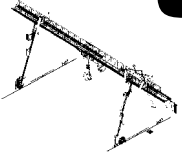


UPDATE



Winter 1996/1997

USER MEETINGS PROVE THEIR WORTH

The 1996 P&H Portal Crane user meeting was the 7th annual event which topped 1995 attendance with 24 mill personnel representing 17 crane installations. Participants ranged from crane operators, to maintenance personnel, to superintendents, and all departed with useful information that will allow them to obtain higher performance from their cranes. Having the meetings in Milwaukee allows P&H to bring service, parts, engineering, training, sales and upper management into the meetings for well rounded discussions and the ability to respond to just about any question.

The opening session always features a video tour of the participant's cranes, which is a great starting point for discussions regarding PM, operations and training. The meeting also includes a tour of the P&H plants in the Milwaukee area. Some of the comments heard at the meetings were:

- Bear Island paper reported 95% uptime while doing all planned maintenance on weekends. They Thermite welded their trolley rails and noted that the leg end swivels on their fixed legs were operating just fine.
- Buckeye Cellulose advised their uptime was at 95-98% using an extensive PM and inspection plan coupled with a 10 year life cycle plan. They plan 4 to 6 hours of maintenance for Friday AM. Peak performance is an unloading rate of 2 minutes per truck. Their video featured an actual demonstration of an Escape-Rite emergency egress device. This crane runs 24 hrs/day, 7 days/week.
- Union Camp, Eastover advised that P&H continues to do their quarterly inspections. Hershel Smith said something about his adaptone having a "Coondog" sound to it. We intend to check this out.
- Stone at Hodge, LA reported 95 to 100% uptime handling 110-120 trucks per day. They perform weekly PM on their own and have P&H in monthly, plus they listen very closely to their operators who can usually spot a problem early.
- S. D. Warren advised the importance of training. Alan LePage reported that training has definitely paid off for them.
- Warren Evans advised that they perform weekly PM on each of their P&H cranes and usually have P&H ProCare in for monthly activity.

The 1997 P&H user meeting is scheduled for September 3-5 with details to be announced in the Summer 1997 UPDATE Issue. We will continue to focus on bringing new technology to our customers and stress the importance of safety for operators, maintenance and operations in the woodyards. Make plans early to attend the 1997 meeting. You will be rewarded for your efforts with improved crane performance and a better understanding of how P&H can help you achieve your goals for uptime and overall reliability.

Brake PM How to Get Maximum Performance from Your Gantry Drive Brake Systems

We will try to address all aspects of brake system reliability and offer solutions to known problems. If you have a problem not described here, let us know. If you have a solution to a problem, let us share it with other users in the next issue of UPDATE.

There have been numerous reports of brake rectifier failures on cranes using 75Z1091D1 and D2 full wave bridge rectifier. Some of these failures can be directly traced to the lack of thermal compound or a heat sink pad being installed under a replacement rectifier. Point mechanical contact is not sufficient for heat transfer and premature failure will result. Be sure to apply a thermal compound when installing.

We have found that the wrong type and size of brake rectifier fuses are often the cause of brake rectifier failures. The fuse should be a dual element or "slow-blow" type and should be sized for actual current plus a reasonable reserve.

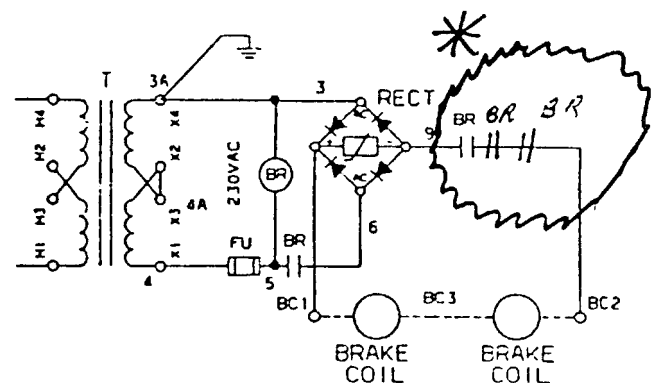
An oversized rectifier will sometimes resolve a history of brake rectifier problems. If you have a 75Z1091D1 rectifier, it is rated for 40 amps at 800 peak reverse volts. We recommend using the 75Z1091D2 rectifier which is rated at 50 amps and 1,000 peak reverse volts. Be sure to size wire and fuses correctly too.

The BR brake contactor can be another source of problems in the braking circuit. The long runs of wire from the brake panel to the brake pots causes quite an arc at the DC contacts. This results in two separate problems. The first is when the DC contacts seize from excessive arcing and lack of PM. The brakes still set because the AC side of the BR relay cuts off power to the rectifier and stops producing the DC power to the brakes. This results in very high voltage spikes generated in the DC side of the circuit, which have been known to break down the insulation in the brake pots, and cause "meltdowns" of the brake pots. The other scenario is when the DC arc jumps to ground and blows the fuse. This results in some of the brakes not releasing and if

not detected, the crane will drive through those brakes and damage them. The recommended fix is to change over to a 4 pole, 40 amp contactor in lieu of the more common 30 amp, 2 pole BR brake contactor. Use one set of contacts for the AC side and then put the remaining 3 sets of contacts in series on the DC side. This results in greatly reduced arcing, longer contact life and elimination of the arcing to ground problem. The 479U78D2 2 pole contactor should be replaced with a 479U99D2 4 pole contactor. Contact Ted Volmar for proper "D" number designation for your application.

