

## Universal Joints Transmit Power, Isolate Vibration



Universal Coupling Set transmits smooth power between angled drive shafts in boats, trains, autos and other model mechanisms. Robust nylon ball-and-socket joints and 3/32" square brass drive rod transmit power at shaft angles up to 45 degrees. Sliding-ball technology compensates for the normal change in distance between the ends of the shafts as they change position. Set includes enough components to assemble 4 complete heavy-duty universal couplings up to 3-1/8" long. Overall diameter is 9/32". Sockets press fit on 3/32" diameter shafts, but other shaft sizes can be used by bushing or boring out the socket.

#83290 Universal Couplings (4) . . . \$12.95

**Price Drop**

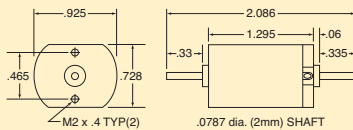
## Transform Balky Locomotives into Smooth Performers with Our Premium Quality Motor

Use our premium quality, high-torque permag motor to upgrade balky, noisy locomotives into smooth running, powerful haulers. The 5-pole, skew-wound, balanced armature and oil-impregnated bronze sleeve bearings provide lurch-free starting and silky-smooth slow speed running. And the narrow profile of the "flat can" design fits into the hoods of HO diesels or the fireboxes of steamers. Can also be used for larger-scale narrow gauge locomotives, trolleys and rail cars. 2mm double-ended shaft. Compatible with straight DC and DCC systems.



**Specifications:**  
No load @ 12v: 9,800rpm/.06a.;  
Typical 24gm-cm load @12v: 8,755rpm/.25a.;  
Stall torque @12v: 160 gm-cm/1.50a.

#82884 Flat Can Motor . . . . \$24.95  
2 or more \$18.95 ea.



## Installation Kit for Flat Can Motors

Makes it easy to install our can motor in your locomotive. Includes mounting bracket, spacer, hardware and lead wires, plus 2mm to 3/32" shaft bushings for connection to large drive shafts and instructions.

#83519 Can Motor Mounting Kit . . . . \$5.50



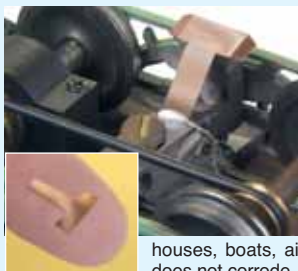
#83484 Flywheel for Flat Can Motor Brass flywheel smooths locomotive performance over electrical dead spots and provides realistic coasting effects. 17mm diameter x 11mm long with hole to fit 2mm shaft. Recess in one end allows installation of couplings sold below. . . . . \$3.95

## #83485 Universal Joint for 2mm Shafts

Connects 2mm driveline shafts in-line or at an angle. Overall length adjustable between 3/4" and 1-1/2" by shortening the drive shaft. Overall diameter 1/4". Contains enough parts for two complete U-joints . . . . . \$3.95



## Phosphor Bronze for Good Electrical Contact



The smoothest running model trains use phosphor bronze pickup shoes to assure good electrical contact with the track. They eliminate locomotive stalling and the flickering of car lights caused by poor wheel-to-rail contact, and ensure DCC commands reach decoders. Make your pickup shoes from our .008" nom. thick phosphor bronze sheet. Just cut to shape with shears, or make micro-size pickups with our #83123 photo-etch system. Also used to make electrical contacts for dollhouses, boats, airplanes, sci-fi models, etc. Phosphor bronze does not corrode, solders easily and is long-lasting.

#83100 Phosphor Bronze Sheet (pkg. of three 5" x 7" sheets) . . . . . \$14.50

## Railroad Sounds Make Your Layout Come Alive

High-quality digital recordings of actual steam and diesel train sounds...25 in all. Includes 2 speakers with powerful, self-contained amplifier, sound-on-sound capability, and hand-held controller with volume control and 8' cord.

