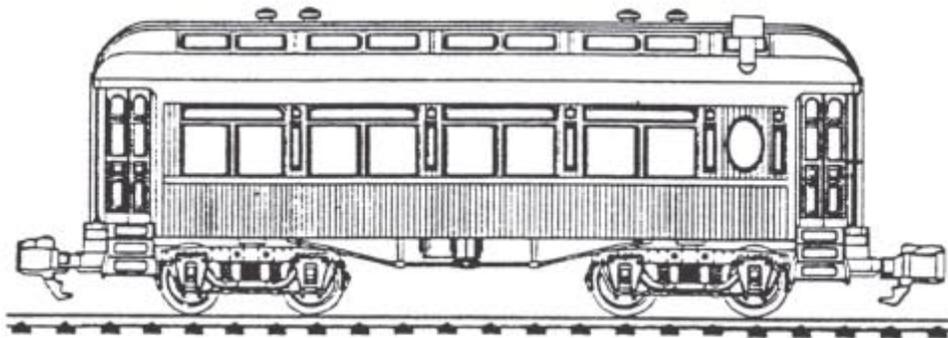


#1 1:29  
Gauge SCALE

# SIERRA PASSENGER CAR COACH – COMBINE – OBSERVATION

INSTRUCTION MANUAL

ART 31000-01



ARISTO-CRAFT TRAINS

REV. 082494

## INTRODUCTION

Dear Model Railroader:

This product is the most highly detailed #1 Gauge 1/29th Scale Model Railroad 'old-time' SIERRA PASSENGER CAR available. Suitable for both INDOOR and OUTDOOR operation, it portrays a North American prototype 'old-time' SIERRA PASSENGER CAR, based upon our research and on documented Official Blueprints referenced to standard Association of American Railroads (AAR) recommended practice.

Should you have any questions about operation, proper usage, or maintenance required on this passenger railcar or any other ARISTO-CRAFT-TRAINS #1 GAUGE 1/29 Scale Model Railroad product, please contact us at the following address:

Aristo-Craft Trains      Phone: 973-351-9800  
698 South 21st St      Fax: 973-351-9700  
Irvington, NJ 07111      email: aristo@mindspring.com

Our phone lines are open from 10:00 AM to 5:00 PM (EASTERN STANDARD TIME) Monday through Friday

The following instructions are intended to help you understand and operate all the features built into this product.

Good Railroading!!!!



## SIERRA PASSENGER CAR

The SIERRA PASSENGER CAR (COACH-COMBINE-OBSERVATION) is based upon an 'old-time/wooden' Passenger Car of the late 1800's era. Actual prototype examples of this type Passenger Car were used by the Sierra Railroad of California, USA and featured in many 'western' movies made by Hollywood producers. Restored examples of similar wooden cars are on display at various North American Railroad Museums.

### NOTES:

\* Features not included with Starter Set version of Sierra Passenger cars. Starter Set version do not include lighting, smoke unit, electrical circuit, or interior details.

\*\*BRASS features chemically blackened on newer versions.

# Brightwork Trim replaced with simulated wood trim.

T Metal Wheels with Carbon Brush electrical power pickup replaced with CNC Metal Wheels with Journal Bearing electrical power pickup in 2005. Starter Set version not equipped with metal wheels or electrical pickup.

### WORKING FEATURES:

Operating AAR-design knuckle couplers.

Detailed passenger car trucks/wheelsets with individual springs and Metal Wheels.

Operating doors.

\* Potbelly stove with smoking chimney.

\* Solid state electrical circuit.

Removable Roof.

\* Operating interior lights (and Rear-end Markers on OBSERVATION CAR).

### EXTERIOR DETAILS:

\*\*BRASS Filigree Trim.

\*\*BRASS Grab Railings and End Railings/Brakewheel.

Simulated WOOD-GRAIN.

Full Underframe, including Air Brake System components.

# Clear Plastic Windows with Design and Brightwork Trim.

### \* INTERIOR DETAILS:

Operating Doors with Seats and Toilet

Operating Wall Lamps and Potbelly Stove

### FEATURES

#### T WHEELS:

1. The SIERRA PASSENGER CAR BLACK Metal wheels are designed for constant electrical power pickup through a Carbon Brush electrical connection at each METAL Wheel. Specially BLACK-plated to insure good electrical conductivity, corrosion resistance, and extended wear, the METAL wheels will give normal service during usage of the SIERRA PASSENGER CAR.

1A. However, over a period of time, these wheels may require cleaning. Dirty wheels will cause sporadic electrical pickup and possibly electrical flashover which may cause discoloring on affected surfaces of wheel and/or brass track.

