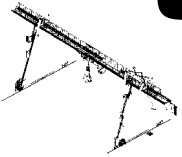


UPDATE

Spring, 2000



BIRMINGHAM USER MEETING 100% SUCCESS!

The 1999 P&H Portal Crane User Meeting moved to Birmingham, AL and the results were fantastic. There were 27 mill personnel present representing 14 sites and 23 log cranes. This location is now proven to be a winner and will be the site for the 2000 User Meeting on September, 6-7-8. Watch for details in the next UPDATE issue and plan now to attend.

The 1999 meeting was heavily focused on control reliability and there were several information packed presentations aimed at increasing the up time on your crane and making maintenance easier. A summary of the control information is included in this UPDATE issue. Maintenance updates on Hillmar cable reels and Mack grapples are also summarized here.

There was much discussion about the new P&H ERGO-Cab as recently installed on two (2) portal cranes, featuring enhanced ergonomic design with improved vision, greater operator comfort, maximum seat adjustability, and much more. Coupled with the extended cab setback option, this new package can greatly enhance the quality of the workplace for the crane operator. These improvements are now available for modernization of all portal cranes. The Summer 1999 UPDATE issue also had details on the design. Call for a set of data sheets and photos to see how this new Ergo-Cab can increase your productivity.

USER MEETING REPORTS

Static Stepless Control

P&H Static Stepless control expert Tom Reardon offered these tips on improving control reliability:

- Do not randomly turn pots to adjust. Check existing setup using a VOM and the Trouble Shooting guide in the control manual to ascertain what section of the static control has malfunctioned. Refer to the "sub-panel adjustments" as a guide.
- Check polarity on the Anode Transformer and Mag. Amp Module(s) (F3 & F4), if replaced.
- 16-17 volts out of the master is typical under load vs. 20 volts nominal
- The hoist master is different from the trolley and gantry. It has a first point offset to supply a higher voltage in the raise direction only.
- Use an Auto Decel module for reducing brake wear. It automatically fully excites the Magnetorque for slowdown and prevents the brake from setting on a high speed drum when the master is moved quickly to neutral. It senses the speed from the frequency detector.
- Check the Magnetorque resistance. Refer to the P&H ED-25-6 service bulletin for proper values. A 25% loss in resistance causes the same loss in braking power.
- Check the Magnetorque air gap. Refer to the ED-25-6 bulletin for proper settings for your particular model.
- To check the Magnetic Amplifier Firing Control Module, remove the B leads and check for an output of any kind.
- Technical support is available.

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USER MEETING REPORTS (cont'd)

Frequency Drive Control

P&H electrical engineer, Karl Flierl, offered these tips for increasing the reliability of adjustable frequency Smartorque controls:

- Be certain that your on board step down transformer has a “Y” output with grounded neutral. A “K” rated transformer for inverter service with harmonics is preferable. Perform a harmonics evaluation on the supply line.
- Separate control and power wires by at least 6” wherever possible.
- Torque all connections in the electrical system and recheck monthly for the first 6 months. After 6 months annual checks are usually adequate.
- To fully test your line supply to the crane, apply a Dranetz line monitor to the input power supply for 30 days and watch for high/low voltage readings as well as spikes and phase reliability.
- Use KLR input reactors on each control input with extra surge protection to protect the control’s front end section.
- Use KLC output reactors on each motor branch circuit to limit harmonic voltage peaks that can damage both the motor windings and the control output section.
- Consider using air core output reactors on the gantry inverters, where short circuits due to log damage are more common, many times with costly results.
- Run a ground wire from each motor to the inverter. Grounds are important.
- Ground control wires at the source end only.
- Keep a list of as installed control parameters in the control cabinet.
- Keep a record of motor data, i.e., No load and full load current and megger test readings.
- Keep a fault and maintenance log.
- Use infrared analysis to look for “hot spots” in the control.
- Capacitor life is typically 10 years. If your control is over 10 years old, you may want to consider a capacitor change or an upgrade to newer VFD control technology.

CPPA/TAPPI PORTAL CRANE USERS TO MEET IN TIMMINS, ONTARIO

The CPPA/TAPPI Portal Crane Users Committee has chosen Timmins, Ontario as the 2000 site for their annual meeting to be held during the week of May 22nd. Details on the agenda will be posted on their website (see below). A tour of the 295 ft. span P&H crane at Grant Forest Products will be offered on Friday morning.

The Committee invites all woodyard managers, operators, maintenance personnel, and crane suppliers to attend the meeting. The meeting is a jointly sponsored technical committee on the operations and maintenance of portal cranes for wood handling applications.

