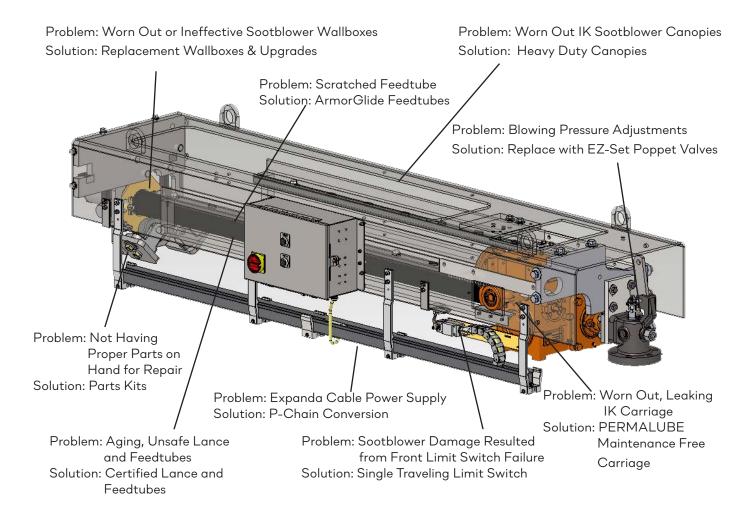


# SOLUTIONS TO YOUR IK PROBLEMS

Single source provider for all your IK needs

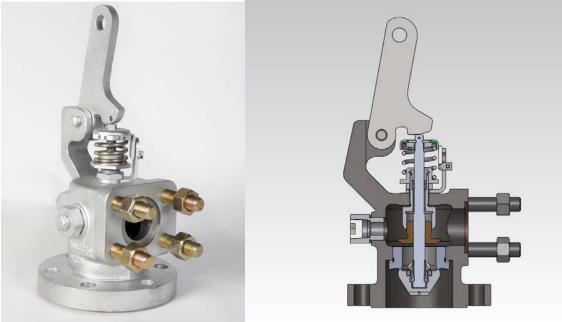
# **IK SOLUTIONS**



When the time comes to replace sootblower parts, it is critically important to get exactly what you need, when you need it. It is also vital to get the parts that will last the longest, extending your investments to their maximum value. Clyde Industries offers thousands of interchangeable sootblower parts including major assemblies, gears, shafts, bearings, seals, gaskets, nuts and bolts, and an array of other less frequently used parts for Diamond Power IK blowers\*. As an Original Equipment Manufacturer (OEM), Clyde Industries tackles some of the most common problems encountered with the IK blowers, far beyond a few worn out parts. Our solutions cover specific problem areas on the IK blower all the way to complete sootblower replacement.

Diamond & "Diamond Power" are trademarks by Diamond Power Specialty Co. Clyde Industries is not affiliated with Diamond Power Specialty Co.

### CLYDE INDUSTRIES



### Problem: Blowing Pressure Adjustments Issues: Difficult removing pipe plugs from side of the valve Requires lockout/tagout (LOTO) to adjust pressure Very time consuming and labor intensive

### Solution: Replace with Clyde Industries EZ-Set Poppet Valves

A typical IK poppet valve is internally adjustable by incorporating a pressure disk inside the valve, which is held in place by a lock pin plug. The pressure disk is located on the valve stem guide within the valve. A gauge would be plumbed into the valve and the sootblower is operated and the blowing pressure is measured. If an adjustment is required, the Sootblower has to be lockout/tagout, then the lock pin plug must be removed and pressure disk raised or lowered (increase pressure or decrease pressure) and sootblower re-run to confirm pressure. This process repeated until desired blowing pressure is obtained. For a single Sootblower it could take from two hours to a full day to adjust an internally adjustable type poppet valve.

This EZ-SET new poppet valve can be retrofitted to all Diamond IK series sootblowers (IKTM, IK300, IK525/ IK545, IK555, IK600, IK700 and IKSD) by simply removing the old valve and bolting this new valve in place. There is no machining or welding required and no need for component modification to install this externally adjustable poppet valve.

Unlike the old design which required lockout/tagout the Clyde Industries design simplifies the process saving you time and money. Instead of repeating a series of long drawn out steps, simply rotate the top nut while the sootblower is online and set to the desired pressure. The pressure is set correctly the first time in comparison to the guess and check method of the older design. This translates into major maintenance and operational savings and increased safety.

