

WP 05-WH1414

Revision 0

Condor Advance 4030C Floor Scrubber, 41-W-003

Technical Procedure

EFFECTIVE DATE: 04/26/10

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APPROVED FOR USE

TABLE OF CONTENTS

INTRODUCTION 3

REFERENCES 3

PRECAUTIONS AND LIMITATIONS 3

PREREQUISITE ACTIONS 3

PERFORMANCE 4

1.0 PREOPERATIONAL CHECKS 4

2.0 SCRUBBER START-UP 6

3.0 SCRUBBER OPERATION 7

4.0 SCRUBBER SHUTDOWN 9

5.0 EMPTYING RECOVERY TANK 11

6.0 EMPTYING DEBRIS TRAY 11

7.0 CLEANING SCRUB BRUSHES 11

8.0 REFILLING SOLUTION TANK 12

9.0 BATTERY CHARGING 12

INTRODUCTION^{1, 2, 3, 4}

This procedure provides instructions for operating the Condor Advance 4030C Floor Scrubber, 41-W-003. An Equipment Logbook is attached to the floor scrubber and is used to record outstanding deficiencies, fluid addition, and other corrective actions.

Performance of this procedure creates records that are documented in the Equipment Logbook.

REFERENCES

BASELINE DOCUMENTS

- WP 02-RC.01, Hazardous and Universal Waste Management Plan
- WP 10-WC3011, Maintenance Process
- WP 12-IS.01, Industrial Safety Program - Structure and Management

REFERENCED DOCUMENTS

- 41-W-003, *Condor Advanced 4030C Operation and Maintenance Manual*
- WP 04-AD3011, Equipment Lockout/Tagout

PRECAUTIONS AND LIMITATIONS

- The Waste Handling Engineer (WHE) must be contacted immediately if operator doubts the safe operating condition of the scrubber.
- If preoperational checks do not meet satisfactory completion, the scrubber shall be operated **ONLY** after it has been serviced and/or repaired, and a satisfactory preoperational check has been performed.
- The recovery tank **MUST NOT** be filled over one inch from top. Also, powdered chemicals **MUST NOT** be used **UNLESS** solution is premixed prior to filling tank.

PREREQUISITE ACTIONS

- 1.0 Perform preoperational checks prior to the first operation of a scrubber on any shift.
- 2.0 Verify area contamination levels are less than established U.S. Department of Energy (DOE) limits requiring radiological controls prior to operating floor scrubber using the latest Radiological Survey information.

3.0 WHE, determine if equipment can be safely operated with an identified deficiency in accordance with 41-W-003. WHE **SHALL** perform the following prior to releasing equipment for operation:

- Determine any special temporary operating instructions.
- Initiate CAUTION tags, as applicable, in accordance with WP 04-AD3011.

PERFORMANCE

1.0 PREOPERATIONAL CHECKS

1.1 Record hour meter reading in Equipment Logbook.

NOTE

Deficiencies such as removing obstacles, cleaning spilled liquids, and removing trash may be corrected while performing checklist.

1.2 Inspect for the following prior to scrubber use (inspections are required only on days when equipment is used):

- General Condition: No damage, loose parts, oil leaks, grease, oil, or trash
- Battery Compartment: Free from acid spills, no loose or missing caps/cables
- Lugs tight
- Tires in good condition, etc.
- Fire extinguisher present and tag indicates inspection date not expired
- Inspect seat belt for wear

1.3 Turn Master Key to **ON** and verify the following:

- Warning lights illuminate
- Horn sounds

1.4 Fasten seat belt and adjust to fit.

1.5 Disengage parking brake.

- 1.6 Drive unit in travel mode (forward and reverse) to test the following:
 - Steering operates smoothly and does not pull to either direction
 - Brakes in good condition and do not drag
- 1.7 Stand up and verify the seat switch cuts off drive power.
- 1.8 Verify charge meter indicates in WORK RANGE.

NOTE

When operating in reverse, the squeegee automatically raises.

- 1.9 Press vacuum switch button and verify the following:
 - 1.9.1 Vacuum motor starts.
 - 1.9.2 Squeegee has full contact with floor.
 - 1.9.3 Vacuum switch indicator light comes **ON**.
- 1.10 Press vacuum switch button and verify the following:
 - 1.10.1 Vacuum motor stops.
 - 1.10.2 Squeegee raises off the floor.
 - 1.10.3 Vacuum switch indicator light goes **OFF**.
- 1.11 Press scrub brushes switch button DOWN and verify the following:
 - 1.11.1 Scrub brushes lower to floor.
 - 1.11.2 Squeegee lowers and has full contact with the floor.
 - 1.11.3 Side brooms lower and have full contact with the floor.
 - 1.11.4 Scrub brushes DOWN indicator light comes **ON**.
 - 1.11.5 Drive forward and verify vacuum system comes **ON**.
- 1.12 Verify solution button indicator light is **ON** and solution spray operates.
- 1.13 Press solution button to verify solution spray stops.
- 1.14 Press side broom OFF/UP button and verify brooms rise off floor.