Installing Spreaderflex™ Grapple Cable

- A cable guide “halo” usually improves cable retrieval into the basket.
- Remove any sharp edges or bolts that can damage the cable.
- Feed counterclockwise into the basket
- Raise basket, tie off on a swivel, run up and down to remove twists.
- Attach the cable and terminate. Use mechanical stress relief at top.
- Lubricate the cable. Most any grease or oil is acceptable, but a grease that works well and does not wash off in the rain is Nevamelt™ by Drew Chemical of New Jersey. Grease needs to be reapplied as needed during the service life of the cable.

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USER MEETING REPORTS (cont'd)

- If you have spare inverters on the shelf for over a year, be sure to read and comply with Service Bulletin ED-71, which covers the reforming of capacitors. Without reforming, capacitors can be severely damaged when the inverter attempts to start. P&H suggests you attach a copy of ED-71 to each inverter you have in your storeroom. Call for a copy.
- If you added a pad under your trolley rail, be sure to add a ground strap from the rail to the gantry structure or run a ground wire to the trolley.
- Lightning protection on the crane should include jumpers across all pin joints as well as a solid ground on the crane runway rail.
- Dynamic braking circuits should be fused or fitted with overload protection. In the event of a DB unit failure, this protects the pre-charge resistor section from being destroyed.

Hillmar Cable Reel

Cable reel specialist, Morton Harrison, offered these tips on obtaining maximum performance from your electric/hydraulic cable reel system:

- Proper setup is most important.
- Set the modulating valve 200 PSI apart. Less than 200 causes oscillation.
- Relief valve should be set at 2500 PSI.
- High pressure set at 700 for main pressure.
- Low pressure set at 20 for both pumps.
- Modulating valve should only be opened 1/16 to 1/8 turn.
- Keep clean.
- Lube the internal bearing weekly. Open gears, 1 tube per week.
- If you have a pump failure, flush out the entire system.
- Clean the suction strainer annually.
- Clean the slip rings of carbon dust every 6 or 12 months. This area can cause big problems if not performed.
- Be sure the oil is running cool. If hot, consider additional coolers.
- Do not allow the cable to be over tensioned, as this can damage the cable.

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P&H Offers "High Tech" Features

P&H engineers are constantly striving to keep our cranes at the cutting edge of technology, while also assuring that the technology is proven in performance and reliability.

The latest development is the off board real time diagnostic, monitoring of the crane's functions. The new Ethernet modem link allows the PLC to be accessed and interacted with, from an off board location in the mill, using a standard desk top PC. Power monitoring of the motors, control fault history, brake status, and much more is now easily accessed and monitored while the crane is in use.

P&H also offers GPS-based collision avoidance systems, semi-automation of the cranes movements and log storage volume measuring systems. All of these features are based on differential GPS system technology, with several systems currently in operation. Call for more details.

Safety Corner

*By Robert Kotecki,
P&H Safety Director*

Fall protection is the number one priority when working on a portal crane. There are many areas of the crane that require proper fall protection equipment for maintenance access. To assist our customers in providing their crane maintenance personnel with the proper equipment, P&H offers a Fall Protection Kit, which includes a DuraFlex harness, Dual Lanyard for 100% tie off, 4 ft. Lanyard, 6 ft. Nylon crossover strap, and a Morris duffel bag. Price for the entire kit is \$250 U.S. and can be ordered by calling your P&H portal parts specialist. Individual items can also be ordered. Call for prices or an order form.

Don't forget to follow proper lockout/tagout procedures when maintaining any crane equipment. This is very important at all times, especially on a crane as large as a portal crane.

USER MEETING REPORTS (cont'd)

Tips from Ted Barber

- If you have a metal power cable trough to protect the cable, be sure it is grounded.
 - Don't forget that a Magnetorque requires a special bearing grease. Only Shell Darina EP-2 is approved by P&H.
 - Pull 24" of power cable through your flip over bracket strain relief drums annually to enhance cable life.
 - Check you trolley wheel alignment with a quick visual check on how equal your bumpers contact the trolley.
 - Always change drive wheels in pairs for matched speed.
 - Electroline hoist cable dead ends require new "bullet" inserts for each cable change. Fluted pieces are used for 6 stranded cables and smooth pieces are available for 7 flex applications. An installation kit is also available for proper field installations.
 - Follow the P&H lubrication recommendations from your Care and Operations manual. If unsure, call Ted for another copy.
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Forests Featured at Disney/EPCOT

A TAPPI sponsored interactive display is being featured at the East Innovations building at EPCOT in Orlando, Florida. It conveys the message that the paper industry is a vital and responsible industry. It will be open until May, 2001. If you go to Walt Disney World, be sure to see your industry portrayed in a positive light.

