

#1
Gauge

1:29
SCALE



TRAIN SET

INSTRUCTION MANUAL

28100-01

ART-28100 SERIES PASSENGER SET

0-4-0T STEAM LOCOMOTIVE

CURVE TRACKS (12)

SIERRA PASSENGER COACH CAR

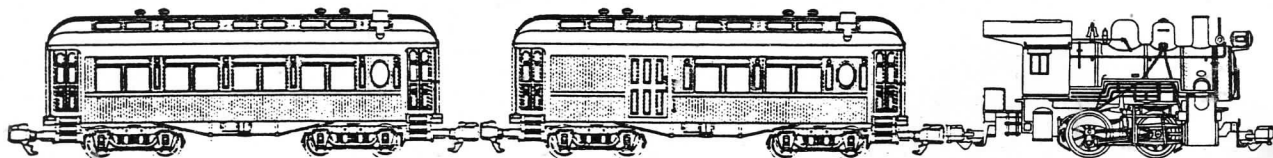
POWER PACK - 1.8 AMP DC

SIERRA PASSENGER COMBINE CAR

TRACK TO PACK

CONNECTOR WIRE

ARISTO - CRAFT TRAINS



082494 NEW

Page A

This set is extremely easy to set up and operate. After unpacking all of the components, follow these simple steps.

1. Connect the round terminal of track power wire to screws locating on reverse of track as shown (fig. 1).
2. Slip the track sections together as shown, (fig 2), if desired each may be permanently joined to adjoining section by inserting the small locking screws through the slot in the rail joiner into the hole in the rail and tightening (fig 3). These screws are located under the track in the hollow of a tie incased in paraffin.
3. Connect the track power leads to the two DC terminals on the Top of the power pack by depressing the thumb tab at the bottom of the terminal and slipping the bare portion into the hole above. Put one wire in each of the DC terminals. It does not matter which wire you connect to which DC terminal.
4. Place the cars and loco on the track and couple them together. Each of the knuckle couplers may be opened by pressing up on the small tab under the coupler. To lock the couplers simply push them together.
5. Finally plug the power pack into any standard 110V wall outlet, a green light will come on indicating that you have power, now rotate the speed control (large dial) to start the train. If the train runs backward, simply move the directional swich on the right of the power pack 2 notches and the trains direction of travel will reverse.

At this point your train will be operational, however, this set includes features which you will undoubtedly wish to take advantage of. To assist you in completely understanding these features and thereby deriving the greatest amount of enjoyment from your new set, we have prepared detailed instruction manuals for each operational component. These manuals are included and we urge you to read them, preferably before operating.

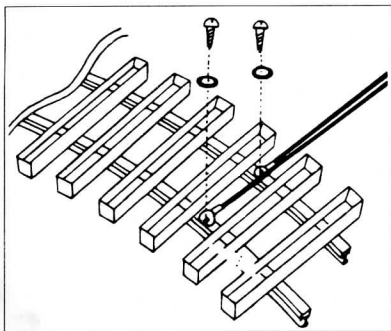


Fig 1

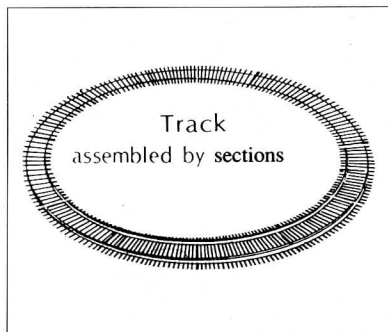
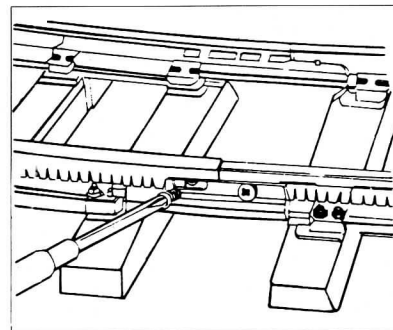


Fig 2



Dear Model Train Enthusiast:

ARISTO-CRAFT TRAINS are America's Realistic Trains. A lot of attention is paid to paint detailing and lettering to enable us to capture the "look" of real trains.

