

HANDLING AND CHARGING THE RECHARGEABLE BATTERY

SCOTT C420 *Plus* Battery Charger, P/N 200703-01, is intended for charging only the rechargeable batteries used with the SCOTT C420 *Plus* Powered Air Purifying Respirator (PAPR). Always verify that the part number of the battery you are charging is listed on the NIOSH approval label for the particular SCOTT C420 *Plus* PAPR you are using. Use of a non-approved battery or battery charger will void the NIOSH approval.

Handle all batteries with care.

- DO NOT ACCIDENTALLY SHORT CIRCUIT THE CONTACTS.
- DO NOT INCINERATE OR EXPOSE THE BATTERY TO TEMPERATURES ABOVE 158°F/70°C.
- DO NOT PUNCTURE OR ATTEMPT TO DISASSEMBLE THE BATTERY.
- DO NOT ATTEMPT TO RECHARGE A LiSO_2 BATTERY. THE LiSO_2 BATTERY IS NOT A RECHARGEABLE BATTERY.
- REFER TO THE **DISPOSAL OF USED BATTERIES** SECTION OF THIS INSTRUCTION FOR DETAILS OF DISPOSAL.

FAILURE TO FOLLOW THESE INSTRUCTIONS OR ANY OTHER MISUSE OF THIS BATTERY MAY RESULT IN OVERHEATING OF THE BATTERY PACK WHICH MAY CAUSE A FIRE OR LEAKAGE OF CORROSIVE ELECTROLYTE FROM THE BATTERY WHICH MAY CAUSE SERIOUS INJURY OR DEATH.

This unit charges one rechargeable battery at one time. There is a single charger plug and a single indicator light on the top of the charger. The AC power cord supplied with this charger fits a standard regulated 120VAC-60Hz outlet.

Charge batteries only in an area with an atmosphere known to be non-hazardous. The temperature range must be between 32° and 100° F (0° and 38° C).

Batteries that are used regularly should be recharged after use, usually overnight before use. New rechargeable batteries and rechargeable batteries that have been stored for two to three months without use must be "Conditioned" before use. Refer to the RECHARGEABLE BATTERY CONDITIONING section of this instruction for details.

Charge a rechargeable battery as follows:

1. Before charging, inspect the battery for signs of damage. Do not use any battery which exhibits bulging, swelling, or irregularity. See DISPOSAL OF USED BATTERIES section of this instruction.
2. Place the Charger on a flat surface and plug the AC power cord into a standard regulated 120VAC-60Hz outlet. DO NOT allow anything to touch and short out the metal contacts inside the battery charger plug, as doing so could result in damage to the battery charger.
3. The rechargeable battery has a keyed charging receptacle on one end. Align the charger plug with the receptacle and push the plug fully into the receptacle. See FIGURE 1.



FIGURE 1

WARNING

USE THE BATTERY CHARGER EQUIPMENT ONLY ACCORDING TO THE INSTRUCTIONS AND WARNINGS. FAILURE TO FOLLOW ALL INSTRUCTIONS AND WARNINGS MAY LEAD TO SERIOUS INJURY OR DEATH.

WARNING

HANDLE THE RECHARGEABLE BATTERY WITH CARE. FAILURE TO FOLLOW THE INSTRUCTIONS AND WARNING STATEMENTS IN THIS MANUAL, OR ANY OTHER MISUSE OF THIS BATTERY MAY RESULT IN OVERHEATING OF THE BATTERY PACK WHICH MAY CAUSE A FIRE OR LEAKAGE OF CORROSIVE ELECTROLYTE FROM THE BATTERY WHICH MAY CAUSE SERIOUS INJURY OR DEATH.

WARNING

THE POSITIVE AND NEGATIVE BATTERY TERMINALS ARE THE TWO CONCENTRIC RINGS ON THE END OF THE BATTERY OPPOSITE FROM THE END OF THE BATTERY WITH THE CHARGING RECEPTACLE. DO NOT PERMIT ANYTHING TO TOUCH THE TWO RINGS AND SHORT OUT THE BATTERY. SHORTING OUT THE BATTERY COULD CAUSE THE BATTERY TO OVERHEAT, EXPLODE, OR BURN WHICH COULD CAUSE SERIOUS INJURY OR DEATH.

CAUTION

DO NOT ALLOW THE RECHARGEABLE BATTERY PACK TO FULLY DISCHARGE. THE FUNCTIONAL SYSTEM OPERATIONAL TIME FOR THE BATTERY PACK IS APPROXIMATELY 4 HOURS. OPERATING THE SYSTEM IN EXCESS OF 4 HOURS RESULTS IN SIGNIFICANTLY REDUCED AIRFLOW. REFER TO THE INSTRUCTION MANUAL FOR THE RESPIRATORY PROTECTIVE BLOWER FOR ADDITIONAL INFORMATION ON THE SYSTEM OPERATION.

CAUTION

DO NOT DISCONNECT THE RECHARGEABLE BATTERY BY TWISTING TO THE SIDE, AS THIS COULD DAMAGE OR BREAK EITHER THE CHARGER PLUG OR THE CONNECTOR ON THE BATTERY.

