

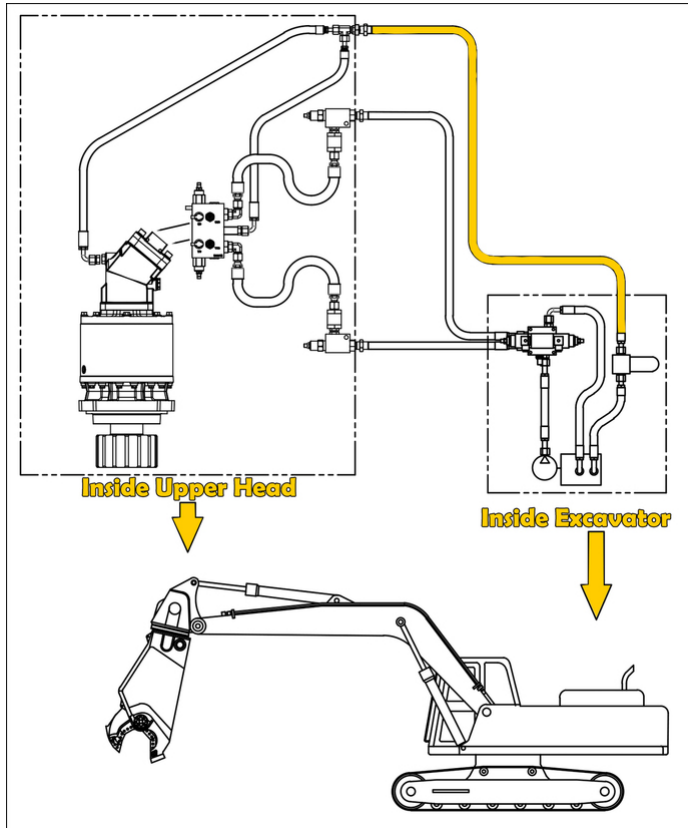


TIM'S TECH TIPS



Rotation Circuits Requiring a Case Drain

The rotation circuit case drain line is a critical piece of the plumbing picture when it comes to keeping an attachment running trouble free. Incorrectly connecting the case drain line at the excavator, an issue we see all too often, results in costly repairs and downtime.



When the rotation circuit is connected to another return circuit, case drain line or anything running back through the excavator return filters, it is only a matter of time before the circuit pressure exceeds the level the rotation motor case seal can handle. When the pressure goes beyond this amount, it back-pressurizes the case drain line and seal, causing the seal to blow out. Oil then bypasses the seals, and because it has nowhere else to go, fills and pressurizes the gear box and blows out the gearbox pinion seal.

And while the motor case seal is relatively easy to replace, the gearbox pinion seal is not. The gearbox must be removed and disassembled, and the pinion shaft has to be pressed out and back in. This process requires a trip to the shop, so I'm sure you're starting to see how the repair hours and downtime will quickly add up.



The case drain needs to run through its own 12 gpm, 10 micron return filter and directly into the suction side of the excavator hydraulic tank. Do not run it to any spot that is returning oil through the excavator return filters in the tank.

Also, the case drain line should never see more than 5-10 psi of pressure supplied by the excavator. If connected to any other return circuit, the line could easily see 300-400 psi depending on the ambient temperature, oil viscosity and amount of return oil flow through the system.

Another area of concern is connecting rotation hoses to the head. If a rotation line is accidentally connected to the motor case drain port, it will instantly blow the motor shaft seal and gearbox pinion seal. **So be very careful when connecting lines that you are certain you know to which lines you're connecting.**

Don't guess when connecting a rotation circuit case drain line. Contact Tim at 218-349-5755, talseth@genesisattachments.com or reference the **Safety and Operator's Manual** for your specific attachment.