## **Benefits**

- Save weeks of maintenance time with online sootblower pressure adjustment in minutes, no lockout/tagout required
- Optimize your sootblowing media consumption and the cleaning effect of your sootblower
- Easy installation via universal feed tube design allows one model to fit both 2 3/8" and 2 <sup>3</sup>/<sub>4</sub>" feed tube sizes
- Ensure security via locking device preventing pressure drift during operation, and providing a positive lock on the packing nut while adjusting
- The internal portion of the valve, including the seat, is completely replaceable
- Available in both 600# and 900# pressure ratings



## Problem: Worn Out IK Sootblower Canopies

Issues: Corrosion and age of housing has reduced reliability Rack angles and carriage rails severely worn Rack and Pinion center distance out of specification No capital for complete replacements

### Solution: Clyde Industries Heavy Duty Canopies IK525B, IK545B, IK525R, IK600, IK700 & IKSD

Clyde Industries has developed a retrofit canopy to replace the standard Diamond Power design. This new canopy is a significant improvement over the OEM design, offering increased durability in operation, longer sootblower life, and easier maintenance.

The most noticeable improvement is the "Hot Dip Galvanized" protective coating applied in place of standard paint. The hot dip galvanizing seals the entire canopy. This coating adds many years to the canopy's useful life, even in the harshest operating conditions.

Our canopy is constructed using 1/4" material, rather than the original 3/16". This thicker material improves canopy rigidity, which makes the roller rails and gear rack mounts more stable. This improved frame rigidity increases the carriage tracking accuracy in the canopy, adding life to sootblower components and improving the operational safety of the sootblower.

The standard weld-in gear rack angle iron is replaced with a slotted angle, allowing the use of bolt-in gear rack. Our canopies come standard with the gear rack installed. The gear rack used by Clyde Industries is engineered to precise tolerance and offers superior durability.

The Clyde Industries roller rails are constructed with 1<sup>1</sup>/4" solid square bar using 1018 material. This roller rail design gives support to the canopy and increases roller rail life. Together, the slotted gear rack angle and solid roller rail square bar ensure greater durability in operation and enhanced sootblower maintainability.

All canopy openings are plasma-cut to precise tolerances, and all openings are fitted with stainless steel covers.

## **Benefits**

- 1/4" thickness improves strength and extends service life
- Hot dip galvanized coating for greater protection against corrosion
- 1 ¼" solid square bar for added rigidity and operational strength
- Bolt in gear rack allows future replacement, improves maintainability
- Universal design fit both left and right hand positions, increases repair flexibility
- Multi-section design allows economical installation for long travel applications
- Open top design option improves
  maintenance efficiency

The Clyde Industries canopy is an engineered solution, designed to address problems associated with the Diamond Power Canopy. Clyde Industries has been producing this canopy for over 30 years, and we are confident that we can meet your specific needs.



#### Multi-section

Canopies can be built in multiple pieces with flanged joints. Multi section canopies provide smaller lift capacities and maneuverability. These smaller sections allow ease in rigging and fitting into tight spaces. The flanged joints have overlapping cross members with bolt-in construction. The bolted in gear rack and solid square bar roller rails are spliced at the joint for a precise fit.

#### Open top

Canopies can be constructed with open top options providing improved accessability to major componets. High strength removeable covers provide needed guarding. This is a needed design for blowers which are mounted on or near the floor. Carriage and tubes can be replaced out the open top of the IK canopy.

### IK545/IK555

These canopies are boxed construction which is needed for long travel loads. The canopy is equipped with needed cutouts for the front support roller assembly and auxilary support roller assembly. Top access panels can be provided for rigging of lance and feedtubes. A contoured rack option is also available.