To do this properly involves the handling of our product by nearly 300 different employees in the various stages of the manufacturing process.

Our decoration technique requires the product to be painted BEFORE assembly, rather than after like other model trains. Therefore, immediately after injection, the parts are masked, painted, and then moved to the assembly line. Each component such as body shell or interior is sub-assembled and moved to another stage of the production line for installation.

As an example, the 4-6-2 PACIFIC Steam Locomotive has almost 600 individual parts that are required to be masked, painted, and sub-assembled before the product is complete. In addition, at various stages of assembly, each product is continuously tested and run on track to check operating features such as smoke, lights, and sound.

Given our attention to painting, testing, and operating checks during production, it may not be humanly possible to guarantee a 100% blemish-proof model train product.

As explained previously, each item is assembled "by hand" and we do not want to provide inaccurate or non-authentic style painting or detailing on our model railroad products. However, we may not be able to completely protect the product during this long assembly-line odyssey and guarantee a blemish-proof product.

Please be assured that we are doing our best to minimize these occurrences.

If you have any questions or need additional information about your ARISTO-CRAFT TRAINS garden railroad product, please contact Customer Service at our Jersey City, NJ Office.

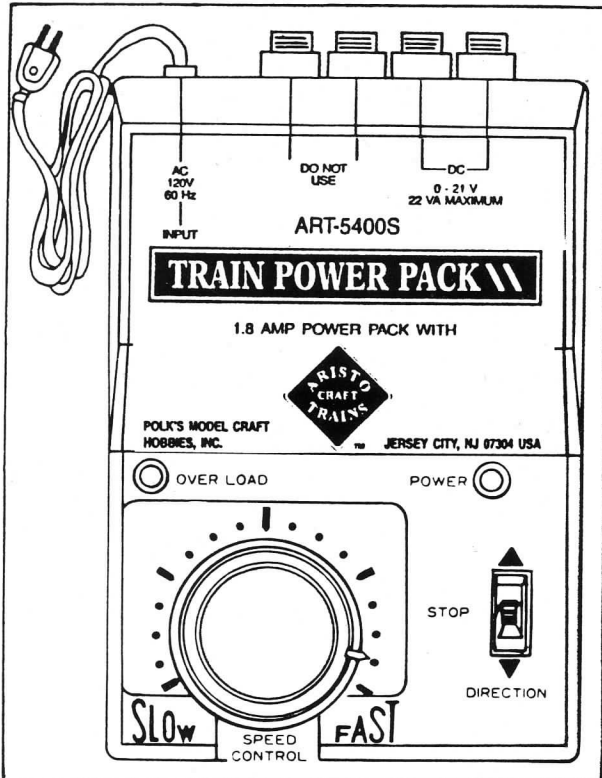
Thank you for your continued interest in ARISTO-CRAFT TRAINS, America's Realistic Train.

Good Railroading!!



TRAIN POWER PACK

INSTRUCTION MANUAL



NOTE: *There is no AC output available on ART-5400S Power Pack.*

MODEL ART-5400S

ARISTO — CRAFT TRAINS

FEATURES

1. Constant Voltage Pulse Width speed Control.

Conventional train power packs control speed by varying the input voltage but this causes the lights to dim and lower sound level when the train is operated in slow speed.

Furthermore, a tiny foreign material can stop the car in the slow mode because voltage is lowered. This revolutionary power pack uses constant voltage which hardly changes from slow to fast speed so light stays bright when the train is stopped.

2. Automatic Circuit Protection

Even if the tracks are shorted, or overloaded, this does not damage the inner circuits and the overload indicator lamp will be lit to indicate that the circuit is shorted.

