

# PORTAL CRANE SYSTEMS UPDATE

FALL 2009



## PORTAL CRANE SUPPORT TEAM

**24 HOUR LINE:  
800-633-1136**

P. (205) 951-6777  
F. (205) 956-0201  
1894 Woodlands Industrial Drive  
Trussville, AL 35173

**Freddie Duncan x.1503  
Manager-Portal/Port**

**Keith Gravelle x.1504  
Service Manager**  
Repairs, Service or Breakdowns

**Rhonda Shiflett x.1507  
Rebuild/Parts Mgr**

**Angela Ford x.1501  
Parts Coordinator**

**Ken Aldrich  
Inspection Mgr**

\*\*\*\*\*

Please have the serial number/location of crane/part number/contact name, phone, fax and address available when you call  
\*\*\*\*\*

**Réal Soucy  
Sales Manager**  
C: (678) 665-5225  
P. / F. (770) 236-9351  
rsoucy@morriscranes.com

**Gary Otto  
Portal Crane Mods Mgr.**  
P. (262) 821-4020  
C. (414) 573-8062  
F. (262) 641-9206  
gotto@morriscranes.com  
Modernizations, Special Projects,  
New Equipment.

**Please update your records  
to reflect the following:**

Morris Material Handling  
1894 Woodlands Industrial Dr.  
Trussville, AL 35173

Toll free 800-633-1136  
Fax 205-956-0201

**MORE PORTAL  
INFORMATION**  
www.portalcranes.com

## WHAT IS YOUR CRANE'S LIFE EXPECTANCY?

**Crane life expectation has become a hot topic as portal cranes built in the late 1970's reach 30 years old, and many more far exceed 20 years of age.**

When Heede (later P&H) developed the first portal cranes, the life expectancy was generally defined as 20 years for most of the cranes. Some customers asked for 25 year life cranes and we built them with a little more steel and lower stress ranges on the joints. Some customers specified the number of cycles they wanted the crane designed for.

Generally speaking, the P&H portal crane is what we call a "heavyweight" design that has proven its ability to run at high duty cycles for over 30 years, as in the case of the first portal cranes installed in North America, at Weyerhaeuser, Philadelphia, MS and Plymouth, NC in 1977. These cranes, and many like them, have been modernized with new machinery, new ergonomic cabs, and state-of-the-art variable frequency controls; all attached to the original 30+ year old structure.

For conservatively designed cranes like the P&H Portal Crane, there appears to be no real defined limit to the life. If the machinery and electrics are modernized, structural pin wear maintained in an acceptable range, and regular structural and mechanical inspections completed to watch for indications of problems creeping in, then we generally recommend to keep running the cranes. Even when a structural issue arises, it is usually in a high stressed area of the crane, in a predictable location, and can be repaired with a proper weld repair procedure that will restore new life to the particular joint. All too often, the cranes are subjected to collision impacts and shock loadings that can also damage the structure, requiring repairs and/or component replacement, but usually not total crane replacement.

While we have yet to see this in any P&H cranes, we are seeing what might be described as life limits in so called

"lightweight" cranes that were offered by competitors starting in the late 1980's. These cranes were offered to users at a considerably lower cost than a P&H crane that was labeled as being "too heavy", and many buyers jumped at the opportunity to save on the initial project cost, but there are now 8, 10 and 12 year old cranes that are suffering from extensive structural cracking throughout the girder structure, indicating that the lighter designed structure is reaching its cycle life limit, resulting in fatigue cracks and failures. One such non-

P&H crane owner has had to replace the complete girder structure after hundreds of fatigue cracks surfaced after only 12 years of service. Another had a cantilever failure resulting in a fatality. Several others have had to replace complete cantilever girder sections.