### Standard offering

- 1/4" carbon steel and hot dip galvanized
- Bolt-In gear rack
- Solid square bar carriage rails
- Valve linkage pad with mounting holes
- Front & rear bulk-head plates
- Top & side cover openings with covers
- Hanger plates with hardware

### Options and ancillary equipment

- Canopy thickness & material options
  - <sup>3</sup>/16" & <sup>5</sup>/16" thickness
  - Optional 304 stainless steel canopy
- Multi-section or split canopy for tight fit areas
- Progressive helix
- Bolt-in square bar
- Complete open top access for low to floor installations
- Expanda cable or P-chain power supply
- Control box with complete electrical for power supply and limit switches
- Limit switch upgrades
  - Single traveling limit switch
  - GO switch upgrade
  - Mechanical limit switch upgrade
- Purge line





Problem: Worn Out, Leaking IK Carriage Assemblies

Issues: Oil and grease leakage due to oil seal failures Incorrect sealing materials used Carriages worn out and in need of repair

### Solution: Clyde Industries PERMALUBE Maintenance Free Carriage

Whether you are considering rebuilding or purchasing new carriages, Clyde Industries's IK PERMALUBE carriage exchange program consists of supplying a completely new carriage at a very competitive price. The PERMALUBE carriage uses permanently lubricated bearings to support the lance hub. These bearings are completely sealed and filled with a high temperature grease designed specifically for this application. This eliminates mechanical failures due to loss of lubrication, as well as oil and grease leaks which can cause a housekeeping and safety issues.

PERMALUBE carriages provide reliable operation and long service life. Each PERMALUBE carriage comes with a 3 year/35,000 cycle warranty. It is permanently lubricated on the gear side and lance hub bearings. Specialized flowable grease is added to the gear side and high temperature grease is used for the lance hub bearings. The gearbox and lance bearings are sealed with machined surface finishes and new gasket material with strict torque specifications making it 100% leak proof. There is no need for relubrication and no oil levels to check or top off. All of these factors make the PERMALUBE carriage maintenance free which saves you time and money. Competitor's carriages use graphite wedges rather than grease in bearings. Graphite wedges have a tendency to break down, leading to bearing failure and potential catastrophic damage to the boiler.

PERMALUBE carriages are available as new equipment or replacements. Models supported for replacement, rebuild, or exchange include:

### **Standard features:**

- Dual bushing lance hub
- Shouldered lance hub
- Fully lubricated
- Serial numbered for traceability

#### 4 Roller

• IK525R, IK700R, IKSD, IK600, IK600MX

### 2 Roller

• IK525B, IK545B, IK700, IK555C

### **Options include:**

- Packing arrangement: live load or solid gland, or 2 stud
- Feedtube size: 2 <sup>3</sup>/<sub>8</sub> inches or 2 <sup>3</sup>/<sub>4</sub> inches
- Oscillating carriages
- Straight line or non-rotating carriages
- All travel speeds and helixes are available



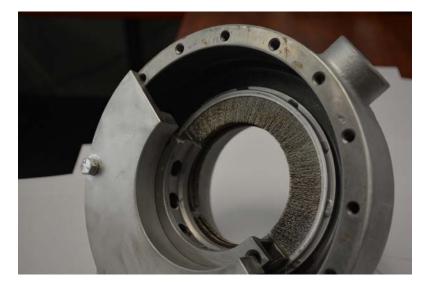
## Benefits

- No periodic lubrication required, eliminates maintenance costs for carriages
- Leak proof for easy maintenance
- Miminize overall sootblower maintenance costs by reducing carriage failure



Gearbox: Sealed and filled with flowable grease Lance Hub: Sealed bearing with high temperature grease





### Problem: Worn Out or Ineffective Sootblower Wallboxes Issues: Heavy ash buildup in the boiler house

Wallbox plugged by ash Worn out seal ring and seal plates Wallbox damage due to corrosion

### Solution: Clyde Industries Wallboxes & Upgrades

Worn-out wallboxes greatly contribute to the air quality and housekeeping issues in a boiler house. Worn out or ineffective wallboxes can cause heavy ash or salt cake build up. This leads to possible health issues with personnel as well as ongoing cleanliness issues. In addition, wallboxes exposed to corrosive salt cake or ash may be damaged prematurely due to corrosion. Furthermore, ash and condensate can build up inside wallboxes and results in wallbox plugging, therefore causing sootblower misalignment and lance tube failure.

Clyde Industries can provide in kind IK replacement wallboxes as well as upgrades. The typical wallbox on most boilers utilize the basic negative pressure seal plate commonly referred to as the "Stop Sign Plate". The seal plate seals around the lance tube and allows for some movement between the lance tube and wallbox. Ash may leak through the gap between the seal plate and lance.

