

ANDROMAT TODAY

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Cooler Weather & Hydraulic Fluid



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Greetings and Happy New Year,

In this issue, we will discuss cold temperatures and operating your Andromat.

For many of you, the cold outside rarely enters the inside with help of those cherry red parts floating around. But what if your Andromat is located outside of the main building? Are there any special considerations I should be aware of as the temps outside fall?

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Cold weather considerations

continued on page 2

INSIDE THIS ISSUE

- 1** Greetings to the cold
- 1** Cold weather considerations
- 2** Conclusion
- 2** Final thoughts

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Don't forget your special someone!

#doghousesnotcomfortable

Andromat Today is a quarterly trade publication for discussing Andromat issues important to the end user. Each issue will contain useful tidbits of information as well as any news updates from the company. Look for your issue of *Andromat Today* in your inbox.

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The answer is most definitely, yes. Your Andromat manipulator is in many ways similar to other hydraulically driven machines in their operation during cold weather. The area for greatest concern is the hydraulic fluid, more specifically, the fluid's viscosity. As temperatures drop, the viscosities of fluids rise. Viscosity gives is the flowability of a fluid. Hydraulic equipment is designed with a target fluid viscosity in mind. Pump tolerances, performance curves, flow calculations are all based on a viscosity chosen by the manufacturer.

Here's an example:

Operator Fred decides he must get started working. Production is screaming! He fires up his hydraulic equipment for the first time this morning. Its 6°F outside and boy is the fluid thick. He chooses to ignore the safety protocols for his equipment and not wait for the fluid heaters to do their job. His equipment is noisy and seems the output is way down. After about 45 minutes, he hears the sound of what must be the world coming to an end, and sees all the magic smoke exiting the electric motor driving the hydraulics. How far ahead is production now?

I know this example relies on numerous hypotheticals but it can show the importance viscosity has in a system.

Let's look at another example:

Maintenance tech Lomar has finished the repairs on "fast Fred's" machine. All that's left is to fill the hydraulic tank. Now Lomar paid attention and looked in the equipment manual for the proper fluid viscosity. He looks around and finds a few pails of hydraulic fluid with the proper viscosity on the label. Happy, Lomar gets to pouring. He turns the unit over to Fred and its back to work. For the first day or so, all is fine. Fred begins to notice several leaks coming from pressure seals on the equipment. Within a week, his newly repaired machine is leaking like a sieve.

What Lomar failed to notice is the type of fluid he was adding to Fred's machine. Turns out the new fluid does not play well with rubber O-rings. Oh well, production will wait. No bonuses this month.

Your Andromat manipulator is equipped with onboard electrical hydraulic tank heaters. The temperature is regulated by the PLC for optimum operability. With power applied and the main contactor engaged, the PLC will constantly cycle the heaters if required. Regardless if the hydraulic pumps are running.

Conclusion

Many of today's modern industrial equipment have safeguards to prevent you and I from causing damage to them by not following procedures. Hydraulic fluid is the blood of hydraulic systems. Aside from the power of motion, the fluid provides lubrication to the moving parts, acts as a medium for removing heat created through work, as well as carries fine particles created through work, back to the filters.

If you were sick and needed a blood transfusion, would you want the doctor to use whatever he/she could find lying around?

Final Thoughts

As Lomar once said:

"Have your hydraulic fluid analyzed regularly and for the love of Pete, CHANGE THOSE FILTERS!"