

Listing of All Equipment and Preventive Maintenance Procedures

1 - General Area

This covers the general concerns of the plant.

Other

2 - Outside Perimeter Mnerva

Care should be taken to keep this area clear of weeds and debris. The area can harbour pests. Any spilled raw materials should be cleaned up to eliminate attracting feed for pests. Any exterior damage should be repaired to eliminate points of entry for pests.

Main Access Gate

General service.

Do this every 30 days

Inspect and check operations.

Turn off main gate power and implement lock-out.

Check wire connections.

Inspect and grease idler roller.

Remove guard and check condition of motor.

Check and oil pull-chain.

Check and clean sensor and reflector.

Replace guard

Remove lock-outs and restore power.

Check operations.

Compactor

Control panel

General Service

Do this every 30 days

Inspect and Service

Shut off main power and lock-out the power supply

Compactor

General Service

Grease all bearings

Inspect all hydraulic hoses for cracks and wear.

Check hydraulic fluid level

Inspect all moving parts for wear.

Remove lockout and restore power.

Corn Silo

Soya Silo

Nitro bulk tank

Nitrogen exhaust vent house

Nitrogen exhaust vent

Drag conveyer

Garbage area

Propane bottle storage

Lard Tank

Agitator

Lecithin Intake Pipe

Outdoor water hose tap

Plant vacuum cleaner

Rooftop Air conditioners (2)

The roof area holding the air conditioners has access through Maintenance Service Area #1

General Issues

Do this every 7 days

Inspect and clean

Shut off main power and lock-out the power supply

Remove all panels

Remove screens and filters

Inspect main drive v-pulley belt and replace if necessary

Wash unit thoroughly

Replace screens and filters

Replace all panels

Ensure that the unit and area are safe and restore power to the unit.

Other

3 - Compressor Room

It is important to recognize this area as a potential point of entry for pests. Care should be taken to maintain the cleanliness and integrity of this remote location.

Air Compressor #1

General Service

Do this every 30 days

Inspect and service

Shut off main power and lock-out the power supply

Remove panels

Remove filters, inspect and replace if necessary.

Inspect cooling fans and belts

Blow out cooling coil with air and wash if necessary

Inspect discharge lines for leaks

Air Compressor #1

General Service

- Check oil level and top up if necessary
- Check and record running hours
- Grease applicable areas
- Replace panels and filters
- Remove lock-outs and restore power
- Let unit run and restore full pressure
- Recheck oil level
- Check and record pressure gauge and temperature gauge

Do this every 92 days

- Running hours maintenance
 - Turn off power and lock-out
- Remove and replace air filter
- Remove and replace oil filter
- Drain oil and dispose of.
- Fill oil to proper level
- Remove lockout and restore power
- Observe operation, recheck oil and record hours, pressure

Air Compressor #2

General service

Do this every 30 days

- Inspect and service
 - Shut off main power and lock-out the power supply
- Remove panels
- Remove filters, inspect and replace if necessary.
- Inspect cooling fans and belts
- Blow out cooling coil with air and wash if necessary
- Inspect discharge lines for leaks

Air Compressor #2

General service

- Check oil level and top up if necessary
- Check and record running hours
- Grease applicable areas
- Replace panels and filters
- Remove lock-outs and restore power
- Let unit run and restore full pressure
- Recheck oil level
- Check and record pressure gauge and temperature gauge

Do this every 92 days

- Running hours maintenance
 - Turn off power and lock-out
- Remove and replace air filter
- Remove and replace oil filter
- Drain oil and dispose of.
- Fill oil to proper level
- Remove lockout and restore power
- Observe operation, recheck oil and record hours, pressure

Air Dryer

Oil separator

General service

Do this every 30 days

- Inspect and clean
 - Shut off main power and implement lock-out
 - Open bypass valve.
 - Close inlet valve and outlet valve.
 - Drain excess air.

Air Dryer

General service

Remove filter, inspect and clean or replace if necessary.

Check out discharge.

Clean fan blades and cooling coil.

Slowly open outlet valve and inlet valve and pressurize unit.

Close bypass valve.

Remove lock-outs and restore power.

Run unit and note temperature and running hours if applicable.