#83542 Symphony 77 Sound Station  
List \$86.98 . . . . . Our Price \$72.95



## Add Sound to Your DCC Locomotives Without Discarding Expensive Decoders



The Digitrax Soundbug is a full-effect sound-only module that you connect to the decoder in your DCC-equipped locomotive. You select the volume and type of sound: steam or diesel, horn or whistle, bell type and ring speed, compressors, coupler crashes and more. Two-wire hookup is fast and easy. Includes 1" diameter speaker, extra wire for steam locomotive synchronization contacts (if your locomotive is so equipped) and detailed instructions. Works with any scale or brand of NMRA-compatible decoder. 1 watt sound output.

#84017 Digitrax Soundbug . . . . . List \$49.99 . . . . . Our Price \$44.95

## Make Perfect Grab Handles for Your Train, Aircraft, Truck and Military Models

If you've ever tried to make your own grab handles by eyeballing and bending wire into shape with a plier, you already know that it's almost impossible to make any two exactly alike. Enter Grabhandler...the first tool we've seen that's been specifically designed to quickly and easily form identical, precisely-sized grab handles (grab irons) from ordinary wire. Simply clamp your wire between Grabhandler's jaws at the selected size and bend to shape. Made of CNC-machined steel for long life. Bends 21 sizes from .050" to 1.050" in .050" increments.



#83139 Grabhandler Wire Bending Tool . . . . List \$55.00 . . . . Our Price \$49.95

## Soft-Touch™ Foam Cradle for the Model Railroader



This unique tool protects locomotives and rolling stock from damage while you paint or add details, apply decals, assemble or repair. Soft foam holds gently yet securely. Two different size "wells" hold HO, N and small O scale models. Use one well to hold tools while the other holds your model. 12" long x 6" wide x 2" high.

#80784 Soft Touch Cradle \$9.95

## Powerful Hand-Held Vacuum Cleans Where Other Vacs Can't Reach

The Fast Vac 500 is a light-weight, powerful vacuum with 12 special attachments and a 25' long cord that lets you clean areas impossible to reach with other models. Designed to be hand-held or worn over-the-shoulder, this vacuum cleans not only floors and workbenches,



but also sensitive electronic equipment and delicate models with the microbrush set we include. Use the Fast Vac 500 to remove chips from machine tools, brighten model railroad scenery, clean dust from dollhouses, photographic equipment, computer keyboards, shelves, etc. Also includes an activated charcoal filter that eliminates odors.

#82058 Fast Vac 500 . . . . . List \$119.95 . . . . . Our Price \$99.95

#82059 Extra-large disposable bags. Package of 3. . . . . \$4.25  
3 or more packages \$3.75 ea.

## Truck Tuner Makes 'em Really Roll

**Price Drop**



Our Truck Tuner reconditions your HO gauge railroad truck bearings so cars roll smoother with less friction. Simply insert the tool in place of a wheelset and rotate the shank. Truck Tuner's extra-sharp tool-steel cutter reshapes the bearing to the NMRA's recommended 60° contour and cleans out burrs and grime. Repeat for all bearings and your car is ready to really roll. Increases train lengths that locomotives can pull by up to 20%! For HO standard gauge trucks only.

#82838 HO Truck Tuner . . . . \$9.95

## Use Our Car Routing System to Operate Your Layout Like a Real Railroad

Realistic operation greatly increases the overall realism of both your individual models and your model railroad as a whole. With our Car Routing System and our instruction booklet (included), you'll learn how to use your railroad models in a manner that truly reflects their realism and capabilities. Our Car Routing System is realistic, flexible, and versatile, and requires no special equipment, such as a computer, to set up or maintain. And it's so widely used, many of your visiting operators will be already familiar with it.

#82916 Car Routing System Starter Pack includes 100 each car cards, waybills, and bad order slips, 25 locomotive cards, 4 three-compartment bill boxes, plus basic instructions to get your operations started. . . . Total Value \$33.90 . . . Our Price **\$31.15**

Order refills and extra bill boxes below . . .