- 1.15 Press scrub brushes button UP and verify the following:
 - 1.15.1 Scrub brushes raise off floor.
 - 1.15.2 Squeegee raises of floor and vacuum motor stops.
 - 1.15.3 Scrub brushes DOWN indicator light goes **OFF** and UP indicator light is **ON**.
 - 1.16 Engage parking brake.
 - 1.17 Turn key to **OFF** position.
 - 1.18 Initiate Action Requests (ARs) to address any deficiencies that cannot be corrected by Waste Handling Operations (WHO).
 - 1.19 Notify the WHE of the operational status of the floor scrubber, and of any deficiencies discovered during checks, and their status (corrected, ARs generated, etc.).
 - 1.20 Record the following in Equipment Logbook:
 - Verification that area contamination levels are less than established DOE limits requiring radiological controls, using the current weekly survey for the RH or CH Bay, as applicable.
 - Verification of equipment status – satisfactory or unsatisfactory
 - Any corrective actions taken
 - Deficiencies which were not corrected
 - Outstanding/newly generated ARs
 - 1.21 Enter time and date, and sign Equipment Logbook to document performance of preoperational checks.
- 2.0 SCRUBBER START-UP
- 2.1 If scrubber battery has been charged, perform the following to disconnect scrubber from battery charger:
 - 2.1.1 Ensure CHARGE lights on charger are **OFF**.
 - 2.1.2 Disconnect charger power cord from scrubber battery power plugs.
 - 2.1.3 Connect battery power plugs to scrubber power plugs.

- 2.2 Ensure preoperational check for current shift is complete in Equipment Logbook.
- 2.3 Turn Master Key to **ON**.
- 2.4 Turn lights **ON**, as necessary.
- 2.5 Release parking brake.
- 2.6 Depress foot control pedal for traveling.

NOTE

Broom FULL FLOAT is used only on very irregular or uneven floors. Use at other times gives poor sweeping service and increases wear on broom.

NOTE

When operating in reverse, the squeegee automatically raises.

3.0 SCRUBBER OPERATION

- 3.1 Press scrub brushes button DOWN if scrub brushes are required.
- 3.2 Verify the following occurs:
 - Scrub brushes lowers to floor
 - Brooms lower to floor
 - Squeegee lowers to floor
 - Scrub brushes DOWN indicator light comes **ON**
 - Brush motor and vacuum motor start when tramming in FWD/REV
- 3.3 Press scrub brushes UP button when scrub brushes are no longer required.

- 3.4 Verify the following occurs:
- Scrub brushes raises to UP position
 - Brush motor stops
 - Squeegee raises and vacuum motor goes **OFF**
 - Scrub brushes UP indicator light turns **ON**
 - Vacuum switch indicator light goes **OFF**
- 3.5 Press vacuum switch button DOWN if additional squeegeeing is required.
- 3.6 Verify the following occurs:
- Squeegee lowers to floor
 - Vacuum motor starts
 - Vacuum DOWN indicator light comes **ON**
- 3.7 Press vacuum switch button when squeegee is no longer required.
- 3.8 Verify the following occurs:
- Squeegee raises to UP position
 - Vacuum motor stops
 - Vacuum switch indicator light goes **OFF**

NOTE

Too much solution can affect pickup performance and sweeping effectiveness.

- 3.9 Press solution button and verify indicator light is **ON** to dispense amount of solution desired.
- 3.10 Press solution button and verify indicator light goes **OFF** when cleaning solution is no longer required.
- 3.11 Begin scrubbing with slow, even, forward pedal pressure, since scrubbing results will usually be best when done at low speeds.

NOTE

If all solution is not picked up, too much solution is being dispensed **OR** squeegee adjustment may be required.

- 3.12 Ensure all solution is being picked up.
- 3.13 If excessive foaming occurs while scrubbing, add defoaming agent to recovery tank.
- 3.14 If double scrubbing is required due to very dirty floors, scrub as follows:
- 3.14.1 **DO NOT** attempt to scrub too large an area at one time to prevent area from drying.
 - 3.14.2 Make first pass with squeegee UP to allow solution more time to work.
 - 3.14.3 Make second pass with squeegee DOWN to pick up accumulation.
- 3.15 Perform the following if DRAIN RECOVERY TANK warning light comes **ON**, signifying filling of recovery tank:
- 3.15.1 Immediately raise scrub brushes.
 - 3.15.2 Perform Section 5.0, Emptying Recovery Tank.
 - 3.15.3 Perform Section 8.0, Refilling Solution Tank, if required.
- 3.16 When scrubbing is completed, **GO TO** Section 4.0, Scrubber Shutdown, and shut down scrubber.
- 4.0 SCRUBBER SHUTDOWN
- 4.1 Ensure scrubber is clear of exits, access to stairways, and fire equipment.
 - 4.2 Engage parking brake.
 - 4.3 Ensure the following:
 - Scrub brushes UP button indicator light is **ON** and DOWN indicator light is **OFF**.
 - Squeegee is in UP position.
 - Vacuum switch indicator light is **OFF**.

