

The **BURLINGTON PIONEER ZEPHYR**

from **FINE N-SCALE PRODUCTS** and **PROTOTRAINS**

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Please read the instructions completely, and acquaint yourself with all the drawings. Inventory the parts. Besides the shells, chassis, motor, frame, and power truck, locate the following: side and rear glazing sheets, truck frames, decal sheet, photo-etched sheet, front and rear lenses, and one bag each of wheels, screws, metal parts, plastic parts, and electrical connectors. If you find any part unsatisfactory, or if you damage any part during assembly, please return it directly to FINE N-SCALE. We will repair or replace it at no charge. If you are doing a later version, we have mars light castings and unshrouded truck frames available. Simply write and ask for the mars lights, and return the shrouded trucks to us. We will send the unshrouded replacements at no charge. We suggest using Pacer's PLASTI-ZAP for assembly. Use sparingly, applying it with a sharpened piece of styrene or toothpick. Trial fit parts before assembly, and above all, BE PATIENT! No extraordinary skills are necessary to build this kit, but patience will be your best helper.

Motor Assembly.

Clip the coupler pocket off the power truck assembly and trim the side frames per the diagram. (*Do not trim the sideframes if you are building an unshrouded, 1954 or later version*) Trim out the rear mounting holes on the metal side frames. Press the large styrene spacer on the geared end of the motor. Complete the motor assembly per the diagram, making sure the white dot on the motor is up, the traction tire is on the front axle, and the spacers between the frames don't interfere with the gear or motor shaft. Lubricate with your favorite gear oil and test run. Gear lash should be about 1/2 tooth of the idler gear. Adjust by holding the motor and frame firmly, then gently bending up or down on the nose of the assembly to increase or decrease lash. Too much or too little lash is indicated by excessive noise or binding.

Prepare shells and belly pans.

Wash shells and belly pans in soapy water. Clean flash from the shell bottoms, windows, and end bulkheads. (*If you are building a 1954 or later version, remove the skirt from the power truck area of unit #9900*) Drill chassis mounting holes (1/16" by 1/4" deep, 2 at rear of 9900, and 4 in each shell). Clean out motor frame mounting holes with a 5/64" drill. Trial fit belly pans. Sand rear of car #570 chassis as required to align mounting holes, then screw chassis in place and position rear belly pan. Sand back as required for tight fit to shell and ACC to chassis. (Not to the shell!) Install grabs and footsteps. See drwgs. for type and location. Pilot holes are provided, use a #79 drill, dip ends in ACC and press in. Install exhaust stack. Fit, but do not install windshields in #9900.

Electrical and car interconnects.

A note about soldering: Use rosin core solder. DO NOT USE SEPARATE FLUX. These sometimes contain salts that will "bridge" the connectors and cause shorts. A 15 watt soldering pencil is sufficient heat. *Hold the metal car interconnects in a vise and run the truck mounting screws in to form the threads. Press into slot in circuit board and solder in place.* Cut connector wire to 3/4" lengths and strip 1/16" insulation from each end. Following diagrams for cars 505, 500, and 570 insert wires from top of chassis, and solder on the underside. Trim excess flush to bottom of chassis. Next, locate female connector at rear of cars 9900, 505, and 500, solder in place from the bottom and trim excess flush to chassis. Finally, bend the short leads of the male connector to 90 degrees, install in female connectors and solder wire leads in place per diagram. With the chassis hooked together, use a circuit tester to make sure the four circuits running the length of the train have continuity, but are totally discrete from each other.

Paint shells, belly pans, and trucks.

Mask all circuit board surfaces, truck bolsters and journal areas. Spray 3 to 4 light coats of ALCLAD "V" without thinning. SCALECOAT silver is an excellent alternative. Mix 1/2 ounce silver with 30 drops each loco black and roof brown. Thin about 10% and spray 3-4 light coats.

Assemble trailing trucks.

Spread side frames to install axles. Assemble 2 with insulated wheels on the left, and 2 on the right. (see drwgs 1-4, teardrop faces forward) Lubricate journals with GunslicK, a graphite lubricant at gun stores, or rotary switch lubricant from an electronics store. Gently tweak the frames for proper alignment, that is, when the axles are parallel.

Interiors.

Trim flash and lightly sand bottoms. Trim partition tops as necessary to clear the roof. For certified masochists, the interior color scheme is found on the diagram sheet. For the rest of us, just paint the seats a light gray-green! Glue in place with a flexible adhesive like GOO.

Decal.

Use MICROSET and MICROSOL setting solutions and apply decals per diagram. Apply a touch of black on exhaust stacks, and a very thin black wash on the intake grills above the windshield.

Glazing.

This is the most tedious operation. Because of shrinkage, the windows must be installed one- Match a window strip to the openings on a car shell, cut the windows out as close to the base as you can, press in place, and sparingly ACC each corner. Repeat for the remainder, and the preformed curved windows of the tail car. Press in the previously fit windshields in #9900, glue the corners, then carefully paint the divider bars silver.

Head and Taillights.

MV Products #LS 22 and LS 701 are provided for headlight and taillight. Attach with GOO or white glue so you have time to move them around for alignment.

Install diaphragms.

Diaphragms go on the back end of the first three cars. Insert the mounting tool into the diaphragm. Wipe the outside of the diaphragm with lacquer thinner. Apply ACC to the end of the car shell, and press diaphragm in place. When set, trim flush with bottom of shell. Note: If you plan to run on track curves smaller than 15' radius, you will need to trim or remove the diaphragms.

Final assembly.

Mount drive assembly to #9900 chassis, install the trailing trucks and test run. If there are no problems, remove the trucks, mount the shells, replace the trucks and you' re done, ready to roll down the tracks! (Note: The nose of #9900 rides very close to the railhead. If it "bottoms out" on dips in the track, carefully sand the bottom of the front apron for clearance.)

Lighting options.

Constant lighting can easily be installed using the built-in circuits. Install a lighting module in #9900, connect to the outer circuits and install 1 1/2 volt lamps in each car as needed. Fiber-optics from PLASTRUCT can then provide lighting for the headlight, tail light, and rear marker lights.

Trouble-shooting.

It doesn't run. Make sure the track and wheels are clean. Check for disconnected or crossed wires.

It runs backwards. Turn the motor upside down.

Can' t figure out the problem? Write or call us at PO Box 2687, San Pedro, CA 90731 (310)521-0230
or, you can E-mail to zephyrus@rickadee.net

We truly hope you enjoy building and running your **ZEPHYR!**

The 9900 Timeline

Shrouded Trucks	Removed by mid 1954
Mars Lights	Installed by fall of 1949
Fourth Car	From 1935-38 variously ran without, with #525, or the "Becky Thatcher". 1938-58 used car #500
Rear Coupler	Visible from 1957-59, possibly earlier, but unclear
Horn/s	Single internal to 1938, dual external from 1938-48, and single external to 1959

References:

Burlington Route color Pictorial Volume I by Alfred J.J. Holck

Chicago, Burlington, & Quincy in Color Volume I by Michael J. Spoor

The Hub of Burlington Lines West by Alfred J.J. Holck

"Pioneer", *Railroad Model Craftsman*, March 1971 by Marshall Thayer

"Forty Years Ago the Pioneer Zephyr Made History", *Railroad*, June, 1974