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**1977 Vintage Cranes still working around the clock**



## REBUILD SERVICES

- Electrical Motors (All Sizes)
- Controllers & Transmitters
- Electrical Drives
- Brake Assemblies (All Sizes)
- Brake Shoes (All Sizes)
- Reactor Assemblies
- Magnetorque Eddy Current Brakes
- Gearbox Assemblies
- Hoist Drum Assemblies
- Trolley Assemblies
- Bottom Blocks (All Sizes)
- Limit Switches
- Slip Ring Assemblies
- Equalizer Assemblies
- Drive & Idler Truck Assemblies
- Electrical Modules
- Brake Control Boards

**WARRANTY • OEM SPECS •  
SAVINGS • QUALITY •  
QUICK TURN-A-ROUND**

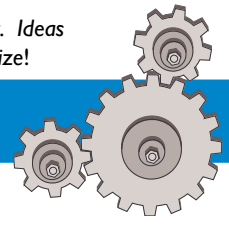
## FROM THE EDITOR

Dear Portal Crane Customer:

This issue of Portal Crane Systems UPDATE represents another step in the P&H commitment to serve our customers.

We hope this sharing of knowledge and experience will help you in your efforts to manage your yard efficiently.

Sincerely,  
Gary Otto, Product Manager • Cell 414.573.8062  
Portal Crane Products and Services



# MAINTENANCE TIPS

Below are some of the common repairs that P&H has been involved with lately on P&H and Non P&H Portal, Log boom and Rotator cranes:

- Hoist drum replacement
- Gear box rebuild and bull gear replacement
- Malmedie drum coupling replacement
- Line bore and replace with new pins and bushings:
  - Top leg end pin
  - Vertical/Diagonal link pins
  - Horizontal links
  - Truck/equalizer pins
  - Sill beam pins
- Wheel alignments
- Load tests

- OSHA Quarterly Service Inspections
- Annual Structural Inspections
- Emergency Structural Inspections
- Lifting beam replacement/rebuild
- Structural crack repairs
- Cab repair/replacement
- Cab window replacements
- Sill beam replacements
- Trolley rail repair/replacement
- Gantry rail repair/replacement
- Gantry rail foundation tamping
- Gantry rail foundation grout repair

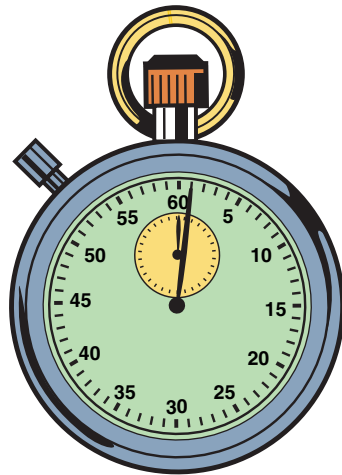
Much more...

There is no job too small or too big. Call Réal at 678-665-5225 for a free estimate.

## MANAGER'S MINUTE

2009 is over half way behind us now and our economy has suffered greatly. We know many of you have seen reductions in staffing, decreased production hours and even closures. Morris Material Handling has taken many steps to discount services and hold pricing in an effort to assist in this difficult economy and we will continue to do all we can to help you maintain your budget. The Portal Service Group has committed our business to serving your needs and maintaining the best quality in the industry. To that end, we will continue to:

- Review all sub contractor costs and quality
- Make every effort to work within your budget and time table for each project
- Expand our technical expertise with training to become more efficient
- Grow our technical base to reduce travel expenses
- Add more efficient tooling to reduce days on site
- Involve our Portal Engineering support to better evaluate your problems and quickly identify solutions
- Expand our rebuild center to reduce "middle-man" costs
- Expand the cost savings of our rebuild incentive program
- Offer a "volume" discount program for individual mills as well as a larger company plan
- Continue with our current hourly rate structure through 2009 and



- beyond, if needed
- Expand our Motor Exchange Program to include brakes to reduce your inventory and critical down time.

These commitments were written with one purpose: Help you our valuable customers.

Please contact us, in Birmingham, to ask about specific details of these efforts and to offer any suggestions you have for us to be better providers. The Birmingham Portal Service Group is dedicated to providing each of you with the most comprehensive total crane service on the market today. We will continue to evaluate our performance and ask that you continue to allow us the opportunity to be your Portal Crane "One Stop Shopping".

Freddie H. Duncan  
Portal/Port Service Group Manager

## Operation Tip:

For straight track portals, the crane can sometimes become skewed on the rails with resulting increased wheel and rail wear. While the crane is designed to minimize this skew and let the crane return to squared position naturally, sometimes a little help is needed.

