

A man wearing safety glasses and a watch is shown in profile, interacting with a large touch-screen control panel of a Buhler machine. The panel displays a technical diagram of a machine component labeled 'Carat 105 compact' and 'rechts'. The background shows industrial machinery. The image is overlaid with semi-transparent circular shapes in orange and teal.

## BuhlerPrince Training. 2021 Program Overview.

In the event that an in-person program is not possible due to impracticalities associated with COVID-19 or the resulting federal, state, or municipal restrictions, we will conduct this training online. Please visit [www.buhlerprince.eventbrite.com](http://www.buhlerprince.eventbrite.com) for regular updates.

# Technical Education & Training.

## Course Descriptions.

### Mechanical Maintenance & Evaluation – Prince Machines

This course is a study of the mechanics and lubrication system of Prince die casting machines. Each area and/or assembly is examined as to:

#### Content

- Its purpose
- Identify wear
- The effect on the process and tooling as a result of wear
- Required repair procedures
- Preventing excessive wear

#### Dates

February 18 - 19, 2021  
September 9 - 10, 2021

#### Times

8:00 am - 4:00 pm (Thu)  
8:00 am - 12:00 pm (Fri)

#### Price

\$800

#### Instructor

Paul Crossen

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### Hydraulics – Prince Machines

This course is a study of hydraulic principles, components, circuits and the required maintenance of fluid used on Prince die casting machines.

#### Content

- The circuits are studied one section at a time. The operation of each component and its purpose in the circuit is explained
- Extra attention is given to valves that are designed exclusively for use on die casting machines
- Troubleshooting procedures and methods are reviewed throughout the session

#### Dates

February 22 - 25, 2021  
September 13 - 16, 2021

#### Times

8:00 am - 4:00 pm (Mon - Wed)  
8:00 am - 12:00 pm (Thu)

#### Price

\$1,000

#### Instructor

Paul Crossen

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### Process Control

This course is designed to study the functions that the die casting machine provides to the die casting process.

#### Content

- Both the clamp end and the shot end of the machine are studied
- Shot profile interpretation and explanation
- Special machine components used to monitor and control machine functions are examined
- Shot traces, castings, power curves and capabilities are from machines running castings

#### Dates

March 2 - 4, 2021  
September 21 - 23, 2021

#### Times

8:00 am - 4:00 pm (Tue - Wed)  
8:00 am - 12:00 pm (Thu)

#### Price

\$900

#### Instructor

Paul Crossen

# Technical Education & Training.

## Course Descriptions.

### Die Casting Basics

This class is designed for those starting in the die casting industry including technicians, equipment and material suppliers, casting buyers and managers. This course will give you a thorough basic understanding of die-casting technology, metallurgy and processes.

#### Content

- The principles of die casting and metallurgy
- Process principles
- Die protection
- Systematics of spraying technologies and die tempering
- Casting trials
- By the end of the course you will have a good basic understanding of the principles of die casting.

#### Dates

March 9 - 11, 2021  
September 28 - 30, 2021

#### Times

8:00 am - 4:00 pm (Tue - Wed)  
8:00 am - 12:00 pm (Thu)

#### Price

\$1,000

#### Instructor

Luis Quintana

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### Die Casting Process Optimization

This training is made for Setup Technicians, Operating Technicians, Process Technicians, Process Engineers, Tooling Engineers and managers. This class is designed for those interested in learning how to enhance the die casting process. This course will teach you how to optimize your die-casting process to increase productivity, improve quality and maximize cost efficiency.

#### Content

- Understanding the die-casting process
- Principles of metallurgy
- Analyzing casting parameters
- How to recognize process errors and their causes
- How to optimize the die-casting process
- How to protect the die during casting
- How to recognize statistical correlations
- Spraying technology and die tempering
- How to run casting trials
- By the end of the course you will be able to optimize your die-casting process with effective troubleshooting, die protection and statistical data. It can help you to reduce cycle time and waste, while improving quality and productivity.

#### Dates

March 30 - April 1, 2021  
October 26 - 28, 2021

#### Times

8:00 am - 4:00 pm (Tue - Wed)  
8:00 am - 12:00 pm (Thu)

#### Price

\$1,000

#### Instructor

Luis Quintana

# Technical Education & Training.

## Course Descriptions.

### Setting up Carat machines with Dataview

#### Content

- Design & operating principles of die casting machines
- Operation and installations
- Programming & setting
- Process settings
- Process monitoring
- Analysis of the die casting process
- Recognition of simple process or machine faults

#### Dates

March 15 - 18, 2021

October 11 - 14, 2021

#### Times

8:00 am - 4:00 pm (Mon - Wed)

8:00 am - 12:00 pm (Thu)

#### Price

\$1,000

#### Instructor

Paul Crossen

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### Maintenance Carat Machines with Dataview

#### Content

- Design & operating principles
- Hydraulics & electronics
- Control engineering
- Electric safety doors, machine sensors, interfaces
- Fundamentals of hydraulics
- Safety devices
- Details of hydraulic components (pumps, valves, proportional control hydraulics)
- Analysis of operating trouble and tools
- How to troubleshoot
- Preventative maintenance & servicing of hydraulic systems

#### Dates

March 22 - 25, 2021

October 18 - 21, 2021

#### Times

8:00 am - 4:00 pm (Mon - Thu)

#### Price

\$1,100

#### Instructor

Paul Crossen





#### **Instructor: Paul Cnossen**

Paul began his career with BuhlerPrince in 1984 as an electronics technician. From 1990 to 1997 he worked as a Machine Builder, Service Technician and Training Assistant. In 1997 Paul took over the Technical Education Program. Paul is a two time winner of the Instructor of the Year award given by the North American Die Casting Association. He enjoys spending time in the great outdoors with family and friends, sports, and cooking.



#### **Instructor: Luis Quintana**

After obtaining a degree in Mechanical Engineering, and an MBA, Luis started his die casting career in Mexico developing Total Productive Maintenance and Preventive Maintenance workshops. In 2014 he became a die casting process engineer and in 2016 moved to the U.S, continuing with process activities and analyzing manufacturing processes. Luis joined BuhlerPrince in 2018 as a Die Casting Application Technology Engineer. In his spare time, Luis enjoys spending time with friends and traveling.



# Technical Education & Training.

## Additional Class Information & Registration.

For updated information, registration and payment, please visit [www.buhlerprince.eventbrite.com](http://www.buhlerprince.eventbrite.com). We can also provide customized training at your facility. Contact us for a proposal tailored to your needs.

### Location

BuhlerPrince  
670 Windcrest Drive  
Holland, MI 49423  
Phone: 616 394 8248  
Fax: 616 394 1250

### Questions

Kathy Perkins  
Phone: 616 394 8248 / [kathy.perkins@buhlergroup.com](mailto:kathy.perkins@buhlergroup.com)  
Paul Cnossen  
Phone: 616 394 8295 / [paul.cnossen@buhlergroup.com](mailto:paul.cnossen@buhlergroup.com)

Please note class sizes are limited. BuhlerPrince reserves the right to cancel if minimum number of attendees is not met.

### Included

Morning refreshments  
Lunches  
Course materials

### Recommended Hotel

#### DoubleTree

616 394 0111  
650 East 24th Street  
Holland, MI 49423  
(ask for Buhler rate)

### Other Hotels

#### Holiday Inn Exp

616 738 2800  
12381 Felch Street  
Holland, MI 49424

#### Fairfield Inn

616 786 9700  
2854 Westshore Drive  
Holland, MI 49424

#### Hampton Inn

616 399 8500  
12427 Felch Street  
Holland, MI 49424

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