NOTE

REFER TO TABLE 1 FOR THE ILLUMINATION SEQUENCE FOR THE BATTERY CHARGER.

Charger LED Illumination Sequence	
LED Illumination	Charging Status (with AC Power Cord plugged in)
ORANGE	No battery pack attached, or charging cycle initiating
RED	Fast charge
GREEN/ORANGE	Top-off charge, battery is nearly fully charged
GREEN	Battery fully charged and ready for use
RED/GREEN	Fault condition—Remove the battery from the charger

TABLE 1

4. The indicator light will glow RED, indicating that the battery is charging in the Fast Charge Rate mode. In a normal discharged condition (after approximately four (4) hours of operational use), the battery will require approximately eight (8) hours to reach a full charge. Batteries that still have a partial charge when placed in the charger will require less time to reach full charge. Refer to the CHARGER ILLUMINATION SEQUENCE chart below for details of the operation of the charger light.
5. If the indicator light glows RED/GREEN (alternating), there is a fault condition. Remove the battery immediately. If the same lights glow with another battery connected, remove the charger from service and replace. Otherwise, the fault is with the battery. Dispose of the battery according to the DISPOSAL OF USED BATTERIES section of this instruction.
6. When the light glows GREEN/ORANGE (alternating), the battery is nearly charged and the charger has switched to the “top off charge” mode.

NOTE

THE ORANGE LIGHT IS A COMBINATION OF THE GREEN AND YELLOW LIGHTS THAT APPEARS ORANGE FROM A DISTANCE. AT CLOSE RANGE THE INDIVIDUAL LIGHTS MAY BE VISIBLE.

7. When the battery reaches a full charge, the charger indicator light will glow GREEN and the charger will change to a trickle charge mode. Batteries can be left in the trickle charge mode indefinitely.
8. When finished, disconnect it from the charger plug. To remove the battery from the charger plug, grasp the battery firmly and pull straight back away from the charger plug. Do not twist the battery to the side.

WARNING

IF THE BATTERY CHARGER LIGHTS DO NOT PERFORM AS DESCRIBED, REMOVE THE BATTERY CHARGER AND BATTERY FROM SERVICE UNTIL THE PROBLEM CAN BE IDENTIFIED. IF THE CHARGER PERFORMS PROPERLY WITH A SECOND BATTERY, THE FIRST BATTERY MAY BE DEFECTIVE AND SHOULD BE DISPOSED OF ACCORDING TO STATE OR FEDERAL GUIDELINES. IF THE CHARGER IS FOUND TO BE DEFECTIVE, REMOVE IT FROM SERVICE AND TAG FOR REPLACEMENT. USE OF A DEFECTIVE BATTERY OR BATTERY CHARGER MAY RESULT IN A SITUATION THAT COULD LEAD TO SERIOUS INJURY OR DEATH.

**RECHARGEABLE BATTERY CONDITIONING
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RECHARGEABLE BATTERY CONDITIONING

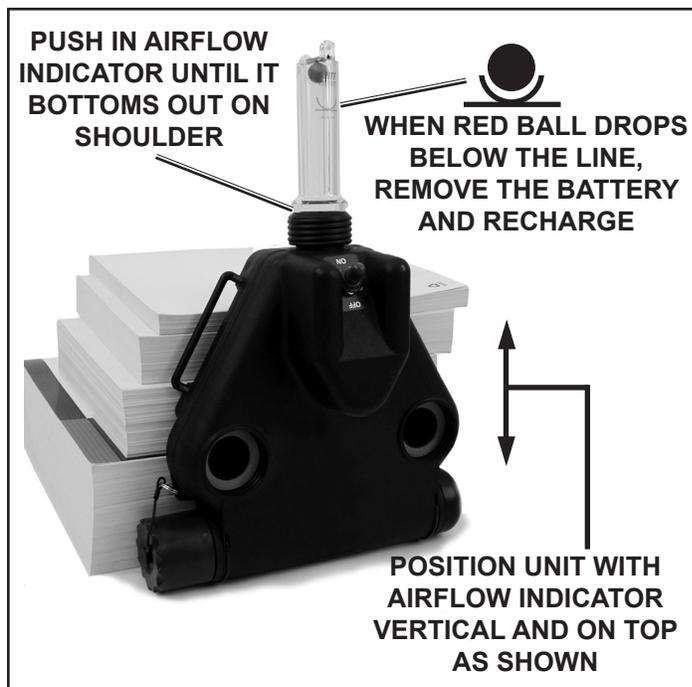
Before use in the C420 Plus PAPR, the rechargeable battery must be “Conditioned” to maximize its performance and assure full duration with each use. Always perform this procedure with new batteries. Rechargeable batteries that have not been used for two to three months must be reconditioned before placing back in service.

To condition a battery, it must be charged and discharged according to the following procedure.

NOTE

FILTERS MUST BE REMOVED FOR THIS PROCEDURE

1. Inspect the PAPR Airflow Indicator P/N 805374-01 to verify that the O-ring is in good condition. Red ball shall move freely within the column.
2. Insert the PAPR Airflow Indicator P/N 805374-01 into the blower assembly air outlet until it bottoms out on shoulder. See FIGURE 2.