Clyde Industries has developed an upgrade to this standard design with the wire brush seal. The wire brush design greatly improves the sealing capabilities of the standard seal design, because the wire brush is in tight contact with the lance tube so there is no gap between the lance tube and the wire brush therefore drastically reducing the "blowout" of the boiler gases and ash.

## Benefits

- Eliminate housekeeping issue due to ash blow out
- Extend wallbox service life
- Prevent wallbox from plugging

For positive pressure applications wallboxes with seal air and aspirating air chamber can be provided. Low pressure air is used to pressurizing the chamber to keep flue gas escaping. Higher pressure air is used when it is necessary to remove the lance for maintenance work.



### **Problem: Scratched Feedtubes**

Issues: Short feedtube service life due to scoring or scratching Short packing life Waste steam due to leakage Safety Issues

### Solution: Clyde Industries Armor Glide Feedtubes

As a user of sootblower feed tubes, you understand the problems associated with feed tube scratch, which lead to packings leaks and the cost associated with packing leaks. Packing leaks cause steam waste, maintenance worries and downtime, each of which increases recovery boiler operating cost.

Previous recovery service sootblowers and long travel utility sootblowers used chrome plated feedtubes, with the plating limited to a thickness of.001 to .002. The result was that thermal expansion differences between the hard chrome and base feedtube material caused cracking or peeling of the chrome.

However, the Armor Glide process is thermally bonded to the base feedtube and will not peel or flake off. Its unique design boasts a surface treatment harder, thicker and more durable than conventional chrome plating processes offered in the past. Therefore, the Armor Glide feed offers extend feedtube life, longer packing life resulting in longer sootblower run times, steam savings, reduced maintenance cost and improved boiler cleaning. Changing just one part creates a system-wide improvement whose results can easily be recognized.

The average Armor Glide feed tube hardness value is twice that of conventional feed tube on the market today. The improved hardness value offered by the Armor Glide feed tube means better wear resistance, longer life and greater

## **Benefits**

- Double the hardness of the standard feedtube and feedtube service life
- Scratch resistant.
- Improved hardness value meaning better wear resistance, longer life and greater durability in operation.
- Offers longer packing life resulting in longer sootblower run times, steam savings, reduced maintenance cost and improved boiler cleaning.

durability in operation. The Armor Glide feed tube will last longer and resist scratching better than any other feed tube in the market.



### Problem: Aging, Unsafe Lance and Feedtubes

Issues: Catastrophic boiler damages due to lance and feedtube failure Feedtube failure at the splice and snap ring locations Bent lance tubes due to low material strength Safety of mill personnel

## Solution: Clyde Industries Certified Lance and Feedtubes

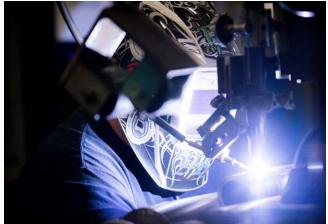
Failures of lance and feedtubes can be catastrophic and lead to significant boiler damage. Many factors can cause lance and feedtube failures, including welding defect, improper material selection, poor maintenance practice, thermal fatigue, etc. To ensure safety sootblower operation, Clyde Industries is moving to a new industry standard for sootblower safety with two critical fabrication standards: (1) 100% NDT for recovery boiler lance and feedtubes, and (2) high strength alloy lance material.

### 100% NDT Certified Recovery Boiler Feed & Lance Tubes

Clyde Industries will only supply 100% Non-Destructive Test (NDT) certified feed and lance tubes to our pulp & paper customers. All Clyde Industries certified feed and lance tubes will be shipped with a certified mark. All quality documentation will be stored in the Clyde Industries Quality Management System database and updated accordingly. All certified feed and lance tubes will go through stringent Clyde Industries standard Quality Assurance/Quality Control:

- 100% NDT before shipment with either X-Ray, ultrasonic, liquid penetrant, and/or magnetic particle
- Certified stamp and traceability of each tube
- All necessary pre-heat and post weld heat treatment for lance tubes in full compliance with ASME section IX welding procedure and recommendation
- One piece feed tube with no splicing



