

LUBRICATION: DRIVE CHAINS

Roller Chains are constructed of a series of connecting Metallic Bearings. These Bearings must be properly lubricated to provide the maximum life of the Chain. Several reasons for the lubrication of the roller chains are:

- Resist wear on the bushing joints.
- Help to cushion the impact load.
- Dissipate the heat that is generated during operation.
- Help to remove any foreign materials.
- Reduce rust and corrosion.
- Provide a lubricant for the chain to sprocket surface.

With proper lubrication, a barrier of lubrication is formed between the Pins and Bushings in the chain joints. The viscosity of the lubricant greatly affects the strength of the lubricant film, and its ability to separate moving parts. This is essential to minimize metal to metal contact and address a cooling effect when running at higher speeds.

Chain drives must be protected from any type of corrosive materials and the oil supply kept free of contamination. Oil should be applied to the upper edges of the link-plates. Oil applied to the rollers only, will not reach the pin bushing joints and cannot reduce elongation due to wear. When lubricating multiple strand chains, it is very important to lubricate each row of chain link-plates.



Lubricating the Drive Chain

MANUAL OR DRIP LUBRICATION

Oil should be applied periodically between the chain link-plate edges with a brush or drip lubrication. Utilize the I.J. White Main Drive Chain Oiler, which consists of a reservoir brush and piping assembly used to lubricate the Main Drive Chain. This assembly can be a Manual or an Automatic Oiler.

SEE LUBRICANT CHART ON BACK

DRIVE CHAIN FAILURES

Most Drive Chain failures are caused by, improper lubrication, incorrect mounting, debris build up or the lack of routine maintenance. Most common causes of drive chain failure are as follows:

Key Warning Signs:

- 1. Excessive Noise** - This can result from the Chain hitting an object that is in the Chain path. Lack of proper lubrication can also contribute to Chain noise.
- 2. Chain Climbs Sprocket Teeth** - This is due to the incorrect tensioning of the Drive Chain or accumulation of slack chain due to excessive wear.
- 3. Worn Chain and Sprockets** - Elongation due to Chain wear progresses rapidly when case hardened wear surfaces have been damaged. Badly worn Chains do not mesh properly with the Sprockets or Teeth. You will see the Tooth or Teeth become reduced in size and the tips become hooked. This wear will greatly reduce the life of the roller chain.
- 4. Misalignment** - When a Chain operates over the misalign Sprockets or Tooth Segments the wear will be on the inner link-plate edges. The segment or Sprocket Teeth will also show signs of wear. This will reduce the life of the Roller Chain.



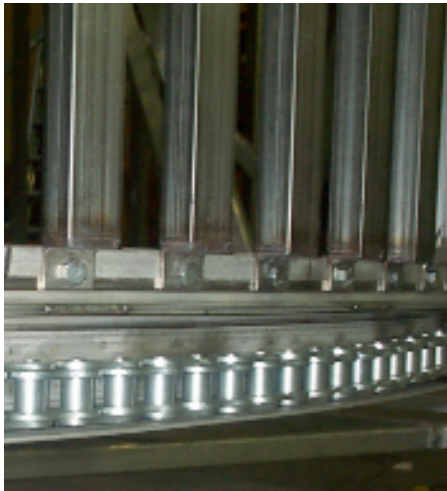
5. Chain Clings to the Segments - A snapping sound will be heard caused by the Chain staying on the Teeth as the Chain rotates.

6. Cracked or Broken Chains Parts - Broken pins, Rollers, Bushings and link-plates are a sign of extreme overloading.

DRIVE CHAIN MAINTENANCE

All Roller Chains (Main Drives, and Take-up) should receive regular Preventative Maintenance. Each drive chain should be inspected after the initial 40 hours of operation. At this initial inspection, the following items should be checked and corrected if necessary:

- Lubrication
- Chain Tension
- Chain Wear
- Sprocket Tooth Wear
- Sprocket Alignment
- Drive Interference
- Chain Failure



Main Drive Chain

RECOMMENDED PM ACTIONS

1. Excessive Noise - Make sure the Chain path is clear of any obstacles. Check the Chain for proper lubrication.

2. Chain Climbs The Sprocket Teeth The Drive Chain needs to be properly tensioned. Adjustment is required as normal Chain wear occurs.

3. Worn Chain and Sprockets Replace the Roller Chain and the Tooth Segments at the same time. This will allow the Chain to mesh properly with the Teeth of the segments. All worn Sprockets should be replaced.

4. Misalignment The Tooth Segments or Sprockets will require replacement to bring the Chain back into proper alignment.

5. Chain Clinging to the Segments Check for excessive slack in the chain and adjust accordingly to reduce the slack.

6. Cracked or Broken Chains Parts The Drive Chain should be replaced along with the Tooth Segments or Sprockets.

MAIN DRIVE CHAIN

After Every 40 Hours Check:

- Chain Oiler System and Drip. Fill if necessary.
- Chain Oiler Timer.
- Main Drive Spring Tension.
- Motor Base Sprockets and Tooth Segments for wear / proper alignment.
- Tension Arm Safety Sensor.
- Main Drive Chain for lubrication.

TAKE UP CHAIN & SPROCKETS

After Every 100 Hours Check:

- Lubricate Drive Chain.
- The Clutch sprocket must be kept clean of any debris.

After Every 200 Hours Check:

- Drive Sprockets for wear.
- Chain for wear and tightness.

Please refer to the IJ White Operations Manual for the maintenance schedule for the Main Drive, Take-up Drive, Cage Drive, Track System, Take-up and Spiral Belt.

Technical Service Programs

- PM Video
- On-Site System Training
- PM Service Programs
- Cleaning Systems
- Belt Cleaning Bulletin
- Operations Manual
- Replacement Parts

Technical Services Group

For information, call
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RECOMMENDED OILS FOR LUBRICATION

Application	Main Drive Motor (Euro-Drive: Blue)	Main Drive Motor (Sumitomo: Green)	Take-Up Motor (U.S. Motors)	Take-Up Motor (Euro-Drive)
Room Temperature (Cooler) 0°F to +80°F -18°C to +26°C	Mobil SHC630 -40°F to +176°F -40°C to +80°C	Omala 150 2 gallon	Mobil SHC634	Mobil SHC634
Blast Freezer -40°F to +176°F -40°C to +80°C	Mobil SHC630 -40°F to +176°F -40°C to +80°C	Stratos 10	Mobil SHC624 Service Factor: 1.5 minimum	Mobil SHC629 -40°F to +50°F -40°C to +10°C
Proofer +80°F to +120°F +26°C to +49°C	Mobil SHC630 -40°F to +176°F -40°C to +80°C	Omala 220	Mobil SHC634	Mobil SHC634

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**IJ WHITE offers 24 hour - 7 Days / Week
Emergency Technical Service**

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