1B. A good indication of dirty wheels is flickering lights or non-functioning smoke unit. To clean properly, remove SIERRA PASSENGER CAR from any electrical contact and turn upside down exposing METAL Wheels. Using ART-29601 SMOKE FLUID/TRACK CLEANER is recommended for application to METAL wheel surface with clean/soft fabric (rag). DO NOT USE ABRASIVE because resulting metallic particles may enter Locomotive electric motor/gearing and cause operational problems.

#### TRUCK BEARINGS:

2. The truck/wheel set sideframes are molded of a thermal plastic which reproduces all details and, for durability, a special BRASS bushing has been inserted into each journal box end. These BRASS bushings are designed to operate properly WITHOUT additional lubrication.

2A. However, you MAY lubricate, if desired, using either a dry lubricant of powdered graphite, an oil-based liquid lubricant or ARISTO-CRAFT TRAINS ART-29602 CONDUCTIVE-LUBRICANT but ONLY in very small amounts.

2B. It is not necessary to dis-assemble the passenger railcar trucks to properly lubricate. Turn passenger railcar upside down and apply lubrication to axle ends at truck sideframe

#### TRUCK SPRINGS:

3. The trucks/wheelsets on this model are designed exactly like the trucks used on prototype railroads, and use springs for equalization to act as a shock absorber and cushion the ride.

#### X ELECTRICAL PICKUP:

4. Riding against the inside face of the metal wheels are spring-loaded carbon brushes. These brushes transmit electrical current from the wheels to the Solid State Circuit Board underneath the floor that allows all operating features to function.

4A. After extended usage, it may become necessary to replace the carbon brushes (ART-29401). Unscrew the truck/wheelset from underbody. Then also unscrew the plastic brush holder from the truck/wheelset component - **CAUTION: BRUSHES ARE SPRING-LOADED.** Then remove old brushes and replace with new brushes.

4B. It is suggested to replace BOTH brushes at same time. DO NOT DAMAGE OR LOOSEN wires attached to underbody through the plastic brush holder.

4C. To reduce friction/drag on carbon brush contact surface, you may lubricate, but ONLY WITH ELECTRICALLY CONDUCTIVE lubricant, such as ARISTO-CRAFT TRAINS ART-29602 CONDUCTIVE LUBRICANT.

#### \*\*\*COUPLERS:

5. Loop-style couplers are enclosed as a spare accessory. The operating knuckle couplers on all ARISTO-CRAFT TRAINS passenger railcars are designed based upon the AAR-style knuckle used on all major North American Railroads.

5A. **NOTE:** However, these knuckle couplers may not operate automatically when attempting to couple ARISTO-CRAFT TRAINS products to knuckle couplers used by other model railroad manufacturers. Couplers may have to be joined by manually coupling the knuckle on each car in a closed position by lifting one end coupler and inserting

X Does not apply to Sierra Car made since 2005 see Note T on page 3.

\*\*\* Starter Set version may be equipped with Loop-Style Couplers

the closed knuckle onto the ARISTO-CRAFT TRAINS knuckle coupler.

5B. This type coupler works equally well from either end of the passenger railcar and can be uncoupled automatically by using an LGB\* designed uncoupling device. The couplers may also be operated manually by pressing upward on the small tab below each coupler assembly. The coupler can be pushed away to any side if you wish the railcar not to couple automatically when the railcars come together. However, DO NOT attempt to operate in train without the couplers properly aligned and fully coupled to opposite railcar/locomotive. Otherwise, railcar(s) may derail on curves or switch tracks.

5C. **NOTE:** Should you prefer to use the Loop-style coupler, this conversion can be made easily and quickly by unscrewing the single screw that holds the AAR coupler to the truck arm and attaching the Loop-style coupler using the same screw.

5D. Knuckle style couplers are attached to truck arm at a swivel base. When operating railcar, this enables coupler(s) to articulate when encountering sharp radius curves or switches. Couplers will center automatically while railcar is in motion. Manual centering is accomplished by exerting light pressure on knuckle at articulated joint and returning Knuckle to center.

#### LIGHTS/OPERATING SMOKESTACK – STOVE:

6. This SIERRA PASSENGER CAR is equipped with operating interior lights, (operating Rear-end Markers on OBSERVATION CAR only), and Potbelly Stove with Operating Smokestack.

6A. Lights and smoking feature are controlled by slide switch off/on located underneath the Passenger Car body floor on both sides of the front truck/wheelset. (Front truck/wheelset is end with Operating Stove.)