#82910 Pad of 100 Car Cards. Buff color, 2-1/8" wide x 4" high (folded). . . . . **\$3.95**

#82911 Pad of 100 Waybills. White color, 2" wide x 3" high, 4-cycle. . . . . **\$3.95**

#82912 Pad of 25 Locomotive Cards. Gray color, 2-1/8" wide x 4" high (folded). . . . **\$1.95**

#82913 Pad of 100 Bad Order Slips. Pink color, 2" wide x 3" high. . . . . **\$2.95**

#82914 Three-compartment Bill Boxes attach to layout fascia to hold car cards. Pkg. of 2. **\$11.15**

#84019 Pad of 25 Empty Car Requests for enhanced operation. 2-cycle Waybill on back. Light blue color. 2" wide x 3" high. . . . . **\$1.95**



## A Professional-Quality Dispatcher's Panel You Assemble at Home No Painting or Gluing Required!

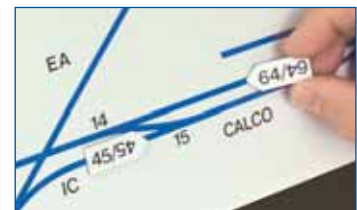
Another Micro-Mark Exclusive!



Experts in model train dispatching use magnetic markers on a metal diagram to track the location of trains.

Micro-Mark makes it easy for you to assemble your own professional-looking dispatcher's panel at home. Everything you need is included in one convenient kit: a scratch-resistant epoxy-painted 6" x 24" steel panel with mounting holes, 30 laser-cut arrow-shaped markers with pre-cut self-stick magnets, 108 feet of 1/8" wide track diagram tape, and 1 sheet each of self-stick numbers and letters. All components are available separately, so you can expand the panel to suit your model railroad.

#83480 Dispatcher's Panel Kit  
Total Value \$41.15 . . . . . Our Price **\$35.45**



### Refills and Accessories

#83431 Extra 6" x 24" metal panel . . . . . **\$14.70**

#83422 Extra laser-cut train markers (30) . . . . . **\$3.95**

#83423 Extra self-stick magnets for above (30) . . . **\$3.95**

#60725B Extra roll of blue track diagram tape . . **\$10.95**

#83450 Extra 6" x 10" sheet of 1/4" black vinyl letters. **\$3.95**

#83451 Extra 6" x 10" sheet of 1/4" black vinyl numbers. **\$3.95**

## NEW! Video Shows You How to Run Your Trains Realistically

DVD by Paul Scoles

You're invited to join veteran modeler Paul Scoles and his crew as they operate his fabulous Pelican Bay & Navigation Co. model railroad. In this video, Paul thoroughly explains how to use Micro-Mark train orders (see our web site), waybills, schedules and a fast clock to reproduce authentic railroad operations in miniature.

#84307 Running Trains, DVD format, 60 minutes . . . . . **\$24.95**



## Grain-of-Wheat Lamps for your Layout



These grain-of-wheat size (1/8" dia. x 3/8" long) bulbs are packed in 100-piece bundles to save you money. 12-14v. AC/DC, .075 amp. 6" leads.

#82590-C Bundle of 100 clear bulbs . . . . . **\$49.95**

#82590-4C Bundle of 100 bulbs (25 ea. of clear, green, amber and red) . . . . . **\$49.95**

## Grain-of-Rice Lamps Are DCC "Friendly"

These grain-of-rice sized lamps are specially manufactured for Micro-Mark with a 12v, 30ma rating so they can be wired directly to the function outputs of model railroad DCC decoders without fear of electronic overload or plastic-melting heat generation. Measuring a compact 3/32" dia. x 3/16" long, these lamps are made of high-grade glass, with long-life filaments and durable 6" leads. Of course, they can be used for all types of micro-lighting applications. Each package contains 40 lamps.



