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Do You Maintain Your Master Arm?

It could change your production!

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Do you spend any time on master arm maintenance? What happens if it breaks down? All too often the master arm is overlooked as an item requiring routine maintenance. With the master arm being an integral part of the Andromat, a failure can be catastrophic.

Standard Master Arm

The original model master arm is a complex assembly of chains, sprockets, bearings, electrical interfaces, and so much more. With this level of complexity, proper maintenance is critical for continued operation. According to the Andromat Maintenance Manual, the master arm should be lubricated every 80 hours of operation. The axle of the shoulder arm, which is the primary rotating joint, has a zerk fitting in each end for lubricating the roller bearings located across the shaft (see fig1). The axle used for the sprockets also has a zerk fitting and requires lubrication for the roller

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bearings of the sprockets. The chains, pivot heads and any other moving parts should be lubricated with a quality spray lubricant (see fig2).



Fig1



Fig2

In addition to proper lubrication, the moving components also need to be kept clean, free of dirt and debris. Now I know how hard that can be when the master arms are in some of the more dirty environments. Regardless, cleanliness should be part of the maintenance schedule. Remember back to when the chain on your bicycle would get caked with dirt. Soon the chain would begin to pop and creak. The same could happen to the master arm in the chains and small needle bearings. The first line of defense is the master arm cover. This cover is instrumental in preventing foreign debris from entering into the inner workings of the master arm. Make sure the operators check that the cover is properly installed before each shift start. At each maintenance interval, blowing out the master arm will ensure the area free of dirt and debris.

Half Scale Master Arm

So you think the standard master arm complex? The half scale units only add to this complexity. Everything stated for the full scale applies to the half scale.

The first line of defense is the master arm cover.

Additionally, the arm rest components must be maintained. The rolling surfaces must be clean of debris and lubricated. On each end of the roller sleigh, there are wiper/oilers designed to keep the rolling surfaces clean and lubricated. It is a good idea to ensure that these function properly. It is also a good idea to give the arm rest components a periodic wipe down.

The remaining maintenance required on the half scale master arm, or the full scale, is for operator comfort. Yes, a comfortable operator is a more productive operator. This comfort can be achieved through proper

adjustment of the master arm resistance springs and for the half scale, the springs and the arm rest assembly. Properly adjusting the resistance springs will counteract the “hung” weight of the arms themselves. Relieving this burden will then allow only the operating resistance of the work arm to be transmitted to the operator. Giving him/her a true feel for what they’re doing. Further adjustments can be made to the half scale master arm. Things like arm rest height and angle along with tilt angle of the pilot grip. Properly adjusting these points while ensuring their good working order, will provide a comfortable, ergonomic experience in operation. Since no two operators are built the same, the half scale adjustments may need to be redone for others. If this is the operator’s responsibility, then proper training must be provided to ensure each operator makes their adjustments are ergonomic as well as comfortable.

Mechanical Functionality

While cleanliness, lubrication, and comfort are all points requiring maintenance, the mechanical functionality is just as important. No manner of adjustment can make up for a stretched and worn chain link. Also, a bad bearing could make operation, well, “un-BEARINGable”. During the maintenance interval, check that all the parts move as they should, and that nothing is stretched and worn. A close examination of the master arm drawings will provide you with the points of heaviest loading and what other parts to examine. When parts wear, replace them promptly. Keep spare parts on hand to prevent down time.

Conclusion

Though the master arm is a small part compared to the rest of the Andromat, it plays one of the biggest roles on the machine. Without the master arm in operation and functioning properly, nothing can be accomplished. Feel free to contact Henschel Andromat with any questions you may have in properly maintaining your master arm. Andromat service personnel are available to assist you on site with inspections, repair, or training regarding your master arm.