

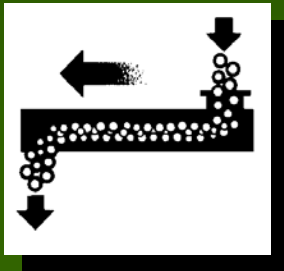
GETTING THE MOST FROM YOUR EQUIPMENT

Legs, Drags & Belt Maintenance

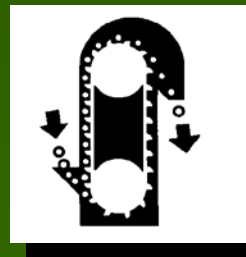
January 16, 2019

presented by...Gary Dorrell

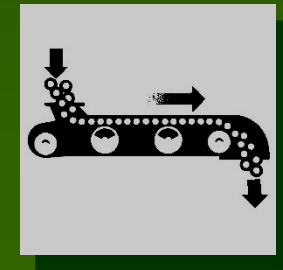
Warrior Manufacturing



En Masse
Conveying



Elevating



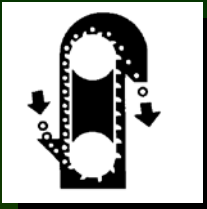
Enclosed Belt
Conveying

Safety

- Always read and follow safety labels
- Lock out / Tag out
- No Smoking
- Do not exceed capacity



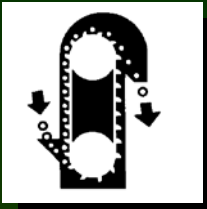
Bucket Elevator Components



- Boot Section, Inspection Section, Intermediate Sections, Pressure Relief Sections per NFPA 61, Head Section
- Accessories

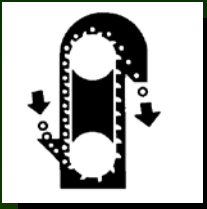


Installation and Startup



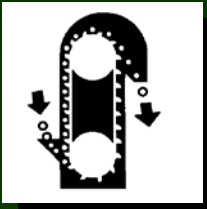
- Straight and plumb
- Caulked section joints
- Belt stretch ... 1-1/2 to 2%
- Belt tension
- Drive rotation

Installation and Startup

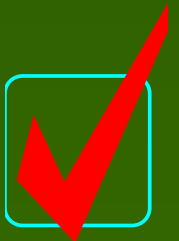


- Guarding in place
- Cup hardware
- Splice inspection (correct direction)
- Safety equipment checkout
- Labeling visible and undamaged
 - Are they painted over?

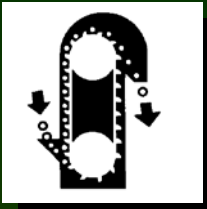
Routine Maintenance



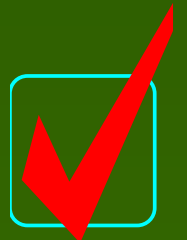
- Hot spots on paint
- Throat plate adjustment
- Check for wear on head pulley lagging
- Check for loose lining (causes chokes)
- Lubricate bearings & reducer
- Check tension on drive belts



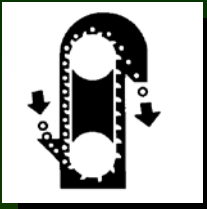
Routine Maintenance



- Check safety systems
- Check belt tension
- Clean out boot section frequently
- Don't start under a choked condition
- Inspect belt and cups for damage

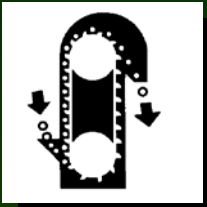


Troubleshooting



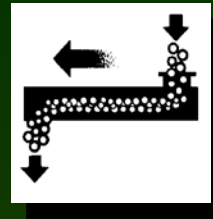
- Under capacity
 - Verify speed
 - Check for belt slippage
 - Determine if cups are completely filled
 - Is the bucket elevator backlegging?

Troubleshooting



- Belt not tracking properly
 - Are the take ups evenly adjusted?
 - Shim head bearings as required
 - Is the elevator plumb?
 - Check for material build up on boot pulley and excessive lagging wear on head pulley
 - Check belt tension
 - Determine if elevator is being side loaded

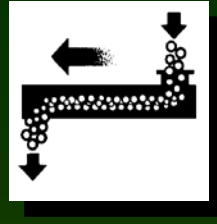
En Masse Conveyor Components



- Head Section, Intermediate Sections, Tail Section, Inlets, Discharges, Knee Section, Accessories
- Configurations
- Inlet types
- Chain return options
- Other typical features

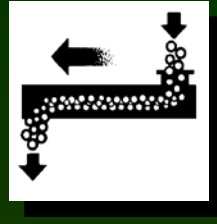


Installation and Startup

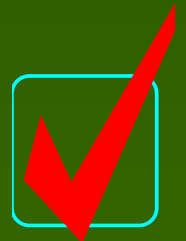


- Straight Sections
- Inlet locations
- Guarding in place
- Drive rotation
- Safety equipment checkout
 - Slack chain / choke switch