3. Automatic Electronic momentum circuit for smooth operation.

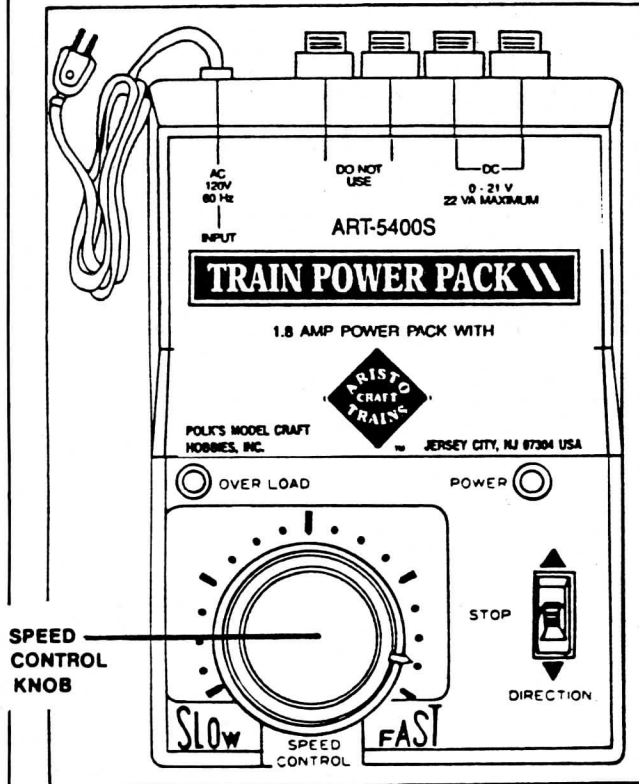
The real trains take a long time to start moving and changing speed as well. To simulate similar movement, this power pack will change speed gradually and smoothly.

4. Three position direction switch.

It features forward-stop-reverse switch.

5. L.E.D. indicators

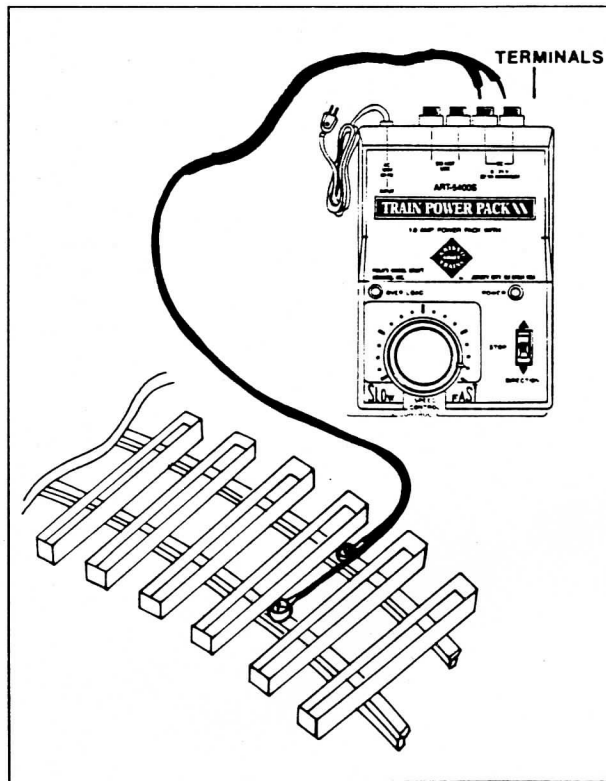
It features power indicator and overload indicator lights. If the overload light flickers, check to see if the tracks are short-circuited or overloaded.



INSTALLATION & OPERATION

1. Place the direction switch on stop position and speed control switch at "slow".
2. Connect the track power leads to the two terminals on the back of the power pack by depressing the thumb tab at the bottom of the terminal and slipping the bare portion into the hole above. Put one wire in each of the red terminals. It does not matter which wire you connect to which red terminal.
 - **NOTE OF CAUTION**
Do not try to force the wire into the terminal, insert the wire only to the end of the bare portion. Do not put the insulated part wire in the terminal.
3. Finally plug the power pack into any standard 120V AC wall outlet, a green light will come on indicating that you have power, now rotate the speed control (large dial) to start the train. If the train runs backward, simply move the directional switch on the right of the power pack 2 notches and the trains direction of travel will reverse.

