

# Troubleshooting Guide and Operating Tips for Concrete Plants

It is recommended that any new plant operator obtain a Concrete Plant Operators Manual written by the Concrete Plant Mfg. Bureau & the NRMCA committee on Research Engineering & Standards. These can be purchased from the National Ready Mix Concrete Association, 900 Spring Street, Silver Spring, MD 20910. You can also reach the Association at (301) 587-1400 extension 121. Of course for any problem you may contact your dealer or our factory at 1-800-626-0200 or 270-487-6774.

## **CAUTION: ALWAYS LOCK OUT POWER BEFORE SERVICING EQUIPMENT**

### **A. Bindicators (Trouble Shooting)**

**SYMPTOM:** Indicating light does not come on.

**CAUSE:** Bad or burned out light, motor burned out inside the bindicator. Before making repairs, it is recommended to call a qualified electrician.

**REPAIRS:** Need to be done with the power locked in off position. Check bulb if faulty replace with new bulb.

### **B. Cement Aeration (Operating Tips)**

B1.) Before starting adjust aeration pressure on filter regulator located on silo leg. To adjust regulator pull up on knob to unlock. Turn counterclockwise to decrease pressure. Adjust pressure to 10 to 15 pounds of pressure then push down on knob to lock.

B2.) Check regulator periodically to assure that the moisture traps are draining properly. Water traps drain automatically at zero pounds pressure.

B3.) Stephens aeration systems are designed to operate both manually and automatically. Proper operation should be as follows. Turn aeration selector switch to left which is manual position for 10 to 15 minutes before batching each day. Then turn to right position for remainder of day. In this position aeration will automatically aerate when material is called for. "Center position is off."

B4.) Trouble Shooting Guide for Aeration System

**SYMPTOM:** Pressure on gauge but material not flowing properly.

**CAUSES** Aeration screens are stopped up, or blown completely out of fittings.

**REPAIR:** (1) Moisture getting into screens. Check water trap unit to make sure it is draining properly. Remove screens and replace, blow out airline and reinstall.  
(2) Remove all aeration tees and check screens. Clean out hoses and replace fittings.  
If moisture is getting into silo, check for leaks when blowing in new cement.

### **C. Filter Vent Bags (Operating Tip)**

Filter vent bags should last from 2 to 6 years, depending on usage. If excessive bag water is noted, check how bag shaker is being operated. Bags are to be shaken only after cement truck is unloaded. This should be done 5 to 6 minutes if at all possible.

Trouble Shooting guide for filter vent systems

**SYMPTOM:** Excessive dust coming from filter vent

**CAUSE:** Hole in filter vent bag or worn bags, Hole or crack in bottom of filter vent.

**REPAIR:** Replace damaged bags with new ones, find hole and repair.

**SYMPTOM:** Pop-off valve opens when truck unloads

**CAUSE:** Bags are too dirty or moisture is getting into vent causing cement to cake on bags.

**REPAIR:** Shake bags 5 minutes after each load of material is blown into silo. Find hole where moisture is getting into the tank and repair.

### **D. Gates & Butterfly Valves: (Operating Tips)**

On the ready mix plant, gates do the majority of the work & consequently have the most wear. Wearing parts need adjustment plus lubrication; replacement of some parts may be required. Air pressure on gates should range from 75 to 100 psi, this can be regulated up or down to compensate for too fast or slow gate opening.



# Troubleshooting Guide and Operating Tips for Concrete Plants (cont.)

Low air pressure at gate can result in a sluggish gate or one that will not open. This could be caused by several different things: control valve plugged or damaged air line lubricator, regulator, airline, air cylinder or air compressor problems.

**E. Air Compressor:**

Most air compressors operate in a pressure ranges greater than required by the plant. 150 lbs of air pressure at the pressure tank should be plenty to operate devices on the plant. Air compressor maintenance is essential, drain water from the tank as well as from Filter Regulator units.

**F. Gear Reducers:**

**CAUTION:** This unit contains 85W140Arco oil. Before operation, the operator will need to check for leakage & see that proper oil level is attained. Any oil that is the same grade as the 85W140 Arco will most likely work but check enclosed manual for further details.

**G. Screw Conveyors:**

The most common problem encountered is the development of a clog inside the conveyor. When this happens, follow the following procedure: Lock out power & turn screw in reverse by hand as far as possible till clog loosens or screw stops turning. If screw stops, start screw forward with motor until it stops then turn by hand in reverse as far as possible. Repeat procedure until clog is removed. Jogging of screw conveyor is not a good practice as this can be a quick way to burn out a motor. However, an occasional jog to correct an underweight lockout condition is considered not to be frequent enough to overheat the motor.

**CAUTION: NEVER OPERATE SCREW IN REVERSE . MOTOR WILL BURN OUT.**

**H. Air Cylinder: (Operating Tips)**

All air cylinders require lubrication. The cylinders have rebuild kits available, We also have a large stock of different size cylinders. Make sure all fittings on cylinders are tightly sealed. Keep a periodical check on all cylinders.

**I. Scales: (Operating Tips)**

Scales should be checked regularly by a qualified scale mechanic.

**J. Lubrication: (Tips)**

Solenoids should be lubricated via lubricator located on F.R.L. Lubricant should be automatic transmission fluid of a good grade. A percentage of wood alcohol can be used during cool weather to prevent freezing. Adjustment of lubricator can be made on the top of the lubricator, and by looking through sight glass on top of the lubricator. The correct amount of oil if determined with the vibrators running. There should be a drop of oil every three seconds looking through the sight glass on top of the lubricator. Too much oil will cause solenoids to stick or become sluggish. Not enough will cause seals to dry out resulting in excessive wear on solenoids and air cylinders.

**Trouble Shooting Tips**

**SYMPTOM:** Gate creeps open

**CAUSE:** Seal bad in air cylinder, spool bad in solenoid valve.

**REPAIR:** Loosen hose fittings on open side of air cylinder. Replace or repair. Check for leaks in airline going to gates. Always check air cylinder first, if no air comes out of open port on cylinder, then replace or rebuild solenoid valve.

**SYMPTOM:** Gate will not open or close

**CAUSE:** Bad air cylinder or solenoid

**REPAIRS:** See if indicating lights on the solenoid valve comes on when button is pressed. If so, use the manual override on solenoid. If the gates open or close, replace or repair solenoid. If lights do not come on when push button is pressed, call a qualified electrician to trouble shoot the problem with volt meter.

As in all types of operations, good housekeeping is essential for both maintenance & safety. No plant is designed to run without proper maintenance.