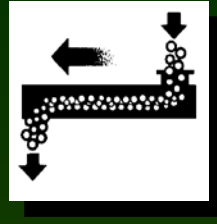
Routine Maintenance



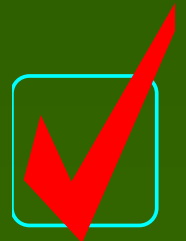
- Chain tension
- Inspect chain, flights, sprockets and liners for wear
- Verify proper operation of safety equipment



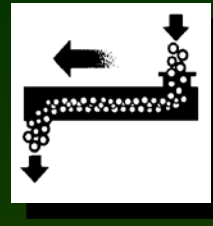
Routine Maintenance



- Lubrication - Follow recommended lubrication schedules for bearings and speed reducers
- Check drive belt tension

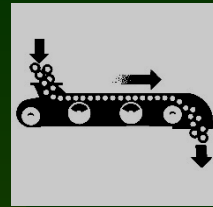


Troubleshooting



- Under capacity
 - Check speed, feeding, incline
- Material carry-over
 - Long discharge openings (longer discharge openings are required for taller conveyors to allow time for material to discharge)
 - If the speed of the conveyor has been increased - longer discharge openings may be required.
 - Carry back cups

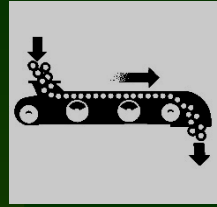
Enclosed Belt Conveyor Components



- Head Section, Intermediate Sections, Tail Section, Inlets, Discharges, Knee Sections, Accessories

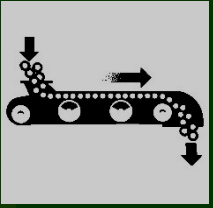


Installation and Startup



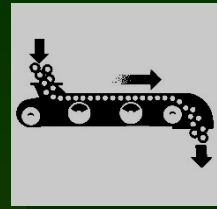
- Straight installation of casing
- Square splice on belt
- Installation of splice protectors
- Monitoring equipment - Never operate an enclosed belt conveyor without underspeed switch on tail shaft and plug switch in discharge.

Installation and Startup

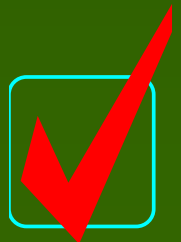


- Straight controlled feed into Loader
- Adjust skirt board rubber on loaders
- Belt tension

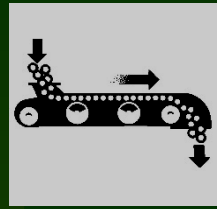
Routine Maintenance



- Use caution when opening plugged tail
- Monitoring equipment
- Check for signs of belt tracking problems
- Check belt tension
- Check and adjust skirtboard rubber in loader areas
- Lubrication

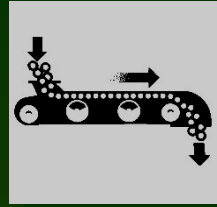


Troubleshooting



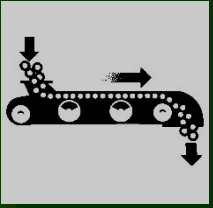
- Belt not tracking
 - Shim head or tail bearings
 - Verify that loading of the belt is not off center
 - Verify that belt splice is square
 - Check for material build up on pulleys

Troubleshooting



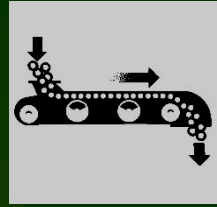
- Belt slippage
 - Proper take-up tension
 - Check for excessive wear on head pulley lagging

Troubleshooting



- Under capacity
 - Check belt speed
 - Check loading of belt

Troubleshooting



- Tail Plugging
 - Conveyor operating over capacity
 - Material being side loaded
 - Improper adjustment of skirtboard rubber
 - Plug condition at the discharge

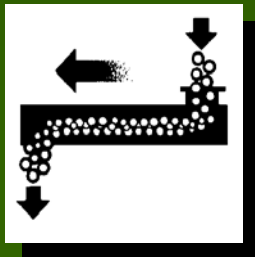
THANK YOU

Presented
by

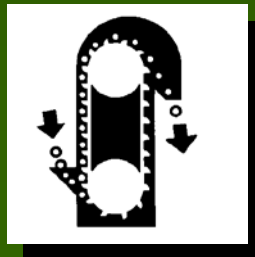
Warrior Manufacturing

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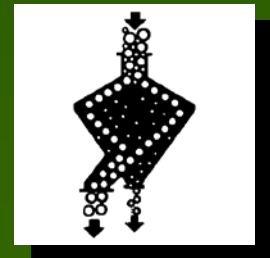
Conveying



Elevating



Bulk-
Weighing



Screening