

FORTE Bale Press Electrode/Coverplate Cleaning Procedure, #85-1021 A

Follow all specified lockout and safety requirements while working on the press.

Electrode/coverplate assemblies weigh between 350 to 1000 pounds.

Use care when removing and handling these components.

- This procedure is recommended to be performed at least once a year and should be done more often if hydraulic fluid leaks and grease deposits are prevalent at the bale press.
- Pooling of hydraulic fluid under the electrode and coverplate must be kept to a minimum.
- Accumulated deposits of pulp and grease along the sides of the electrode and especially around the mounting bolts and bushings should be cleaned away weekly.

Cleaning and Checkout Procedure:

1. Lower the FORTE Electrode/Coverplate Assembly on to the top of a compressed bale.
The assembly should be evenly centered on the bale. Make sure that all mounting bolts are accessible.
2. Disconnect the black coax cable from the right-angle BNC connector on the side of the electrode.
3. **IMPORTANT: MARK THE SIDE OF THE ELECTRODE WITH AN ARROW POINTING TOWARDS THE COVERPLATE SO THAT YOU KNOW WHICH SURFACE SHOULD CONTACT THE COVERPLATE WHEN YOU REASSEMBLE THE COMPONENTS AFTER CLEANING.**

If a FORTE identification label is on one of the side surfaces, it should be right side up and readable (not upside down) when the electrode and coverplate are installed correctly. See picture on the next page.

4. **Disconnect** the braided ground lead from the bleeder resistor assembly to the press ram. Disconnect the black wire lead from the bleeder resistor assembly to the coverplate. The bleeder resistor assembly is the 2.5" x 1.5" x 1" gray PVC block located between the two BNC coax connectors on the entry side of the press electrode.
5. **Remove** each of the mounting bolts, split-ring lock washers, hardened flat washers and the white insulating bushings from the assembly. "Dished" or concave flat washers should be replaced.

NOTE: None of the metal hardware should extend over the edge of the flange on the insulating bushing when mounted in place.

6. **Clean** all mounting hardware with a degreasing agent and inspect for deformities, damaged threads and cracks. Replace damaged components.
7. **CHECK ALL BUSHINGS FOR CRACKS**
Replace any cracked or severely deformed bushings.
The sides of the flange should not be rounded or compressed.
Intermittent shorting of the stainless steel coverplate to the mounting hardware during pressing is often the result of using damaged bushings.

8. **Clean all surfaces** of the electrode, coverplate and press ram. Usually it is only necessary to wipe-down all surfaces to remove hydraulic oil, grease, and accumulated pulp deposits. If deposits are severe, clean the components with a non-corrosive degreasing agent such as a citrus-based cleaner and scrape clean with a putty knife.

A cleaning agent recommended by our vendor specifically for the epoxy resin electrode is ACETONE.

Do not use chlorinated metal cleaners on the epoxy resin electrode, or any cleaning agent that dries out plastics.

9. Remove any metal filings from the press ram surface, especially near the electrode mounting holes. If compressed air is available, blow out the mounting holes to remove any loose metal filings.
10. **Inspect** all surfaces of the coverplate and electrode for cracks and severe pitting.
If erosion or pitting of more than 1/8" is evident on the electrode surface that contacts the coverplate, please notify FORTE TECHNOLOGY.

11. **Inspect** the BNC coax connectors on the electrode.
 They should not be loose, broken or deformed.
 Secure with 4-40 machine screws.
 Clean with a spray contact cleaner if the center contact sockets are dirty or grease-filled.
 If one of the right-angle BNC connectors is missing, it should be replaced with Forte part number 16-1004, or Amphenol part number 5675.
 If the connector is not replaced, fill the mounting hole with a non-conductive silicone/latex sealant or a non-metallic, quick drying epoxy.
 Notify FORTE TECHNOLOGY if the black wire leads to the coax connectors are damaged or missing.
12. Re-assemble the components.
 The bottom side of electrode should be next to the coverplate.
 Attach the electrode/coverplate assembly to the press ram with the mounting hardware.
 Minimum torque is 20 ft-lbs. per mounting bolt for a ¼” thick stainless steel coverplate.
 Maximum torque must be decided upon by the installer, but do not over-tighten the mounting bolts so that the bushings are compressed or cracked.
13. The moving press platen/ram should have a solid connection to earth ground through the superstructure of the press and through the conveyor running under the press. Use an ohmmeter to measure the resistance between a bare metal spot on the press platen/ram and a bare metal spot on the conveyor base running under the press. The ohmmeter should read close to 0.00 ohms resistance. If the resistance is not 0.00 and more than a few ohms, a flexible copper welding cable should be attached from the press platen/ram to one of the press legs. FORTE provides a ground wire with terminal rings on the black cable that connects the oscillator/signal generator at OJ1 to the photocontrol unit at J2. Make sure that these terminal rings are secured to bare metal at both locations.
14. The bleeder resistor leads should still be disconnected from the coverplate and press platen. The coaxial cable from the FORTE oscillator/signal generator should be disconnected from the BNC coaxial connectors on the electrode. Use an ohmmeter to measure the resistance between the coverplate and a bare metal spot on the press platen/ram. The ohmmeter should read an open line.
15. With the bleeder resistor and oscillator still disconnected, press a bale or lower the press onto a bale that has already been pressed. With the bale under compression, use an ohmmeter to again measure the resistance between the coverplate and a bare metal spot on the press platen/ram. The ohmmeter should read an open line. If resistance is measured, one of the bushings is likely defective. Remove the mounting bolts one at a time and re-measure the resistance until the defective bushing is located.
16. Connect the black wire lead from the bleeder resistor assembly to the coverplate.
 Connect the braided ground lead from the bleeder resistor assembly to the press ram.
 Both connections should be very secure. Use lock washers.
 With the FORTE oscillator/signal generator disconnected from the BNC coaxial connectors on the electrode use an ohmmeter to measure the resistance between the coverplate and a bare metal spot on the press platen/ram. The ohmmeter should read between 468K to 500K ohms resistance.
17. Raise the press platen with the electrode assembly off the bale and up to the highest position. Connect all FORTE cables. Use the OSCILLATOR TEST command in the FORTE program to record the basic Frequency and Difference for the FORTE oscillator/signal generator when connected to this electrode assembly. The Frequency will change slightly for each test. The reported Difference (FORTE Number) should not be greater than +/-3 Hz when the electrode is at rest and there is not movement of any type near the press area.

Contact FORTE TECHNOLOGY if the reported Frequency is variable in more than the three least significant digits from one test to the next, or if the DIFFERENCE exceeds +/-3Hz from one test to the next.

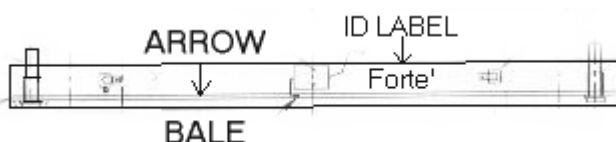


Figure 1. Side view of the Coverplate and Electrode as mounted to the press ram. Note the orientation of the word “Forté” on the ID Label. If the electrode is installed upside down, sensitivity will be reduced leading to higher %Air Dry measurements.