Compressed air holding tank

General service

Do this every 7 days

Inspect piping for leaks

Do this every 30 days

Drain tank and inspect

Inspect piping for leaks

Open bypass valve and close inlet valve and outlet valve

Open drain valve and drain tank. Observe and note water content.

Close drain valve and slowly open inlet valve to pressurize tank.

Open outlet pipe.

Close bypass valve.

Lard tank control panel

A/C drive for fat blending tank agitator

Electrical distribution panel #1 single phase 100 amp

Electrical distribution panel #2 single phase 100 amp

60 amp 600 volt subservice

60 amp 600 volt subservice

100 amp 600 volt subservice

Exhaust fans

Reverse acting thermostat controlled exhaust fan

600 volt, 30 amp welding electrical outlets inside

600 volt, 30 amp welding electrical outlets outside

Maintenance equipment

Other

4 - Hand Add

Make sure this area is cleaned regularly.

Scale

Dust collectors

Slide valves

Between 2 and 3

Elevator

Electric motor

Bench scale

Hopper

Hopper

Auger to scale

Other

6 - Dumping Station # 1

4 tanks 1 through 4

4 Electric motor 5 hp

4 augers

Dust collectors

Chain operated diverter

Slide valves

Elevator

Crane hoist #1 Dumping area

Other

8 - Bagging Area

Holding hopper above scale feed hopper

Whirly Cleaner

Whirly Cleaner Auger

Slidell Elevator

Transfer augers

Slidell Bagger Scale Feed Hopper

Slidell Bagger

General Issues

General Service Issues

Frequent inspection for loose nuts, bolts and set screws should be made. Loose fasteners can cause serious damage to the equipment and possible injury to plant personnel as well as poor performance.

Routine maintenance should also include equipment wipe down to eliminate build-up of material on the frame and moving parts. Touch-up of painted parts where chips and scratches have appeared should also be done. Non-painted parts should be treated with a corrosive inhibitor that leaves a thin film residue.

Lubrication. All gear reducers are filled to the proper level prior to shipment with the appropriate grade of oil for operation in the industrial environment. The oil level should be checked prior to operation using the oil level plug provided for that purpose.

The oil in the new gear reducer should initially be drained (using the drain plug provided) at the end of 240 hours of operation. (30 days for 8 hour per day service, 15 days for 16hour service, 10 days for 24 hour service).

When changing oil for any reason, it should be remembered that oils of various types may not be compatible. Therefore, when changing to a different oil, it is recommended that the housing should be completely drained and thoroughly flushed with a light flushing oil prior to refilling with the appropriate lubricant.

Slidell Bagger

General Issues

Under normal conditions, after the initial change, the oil should be changed after every 2500 hours of operation or every 6 months, whichever occurs first. Under severe conditions (rapid temperature changes, moist, dirty or corrosive environment), it may be necessary to change oil at intervals of one to three months. Periodic examination of oil samples taken from the unit will help establish the appropriate interval.

If a gear reducer is to stand idle for an extended period of time (such as when used as a spare), it is recommended that the reducer be filled completely with oil to protect interior parts from rust and corrosion due to condensation inside the housing. Be sure to drain the oil to the proper level before placing the reducer into service.

If the ambient temperatures are abnormally low or high, the type of lubricant installed at the factory may not be suitable. See the chart below for extreme temperature lubrication recommendations.

Gear reducers in normal operation can generate temperatures up to 200 degrees F depending on the type of reducer and the severity of the application (loading duration of service, ambient temperatures).

Excessive oil temperatures may be the result of one or more of the following factors. A. OVERLOAD B. OVERFILLING OR UNDERFILLING C. INADEQUATE COOLING

Once a month, grease all pivot points where grease zerks are located. The idlers could be lubricated using a spray lubricant. Do not over grease --- this may result in unsightly grease runs and cause entrapment of grit and abrasive materials which can reduce the life of the equipment.

Electrical panels and junction boxes must be kept securely closed at all times. Gaskets and seals should be maintained to exclude migration of dust into the enclosure.

The use of equipment frame, electrical enclosures, etc., as work platforms or storage areas can be damaging to the equipment as well as a safety hazard for plant personnel.

Air supply filters should be checked daily for water and foreign debris. The air supply cannot contain water or oil for proper equipment operation.