**FIGURE 2
AIRFLOW INDICATOR**

3. Install a battery that has been fully charged according to the BATTERY CHARGING section of this instruction. Install the battery as follows:
 - a) Verify that the battery has been fully charged according to the BATTERY CHARGING section of this instruction.
 - b) Inspect the fully charged battery for signs of damage. Do not use any battery which exhibits bulging, swelling, disfigurement, or which emits an irritating, choking, or biting odor or an odor of rotten eggs. See DISPOSAL OF USED BATTERIES section of this instruction.
 - c) Insure that blower switch is set to OFF position.
 - d) Remove the GREEN BATTERY COVER on the blower assembly by turning counterclockwise. Battery cover has a lanyard to prevent loss.
 - e). Install the battery into the battery compartment in the blower assembly with contact end first. An orientation label is just inside the battery compartment. See FIGURE 3.

WARNING

HANDLE THE RECHARGEABLE BATTERY WITH CARE. FAILURE TO FOLLOW THE INSTRUCTIONS AND WARNING STATEMENTS IN THIS MANUAL, OR ANY OTHER MISUSE OF THIS BATTERY MAY RESULT IN OVERHEATING OF THE BATTERY PACK WHICH MAY CAUSE A FIRE OR LEAKAGE OF CORROSIVE ELECTROLYTE FROM THE BATTERY WHICH MAY CAUSE SERIOUS INJURY OR DEATH.

CAUTION

BE SURE SWITCH IS SET TO OFF POSITION BEFORE REMOVING OR REPLACING THE BATTERY. DAMAGE MAY OCCUR TO BATTERY IF SWITCH IS ON WHEN BATTERY IS INSTALLED.

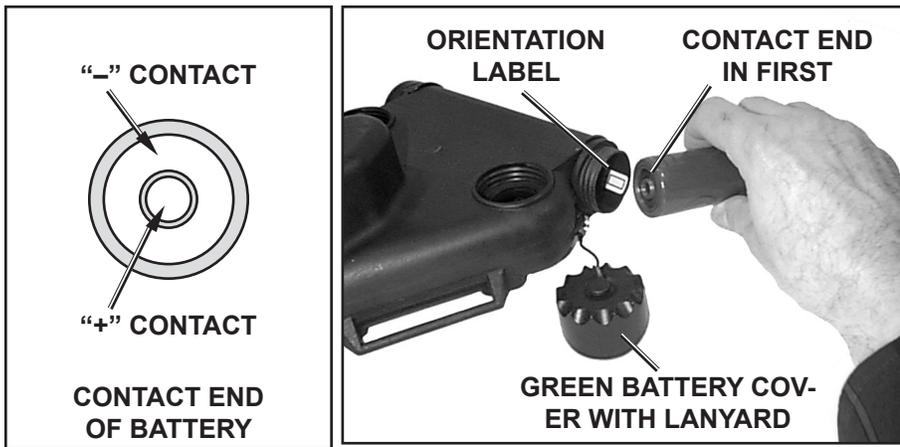


FIGURE 3
BATTERY INSTALLATION

- f). Install the GREEN BATTERY COVER by threading clockwise onto the blower assembly. Tighten *hand tight*. DO NOT OVER TIGHTEN.
4. Turn C420 *Plus* PAPR power switch ON.
5. Position the blower assembly unit in an upright position on a horizontal surface so that the Airflow Indicator is approximately vertical as shown in FIGURE 2. Observe reading on PAPR Airflow Indicator. The red ball shall rise to the top of the PAPR AIR FLOW INDICATOR (FIGURE 2).
6. Run the C420 *Plus* PAPR approximately three hours.
7. After three hours, begin to watch the red ball. When the red ball drops below the line marked on the outside of the column, turn the blower OFF, remove the battery.
8. Recharge the battery according to the battery charging section of this instruction
9. Repeat steps 3 through 8 two more times. After the third recharge, the battery will be fully conditioned for optimum performance.
10. After successful completion of the BATTERY CONDITIONING, turn the power switch to OFF position, remove the Airflow Indicator and place the C420 *Plus* PAPR and the fully charged battery into service. Refer to the USER INSTRUCTIONS provided with your C420 *Plus* PAPR.

CAUTION

BE SURE SWITCH IS SET TO *OFF* POSITION BEFORE REMOVING OR REPLACING THE BATTERY. DAMAGE MAY OCCUR TO BATTERY IF SWITCH IS ON WHEN BATTERY IS INSTALLED.

WARNING

VERIFY THAT THE CORRECT BATTERY COVER IS BEING USED WITH THE SELECTED BATTERY. DO NOT USE THE LONG BATTERY COVER WITH THE SHORTER LISO₂ BATTERY OR THE SHORT BATTERY COVER WITH THE LONGER RECHARGEABLE NIMH BATTERY. USE OF THE INCORRECT BATTERY COVER MAY RESULT IN FAILURE OF THE RESPIRATOR BLOWER WHICH COULD LEAD TO SERIOUS INJURY OR DEATH.