*\*LGB is a trademark of the E.P. Lehman Company, Germany.*

6B. The operating smokestack switch is same side (rightside) as smokestack. The light switch is on the leftside. To operate ON, slide switch lever forward. To operate OFF, slide switch to rear. Either switch may be both ON – both OFF or seperately ON/OFF when SIERRA PASSENGER CAR is moving in train.

#### MARKER LIGHTS (OBSERVATION CAR only):

7. The Rear-end Marker Lights attached to the body end with a screw, are illuminated by L.E.D.'s. Unlike ordinary bulbs, L.E.D.'s do not burn out quickly and should allow extended service.

7A. If you require replacement L.E.D.'s, we suggest contacting ARISTO-CRAFT TRAINS Customer Service for assistance. Proper tools are required to replace L.E.D.'s and to connect to electrical circuit. Complete Marker Lights (pair) with L.E.D.'s are available as ART-29504.

#### INTERIOR LIGHTING:

8. The detailed interior is illuminated by decorative lamp fixtures which utilize screw-base incandescent light bulbs, ART-29502, that will require replacement after normal extended usage.

8A. To replace, disconnect SIERRA PASSENGER CAR from electrical supply, remove Roof (see section ROOF REMOVAL), and unscrew bulb. **CAUTION:** Check first to ascertain that inoperative bulb has not vibrated loose.

#### ELECTRICAL CIRCUIT BOARD:

9. The SIERRA PASSENGER CAR is equipped with a Solid State Circuit Board that distributes the electrical current to various operating components. This Circuit Board is completely SOLID STATE and CANNOT WEAR OUT, and is a permanent part of subfloor which SHOULD NOT be removed.

**Starter Set version may not include features listed in Steps 6 - 10C See notes on page 3.**

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9A. If your SIERRA PASSENGER CAR requires service due to malfunction of electrical Circuit Board, return to factory-authorized repair facility ONLY. See WARRANT INFORMATION for repair instructions.

#### SMOKE GENERATOR:

10. The Smoke Generator unit (ART-29304) is located in the removable smokestack/chimney that attaches to the roof in a slotted/tight-lock fit.

10A. To operate, fill smokestack with ART-29601 SMOKE FLUID AND TRACK CLEANER. Tilt smokestack cover back and allow about 15 drops to enter chamber, then return cover to normal position. Make sure underbody switch is ON (forward position) and track power is connected.

10B. It is also important to turn smoke generator unit OFF immediately after smoke fluid is completely used, because empty smoke generator unit in ON position will burn out unit. Be careful not to overfill the smokestack chamber or get smoke fluid onto SIERRA PASSENGER CAR body/roof. If fluid spills, wipe dry immediately.

#### 10C. CAUTION – CAUTION – CAUTION

The smokestack of this smoke generating unit and surrounding carbody/roof MAY BECOME HOT during operation and for a reasonable time after unit is turned OFF. DO NOT TOUCH this unit until is has sufficiently cooled. DO NOT TURN SIERRA PASSENGER CAR upside down or sideways because remaining smoke fluid may flow out. Smoke fluid MAY ALSO BE HOT. Remove the smokestack/chimney from SIERRA PASSENGER CAR, then turn car over for any repairs/maintenance.

**Starter Set version may not include features listed in Steps 6 - 10C See notes on page 3.**

#### ROOF:

11. To remove roof, detach smokestack/chimney by pulling straight up on smokestack. (See Item 10C. above CAUTION for HOT FLUID REMINDER.) Be careful and do not damage hinged smokestack/chimney cover during removal.

11A. Loosen and remove Phillips Head screws located above each end door.

11B. Press inward both sides of SIERRA PASSENGER CAR body at center just below roofline, then lift roof section off body.

11C. When replacing roof, CHECK center alignment with notches in roof.

11D. Press down on roof until it 'snaps' in place, then reinsert screws at end.

11E. **NOTE:** Roof is NOT 'position-changeable' – smokestack MUST be at front end of SIERRA PASSENGER CAR body.

11F. The roof must fit properly against the body.

11G. Reinsert the smokestack/chimney, first alligning the protrusion on smokestack flange with notch on roof ring.

11H. Holding the smokestack straight up, insert into roof hole and allign properly with potbelly stove recepticle.

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11I. If you are uncertain of alignment, visually check through window adjacent to potbelly stove below roof hole.

11J. Push to snug fit. A smokestack crooked or not properly seated in potbelly stove WILL NOT OPERATE. The smokestack should fit tightly to roof when properly installed.