#83155 Grain-of-Rice Lamps, 40 clear . . . . . **\$49.95**

#83156 Grain-of-Rice Lamps, 40 (10 ea. clear, green, amber and red) . . . . . **\$49.95**

## Car Weighting System Optimizes Model Railroad Performance



Improperly weighted model railroad cars cause annoying and embarrassing operation: Long, light cars at the front of a train are pulled off the track on curves, and those that are too heavy reduce the number of cars a locomotive may pull. Our Car Weighting System optimizes car weight so derailments are avoided and train lengths are maximized. Includes a high-precision digital scale (described below) for weighing cars, 48 self-stick 1/4 oz. lead weights, and a chart of optimum car weights based on NMRA specifications. Easy to use. Designed to be used with scales N through O.

#84016 Car Weighting System  
Value \$44.90 . . . . . **\$35.95**

#82330 EXTRA STICK-ON WEIGHTS  
1/2" wide, 1/4 oz. lead weights with self-stick adhesive for adding weight to locomotives and cars, and for trimming boats and planes. Pkg. of 48. . . **\$9.95**

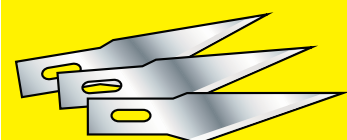


### Digital Scale Reads in Ounces and Grams

High-precision, 11 pound (5kg) capacity weight scale with digital readout in 0.05 ounce or 1 gram increments. Includes tare feature and auto shut-off to conserve power. 5" diameter platen.

#83825 Digital Scale  
List \$33.95 . . . . . Our Price **\$26.95**

## Money-Saving Bulk Pack No. 11 Blades



100 high-quality, multipurpose blades with finely honed carbon steel cutting edges and hard, sharp points.

#14178 No. 11 Blade (100) . . . . **\$13.50**

**NEW!**

## Digital Meter Measures the Drawbar Pull That Your Locomotives Develop



Helps you maximize the performance of your locomotive fleet

Simply hook the wire to your locomotive's coupler, press the ON button, and turn up the power. Our digital meter displays the pulling force developed by your locomotive in ounces. Add weight to your loco and see how the pull increases. Pull a train with the meter to determine how many cars can be pulled per ounce, then assign your locomotives to pull a train just

like a real railroad does. Capacity: 264 ounces. Readability: 0.01 ounce. Lock button holds last reading. Includes instructions for use. For all scales of model trains.

#84518 Digital Pull Meter . . . . . \$19.95

## The Topside Creeper™ Safely Extends Your Reach... Reduces Back, Leg and Knee Stress



Dave not included.

Folds to a compact 24" x 31" x 56" for easy storage!

Use the Topside Creeper in your workshop, garage and train room to easily access hard-to-reach locations. The heavy-gauge steel frame, slip-resistant steps and thickly padded cushion provide the comfort and stability you need to safely complete your projects. Adjusts from 48" to 72" high. Base is 31" wide x 56" long x 6-1/2" thick. Powder-coated to resist corrosion and scratching. Capacity: 400 lbs. Overall size only 24" x 31" x 56" when folded. Includes convenient tool pouch, protective bumpers and locking casters. Some assembly required.

Note: This item ships direct from the factory to 48 contiguous United States only. 15% restocking fee on all returns.

#83876 Topside Creeper . . . . . \$239.95

## Bottomside Creeper Lets You Work Under Your Layout In Comfort

Another Micro-Mark Exclusive!

Adjusts up...

...and down



Overall size 26" x 44" x 12" for easy storage!

Automotive creepers are just too low for working underneath model railroad layouts. So, we designed our Bottomside Creeper to maximize your reach and comfort while working "down under." The steel frame is contoured to lift your body to the optimum position for working on benchwork, wiring and switch machines. The softly-padded backrest with integral lever-action headrest inclines to three positions above horizontal to position your arms exactly where you need them. Smooth-rolling industrial-strength casters let you glide about easily.

Shipped by UPS ground to 48 contiguous U.S. only. For other areas, contact Customer Service for special arrangements.

