



35<sup>th</sup> Annual SAVMI Conference & Trade Show  
Two Rivers Convention Center  
Grand Junction, Colorado  
May 18-21, 2020

## Class Descriptions (as of 3/1/20)

Monday, May 18

9:00 am – 3:00 pm

### **Prinoth Advanced Winch**

*Prinoth Shop*

This session is an advanced, hands-on class covering the theory, set-up, maintenance, and troubleshooting of the Prinoth winch vehicles. This year we will emphasize more on the new generation of automatic winches. **Class limited to 30 attendees total** (2 per ski area.)

12:45 – 4:00 pm

### **Hydraulics: How Does This Stuff Work**

*Grand Junction Convention Center*

A brief tour into hydraulic theory followed by a look into how different hydraulic components function and what their purpose is within the system. The understanding of how components function and interact within a system will help mechanics better diagnose issues and operators better understand what is going on with their machine.

*Tom Nadelin, Wooster Hydrostatics*

### **PistenBully 400 & 600 Auxiliary Hydraulics**

*Grand Junction Convention Center*

Rod will cover theory, maintenance and troubleshooting techniques for the auxiliary hydraulics on the PB400 and PB600 models.

*Rod Elwell, Kassbohrer All Terrain Vehicles, Inc.*

12:45 – 2:15 pm

### **OSHA/Shop Safety Class #1**

*Grand Junction Convention Center*

Description to come.

### **Tire Chain Technology**

*Grand Junction Convention Center*

A look at the many different styles and types of tire chains and a detailed explanation of their differences.

*Todd Smith, Delta Rigging & Tools*

12:45 – 2:15 pm

### **Small Engine Maintenance**

*Grand Junction Convention Center*

Maintenance and repair items related to snowmobiles & small engines. Topics of discussion include brake service & inspection, clutch service & inspection, suspension, rear ski service & inspection, fuel systems and summer storage.

*Mike Lavato, Beaver Creek Resort*

2:30 – 4:00 pm

### **OSHA/Shop Safety Class #2**

*Grand Junction Convention Center*

Description to come.

### **Basics of Rigging**

*Grand Junction Convention Center*

The best equipment in untrained hands creates an unacceptable risk in today's workplace. And when it comes to planning and executing a safe lift, there is no substitute for knowledge. During this session, Todd will cover rigging basics, including angles and hitches, inspections, as well as new products on the market to help you get the job done correctly and safely.

*Todd Smith, Delta Rigging & Tools*

### **Ski Area Shuttle Roundtable**

*Grand Junction Convention Center*

Jeremy will lead an open discussion about ski area busses and the challenges to keep them going. Learn about Mt. Hood Meadow's program, techniques and tools they use to keep their shuttles on the road.

*Jeremy Evans, Mt. Hood Meadows*

Tuesday, May 19

8:30 am – 5:15 pm

### **Advanced Welding Workshop**

*WCCC*

Advanced welding procedures focusing on TIG welding and Aluminum welding/cutting. This full-day class is geared towards individuals with at least several years of welding experience and will be conducted in both a classroom and hands-on setting. Bring your helmet, jacket, gloves, eye protection, coveralls and leather shoes. You must sign-up in advance. **Class limited to 10 attendees total** (2 per ski area.)

*Kyle Carhart, Carhart Customs, LLC*

8:30 – 11:45 am

### **Troubleshooting Prinoth Drive Electronics & Faults on the Tier IV Machines**

*Grand Junction Convention Center*

This session will cover the use of your display to help you troubleshoot faults. We will dig into what causes the faults, why they are there, and how to deal with them.

*Prinoth Representatives*

### **PistenBully 400 & 600 CAN, Drive, Tiller Electronics, Screen & Diagnostics**

*Two Rivers Convention Center*

This class will cover the theory and maintenance for CAN, drive and tiller electronics, screens and diagnostics on the PB400 and PB600 models.

*Rod Elwell, Kassbohrer All Terrain Vehicles, Inc.*

### **Using Scan Tools to Diagnose Equipment**

*Hampton Inn*

This part classroom/part hands-on session will cover vehicle diagnosis using scan tools. Michael will cover a variety of topics including booting up the tool to reading data and codes to bi-directional testing settings. This session is designed for advanced (Level II and higher) technicians. **Class is limited to 10 attendees total** (1 per ski area.)

*Michael Christopherson, Bonneville Specialists*

### **Prinoth Hydraulic, Hydrostatic, & Schematics**

*Prinoth Shop*

During this session we will cover the Prinoth Bison hydrostatic & hydraulic systems and schematics. Included will be hands on machine troubleshooting and using schematics to help you troubleshoot.