Do this every day

Bag-In-Place sensors should be checked daily for alignment.

Photo Eyes should be cleaned and checked daily for alignment.

Paper bag sealer belts should be cleaned and checked daily.

Listing of All Equipment and Preventive Maintenance Procedures

Slidell Bagger

General Issues

Bag Arm clamps should be checked daily for proper bag top opening.

Tracking of all conveyor belts should be checked daily.

Do this every 7 days

All air cylinders should be checked weekly for air leaks and jerky motion. If an air cylinder has jerky motion or an air leak, the seal should be replaced.

Check alignment of MC lift post weekly.

Check the air lubricator and fill if necessary weekly.

Clean MC vee wheels and flat wheel tracks weekly.

Check vacuum pump oil weekly.

Tension of all drive belts should be checked weekly.(MC infeed belts and MC timing belts), (Transfer arm timing belt), (Bag arm timing belt Auto adjust only)

Check for loose bolts.

Do this every 14 days

Check Spout Clamp rubber biweekly for excessive wear.

Check Gusset Gripper rubber biweekly for excessive wear.

Check MC Forming Arm rubber biweekly for excessive wear.

Check Spout cylinder bracket bolts biweekly for tightness.

Air supply filters should be checked biweekly for water and foreign debris. The air supply cannot contain water for proper equipment operation.

Do this every 30 days

Once a month, grease all pivot points where grease zerks are located. The idlers could be lubricated using a spray lubricant.

Toe-in of the top forming arms should be checked monthly for adjustment. Also, check the top forming arm rubber gripper monthly.

Skirt 30X60X4 1/2

Slidell Bagger

Transition Chute

Skirt 28.00 X 28.00 X 6.00 X 9.00

Discharge Swing

Discharge Chute

Grippers, Gripper Arm

5" Clam Jaw

5" Spout Liner

7" Clam Jaw

7" Spout Liner -

Bag Arms

Do this every day

Clean bag arm acme threaded rod before making any bag arm width adjustment.

Gusset Wedge

Bag Arm Adjust

Lift Post, Mc

Transfer, Mc

Lift Frame

General Service Issues

Air Lubricating System

Slidell Bagger

Lift Frame

Air Lubricating System The Slidell-Matic Model 3120 requires a clean and dry air supply. The air system is plumbed for single point hook-up for ease in installation. An air supply shut off valve with a special lock-out feature for safety is provided. The standard SLIDELL- MATIC 3120 bagging system is equipped with a lubricating system that dispenses a small amount of lubrication into the air supply. This lubricates the air cylinders in the system to maintain smooth operation. Use JOHN HENRY FOSTER SYNTHETIC ROTARY SCREW COMPRESSOR FOOD GRADE CP-4600-46-F or equivalent. The valve control on the lubricator should be opened so that approximately one drop of oil is dispensed every 3 to 5 minutes. Note: Maintenance And Inspection Frequency May Vary Depending On The Product, The Environment And The Number Of Operating Hours.

Main Air, Mc

Belt Infeed, Plates

Belt Infee,D, Drive

Belt Infeed, Speed

Mc Cam Handle, 17 1/2

Magazine, Transfer Arm

Magazine, Swing Tray

Magazine, Conveyor

Do this every 30 days

Magazine, Bag Adjust

Do this every 30 days

Magazine, Main Frame

Do this every 30 days

Bag Magazine

Slidell Bagger

Bag Magazine

Bag Rail

Bag Bump, Quick Adjust

Turnstile

Main Air

Upper Valve Bank

Middle Valve Bank

Lower Valve Bank

Busch Pump

General Service Issues

Busch Vacuum Pump Maintenance: (A) Pump Oil - With the pump shut off, make sure that there is a sufficient amount of oil in the pump. The oil level should be observed on a daily basis and be replenished if it drops below the 1/2 full mark. All oil level readings should be done when the pump is not running. Allow the oil to settle before adding any oil. When the pump is running, the oil may appear to be foaming which is a normal phenomenon with aerated oils. Oil can be added to the pump after it has been shut off and the circulating oil has had sufficient time to return to the oil sump. Under normal circumstances, it should not be necessary to add or drain oil from the pump between recommended oil changes. A significant drop in oil level means that there is an oil leak or that an exhaust filter is broken and the pump will be smoking excessively. It is normal for the oil to be foamy and light in color in an operating pump. However, if the oil is milky or dark colored, it is contaminated or burned and must be changed
CAUTION: Do not add oil while the pump is running since hot unfiltered oil vapor may escape through the oil fill port.