#84263 Bottomside Creeper . . . . . List \$119.95 . . . . . Our Price \$99.95

# Micro-Mark®

## FOUR EASY WAYS TO PLACE YOUR ORDER:

1. BY PHONE: Call TOLL FREE 1-800-225-1066  
24 Hours a day, 7 days a week! (outside USA & Canada, call 1-908-464-2984)
2. BY FAX: Dial 1-908-665-9383
3. BY INTERNET: Use our Shopping Cart at [www.micromark.com](http://www.micromark.com)
4. BY MAIL, detach and send the entire page at right to:  
340 Snyder Ave., Berkeley Heights, NJ 07922-1538


## HOW TO CONTACT US

### TO PLACE AN ORDER

**By Phone:** In USA and Canada, call toll-free, 24 hours a day, 7 days a week, 1-800-225-1066. (Outside USA and Canada, call 1-908-464-2984). For fastest service, please fill out your order form completely before calling. Our normal business hours are 9 am to 5 pm Eastern Time weekdays. At other times, your order will be taken by automatic answering equipment. **This number is for straightforward orders only. If you have questions, need specifications or advice, see information below.**

**By Fax:** 24 hours a day at 1-908-665-9383. Credit card and purchase orders (for approved accounts) only. Sorry...no C.O.D.'s. **Be sure to include code numbers from back cover.**

**By Internet:** Go to [www.micromark.com](http://www.micromark.com) to use our web site ordering system.

**By Mail:** Fill out the order form on the next page. Order by item number, price and a short description of item. For certain heavy items (indicated in catalog by ) add additional freight charges.

Mail entire page to: Micro-Mark, 340 Snyder Avenue, Berkeley Heights, NJ 07922.

**Note:** Gift certificates are available. Do not add sales tax or shipping/handling charges when ordering gift certificates.

### PAYMENT

Pay by personal check (US bank only) or money order in US funds, or charge to VISA, MASTERCARD, AMEX or DISCOVER. Include your credit card number, expiration date and signature. Orders paid by personal check will be held for check clearance. NJ residents must add sales tax. Sorry...no C.O.D.'s.


**Open Account:** Available to businesses, government agencies, schools, etc. Please furnish 3 credit references with your initial order. Minimum retail order: \$100.00; payment terms: Net 30 days.

### IF YOU HAVE QUESTIONS

**About an Order:** Call our Customer Service Dept. toll free at 1-888-263-7076, 9 am to 5 pm Eastern Time weekdays, or contact us by email at [info@micromark.com](mailto:info@micromark.com)

**Need Technical Information about a Product:** Call our Product Service Department at 1-908-464-1094, 1 pm to 5 pm Eastern Time weekdays, or email [MMTechService@micromark.com](mailto:MMTechService@micromark.com)

### SHIPPING

We ship insured UPS or USPS (at our option), so be sure to give complete delivery address suitable for both carriers. Most orders are shipped complete within 2 business days; however, if we must ship a partial order due to an out-of-stock situation, merchandise will not be charged to your credit card until shipment is made. Certain heavy items (indicated in catalog by ) have a freight surcharge in addition to the regular shipping and handling charges shown at right. **All Freight and Shipping/Handling charges are non-refundable.** Hazardous materials are shipped by ground to the 48 contiguous (lower) United States only.

#### SHIPPING/HANDLING CHARGES

MERCHANDISE TOTAL	United States, Terr. & Poss.	Canada
\$50.00 or less.....	\$8.95 .....	\$11.95
\$50.01 to \$100.00 .....	\$10.75 .....	\$17.75
\$100.01 to \$150.00 .....	\$12.50 .....	\$22.95
\$150.01 to \$200.00 .....	\$14.25 .....	\$26.95
\$200.01 to \$250.00 .....	\$15.95 .....	\$30.50
\$250.01 to \$300.00 .....	\$17.75 .....	\$33.50
\$300.01 to \$350.00 .....	\$19.75 .....	\$36.50
\$350.01 to \$400.00 .....	\$21.75 .....	\$39.50
\$400.01 or more .....	\$23.75 .....	\$42.50

Other areas: please call 908-464-6764 or fax 908-665-9383 for freight quotation.

Prices in this catalog are valid September 9, 2009, through January 5, 2010.

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