- Brooms are in the UP position.
 - Solution button indicator light is **OFF**.
- 4.4 Turn Master Key to **OFF**.
- 4.5 **GO TO** Section 5.0 followed by Section 6.0, and Section 7.0, Cleaning Scrub Brushes, perform all steps in sequence, and **RETURN TO** Step 4.6.
- 4.6 Clean vacuum filter as follows:
- 4.6.1 Open small filter door.
 - 4.6.2 Remove filter.
 - 4.6.3 Rinse filter in clean water.
 - 4.6.4 Wring out and dry filter thoroughly.
 - 4.6.5 Replace filter.
 - 4.6.6 Close small filter door.
- 4.7 Flush vacuum hose and pickup tool as follows:
- 4.7.1 Open left side rear access door to recovery tank.
 - 4.7.2 Run water down through pickup tube (left side of tank from rear of machine).
 - 4.7.3 Ensure full length of tool between blades is clear of obstructions, cleaning tool, and blades as necessary.
 - 4.7.4 Verify blades for wear and tear.
 - 4.7.5 Close left side rear access door to recovery tank.
- 4.8 Clean outside of machine using a clean, damp cloth, moistening cloth with auto wax for extra protection.
- 4.9 Inspect machine for loose or damaged parts.
- 4.10 **IF** charge meter indicates low in WORK RANGE, or out of WORK RANGE,
THEN perform Section 9.0, Normal Battery Charge.

NOTE

Sections 5.0 through 9.0 will be performed only when required.

5.0 EMPTYING RECOVERY TANK

5.1 Ensure master key is in **OFF** and parking brake is engaged.

NOTE

The recovery tank can be tipped in its mount for sludge removal and flushing.

5.2 Remove drain valve from hanger and empty tank.

5.3 Deposit water into a collection container or dump water into sanitary sewer.

5.4 Flush tank and drain hose with clean water.

5.5 Replace drain valve on hanger.

6.0 EMPTYING DEBRIS TRAY

6.1 Ensure master key is in **OFF** and parking brake is engaged.

6.2 Open lower side skirt on right side of machine.

6.3 Slide tray out of machine.

6.4 Empty tray.

6.5 Flush tray with water to clean perforations.

6.6 Slide tray into machine.

6.7 Replace lower side skirt on right side of machine.

7.0 CLEANING SCRUB BRUSHES

7.1 Ensure master key is **OFF** and parking brake is engaged.

7.2 Ensure scrub brushes switch is in UP with scrub brushes raised.

7.3 Remove scrub brushes as follows:

7.3.1 Remove both side skirt assemblies.

7.3.2 Loosen black knobs on top of idler assemblies and disengage from notches.

- 7.3.3 Lift brushes slightly and pull until they unseat.
- 7.3.4 Slide each brush from under brush holder.
- 7.4 Rinse brushes under running water.
- 7.5 Inspect brushes for wear.
- 7.6 Replace with new brushes, if necessary.
- 7.7 Reinstall scrub brushes as follows:
 - 7.7.1 Slide each brush under brush holder.
 - 7.7.2 Lift slightly, push and turn until it seats.
 - 7.7.3 Reinstall idler assemblies.
 - 7.7.4 Reinstall side skirt assemblies.
- 8.0 REFILLING SOLUTION TANK
 - 8.1 Ensure master key is in **OFF** and parking brake is engaged.
 - 8.2 Open solution tank cover.
 - 8.3 Fill solution tank with correct mixture of clean water and appropriate cleaning solution in accordance with manufacturer's recommendation.
 - 8.4 Close solution tank cover.
- 9.0 BATTERY CHARGING

CAUTION

Batteries must not be charged unless conditions in prerequisite actions, **OR** Step 4.10, are met. Except for emergencies, charger must be allowed to complete charge cycle since partial charges, or charges starting at near full capacity, significantly shorten battery life.

- 9.1 Move scrubber to charging area.
- 9.2 Apply parking brake.
- 9.3 Turn master key to **OFF**.

- 9.4 Tilt the recovery tank forward.
- 9.5 Open battery cover.
- 9.6 Leave open while charging.
- 9.7 Disconnect battery power cable from scrubber.
- 9.8 Connect battery power cable to charger cable.
- 9.9 Observe charger automatically starts after a short (approximately 30-second) delay.