

LEARN WHAT THE PROFESSIONALS KNOW ABOUT BUILDING RAILROADS?

Good for
private and
commercial
railways

Building a Grand Scale railroad requires a great deal of time and effort. And it requires a great deal of knowledge. Wouldn't it be great if there was an affordable way to learn from the professionals — to, in effect, have your own private education? And what if you could receive this education in your own home? NOW YOU CAN! Starting now you will learn:

Why and how you should pre-bend rail before laying it
The tools that are most useful for bending rail
When are plastic ties most useful?
How to lay rail quickly
Tips on rebuilding locomotives and machining new parts

You will learn the ins and outs of laying track the way the professionals at the **Hillcrest Shops** do it. **Ed Youngling** will share thoughts on rebuilding locomotives and many of the shop tips he has learned through years of experience and hard work. All delivered directly to you.

Can you answer these important questions regarding insurance?

- ? Why is it harder to insure your railroad than your home?
- ? Does your club insurance cover you?
- ? What questions do you NEED to ask your agent?

VITAL
ANSWERS FOR
EVERYONE!

Mike Deeble can and does answer these tough questions in his information packed seminar! Plus Mike shares many more points of vital interest to railroad owners and operators.

Paul Garin of **Roll Models** steps up to share with you knowledge that he uses in his business every day when he teaches you about Fluid Drive Systems. Watch and listen as Paul teaches

How to plumb hydraulic systems
How hydraulics work
How to run a locomotive with a fixed displacement pump system
What formulas you can use when designing your system

No doubt such an education would be of great value to you. In

fact, some might even say **PRICELESS**. If you were to pay each individual for his time and expertise, you would easily pay many thousands of dollars. We are pleased to provide this informative series for a small fraction of that.

Another person who you will learn a great deal from is Cagney historian and mechanical engineer, **Don Micheletti**. Don shares some of his vast knowledge on the history and operation of Cagney locomotives. For instance,

- When did Cagney begin production and for what reason?
- What is the difference between a class D and E engine?
- What gauges did they build?
- What makes a Cagney unique?

Grand Scales University Vol 2 features

Paul Boschan, owner of **Boschan Boilers and Restorations**, holds a question and answer discussion on BOILERS and boiler safety.

- The ASME stamp - what does it mean if a company has one?
- What steps are involved in building a boiler to receive a stamp?
- Should the tubes be welded or rolled in?
- What is the best way to maintain your boiler?
- What water elements can damage a boiler?

Robert Frank, owner of the world-famous **Sonoma Taintown**, shares his ideas on MAKING YOUR COMMERCIAL OPERATIONS PROFITABLE.

- How to drastically cut track maintenance needs
- What materials work best for wheels?
- Do you need to pre-bend rail?
- How can amusement rides complement a railroad?
- How do structures add to the experience?
- How can animals add to your bottom line?

Sean Bautista of the **Hillcrest Shops** teaches you HOW TO BUILD A SWITCH from the ground up.

- How much room do you need to leave on either end of the switch?
- What can you do to prevent your pointes from rolling?
- Why don't you want to put heat in the rail?
- Why would you want your rail to be able to move?
- Should you gauge the switch wider in a curve?

How do you build a switch? Where do you begin?

Plus **Ed Carnegie** gives a humorous pictorial history of the SWANTON PACIFIC RAILROAD and the Overfair RR equipment. The late **Fred Kiesel**, a founding member of the WABASH FRISCO & PACIFIC, also gives a brief history of that historic railway.

Grand Scales University Vol 3 features even more great railroad information.

Join **Ellen Thomsen** as she shares with us the history of the famous 15" gauge **REDWOOD VALLEY RWY** in Berkeley, CA. Ellen's pictorial history sheds light on how to build a first class public railway.

Why did Eric Thomsen choose to build his railway in such a remote location?

What has the railway learned over the years that can save you many hours of frustration and help you build a successful railroad of your own?

Why is water quality important?

What makes record keeping essential in this business?

Next, **Sean Bautista** of **Hillcrest Shops** joins us again with a brief seminar on building and building **AIR BRAKES**.

What makes automatic breaks truly automatic?

Why are glad hands important?

What is an effective way to build an air brake system?

What formula can you use to determine proper PSI and cylinder bore?

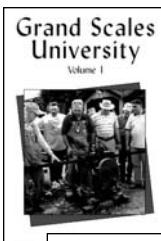
Ever dreamed of building your own steam engine? **Chris Allan**, owner of **Historic Railway Consultants**, thought that there should be a basic locomotive for people to build on a budget and designed **ERIC S BASIC 0-4-0**. Listen in as Chris and his pal Sean Bautista share the story and photos of the design and construction of the No. 18.

Diesel fans will enjoy **Andrew Jugle s** photo essay on the history of the **MINIATURE TRAIN & RAILROAD COMPANY**. The MT&RC (MTC) built some of the most durable and good looking railway equipment. Andrew shares the following and much more.

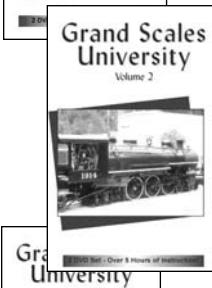
What was the first engine built by the company?

What was the back ground of founder P.A. Sturtavant?
Why were the trains modeled after the E series locomotives?
Why did the company build diesels instead of steam?
Who was MT&RC's biggest competitor?
What gauges were the trains built in?
When was the S-16 released?

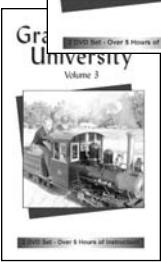
And finally, an interesting look into making movies and special effects with the late **Jack Sessums**, founder of **Sessums' Engineering**. See footage of Jack **DESTROYING TRAINS** and learn how he designed locomotives for use in the movies and various tricks of the trade. Plus, you get to see cool things **EXPLODE!!!**



Have questions? Send us an e-mail (srobinson@theskybeam.com) or call **530-527-0141** today. We'll be happy to discuss this useful and entertaining series with you.



Ok, but now you may be wondering how much you would have to pay to have your very own copy the **Grand Scales University** series. Many technical training series cost several hundreds of dollars. And this series would be well worth every penny! But we don't want to charge you that much. We are pleased to offer the **Grand Scales University** series to you for only \$50 per two-disk volume. All three volumes can be yours for only \$150 plus California sales tax and shipping.



When you consider the cost to build or operate a Grand Scale operation, you can no doubt see that \$50 is a VERY modest investment for such information. The entertainment value alone is worth that price! The education is, well, priceless. Don't wait. Order your series today by calling **530-527-0141**, use the attached order form or order on-line at www.grandscales.com.

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