NOTE: *There is no AC output available on ART-5400S Power Pack.*



CAUTION-ELECTRICALLY

OPERATED PRODUCT

Not recommended for children under 8 years of age as with all electric products precaution should be observed during handling and use to prevent electric shock.

It is recommended for parents to periodically examine product for damage, which may result in the risk of fire, electric shock or injury to person. (Such as damage to the output cord, blades, housing or other parts.) In the event of such conditions, the transformer should not be used until properly repaired.

TROUBLE SHOOTING

1. If power light (green) does not light. Check to see if the 120V outlet plug is properly plugged in.
2. Power light is on but train does not move. Check to see the connection to the tracks and to the red terminals.
3. If overload light (red) is flickering turn the power off and check the following.
 - a. Check all wire connections.
 - b. Check if any metallic object is put on the track which will short out circuit.
 - c. Check the cars for possible shorts with the track.
 - d. Check to see if any other power source is accidentally connected.



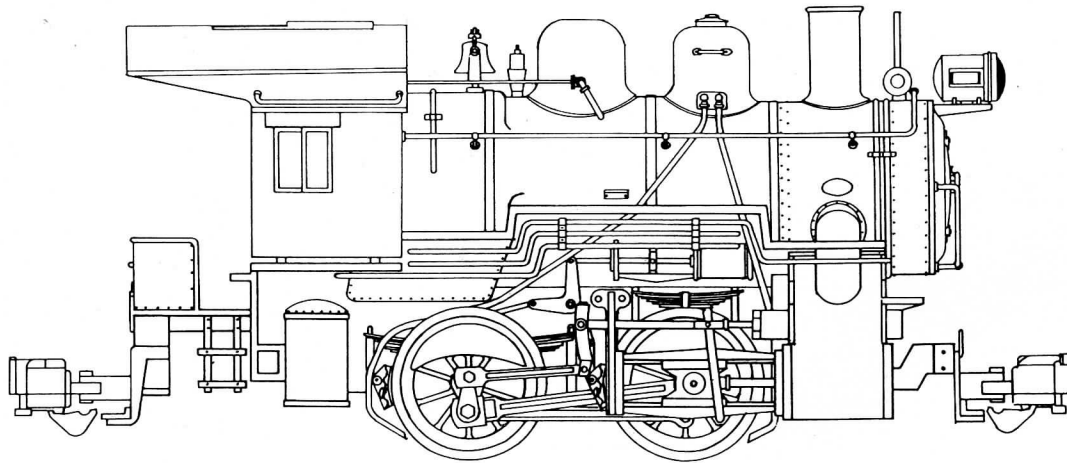
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#1	1:29
Gauge	SCALE

0-4-0T STEAM LOCOMOTIVE

INSTRUCTION MANUAL

ART 21200-01



ARISTO-CRAFT TRAINS

082494 REV.

INTRODUCTION

Dear Model Railroader:

This locomotive is, without a doubt, one of the most highly detailed #1 Gauge (G/GARDEN) 1/29th Scale STEAM LOCOMOTIVES available. Suitable for both INDOOR and OUTDOOR operation, it accurately portrays a North American prototype Yard Switcher type Steam Locomotive, 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 0-4-0 Steam locomotive or any other ARISTO-CRAFT-TRAINS Model Railroad product, please contact us at the following address:

ARISTO-CRAFT TRAINS/Polk's Modelcraft Hobbies Inc.
346 Bergen Avenue, Jersey City, NJ 07304 USA

Our telephone lines are open from 10:00 AM to 5:00 PM (EASTERN STANDARD TIME) Monday through Friday at (201) 332-8100 or FAX at (201) 332-0521.