If you suspect that the crane is not square on the rails, or perhaps once a week for assurance that it is indeed square, run the crane down to each end of the runway. Slowly approach the stops and observe if the bumpers contact the end stop at nearly the same time. (Three (3) to four (4) inch variation is not unusual.) If not square, note the approximate distance one bumper is off while the other is in contact, then gently drive the crane further into the stops to physically attempt to square up the crane. The bumper will normally compress, but the lagging side should square up. Drive away for 100 ft or so, then approach again and see if the problem has been corrected. Do this on both ends and you will have a very good picture of how the gantry is tracking. If the skew does not improve with this squaring technique, advise maintenance for further action.

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If you were to look at the requirements for designing a CMAA Class F high duty cycle crane, you would find that the design should provide a minimum of 2 million loading cycles. So if the crane averages only 20 cycles per hour, for 24 hours/day, for 347 days (95% uptime), then after only 12 years the 2 million cycles are reached. If the crane was designed to only the minimum standards, then the structure could quickly deteriorate after only 12 years (or less) of service. Throw in some higher duty cycles, (occasional) overloading, impact loading typical of log handling, and you have the potential for severe problems at a very young age. Fortunately, the Heede and P&H crane design philosophy was to build the structure for high impact loading, real world log handling abuses and very long life. One key element in our portal cranes is the detailed design for smooth flow of stresses within the structure. Special attention to manufacturing detail also assures long structural life. The result is that our cranes continue to perform well past the so called design cycle life, providing much greater productivity and value for our customers. We have not yet experienced a life limit on our cranes, so it is very hard to predict where that point is.

For cranes over 15 years old, I recommend minimum annual structural inspections, especially in the high stressed areas of the structure. A P&H structural engineer can define these locations and set up an inspection program tailored to your crane and your operations. We can examine the particular application, load sizes and heavy use areas to predict what areas will begin to deteriorate first. Keep your crane in good shape and I think it will provide many more years of service.

While I would really like to sell a new crane to every crane user with a crane older than 20 years, I don't think it will be happening soon, except maybe for some of those "lightweight" cranes.

I welcome your feedback and questions.

Gary Otto  
P&H Portal Cranes  
414-573-8062  
gotto@morriscranes.com

## GOT A SPARE?

We're all tightening the belt these days. But are you sure you have what you NEED to take care of business? Take a look at typical lead times for parts:

Electrical Motors	10-12 WKS	Limit Switches	3-5 WKS
Controllers & Transmitter	4-6 WKS	Slip Ring Assemblies	2-4 WKS
Electrical Drives	6-8 WKS	Equalizer Assemblies	10-12 WKS
Brake Assemblies	4-6 WKS	Drive & Idler Truck Assy	10-12 WKS
Reactor Assemblies	10-12 WKS	Wheels	2-4 WKS
Magnetorque Brakes	10-12 WKS	Sheaves	4-6 WKS
Gearbox Assemblies	12-14 WKS	Axles	2-4 WKS
Hoist Drum Assemblies	12-14 WKS	Hydraulic Equipment	6-8 WKS
Trolley Assemblies	16-18 WKS	Wire Ropes	2-4 WKS
Bottom Blocks	8-10 WKS		

If your crane goes down, can you wait that long? We can help you plan your inventory to control costs and reduce downtime. Our spare parts program is designed to keep the essential parts on your shelf!

The only thing more stressful than a parts emergency is an after-hours parts emergency. No need to worry, we are available 24/7/365! We have full capabilities to research requests and analyze any situation. We are your "one stop shop" and are here when you need us. To start saving, simply call the Portal Service Branch and ask for Angela Ford at 800-633-1136, ext 1501.

## ALL ABOUT REBUILDS

Do you have projects that you just can't seem to make happen? Budget cuts leaving you short-handed and with little money to operate? Let our Rebuild Center help! We can efficiently and cost-effectively rebuild your existing equipment. Only Morris Material Handling knows the original specifications for the P&H cranes and hoists that you depend on. To mechanically overhaul a hoist unit, we will dis-assemble, inspect and only replace parts that need to be replaced to ensure it is brought back to original specifications. Once we finish rebuilding your hoist assembly, it is "like new" and comes with the same warranty as a new hoist assembly at half the cost and delivery.