Storm Brake Report

More systems have been put into service and users are continuing to benefit from the risk protection plus the routine maintenance benefits of the jacking feature. Owners report being able to perform many maintenance checks previously impossible to do without the brake/jacking system. Braking systems are available for 4, 8, 16 and 24 wheel cranes. Call P&H for more information on this unique high performance product.

Mack Grapple Update

Mack Grapple specialist, Matthew Davidson, offered these tips for improving grapple performance:

- Grease often! At least once per day.
- Change hyd. fluids every 6 months for optimum cooling.
- Clean inside the reservoir.
- Change or clean the filters every 6 months.
- If you have low squeeze pressure, check for blow-by or a bad lockout valve. A simple 20 minute check can be done.
- Use a good pressure gauge - use a snub valve to extend the life of the gauge.
- When welding cracks, be sure to get the old weld out.
- If timing is off, change flow divider or the lockout valve.
- If you lose prime and have to lay over to reprime, find out why and fix the problem.
- If you have air in the system the pump will run fast.
- The accumulator should be charged with dry nitrogen to 1/2 of the system pressure (about 1000 PSI). A properly charged accumulator will keep the dumping valve cycling between 30 seconds and 2 minutes. If less than 30 seconds, recharge needed. System pressure should be approx. 2000 PSI.
- Slip rings difficult to access after installation. One user suggested they be siliconed in place for greater reliability.

MAINTENANCE TIPS

Mel Prescott at GP Brunswick advised that the Esteem radio modem frequency can be changed from the 72-73 MHz to 75-76 MHz range if it has interference problems at the mill. The change can possibly be done in the software or sent back to Esteem to be retuned.

Mel Prescott also suggested that a stair access from the ground to the first stair landing would improve access and safety. If the stairs can be mounted where they would not be vulnerable to log damage, this is a great access improvement.

If your cab upper corners are cracked from side impacts, several users have reported that by taking out the upper window and welding in a solid aluminum plate, the structural integrity of the cab is greatly enhanced.

The rubber boots on the Merritt masters often deteriorate from hand oils and crack off, allowing dirt to contaminate the master and cause premature failure. Good news from Merritt! A leather boot is now available providing longer life and protection. Part number is 03.BOOT with a price of \$105. Call Joey or Don at 1-800-633-1136.

When changing sheaves in the lifting beam, the bearing specified should not have a grease groove in the outer race, but is sometimes substituted by bearing suppliers who do not realize how the bearing is applied. If it has a groove, it can fracture under load due to the overhanging race design of the P&H sheave. This is not a concern with the synthetic double sheaves.

Proper armrests have been found to be critical to operator ergonomics, reducing neck, shoulder, arm and wrist fatigue. A fully adjustable armrest is available from P&H to help in this important area. Part number is 07.06LAR for the left and 07.06RAR for the right at \$70 each. Call Don or Joey at the Birmingham parts headquarters at 1-800-633-1136 for information or to order.

Inventory Management System

The P&H inventory management system has been installed, tested and proven in months of reliable service. The affordably priced system weights each load and allows the operator to track multiple species and lengths with simple push button designation of truck to in feed, truck to storage or storage to in-feed, for each sort. A tape printout at the end of each shift identifies total tonnage before and after each short, allowing a much needed tracking of what the crane accomplished over the shift. The operator reports that it is easy to use and does not slow his overall work schedule. A complete quotation and information package is immediately available by calling P&H.

New Lube for Pins and Grapple

For some time, we have been recommending the use of Molub-alloy #777-1 for use on structural pins and grapple pins. Several users reported that grapple greasing frequency of up to a week has still provided acceptable bearing and pin life. The grease has excellent adhering quality.

In updating our data, we have found that this product is now available from Castol Industrial Lubricants, with their phone number 1-800-GEAR OIL, (432-7645), in Milford, MA, www.castol.com. Their product number remains #777-1.

Tribology Inc, Tech-Lube also offers an equivalent product called T-777 which has a tacky fibrous texture to resist squeezing. They also recommend a newer product called T-708MG, which they claim extends lube cycles 5 to 1 and is moly/graphite fortified. Tribology can be reached at 1-800-569-1757 in Yaphank, NY, www.tribol.com.