The following instructions are intended to help you understand and operate properly all the features built into this 0-4-0T STEAM LOCOMOTIVE.

Please note, due to packaging requirement, the ART-21200 Series 0-4-0T STEAM LOCOMOTIVE with ART-21900 Series SLOPEBACK TENDER . . . when sold as a 21300 Series 2-piece COMBO SET . . . are boxed separately.

Good Railroading!!!!

W.M. (Walter) Matuch

ARISTO-CRAFT TRAINS – *Product Manager*



HISTORY

This ARISTO-CRAFT-TRAINS model railroad 0-4-0T STEAM LOCOMOTIVE is an accurate reproduction of the STEAM (switching) Locomotives known as 'yard goats' or 'shifters' built and used by nearly all North American railroads until replaced by the "newer" diesel locomotives.

Our model is based upon the Pennsylvania Rail Road (PRR) Class A5 0-4-0 originally built in 1916 by PRR's Juniata Shops with 'slopeback' tenders (use ART 21900 series SOUND Tender) and the PRR Class A3 0-4-0T (Tank locomotive without tender) built from 1895 until 1915.

Both types of 0-4-0's were used in areas of sharp curvature industrial trackage to handle freight railcars and in many passenger-train terminals to switch US Mail, Express, Baggage, and Passenger railcars.

Steam switching Locomotives of this type are no longer in any regular use by North American railroads. However, PRR No. 94, an A5 0-4-0 has been restored for display at the Railroad Museum of Pennsylvania at Strasburg, PA USA.



TM

FEATURES:

Operating SMOKE UNIT
Front/Rear Operating AAR Knuckle Couplers.
Operating Directional Control Front Headlight
Firebox "Red Glow"
Interior Cab detail
Solid-state Motor w/constant electrical pickup
BLACK Metal drive wheels and valve gear assembly
Solid BRASS Grab Railings
Removeable Coal Bunker
Optional Steam Sound (use ART 21900 series Tender)

WHEELS:

1. The 0-4-0T STEAM LOCOMOTIVE Metal drive wheels are designed for constant electrical power pickup through an electrical connection at each driver. Specially BLACK-plated to insure good electrical conductivity, corrosion resistance, and extended wear, the wheels will give normal service during usage of the 0-4-0 Steam Locomotive.

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 0-4-0 locomotive from any electrical contact and turn upside down exposing drive wheels. Using ART-29601 SMOKE FLUID/TRACK CLEANER is recommended for application to wheel surface with clean/soft fabric (rag). DO NOT USE ABRASIVE because resulting metallic particles may enter electric motor/gearing and cause operational problems.

1C. **NOTE:** 0-4-0T locomotive drive wheels DO NOT use rubber adhesion rings to increase traction but have sufficient weight incorporated into unit for proper “pulling power”.

1D. 0-4-0T locomotive can handle from 6 to 8 freight railcars under normal operating conditions.

DRIVE TRAIN:

2. This 0-4-0T locomotive is equipped with a unique drive mechanism that allows greater tractive effort (pulling power) and smoother operation during usage. Each axle/pair of driving wheels has independent electrical pickup. This allows for better electrical contact on switches and especially on uneven track.

2A. Each gearbox has been lubricated at the factory with a high-tech lubricant (ART-29602 CONDUCTIVE LUBRICANT) which, under normal operating conditions, should last indefinitely, thus eliminating the need for periodic gearbox maintenance. However, you MAY lubricate, if desired, using a high-temperature/non-water soluble paste, liquid lubricant, or ART-29602 CONDUCTIVE LUBRICANT but ONLY in proper amounts.

2B. It is necessary to partially dis-assemble gearbox to allow access to gearing and shafts for lubrication. Turn locomotive upside down and remove 4 screws on gearbox coverplate. Grasp coverplate firmly and lift up to complete removal. Lubricate as required.