**SERVICE NOTES:**

12. All parts contained in the SIERRA PASSENGER CAR (COACH-COMBINE-OBSERVATION) are available for replacement or repair by qualified factory technicians. If you have any questions, please refer to INTRODUCTION for method of contacting our office.

**PULSE WIDTH CONTROL/P.W.C.:**

13. All ARISTO-CRAFT TRAINS locomotives, tenders, and operating railcars are designed to operate at proper capacity ONLY with ARISTO-CRAFT TRAINS Power Supply Units featuring "Pulse Width Control" (P.W.C.).

13A. P.W.C. allows a continuous voltage to flow to the motor and accessories (when switches are ON) such as headlight, interior lighting, smoke unit, and diesel or tender 'Electronic Sounds' during operation REGARDLESS of the speed OR direction of locomotive, tender, and/or railcars. In addition, the motor is supplied (when switch is ON) with a continuous voltage to allow smooth starting and stopping.

13B. DO NOT CONFUSE PULSE WIDTH CONTROL with Pulse Power, a feature provided by some other (non-ARISTO-CRAFT TRAINS) power packs. It may seem that when operating with Pulse

Power, the features on ARISTO-CRAFT TRAINS products are operating properly, but, in fact they ARE NOT. Sufficient voltage may not be available to activate the unit(s) and underload/overload damage to components may result.

13C. Also, the TRAIN POWER PACK 7000 - 3.5 AMP FOR G AND HO previously manufactured by Polk's Modelcraft Hobbies under the Aristocraft Tradename DOES NOT HAVE P.W.C. To properly operate your #1 Gauge ARISTO-CRAFT TRAINS with P.W.C., use ARISTO-CRAFT TRAINS ART-5400 (1.8 AMP) or ART-5450 (3.5 AMP) Power Supply Units.

13D. If it is not possible to operate your #1 Gauge 1/29 Scale ARISTO-CRAFT TRAINS products with our P.W.C. equipped Power Supply, do not worry. Our Electrical Engineers have developed the ART-5401 CONTROL PACK ADAPTOR which can be easily attached to your present power supply, UP TO 5 AMPS, of another manufacturer and will allow PULSE WIDTH CONTROL to be applied to your Indoor/Outdoor model railroad. The ART-5401 CONTROL PACK ADAPTOR is now available, see your ARISTO-CRAFT TRAINS A.A.R. Full-Service Hobby shop/dealer.

**ASSEMBLY INSTRUCTIONS:**

14. No assembly required, all SIERRA PASSENGER CARS (COACH-COMBINE-OBSERVATION) are ready-to-run.

15. PARTS LISTING FOR SIERRA PASSENGER CAR ART-31000 Series COACH - ART-31100 Series COMBINE - ART-31200 Series OBSERVATION, all railroad names and undecorated.

**Refer to Exploded Parts Diagram/Parts List for part descriptions, part numbers, and prices. Do not use part descriptions, part numbers, and prices listed in the Instruction Manual**

PART #	DESCRIPTION	COST			
31000-01	Instruction Manual	5.00	29304	SMOKESTACK (OPER.) SIERRA	4.50
310xx-02	COACH body	5.00	29403	ASSORTED Screws Set	4.98
311xx-02	COMBINE body	30.00	29502	LIGHT BULB (10)	7.95
312xx-02	OBSERVATION body	30.00	29503	BULB and Socket Set w/wire (2)	5.95
31000-03	Underframe - BRASS RODS	15.00	29504	MARCELIGNO SIERRA OBSERV. (Pair)	3.98
31000-04	Interior Top	10.00	29601	SMOKE FLUID	3.50
310xx-05	Roof	15.00	29602	LUBRICANT - CONDUCTIVE	1.00
310xx-06	Roof Round Vent	1.00	29603	CHAIR KIT (6 pcs.)	5.95
310xx-07	SIDE Folding Door	3.00			
310xx-08	END Door	4.00			
310xx-10	(COMBINE) BAGGAGE Side Door	6.00			
310xx-11	END Gate-Plastic	3.00			
31000-12	BRASS Truss Rod (1 Turnbuckle plus 2 Rod Sections)	6.00			
31200-13	(OBSERV) BRASS END Railing Set - Center/L/R	18.00			
31200-14	(OBSERV) BRASS SIDE Gate Left/Right (Pair)	14.00			
31000-15	BRASS END Railing Set (L/R)	4.00			
31000-16	BRASS TOP Filigree (each)	3.00			
31000-17	BRASS Brake Wheel Post	2.00			
310xx-19	END Gate (Plastic)	2.00			
29107	TRUCK-PASS. (SIERRA) Metal Whls. (Pair) w/ Coupler	34.95			
29111	BLACK METAL WHEELS (4 AXLES - 8 WHEELS)	14.95			
29113	SPRINGS - PASSENGER TRUCK (50)	3.98			
29200	COUPLER - KNUCKLE (Pair)	7.95			
29301	SMOKESTACK (OPER.) plus STOVE	16.95			