The rectifiers are supplied with an MOV or "metal oxide varistor" across the DC output side of the rectifier. This protects the rectifier from voltage spikes generated in the DC circuit when opened. This device is very important for the proper operation of the DC braking circuit. Sometimes an oversized MOV will eliminate brake circuit problems, especially those involving brake coil failures. Possible choices include: 80Q35D10 rated at 130 joules, or Harris # V271DB40. Again, contact Ted Volmar for final recommendations. On one crane we even placed an MOV across the contacts to arrest the voltage spike and reduce the arcing at the contacts.

The above solutions summarized corrective actions taken on various cranes over a number of years. Your crane may have one or several all of the recommended improvements. Call Gary Otto or Ted Volmar for additional application information.



Emergency Escape Update

Many portal crane users have asked about an emergency egress system. We are supplying most of our new cranes with the "Escape Rite" model RTC-1003. When properly applied with a full body harness, cradle and attach point, this system provides a reasonably priced emergency egress with proven reliability, easy to use design, minimal training (video available) required, and UL listing/OSHA and Cal=OSHA approval/CSA approval. Refer to CSA Report No. LM 97631 for details on the Type 2, Class C certification.

Call P&H for a system proposal for your crane. References are available.

Frank Kemp's Tip of the Month

While recently working on a portal crane with two (2) Smartorque inverters on the gantry drive, somehow one drive key pad was reset from auto to manual and was not noticed. Upon completion of the work and attempting to get the drives running, we could not get the drives to operate correctly. This simple problem end up taking a few hours to identify and correct. It will be one of my fist checks from now on.

Mack Offers Low Profile Grapple

Mack Manufacturing has made a giant leap in grapple technology by actually getting smaller, or at least shorter. The new Low Profile Log Handling Grapples reduce the grapple height by 2'-9" for the 50, 60 and 70 sq. ft. models. This is a very significant development for those log crane owners who want to squeeze some additional log storage into their now full yards. The longer the runway, the greater the storage volume gain, a number that can be very substantial.

For more information, call your P&H representative.



MAINTENANCE TIPS

- A customized PM plan for your crane is essential to achieve maximum uptime and performance. Be sure to include the cable reel gears and bearings as well as checks for loose connections. Your Care and Operation manual should have suggested PM checklists, and if not, call for another set. For new crane owners, we have found that monthly checks for loose connections are needed for at least the first 6 months, then semi-annually after that.
- Use of a daily shift log by your operators will allow maintenance to track problems, faults, irregular operation, and PM activity during each shift. This can be valuable information when trying to troubleshoot a problem. The newer style diagnostic systems can also provide time based fault information for quick problem solving.
- Truman Peden of Tenneco Packaging, Counce, TN came up with a great problem solver for his cable reel. The power cable was flopping back and forth where it exits the slip ring hub, causing wear on the jacket. The simple addition of a steel plate across the hub provides a clamping location that eliminates the cable wear. Truman earns a P&H jacket for his idea and photo. Thank you!
- Swivel end truck assemblies equipped with lube points need to be routinely lubricated. In order to properly apply the grease, the load must be removed by jacking. Be sure that the thrust plate is free to rotate. Call Ted Volmar with any questions or for technical bulletin on the swivel assemblies.
- All motors have drain holes. Your PM should include a check of these drains to assure that water can freely drain. If you have any of your motors off the crane, or if you have spares, you may want to consider boring these holes out to a larger size to avoid future

problems. Bugs have been a source of problems.

- The Mine Cable Service company reported on in back issues is based in Bellaire, Ohio at 614-676-0320. Ask for Ralph. The Canadian Mine Cable Service Co. previously listed is not associated with the Ohio company. Both can provide power cable repairs either in their shop or at your site plus splice kits.
- To extend the life of your power cable, you could move the cable through the flip over every 6 months to shift the wear and tear to a new portion of the cable. Several users report doing this with positive results.
- The Hillmar cable reel Hi/Lo needle valve is supposed to be set at 1/8 turn open. The valve is very difficult to fine adjust, so one user reports that they replaced the valve with a micro adjusting needle valve that has 6 turns to one of the old valve turns. Going high to low too fast at the flip over was damaging the cable. If adjusting this needle valve has been a problem for you, call for more details or try the needle valve replacement idea for yourself. Let us know about your results.
- If you are looking for a Heavy Duty quick disconnect for your grapple, we have located an excellent source close to home in Cudahy, WI. The Meltric Corporation makes a type DS weather proof plug and receptacle that has been proven to stand up to the woodyard environment for several users. The P&H part number is R15003D1 and D2. Call Gary Otto for additional data.
- Hillmar/Magvek has updated their lubrication data sheet and maintenance schedule to emphasize the importance of weekly greasing of both the slewing gear with EP Open Gear Grease and slew ring bearing (must be done while turning) with Ep NGLI #2 (100 GMS). Call for a copy. We can fax or mail.
- For those cranes equipped with blowers on the gantry motors, Stone Container, Hodge, LA has designed some simple support struts to help support the blower assembly. If this is

a problem for you, call Gary Otto or Ted Volmar for additional information.

- SHD/GC power cables require special care when splicing or terminating. We have found that the copper power conductors are designed with a conducting non metallic tape over the insulation and that some manufacturers also add a layer of a semi conducting coating under the conducting tape and over the insulation. At the time of installation of this type of cable, it is very important to thoroughly clean the individual wire insulation of all conducting tape and all residue on any semi conducting coatings that may remain. This step could prevent termination failures and resulting downtime.