2C. Although each gearbox is a complete unit, it may be disassembled and all parts contained therein are repairable or available as a replacement. **NOTE:** Allow only factory-authorized ARISTO-CRAFT TRAINS repair technician to perform ANY REPAIRS, otherwise – WARRANTY MAY BE VOIDED.

COUPLERS:

3. Loop-style couplers are enclosed as a spare accessory. The operating AAR knuckle couplers (ART-29200) on all ARISTO-CRAFT TRAINS locomotives and passenger/freight railcars are designed based upon the AAR style used on all major North American Railroads.

3A. **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 railcar/locomotive end in a closed position by lifting one end coupler and inserting the closed knuckle onto the ARISTO-CRAFT TRAINS knuckle coupler.

3B. The AAR-type knuckle coupler works equally well from either end of the Locomotive and can be uncoupled automatically by using an LGB* designed uncoupling device. The knuckle couplers may also be operated manually by pressing upward on the small tab below each coupler assembly. The knuckle coupler can be pushed away to either side if you wish the locomotive NOT to couple automatically when the opposing knuckle couplers come together. However, DO NOT attempt to operate in train without the knuckle couplers properly aligned and fully coupled to opposite railcar/locomotive. Otherwise, derailment on curves or switch tracks is possible.

3C. 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 knuckle coupler to the truck arm and attaching the Loop-style coupler using the same screw. Couplers are attached to truck arm at a swivel base. When operating, this enables coupler(s) to articulate

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

when encountering sharp radius curves or switches. Couplers will center automatically while in motion. Manual centering is accomplished by exerting light pressure on knuckle at articulated joint and returning knuckle to center.

LIGHTING:

4. The 0-4-0T STEAM LOCOMOTIVE is equipped with operating Directional Front headlight.

4A. To replace lightbulb, part ART-29502, use the following directions.

4B. Turn off electrical power supply to 0-4-0T Locomotive.

4C. Remove smokebox front cover from smokebox/boiler by grasping cover at ridge opposite brass grabrailing and pulling away from smokebox/boiler.

4D. Wire will be visible and allow access to bulb holder in headlight.

DIRECTIONAL LIGHTING:

5. The headlight of this 0-4-0T Locomotive will ONLY LIGHT when operating in forward direction.

SMOKE GENERATOR UNIT:

6. The 0-4-0T STEAM LOCOMOTIVE is equipped with an operating smoke generator unit located in smokestack, which produces smoke through the use of ART-29601 SMOKE FLUID.

6A. To operate properly, fill the front smokestack unit with ART-29601 SMOKE FLUID, about fifteen (15) drops are sufficient. Fill smoke fluid tank in unit through smokestack opening, top center of smokestack.

6B. **NOTE:** To avoid spilling fluid on locomotive smokebox/boiler, the smoke generator unit can be removed before filling.

6C. Make sure switch – on underframe in front of first pair of driver wheels – is in "OFF" position when refilling fluid or removing smoke generator unit.

6D. By exercising proper care during operation, the smoke generator unit will provide long service and enhance operation of your 0-4-0T STEAM LOCOMOTIVE.

6E. NEVER OVERFILL stack/unit with smoke fluid. The unit holds about fifteen (15) drops of fluid. If spilled, wipe up excess promptly and dispose properly.

6F. To prevent smoke unit burnout, NEVER RUN SMOKE UNIT DRY. As soon as unit stops smoking, TURN OFF and refill unit.

6G. Locomotive is packaged WITHOUT ART-29601 SMOKE FLUID in smokestack generator unit. (ART-29601 SMOKE FLUID/TRACK CLEANER is available from your ARISTO-CRAFT TRAINS dealer or direct from Polk's Modelcraft Hobbies).

6H. All smoke fluid in stack/unit must be heated by element to begin smoking. If unit is completely full, longer time must be allowed before smoke begins.