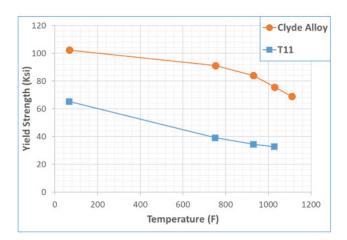


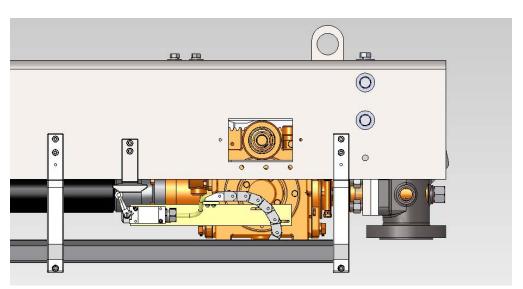
## Benefits

- Eliminate the risk for catastrophic damage caused by lance and feed tube failure
- Safety of plant personnel
- Reduce costs for field test/inspections
- Extend lance service life with high strength alloy material
- High performance nozzles for improved cleaning
- Maintenance traceability
- Peace of mind

### High Strength Alloy Lance

To further improve safety and lance service life, Clyde Industries has standardized on 4130 material for recovery boiler lance tubes. The alloy lance material is specially treated to produce higher strength at elevated temperatures. Diamond Power standard lance material is T11, which has less than 50% yield strength of 4130 material. The low strength of T11 material results in more frequent lance tube failure due to overheating and bending.





### Problem: Sootblower Damage Resulted from Front Limit Switch Failure Issues: Front limit switch exposed to heat of the boiler Premature failure of the front limit switch leads to catastrophic sootblower failure

## Solution: Clyde Industries Single Traveling Limit Switch

The standard limit switch arrangement for the IK sootblower consist of dual fixed switches. One limit switch located at the front and the other located in the back. The recurrent problem with this arrangement is the proximity of the frontorward limit switch to the gasses and heat of the boiler. The exposure to these elements causes pre-mature failure due to excessive heat and corrosive atmosphere.

The front limit switch reliability issue can be solved by converting the dual limit switch design to a single traveling limit design. The Clyde Industries Single Traveling Limit conversion kit consist of the switch actuator, carriage bracket and limit switch. P-Chain conversion is a prerequisite for single limit switch conversion. The limit Switch is located under the hood of the canopy providing additional protectionshielding from the elements. The limit switch is positioned at the back of the Sootblower when the Sootblower is not in operation. The limit switch will travel with the carriage and return to the home position to eliminate being in proximity to the heat of the boiler.

### Requirements

- Single Traveling Kit
- P-Chain Conversion

## Benefits

- Kits are externally mounted to facilitate inspection and preventive maintenance
- Eliminates heat related failures
- Uses standard SO cord for new switch
- Both kits retrofitable in field
- Kits can be easily adjusted for different travels





### Problem: Not Having Proper Parts on Hand for Repair

Issues: Parts not available to support maintenance Difficult to identify all parts needed Repairs started but never finished due to parts availability

### Solution: Clyde Industries Parts Kits

Some customers have inventory of individual parts such as bearings, gaskets, keys, shims, and seals placed in different parts of the stockroom. This can cause problems and be time consuming rounding up parts to repair or replace an individual assembly. It is very difficult to identify all parts needed for certain repair work. Repairs may be delayed or stopped due to missing a small part.

Clyde Industries has developed a solution to this problem. We will developed parts kits for complete assemblies, repairs, or conversions. We can supply generic kits or customized kits specifical for each plantcustomer. Repair kits allow better planning and maintenance efficiency by assuring all of the materials are on hand for a specific repair or rebuild. No more pulling of the

individual items and getting to the end of a repair and determining a single item is missing. The kits are designed to provide the normal components required for completing the work including bearings, shims, gaskets and seals. Kits can also be custom tailored to suit the individual plants needs including additional items or eliminating items not normally consumed.

Parts kits also allow the elimination of many individual components from an inventory, as many items are not used unless a certain repair or task are performed. Stock the one kit and your material needs are covered.