15A. Additional parts available, contact ARISTO-CRAFT TRAINS Customer Service for complete part listing and availability.

xx - refers to last two digits of railname SIERRA PASSENGER CAR number when part is painted to match, i.e. ART-31001 PRR/PENNSYLVANIA COACH. 31001-02 would then refer to BODY for ART-31001 PRR/PENNSYLVANIA SIERRA PASSENGER COACH. When part is same FOR ALL SIERRA COACHes, 31000-plus 2 digit number would be used to denote specific part, i.e. 31000-03 is SIERRA PASSENGER underframe used on all SIERRA COACHes (and COMBINE - OBSERVATION) regardless of railroad name.

All parts listed as 31000 - are common to SIERRA COACH - COMBINE - OBSERVATION.

COMBINE only parts are 311xx- or 31100-. OBSERVATION only parts are 312xx- or 31200-.

15B. NOTE: When ordering replacement parts or repair request, please refer to the proper 5 or 6 digit part number shown above.

\*\*\*Unpainted/black plastic PART(S) will be automatically substituted if the Painted-to-match PART(S) ordered not available.\*\*\*

**Refer to Exploded Parts Diagram/Parts List for part descriptions, part numbers, and prices. Do not use part descriptions, part numbers, and prices listed in the Instruction Manual**

In addition to COST shown above, please enclose ...  
\$3.50 shipping/handling\* if PART Order less than \$10.00 or  
\$5.00 shipping/handling\* if PART Order \$10.00 and above.

**\*This is for PART Order only, not WARRANTY Order.  
\*\*\*NO C.O.D. shipping on parts, prepaid or Charge Card ONLY\*\*\***

**LIMITED WARRANTY**

16. Your new ARISTO-CRAFT TRAINS product is warranted for 180 days from DATE OF PURCHASE against defects in workmanship and/or materials. Proof of purchase MAY be required by ARISTO-CRAFT TRAINS.

16A. This warranty is VOID and does not apply to any product and/or parts and components which have been improperly installed by purchaser/owner, abused or damaged in any way through improper operation such as train derailment, modified, or repaired by unauthorized service centers and/or non-factory authorized technicians.

**SERVICE:**

17. Should your ARISTO-CRAFT TRAINS model railroad product require warranty service, be sure to take the following steps to assure proper servicing.

17A. Return product with foam insert in ORIGINAL Black BOX, AND pack product carefully in (another) corrugated cardboard box. FULLY INSURED and PREPAID. ARISTO-CRAFT TRAINS will not be responsible for any damage or loss incurred during return for servicing.

17B. DO NOT SHIP PRODUCT ONLY in Black ARISTO-CRAFT TRAINS box with shipping label. This WILL NOT protect product during shipping and CUSTOMER is liable for damage to product.

17C. Include a brief but thorough explanation of the problem(s) and the servicing that may be required.

17D. Be sure to include your name, street address, city, state (or province), country (if outside U.S.A.), and postal zipcode along with daytime phone number, including Area Code, so that you may be contacted if it becomes necessary. All identification MUST be both – INSIDE package, contained in letter and – OUTSIDE package, on shipping container.

17E. Include proper payment for shipping/handling –

Locomotive or Complete Train Set..... \$20.00 US  
Accessory or Individual Parts..... \$10.00 US  
**Call for Current Shipping & Handling charges**  
individual freight/passenger railcars, tender, or Buildings ..... \$10.00 US

– with check (written on your USA Bank Account)/Money Order payable in US Dollars (\$) to: Polk's Hobbies. Please *DO NOT SEND CASH*. If your returned item is out of warranty, you will be contacted with proper amount of repair costs before repairs are started.  
**\*\*\*C.O.D. shipping NOT included, additional cost.\*\*\***

17F. Ship your item(s) to:

Aristo-Craft Trains      Phone: 973-351-9800  
698 South 21st St      Fax: 973-351-9700  
Irvington, NJ 07111      email: aristo@mindspring.com

17G. Immediate written confirmation of receipt of returned item(s) will be sent along with estimated repair time by ARISTO-CRAFT TRAINS Service/Repair Department.