6I. For safety and proper operation, USE ONLY ART-29601 SMOKE FLUID to operate Smoke Generator unit. Using improper Smoke Fluid may damage unit and VOID WARRANTY.

6J. To remove smokestack generator unit – grasp the 0-4-0T Locomotive firmly and then pull up on smokestack. Unit is 'press fit' and may seem snug when removed for first time.

6K. To replace smokestack generator unit, align the base of smokestack with smokebox/boiler and slide unit into plug connection. Smokebox/boiler is slotted to match smokestack.

CAUTION-CAUTION-CAUTION

6L. The smokestack outer plastic column of this smoke generating unit and surrounding smokebox/boiler **MAY BECOME HOT** during operation and remain **HOT** for a reasonable time after unit is turned off. **DO NOT TOUCH** this unit until it has sufficiently cooled. **DO NOT TURN LOCOMOTIVE** upside down or side-ways because remaining smoke fluid may flow out. Smoke Fluid **MAY ALSO BE HOT**.

FIREBOX "RED GLOW":

7. Firebox "Red Glow" utilizes a light bulb (ART-29502) to illuminate a red panel in firebox door opening inside cab. Light bulb is designed for extended usage. Customer replacement may be required at a later date.

7A. Firebox "Red Glow" will illuminate during operation of 0-4-0T only. Smoke Unit switch does not affect "Red Glow".

OPTIONAL STEAM SOUND:

8. The 0-4-0T STEAM LOCOMOTIVE is NOT equipped with a factory installed STEAM SOUND UNIT. However, by using (separate purchase required) ART-21900 series tender, compatible with the 0-4-0T Steam Locomotive, synchronized sound can be added for operational enhancement. Full operating instructions for Sound Unit are included with ART-21900 series tender.

REMOVEABLE COAL BUNKER:

9. To enable operation of the 0-4-0T STEAM LOCOMOTIVE with an ART-21900 series Tender with Sound, the Coal Bunker assembly is easily removeable from the 0-4-0T frame.

9A. Turn the locomotive upside down, and remove the two (2) screws holding the Coal Bunker to the frame. When removing this Coal Bunker, the rear knuckle coupler assembly is also removed.

9B. The new plastic drawbar/connection assembly needed is included with the ART-21900 series Tender (or may be already mounted underneath 0-4-0T STEAM LOCOMOTIVE by factory). Using the plastic deckplate (if packaged with SLOPEBACK TENDER) is not required with the 0-4-0 STEAM LOCOMOTIVE.

PULSE WIDTH CONTROL/P.W.C.:

10. 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.).

10A. 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.

10B. *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.

10C. 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.

10D. 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.

SERVICE NOTES:

11. All parts contained in the 0-4-0T STEAM LOCOMOTIVE are available for replacement or repair by contacting ARISTO-CRAFT TRAINS. If you have any questions, please refer to INTRODUCTION for method of contacting ARISTO-CRAFT TRAINS Customer Service.

ASSEMBLY INSTRUCTIONS:

12. The 0-4-0T STEAM LOCOMOTIVE comes Ready-to-Run. (Plastic Generator is packaged separately to prevent damage during shipping, insert into holes in front of smokestack on boiler top.)

13. PARTS LISTING FOR ART-21200 series 0-4-0T STEAM LOCOMOTIVE, all railroad names and Undecorated.

<u>PART #</u>	<u>DESCRIPTION</u>	<u>COST</u>
21200-01	Instruction Manual	\$ 1.00
212xx-02	Boiler/Smokebox Body (except LTD./spl. Edit)	15.00
21200-03	Underframe w/o Gearbox Assembly	25.00
212xx-04	Locomotive Cab (except LTD./Spl. Edition)	8.00
212xx-05	Headlight	5.00
21200-06	Plastic Bell and Bracket	2.00
21200-07	Plastic Whistle	1.00
212xx-08	Plastic Generator (this is NOT the 29306 Smoke Generator Unit)	1.00
21200-09	Plastic Air Pump	1.00
21200-10	Plastic Piping (short)	1.00
21200-11	Plastic Piping (long)	1.00
21200-12	Plastic DRAWBAR Hook	1.00
212xx-14	Smokebox Front w/o Brass Grab Railing	5.00
212xx-15	Coal Bunker w/o AAR Knuckle Coupler	5.00
212xx-16	Plastic Steam Cylinder	2.00
21200-21	Brass Grab Railing-cab roof	2.00
21200-22	Brass Grab Railing-rear	2.00