## Benefits

- Reduce maintenance costs by eliminating time consuming parts collecting process
- Everything you need to fix or convert an assembly together in one kit
- Minimize the time of gathering parts from the stockroom
- Customized kits only consisting of the parts you want or need
- Reduce inventory by elimination of many individual stocked items

### Examples of Parts Kits:

- BP347274-KITD Roller repair kits (bearings, spacers, and retaining rings)
- BP346798-000A Valve linkage kits (linkage arm, bushings, blocks, and fasteners)
- CE-113850-1 P-chain kits (cables, chain, and mounting hardware)
- BP347276-KITBLARAMIE Carriage repair kits (bearings, shims, seals, keys, and gaskets)
- BP346858-000A-SPCL-KIT Seal plate kit (plate, springs, nuts, bolts, and washers)
- BP347203-KITA Valve internal kits (complete assembly with packing)



### Problem: Expanda Cable Power Cord

Issues: NO Accessibility for maintenance and periodic Adjustments Impossible to inspect and PM Each travel and each hand requires different cables Costly damage caused by expanda cable failure

### Solution: Clyde Industries P-chain Conversion

The expanda cable power cord, typically located inside the sootblower housing, provides power to the motor over the course of the travel, and can cause some big problems if it isn't adjusted properly. In fact, the cable can get lodged between the cone and rod and short out if the cable loops are not the proper size to assure clearance in its confined space. Not only that, the location of the cable in proximity to the feedtube packing has been known to cause the cable to lose its shape and sag into the gear rack. Furthermore, since the cable is located inside of the canopy, it is extremely difficult to inspect and replace it when needed. Failure of expanda cable may lead to major Sootblower mechanical failures, such as losing carriage, lance and feedtube.

One solution to the problem is to convert the Internal Expanda Cable to External Expanda Cable design. Traditionally, the cable is mounted on a suspension rod inside the canopy, which covers the entire length of the blower. An extension cone (later a floating cone) aids the coiling and uncoiling of the expanda cable during an operation. However, the Clyde Bergemann External Expanda Cable kit moves the expanda cable to the outside of the blower. The result is that while the same coiled cord is used, maintainability and accessibility are greatly improved.

The other solution is to convert the expanda cable design to Clyde Industries "P-Chain" design. The Clyde Bergemann"P-Chain" conversion consists of a retractable cable carrier ("P" chain) which is supported by a simple trey system. The power cord is located inside the cable carrier

## Benefits

- Minimize power cord failure and consequential Sootblower damage
- Both kits are externally mounted to facilitate inspection and preventive maintenance.
- Eliminates expensive coiled cords (for P-Chain conversion).
- Uses standard SO cord (for P-Chain conversion).
- Both kits provide disconnect at motor.
- Both kits retrofitable in field.
- Kits can be easily adjusted for different travels.
- Kits eliminate having different part numbers based on travel and handing.

and is standard "SO" cord and a disconnect at the motor is provided. A towbar mounted to the carriage assembly pulls the cable carrier along and the treys support the cable of the length of travel. The result is that service life is extended and both inspection and preventative maintenance are made noticeably faster and easier. The conversion will also eliminate the costly Sootblower damage caused by expanda cable failure.



### Additional Clyde Industries Diamond Power Support

## Retractable (IK) 525B, 525R, 545B, 555, 600, 700, IKSD, IK4M, IK300 & IKTM

### **Certified Lance Tubes**

- 4130 High Strength Alloy
- SS Nozzle Extensions
- Ground Flush Nozzles
- Butt Weld Single Piece Flange Construction
- 100% X-Ray for P&P Application
- Serial Number Traceability
- CFEIII Nozzle upgrade
- Hi-Pip nozzles

#### **Certified Feed Tubes**

- 304SS Construction
- ArmorGlide Hard surfacing
- Insulated Option
- Heavy Wall Thread End
- Split Ring Upgrade Option
- Single Piece Construction upto 20' Length
- Double Life Keyway
- Serial Number Traceability

### Live Load & Solid Gland Packing Tensioners

#### **Progressive Helix Mechanism**

- Two Roller
- Four Roller

### Control Box Options/Kits

### **Purge Line Kits**

#### **Spare Parts Kits**

### **Carriage Upgrades**

- Series One
- Full Oil Bath
- PermaLube

### **Outage Consignments**

### **Tube NDT programs**

#### Full Support of APH IK Blowers

- Rake Assembly's
- Non-Rotating Carriages

#### Limited IK4M Support

- Carriages
- Lance Tubes
- Feed Tubes



### Wall Blower (IR)

#### Full Support of IR3D

- Complete Blowers
- Gooseneck & Valve Assembly
- Upgrade to Four Pin Drive Assembly
- Spare Parts Kits
- Rebuild Kits
- Full Upgrade to New IR3Z