Did you just change out a brake assembly and can't find the man-power to rebuild the used one to put back on your shelf? We rebuild brake assemblies all day, every day! We have rebuilt brakes sitting on our shelves, ready to ship



SIZE	REBUILD PRICE	NEW PRICE	RELINED SHOE P/N	RELINED PRICE	NEW PRICE
5"	\$2,500	\$4,371	915F84-7R	\$136	\$626
8"	\$2,900	\$5,042	915F84-4R	\$153	\$738
10"	\$3,696	\$6,045	915F84-2R	\$202	\$777
13"	\$5,265	\$9,468	915F84-1R	\$226	\$989
16"	\$6,439	\$10,616	915F84-3R	\$312	\$1,660
19"	\$8,791	\$17,876	915F84-5R	\$526	\$2,481
23"	\$11,259	\$22,294	915F84-6R	\$723	\$3,159
30"	\$TBD	\$TBD	915F84-8R	\$951	\$3,245

the same day we receive your used brake. This chart (above) illustrates the price savings vs. buying new. All parts are sandblasted and checked for wear and/or cracks. Damaged parts are replaced with new. Bases are checked for wear at the bearing surfaces and pivot points and any wear in the bearing housings are brushed and re-machined. Brakes are then re-assembled with new bolts and keeper hardware. All adjustments are set back to factory specifications. Don't forget about the brake shoes – we can relined them too! To start saving, simply call Rhonda Shiflett at 800-633-1136, ext 1507. Quality isn't expensive, it's priceless!

## VOC – VOICE OF CUSTOMER

Beginning in January 2009, we began our VOC or Voice of Customer program. This program is intended to let you, the customer, voice your opinion on a variety of subjects from service, inspections, safety, rebuilds, parts, etc. As we are always striving to exceed our customers' expectations, this gives us an in-depth look at how you think we are doing. For those of you who have already taken the time to complete our brief survey, we greatly appreciate your honesty.

Please update your records:

Morris Material Handling  
1894 Woodlands Industrial Drive  
Trussville, AL 35173  
T. 800-633-1136  
F. 205-956-0201

Make sure to send your Purchase Orders and requests to the fax number listed above.

## Dedicated Portal Crane Service Technicians

We have eight full time certified service technicians strategically located to help you now!

- They are well trained on any type and brand of woodyard cranes.
- Full time team dedicated to woodyard cranes ONLY!
- They are up-to-date with crane improvements and receive continuous training.
- Call us for your next service inspection as mandated by OSHA.
- We perform load tests and assist with modernizations of older equipment.

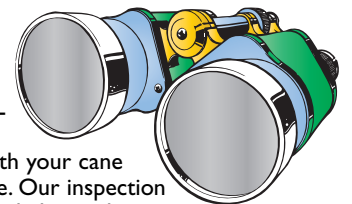
Don't wait and let a small problem become a BIG PROBLEM!

Call me to setup your next appointment.

Réal 678-665-5225

## INSPECTION INSIGHTS

With times being tight and the uncertainty of the economy let us help you with your crane maintenance. Our inspection program can help you be aware of issues and help control your maintenance budgets. Our comprehensive quarterly inspection program is an easy way to track wear items and problem areas on your crane. Call us for a competitive proposal to inspect crane and keep you in compliance with OSHA.



Ken Aldrich  
Inspection Manager Portal

## ALWAYS GOING THE EXTRA MILE

The following is a summary timeline of an event that recently occurred for one of our valued customers:

- Mon 8/10/09, 8:00AM - Receive call regarding cracking issues on an old trolley rail. P&H certified service technician arrives on site at 3:30 pm. Inspector recommends complete rail replacement.
- Tue 8/11/09 - Customer receives quote.
- Thu 8/13/09 - PO received from customer - parts and rental equipment are ordered.
- Mon 8/17/09 - 7:00 am Crew arrives on-site. Begin demolition of old rail. Thunderstorms delay work in afternoon
- Tue 8/18/09 - 5:30 am Demolition continues. Thunderstorms delay work in afternoon
- Wed. 8/19/09 - 5:30 am - 7:30 pm New rail is set. Begin welding process of rail sections.

- 8/20-21/09 - 5:30 am-12:30pm Work continues. Thunderstorms delay work in afternoon.
- 8/22-24/09 - 5:30am – 7:30 pm Work continues.
- 8/25/09 - 5:30am – 12:30 pm Work is completed. Crane is turned over to customer for production at 1:00pm.

