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# Better Reliability, Less Downtime and More Production for Harvesting Heads

Taimi Hydraulics knows how tough working in the forest can be and how important it is to have dependable equipment in this challenging environment, especially with today's difficult economic times.

Using its innovative and patented Swiwell™ technology, Taimi designs and manufactures custom hydraulic solutions for harvesting heads. Installing Taimi products on a harvesting head will reduce leaks and improve hoses life by changing the hoses' dynamic motion and eliminating torsion. It will reduce unscheduled downtime and maintenance costs, boosting productivity with the added benefit of having a smaller environmental footprint.

Based on an in-depth analysis of hydraulic hose movements, Taimi has developed custom solutions for most harvesting heads.

## Case study: Waratah HTH 616C Harvesting Head

To better illustrate how Taimi analyses hydraulic issues on harvesting heads with the purpose of designing and manufacturing custom solutions, here is how Taimi addressed users' complaints about the hydraulic setup of the Waratah HTH 616C.

### **Why are some hoses leaking and sometimes lasting less than a week? What causes these problems?**

Users complaints could be grouped into 3 areas of concern; leaks at the body valve, frequent hose replacements at the bottom hoses group, and finally, frequent hose replacement at the upper hoses group.

#### **1- Body Valve: Leakage, hoses failure and difficult access for maintenance**

According to our analysis, the 45° fittings installed directly on the body valve are problematic for two reasons. First: the main coupler puts pressure on the lower hose group causing fittings to loosen and leak. Second: trees hitting the lower hose group induce heavy side load also causing fittings to loosen and leak. And if the fittings are torqued hard enough so they will not loosen, these loads and torsion will cause hoses to fail near the press fitting.

**Solution: Taimi custom swivels on the body valve**

Installing long lasting and leak-free Taimi swivels on actual BSSP ports permit to eliminate potential leaks. Hoses are no longer failing near the press fitting and access is improved for easier maintenance. Downtime is reduced for increased productivity.



**2- Main coupler: Torsion and small bend radius causes hose failure**

Waratah's main coupler allows for interaction between upper and lower hoses. When the upper hoses are moving, the lower hoses follow the same way and vice versa.

Torsion movement occurs when the hose is twisted or torqued such as when the hose bends out of plane. Twisting forces are extremely destructive and are one of the most common causes for premature failure.

Lower hoses are having a hard time coping with the torsion and operating hazards, while upper hoses are failing near the press fittings due to excessive torsion and small bend radius.



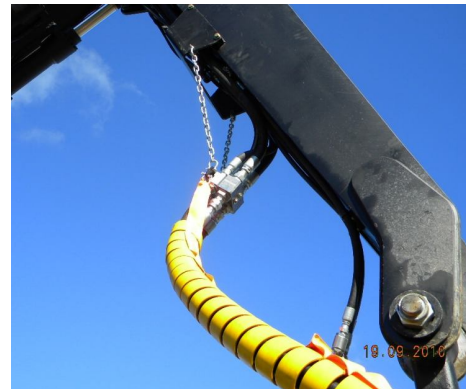
**Solutions: Replacement of Waratah main coupler**

Taimi offers 2 solutions to fit directly on the frame of the Waratah HTH 616C without any modifications. Both solutions eliminate interaction between upper and lower hoses by changing the dynamic motion of both hoses groups.

**Solution 1) Install a Taimi Swiroll™.** The Swiroll™ is a spherical hydraulic joint that enables hydraulic hoses to individually swivel on both sides of the coupler allowing full freedom of movement for each hose and each hoses group. All these features allow for a substantial reduction in periodic maintenance and improved hose protection against operational hazards. This solution eliminates (i) interaction between upper and lower hoses, (ii) torsion on upper hoses, (iii) torsion on lower hoses, (iv) reduces bend radius on upper hoses and, (v) leakage on the body valve.



**Solution 2) Install Taimi SM2A Manifolds:** (1) on the main coupler with 90 fittings along with ( 2 ) SM2A Swiwell Manifolds™ on the upper hoses. This option eliminates (i) interaction between upper and lower hoses, (ii) torsion on upper hoses and (iii) reduces bend radius on upper hoses. This solution does not completely eliminate torsion on the lower hoses, but the Taimi custom swivels on the body valve help eliminating potential leakage.



## Conclusion

Taimi's swivels cartridges and custom products help the Waratah HTH 616C achieve **better hydraulics reliability, less downtime** and **more production** with:

- Less hose replacements
- Less oil leaks, spills, and tank fill-up (environment-friendly)
- Less downtime for unscheduled and scheduled maintenance
- Less operating risks and lower maintenance costs
- More uptime for more productivity
- Increased reliability and safer machine

Taimi products give users “hydraulic peace of mind” in the challenging environment they have to deal with.