### Rotary Blower (G9B)

### Full Support of G9B

- Complete Blowers
- Gooseneck & Valve Assembly
- Spare Parts Kits
- Rebuild Kits



# CLYDE INDUSTRIES TRAINING

#### **Customized On-Site and Virtual Training Available**

A well-trained, skilled maintenance crew is vital to keep sootblowers in reliable condition while maximizing system performance. Poorly maintained equipment, especially critical equipment such as sootblowers, leads to reduced unit efficiency, catastrophic failure, or forced outages. This can cost plants millions of dollars a year. Clyde Industries offers comprehensive training programs for various makes and models of sootblowers for operations and maintenance personnel to help prevent these issues from occurring.

'Tricks of the Trade' and 'Best Practices' are shared from over 50 years of sootblowing equipment experience. Our experience includes work on power boilers; recovery boilers; refineries; and heat recovery steam generators in all climate types. Classroom lectures are followed by hands-on field training to build information retention. Demo sootblowers can also be shipped and used in the classroom. The amount of time spent on classroom lectures and hands-on training can be customized, as well as duration, topics, and audience. Each training program is tailored specific per plant.

#### Virtual and Online Training Available

Clyde Industries offers customized online virtual training. Virtual classrooms with web cam coverage of equipment is used to pin point maintenance and repair issues. An extensive online video library is also available.

## Proper Training Increases Sootblower Availability and Reduces Downtime

With the right training you can:

- Prevent premature packing failure due to improper assembly and failure to tighten
- Eliminate scratched feedtubes due to worn out packing
- Set proper blowing pressure to reduce boiler tube leaks or boiler pluggage
- Reduce excess oxygen leakage by changing worn out scrapper plates
- Prevent gearbox failures due to improper oil levels
- Increase sootblower availability by gaining knowledge
  and experience on equipment procedures



## SOOTBLOWER TRAINING

Training programs are available for the following products:

Retractable Sootblowers			
RS-H	T-20	IK520	
RSP-H	T-30	IK525, IK545	
SMART RS	IKSD	IK555	
RSI-H	IK4M	IK600	
RX-H	IK300/400	IK700	

Air Heater Cleaners			
RS-A	T30 TEH	IKAH	
RS-A Multi-	T20 TEH	AHC	
media	IK AH-500		

Furnace Cleaners				
VS-H	SMART Cannon	IR3		
RW				

## Rotaries G9B

## **Benefits**

- Maximize return on your equipment investment
- Save fuel costs
- Reduce forced outages due to poorly
  <u>operating</u> equipment
- Specialized expert training programs based on type of equipment used at your plant
- Greater information retention achieved through combination of classroom lectures followed by hands-on field training
- Identify problems before major failure occur resulting in increased sootblower availability, reduced parts consumption, and reduced system downtime

### Who benefits from our training programs?

- Sootblower mechanics
- Sootblower electricians
- Maintenance foremen
- Plant Operators
- Plant Supervisors

Contact us today to set up your training program.



## Clyde Industries Provides You With All of Your IK Solutions

When you are in need of replacement parts for your IK blower, there is no better place to turn than Clyde Industries. Whatever problem you may have encountered, we can help you implement a flexible cost-effective solution. We carry an impressive inventory of on hand parts in our Atlanta headquarters and in our regional service centers across North America. Even those difficult to source made to order parts such as lances and feedtubes can be shipped within a short time frame in emergency situations.

We maintain a toll free 24-hour customer service hotline for your convenience, as one more example of our commitment to make help available to you as quickly as possible. Additionally, once you have your parts installed, you can rest assured that our products are designed for easy maintenance, extending your sootblower lifespan.

That's why we can say with confidence, Clyde Industries replacement parts improve sootblower reliability and performance which in turn improves the total cost of ownership. Clyde Industries offers a number of additional services and programs:

- Vendor Managed Inventory
- Component Exchange Program
- Fixed Price Term Agreements
- Consignment Programs
- Sootblower Availability
- Preventative Maintenance
- Training
- Inspections/Walkdowns
- Service Supervision
- Turnkey Project Management
- and more



Clyde Industries Inc. 4015 Presidential Parkway | Atlanta | GA | 30340 +1 800 241 5996 | clyde-industries.com COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL = |SO 9001 =

CB-2020/01. We reserve the right to make technical changes without notice.