*Prinoth Representatives*

8:30 – 11:45 am

### **PistenBully New Generation: Hydraulics & Electronics**

*Kassbohrer Shop*

This session will be broken into two-parts. The first part of class will cover the auxiliary hydraulic system in the next generation PistenBully's, including all new CAN valves and functions, new generation load sensing pump and positioning sensors. We will focus on theory of operation, trouble shooting and adjusting all pressures and settings.

During the second part of the class, will cover the electrical system of the next generation PistenBully's including layout of CAN systems, intelligent fuse devices, input output devices and touch screen menus and diagnostics. **Class limited to 25 attendees total** (2 per ski area.) Class repeated on Tuesday @ 2:00 pm

*Kassbohrer Representatives*

8:30 – 10:00 am

### **High Hour Cat Care**

*Grand Junction Convention Center*

With the rising cost of snowcats and more and more ski areas pushing the hours higher and higher, it's becoming imperative that technicians know how to properly maintain heavily operated machines. James, Jeremy and Ben will discuss some of the unique issues they have seen and the fixes they have applied to keep their high hour groomers up and running.

*James Brett, Mt. Hood Meadows*

*Jeremy Evans, Mt. Hood Meadows*

*Ben Pinke, Steamboat Ski & Resort*

### **Grease & Gears**

*Grand Junction Convention Center*

Everything you ever wanted to know about greases. Learn what greases do, the composition of different greases, and which ones are compatible in cold and hot temperatures.

*BG Products Representatives*

### **Engine Sealing, Thread Compounds, Tire Repair, Vision & Safety**

*Grand Junction Convention Center*

This session will address the ever changing engine and drivetrain materials and fluids requiring advanced gasket sealing and thread compound technology. Attendees will learn the proper selection and usage for leak-free repairs; maximizing profitability. Sam will then discuss tire repair challenges which can cost in the range of four figures when you factor in payroll for the driver waiting for service, the cost of service for the vehicle and more. Participants will learn how to reduce service costs and be back in service in minutes. The last topic to be covered will be vision and safety; both of which are critical in severe weather. Learn about a variety of products that can dramatically improve vision – and in turn safety – for vehicle operators.

*Sam Gentile, ITW Global Brands*

Tuesday, May 19

8:30 – 10:00 am

### **Fuel Storage Tank Regulatory Update**

*Hampton Inn*

EPA updated the underground storage regulations in 2015. Most states compliance deadlines have come and gone. We'll discuss the impacts, responsibilities and costs associated with maintaining compliance for both underground and aboveground storage tank systems. As always, bring any questions you may have!

*Tim Goodrich, CGRS, Inc.*

10:15 – 11:45 am

### **Advances in Snow Groomer Track Construction & Maintenance**

*Grand Junction Convention Center*

Tracks contribute more to the overall operational costs of a Snow Groomer than any other single component. In this class, we will discuss track design and construction aimed at reducing these costs. Also, as a group we will discuss time tested techniques utilized to improve track maintenance and reliability. All are welcome to attend - regardless of experience - and are encouraged to share their thoughts and experiences.

*Jim Larson, Hans Hall USA, Inc.*

### **Fluid Roundtable**

*Grand Junction Convention Center*

Industry experts answer your fluid questions. This open discussion will cover a variety fluids used with a variety of equipment pieces and compatible substitutions.

*BG Products Representatives*

### **Vehicle Safety Solutions**

*Grand Junction Convention Center*

Keep your fleet safe with the latest technology in safety solutions. Curt will cover products that can be used on your vehicles from an array of product categories including LED warning lights, back-up cameras, white scene lighting, and back-up alarms.

*Curt Baden, ESG Americas*

### **Fastener Safety & Correct Application**

*Grand Junction Convention Center*

Participants will learn how to correctly identify fasteners for application and safety. This session is for anyone who may be using fasteners systems (nuts/bolts) in their shops or in their locations and on their equipment. Increase your technical knowledge pertaining to fasteners and how to use them in a safe manner.

*Mike Burgin, Lawson Products, Inc.*

2:00 – 5:15 pm

### **Prinoth Tier IV After-Treatment Systems**

*Grand Junction Convention Center*

During this session we will cover the after treatment systems used on the Tier IV CAT & Mercedes powered machines. What you need to know to maintain them and keep them functioning properly.

*Prinoth Representatives*

### **Using Meters & Lab Scopes to Diagnose Equipment**

*Hampton Inn*

In this part classroom/part hands-on session participants will learn how to accurately capture and translate complicated electrical component and diagnostic information. After codes have been determined using diagrams and service information, participants will complete testing using meters and lab scopes. This session is designed for advanced (Level II and higher) technicians. **Class is limited to 10 attendees total** (1 per ski area).