Under normal circumstances, it should not be necessary to add or drain oil from the pump between recommended oil changes. A significant drop in oil level means that there is an oil leak or that an exhaust filter is broken and the pump will be smoking excessively. It is normal for the oil to be foamy and light in color in an operating pump. However, if the oil is milky or dark colored, it is contaminated or burned and must be changed.

Slidell Bagger

Busch Pump

Busch Vacuum Pump Maintenance: (B) Oil Change - Every three 3 months or 500 operating hours, the oil and filter should be changed. Shut the pump off, remove the drain plug and drain the hot oil from the pump. The oil filter should be changed at the same time as the oil.

Busch Vacuum Pump Maintenance: (C) Exhaust Filter - Every nine (9) to eighteen (18) months or when necessary, the exhaust filter element should be changed. The service life of the exhaust filter varies widely with pump application. It is only necessary to change the filter element when it becomes clogged with foreign material or the oil has been burned. If the filter element is clogged, the exhaust pressure gauge will read in or close to the red zone, smoke or oil mist will be coming from the pump exhaust, or higher than normal motor current occurs. To actually test an exhaust filter element, remove it from the pump, allow it to cool, clean the sealing end, put it to your mouth and attempt to blow through it. Your lungs can generate approximately 3-6 psi which is the same as the maximum allowable operating pressure across the filter. So if you can blow through the filter, it is good and can be put back in the pump. If you cannot blow through the filter element, discard it and replace it with a new one. It is not possible to successfully clean a clogged filter element. In the case where the filter element is cracked, discard it and replace it with a new one.

Busch Vacuum Pump Maintenance: (D) Vacuum Inlet Filter - The vacuum pump is equipped with a special vacuum inlet filter. These filters should be checked on a weekly basis and changed accordingly.

Vacuum Valves

Do this every day

Vacuum filters should be checked and cleaned daily.

Bag arm vacuum cups and transfer arm vacuum cups should be checked daily for excessive wear and replaced if they are defective.

Vacuum lines should be checked daily for excessive wear.

Do this every 30 days

Expanded Metal Doors

Check Weigher

Pallet Stacker

Pallet Stacker

Reject conveyor

Bag Kicker

Conveyor

Sewing Machine

Gluer

Printer

Roller conveyor

Chain Conveyor

Bag Flattener Conveyor

Stretch Wrapper

Other

10 - Pellet Mill

Hand Add Station

Elevator #1

Bearing Hanger

Water Tank

Mixer

Pellet Mill

Die assembly

Conveyor

Cooler

Shaker

Bulk Release Tubes

Fat Tank

Premix Tank

Air Ducts

Other

11 - Medication Room

Special consideration must be given to the guarantee of accuracy of the specialized scales, the cleanliness of the area and the neatness and organization of the materials stored here.

Bench Scale

General Issues

Do this every 365 days

Annual calibration.

This is done by KW Brant Scales under contract.

Exhaust Fan

Other

12 - Process Warehouse

Dock levelers

Other

13 - Fat Room

Fat pump

Hoses

Piping

Valve 1

Valve 2

Valve 3

Valve 4

Valve 5

Lockout for pump

Other

16 - Maintenance Service Area #1

Hot water tank

Bell network

Modem Air Products

Transfer Switch

Modem for Slidell

Other

17 - Maintenance Service Area #2

Motor Control Center

Feeds pellet mill, batching system, main lighting contact service

200 amp 600 v subservice

2 x 100 amp 120/240 distribution panels

Other

18 - Maintenance Service Area #3

Nitrogen flow meter

PLC and AC variable frequency drive

Main batching computer CPU

Main air manifold with solenoid valves

60 amp 120/240 V distribution panel

Batching printer

Dual monitor system for computer batching

Other

19 - Maintenance Service Area #4

Other

20 - Other

Use this Area for any Unusual Entries

Other Item, not listed elsewhere.