

# ANDROMAT TODAY

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## Why Are My Hydraulic Hoses Leaking Lately?

*"Danger Will Robinson!"*

### Scott Wilson

Henschel Andromat Inc

Hydraulic hoses convey liquids under extremely high amounts of pressure. When compromised, they can cause everything from burns, fires and explosions to electrical shock, fluid injections under the skin and even **death**.

### Proceed With Caution

"A lot of people may not understand the danger of hydraulics under pressure," says Scott Kane, regional sales manager for Parker Hannifin. "There is a tremendous amount of energy that is released if a hose bursts or a fitting comes apart. People who work around hydraulics every day can become desensitized to the hazards. But hydraulics can be dangerous and should be respected."

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**Happy Thanksgiving**



*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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## What to Look For

Safety starts with knowing — and implementing — the proper procedures for inspecting hydraulic hoses. Always wear the proper PPE. Heavy work gloves won't protect you from leaks at extremely high pressures. "Don't put any part of your body where you suspect a hydraulic leak"! If you must inspect a hose assembly while the machine is operating, use a clean, thick object or, better yet, sheet metal as a detection device. If you identify a leak, shut down the machine before loosening or removing any hoses or fittings. Lower the work arm to the ground to remove any pressure on the cylinders. Also shut down the machine if you intend to take apart a valve or inspect a cylinder or pump.

According to a technical report by the International Organization for Standardization, there are several areas to monitor when inspecting hydraulic hoses and assemblies. If any of these conditions exist, the hose assemblies should be evaluated for correction or replacement:

Leaks at hose fitting or in hose — Weepage and leaks are warning signs of a problem. Connection points are a common source for hose failures because this is where the most wear and tear occurs. This is especially true for the articulating point at the pantograph return rocker. The hoses repeatedly flex at these points. Although that's what they're designed to do, there is increased wear and tear at these points.

Damaged, cut or abraded cover — The cover's job is to protect the reinforcement. If the cover is worn away, the reinforcement is exposed and the hose will fail a lot sooner. Hydraulic hoses should never rub against anything. Where abrasion is unavoidable, Andromat uses hose guards. We also have protective sleeving for heat and other harsh environmental conditions.

Exposed reinforcement — Our hoses are reinforced with high-tensile steel, which supplies the ability to handle high pressures. If the steel is exposed, it will rust fairly quickly with exposure to humidity. When that

happens, it decreases in strength. Even though there are multiple layers, once a wire breaks or fails, it transmits the rest of the load to the other wires. It starts a domino effect. Eventually, the wire will burst and the hose will fail.

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*"Don't put any part of your body where you suspect a hydraulic leak"!*

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Kinked, crushed, flattened or twisted hose — Most kinks and twists are the result of a routing problem. All hoses are designed with a minimum bend radius. When you exceed the bend radius, you put excessive stress on the wire, which can shorten the life of the hose

Blistered, soft, degraded or loose cover — Bubbles in the cover are an indication that there is likely a leak in the inner tube, and the hydraulic fluid has worked its way through to the cover.

## Regular Hose Checks

It's a good practice to inspect hydraulic hoses as part of a regular preventive maintenance routine. Check around your machine and look at all the hydraulic hoses. You'll be able to see most of the hoses from the ground.

## Conclusion

With anything hydraulically driven, hoses and fittings will eventually fail. As with any maintenance being performed, work safely.