*Michael Christopherson, Bonneville Specialists*

### **Enhanced Battery, Starting Systems & Computer Controlled Charging Systems**

*Hampton Inn*

This class covers advanced diagnostic procedures for batteries, starting systems, and computer controlled charging systems. A working starter board will be used to demonstrate battery and starting system testing. Demonstrated procedures will include battery testing, voltage and voltage drop testing, amperage measurements, and more. The discussion will also include information on battery maintenance, and battery system computer resets and registrations. Advanced charging system diagnostic procedures will be discussed and will include the use of embedded video examples. These procedures will have use for a variety of applications.

*Jim Lewis, NAPA Autotech*

### **Prinoth Summer Maintenance**

*Prinoth Shop*

This session will provide you with all of the information, tips, & tricks you need to ensure your machines and tillers are serviced & set up properly for the next season.

*Prinoth Representatives*

Tuesday

2:00 – 5:15 pm

**PistenBully New Generation: Hydraulics & Electronics**

*Kassbohrer Shop*

This session will be broken into two-parts. The first part of class will cover the auxiliary hydraulic system in the next generation PistenBully's, including all new CAN valves and functions, new generation load sensing pump and positioning sensors. We will focus on theory of operation, trouble shooting and adjusting all pressures and settings. During the second part of the class, will cover the electrical system of the next generation PistenBully's including layout of CAN systems, intelligent fuse devices, input output devices and touch screen menus and diagnostics. **Class limited to 25 attendees total** (2 per ski area.) Class repeated on Tuesday @ 8:30 am.

*Kassbohrer Representatives*

2:00 – 3:30 pm

**Vehicle Maintenance Facilities at Ski Resorts**

*Grand Junction Convention Center*

With the aid of examples, Gary will present a sequence of decision making ideas to consider (and some things to avoid) in terms of spatial layout and equipment when planning a new shop or shop remodel.

*Gray Pavlick, LIF-TRACK/Lif-Tech Equipment, Inc.*

**Federal Regulations Affecting Your Shop & Fleet**

*Grand Junction Convention Center*

Learn what state and federal regulations affect you, your shop and your fleet. Brad will cover Federal Safety DOT regulations and answer your questions on the DOT laws.

*Brad Latchaw, Colorado State Patrol*

**Working with Employees in the Age of #MeToo, Emotional Support Animals & Snapchat**

*Grand Junction Convention Center*

Kelly will cover a variety of topics including harassment/gender issues, technology in the workplace, mental health concerns, drug/alcohol usage, and cultural considerations. Learn how to properly address these issues from a human resources perspective.

*Kelly Renoux, Copper Mountain*

2:00 – 3:30 pm

**PistenBully SNOWsat**

*Grand Junction Convention Center*

SNOWsat is made up of software and hardware components that are mounted in the snowcat itself. SNOWsat is generic and can be mounted in PistenBully or Prinoth snow groomers. As a result SNOWsat becomes one more system on the snowcat similar in fashion to the electrical or hydraulic circuits that must be maintained and repaired. Concentrating on the V1 system participants will become knowledgeable in how SNOWsat works, what components are involved, where they are located and how to troubleshoot and repair the system.

*Rod Elwell, Kassbohrer All Terrain Vehicles, Inc.*

3:45 – 5:15 pm

**Bearing Fundamentals**

*Grand Junction Convention Center*

This class will address the basic components of bearings and bearing units. Ryan will discuss installation, lubrication, failure analysis, common issues, and fitting practices.

*Ryan Hecklinger, NTN Bearing Corporation*

**Fleet Maintenance Simplified**

*Grand Junction Convention Center*

This session will cover fuel tank condition, fuel conditioning and performance, and preventative measures to ensure optimum performance. Brent & Brett will also discuss oil analysis; how to use it, how to improve it, how to reduce fluid consumption. Attendees are encouraged to bring a few oil analysis reports to review in class.

*Brett Winberg & Brent Krick, Combustion Technologies*

**Based on a True Story**

*Grand Junction Convention Center*

A case study review of actual employee incidents from the view of the HR department. Kelly will lead an open discussion on each scenario to include things to consider in advance as well as pitfalls to avoid.

*Kelly Renoux, Copper Mountain*

**PistenBully Hydrostatic Drive**

*Grand Junction Convention Center*

This session will cover the basic theory, maintenance and troubleshooting techniques of the drive and tiller hydrostatic drive on all PistenBully models.

*Rod Elwell, Kassbohrer All Terrain Vehicles, Inc.*

Wednesday, May 20

8:30 – 11:45 am

**Prinoth Online Parts & Service**

*Grand Junction Convention Center*

During this session we will cover the Prinoth On-Line Parts Ordering and Service Information systems.

*Prinoth Representatives*

**Navigating the New PistenBully Online Parts System**

*Grand Junction Convention Center*

Learn how to work and understand the updated and enhanced features of the new PistenBully online parts system.

