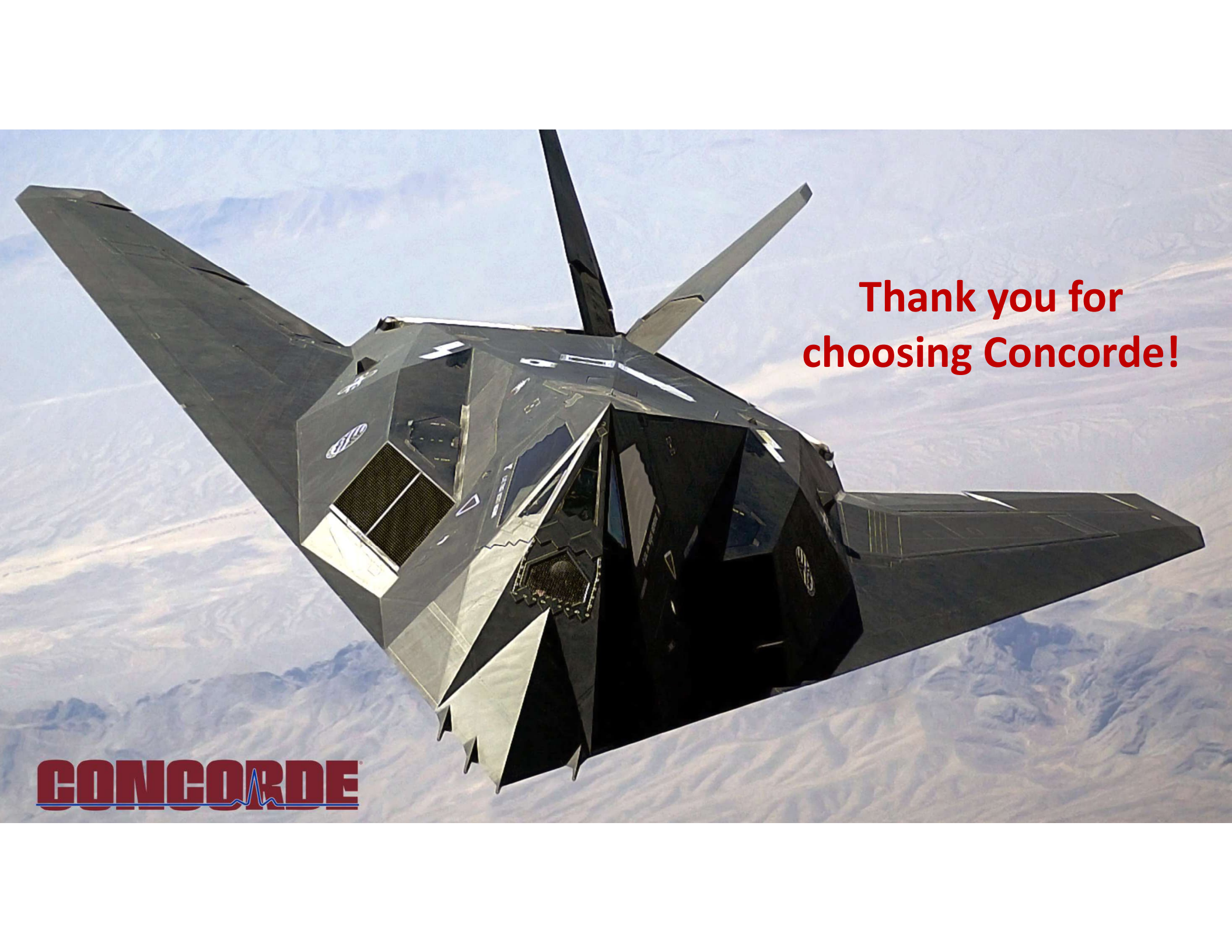


SCAN ME
X



SCAN ME
Instagram

STAY CONNECTED TO AVIATION THAT MATTERS

A high-angle, rear-quarter view of an F-22 Raptor fighter jet in flight. The aircraft is dark grey with a stealthy, angular design. Its wings are swept back, and the canards are visible. The background shows a vast, arid landscape with winding roads and mountains under a clear sky.

**Thank you for
choosing Concorde!**

CONCORDE