Despite having a full service backlog, we managed to respond quickly to our customer's needs.

P&H understands that it is very expensive for a mill to be down on an un-scheduled down-time.

Bottom line, P&H was able to perform the work safely and timely.

Please call anytime for quick assistance:

Réal @ 678-665-5225

# MORRIS

MATERIAL HANDLING®

Morris Material Handling  
315 West Forest Hill Avenue  
Oak Creek, WI 53154 USA  
P 262-821-4020  
F 262-641-9206  
www.morriscranes.com

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Attention Mailroom: If undeliverable to addressee, please reroute to Portal Crane Maintenance Manager.

## INDUSTRY GROUPS AND EVENTS

### CWF-TAPPI CRANE USER GROUP

For information on this group, visit the group's website.

[www.craneusers.org](http://www.craneusers.org)

### MOTAG-SOUTH TO MEET IN ATLANTA

MOTAG-SOUTH will hold its next annual meeting early 2010. The meeting opens with a social hour on Wednesday evening and generally has attendance over 150, with a focus on woodyard and chipping operations.

MOTAG is short for "Millyard Operators Technical Advancement Group". You can register at the meeting by going directly to the Renaissance Concourse Hotel by the Atlanta Airport or visit the website for lots of MOTAG info.

[www.motag.org](http://www.motag.org)

### PORTAL USER MEETING UPDATE

Due to the economy and the inability of many of our customers to attend, the 2009 P&H Portal Crane User Conference has been cancelled. We are committed to continuing the 19 year tradition of hosting these meetings and we have definite plans for a 2010 User Conference. We are looking at several options for location and dates, and we will announce details later in the year, still well in advance, so that our customers can plan ahead for the meeting. If you are planning ahead for 2010 and budgeting funds to attend, we do not charge a conference fee. We also cover most of the meals during the conference. You do need to budget for travel and living expense to and from the event as well as the hotel rooms during the conference. We usually get some pretty competitive rates. Monitor the P&H Portal Crane Website [www.portalcranes.com](http://www.portalcranes.com) for additional information, and watch for information in future editions of the UPDATE.

Editor: Gary Otto: Cell: 414-573-8062 . [gotto@morriscranes.com](mailto:gotto@morriscranes.com)

## TRAINING UPDATE

### STATIC STEPLESS CLASSES

**Classroom** Nov. 3-6, 2009  
**Lab** Nov. 9-12, 2009  
Dec. 8-11, 2009

### SMARTORQUE BULL 425

Nov. 3-6, 2009

Call for more information.

**866.821.4006**

### Operator training customized for your crane and application

Our portal specialist, John Groth, will come to your mill and work with your operators to increase productivity, reduce damage to the crane and log trucks, and promote safe operations. Inefficient habits can creep into your operations over time, and an operator training session can clean out those bad habits and set your crane operation on a new and more productive course.

### PORTAL CRANE OPERATOR TRAINING COURSE #838

Is there a significant difference between those you would rate as your BEST portal crane operators and those you'd rate as average? Would you like all of your operators to perform up to a higher standard? Would reduced log damage and truck damage benefit your operation? Is this all attainable?

**KEY BENEFITS:** Companies who have taken this course in the past have benefitted from decreased downtime, increased operator efficiency, longer wire rope life, longer grapple life, increased plant safety and reduce damage to logs and trucks.

**GENERAL DESCRIPTION:** This course includes classroom and hands-on training for portal crane operators. Major crane components, protective devices and safe operating procedures are covered in detail.

#### COURSE OBJECTIVES

- Identify and explain the function of all major crane components
- Explain and apply all hand communication signals
- Explain the function of all safety devices
- Perform recommended operating procedures
- Explain and apply recommended safety precautions
- Discuss emergency shutdown and exit procedures

#### COURSE OUTLINE

- Major crane components
- Safety devices
- Recommended operating procedures
- Communications
- Safe operating practices
- Hands-on training
- Practice Emergency shutdown procedures.

### [WWW.PORTALCRANES.COM](http://WWW.PORTALCRANES.COM)

The P&H Portal Crane web page can be viewed by simply going direct to [www.portalcranes.com](http://www.portalcranes.com). Find the latest in product news, Update newsletter index, all back UPDATE issues, product support information, case studies, and a crane modernization shopping list.

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