*Christof Heim, Oliver Zak & Sherry Elwell, Kassbohrer All Terrain Vehicles, Inc.*

**Prinoth Electrical Class**

*Grand Junction Convention Center*

During this session we will cover the Prinoth electrical systems, schematics, and CAN Bus system used on the Prinoth Bison, Leitwolf, & Husky. We will go over the different styles of schematics used on these machines.

*Prinoth Representatives*

**PistenBully Tier IV Engine: Theory, Diagnostics & Maintenance**

*Kassbohrer Shop*

This presentation class will cover Cummins Tier 4 final technology including system lay out and components, maintenance, troubleshooting fault codes and diagnostic tools and practices. **Class limited to 25 attendees total** (2 per ski area.)

*Kassbohrer Representatives*

8:30 – 10:00 am

**Abrasives Safety**

*Grand Junction Convention Center*

Abrasives are one of the more dangerous product lines if used improperly. Because of the countless applications, it is very important to understand what abrasives to use and know safety guidelines for each. We will discuss the use of abrasives and the safety considerations associated with this product line. We will also discuss the proper abrasive selection for given applications to reduce costs and mitigate risk of accidents and injuries. Use of the “right” tool for the job! Materials being worked and type of abrasive needed. We will discuss terminology with grinding tools, cut-off tools and surface conditioning tools.

*Chuck Colombo & Kenny Smith, Kimball Midwest*

8:30 – 10:00 am

**Overhead Crane Inspections: Meeting the ASME B.30 Standard**

*Grand Junction Convention Center*

Performing a pre-operation inspection and knowing the importance of the overhead crane equipment and system are key to being a proficient operator. Are you using the crane for what it was designed and manufactured to do? Making key decisions where a load is being carried, positioned and moved to is for the safety of people, property and yourself.

*Keith McPherson, Superior Industrial Supply*

**Lubricant & Grease Recommendations to Achieve the Best Performance in Cold Temperatures**

*Grand Junction Convention Center*

Cold weather presents many challenges for maintaining ideal lubrication which can affect equipment reliability. Because of this, it is important to select high quality oils and greases that are designed to perform in these types of conditions to keep the equipment running like new. This class will address how to select the proper oil and greases for ski industry equipment as well as applicable topics such as fundamentals of lubrication and oil analysis. This class is intended to help companies develop a more proactive style of maintenance when it comes to lubrication that will help save money over time by increasing equipment reliability.

*Christopher White & Alex Morrow, ExxonMobil*

**PistenBully 4.0 - 4.6 Ton Winch**

*Grand Junction Convention Center*

This class will cover the basic theory, maintenance and troubleshooting techniques of hydraulic and electrical systems for the 4.0 through 4.6 ton winch.

*Rod Elwell, Kassbohrer All Terrain Vehicles, Inc.*

10:15 – 11:45 am

**Tier IV from an “Outsider’s” Perspective**

*Grand Junction Convention Center*

Tier IV diesel emissions from someone outside of the ski industry. Chris will cover theory and troubleshooting and will provide some reasoning behind government mandated emissions.

*Chris Kubick, High Horsepower Diesel & Machine*

Wednesday, May 20

10:15 – 11:45 am

**Inspecting Your LIF-TRACK Machine**

*Grand Junction Convention Center*

While there is currently no OSHA requirement that your lifts be inspected annually, it's undeniably a good idea. In this class you will learn how to self-inspect your LIF-TRACK machines. Keith will follow the guidelines offered by the Automotive Lift Institute (ALI) and provide you with the inspection forms that they publish. Although this is not a certification class, those that attend will be qualified to inspect your equipment, document your findings and be able to save the money it would cost to retain an inspection company.

*Keith McPherson, Superior Industrial Supply*

**General Maintenance of Your PistenBully**

*Grand Junction Convention Center*

Rod will review in detail the routine maintenance for most PistenBully models using the machine's maintenance guide. He will cover all aspects from "Break In" to "Summer Service" including tiller maintenance.

*Rod Elwell, Kässbohrer All Terrain Vehicles, Inc.*

Thursday, May 21

9:00 – 11:00 am

**Prinoth Roundtable**

*Prinoth Shop*

This session will provide a roundtable discussion with Prinoth representatives to include: questions & answers, what's new for the upcoming year and product development.

*Prinoth Representatives*

**PistenBully Roundtable**

*Kässbohrer Shop*

An open discussion with Kässbohrer representatives to include a tour of their new facility, a sneak peek at what's new for the 2020/2021 season, product improvements, spring parts specials and product updates.

*Kevin Moudy & Marty Brown, Kässbohrer All Terrain Vehicles, Inc.*