21200-23	Brass Grab Railing-smokebox front	2.00
21200-24	Brass (long) Grab Railing-boiler	2.00
21200-30	0-4-0 Gearbox with Wheels (4) and Motor, without Valve Gear Assembly	45.00
21200-31	MOTOR (Only)	15.00
21200-40	Plastic SMOKE STACK (only)	1.00
29200	AAR Knuckle Coupler (pair)	7.95
29306	0-4-0T SMOKE GENERATOR UNIT	16.95
29404	Assorted SCREW Set	4.98
29502	LIGHT BULB (10 pieces) for Headlight	7.95
29503	BULB and SOCKET SET w/wire (2 pieces ea.)	5.95
29601	Smoke Fluid	3.50
29602	LUBRICANT - CONDUCTIVE	1.00

13A. Additional parts available, contact ARISTO-CRAFT TRAINS Customer Service for complete part listing and availability.

xx - refers to last two digits of railroad name 0-4-0T when part is painted to match, i.e. ART-21201-14 would then refer to Smokebox Front for Pennsylvania 0-4-0T. When part is same for all 0-4-0T Locomotives, 00 would replace the xx used in parts listing, such as 21200-07 PLASTIC WHISTLE.

13B. **NOTE:** When ordering replacement parts or repair request, please refer to the proper ART 5-digit or 6-digit part number shown above.

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

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

14. 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.

14A. 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:

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

15A. 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.

15B. 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.

15C. Include a brief but thorough explanation of the problem(s) and the servicing that may be required.

15D. 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.

15E. Include proper payment for shipping/handling –

Locomotive or Complete Train Set..... \$20.00 US
Accessories, switch-track
individual freight/passenger
railcars, tender, 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.*****

15F. Ship your item(s) to:

ARISTO-CRAFT TRAINS/Polk's Modelcraft Hobbies Inc.
Customer Service Department
346 Bergen Avenue, Jersey City, NJ 07304 USA

15G. Immediate written confirmation of receipt of returned item(s) will be sent along with estimated repair time by ARISTO-CRAFT TRAINS Service/Repair Department.



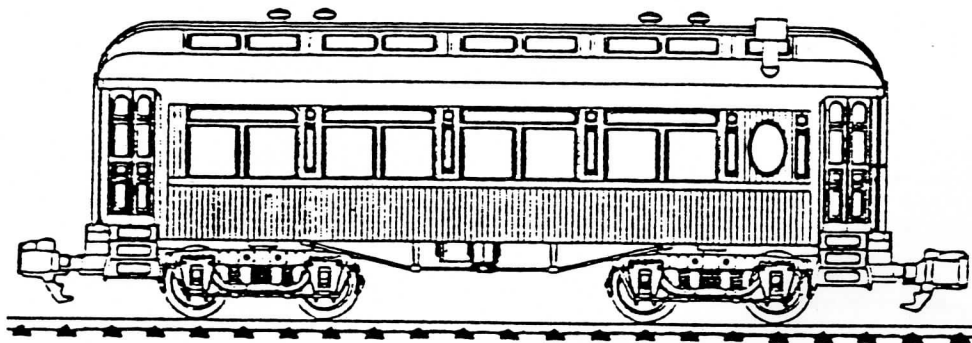
#1	1:29
Gauge	SCALE

SIERRA PASSENGER CAR

COACH – COMBINE – without SMOKE/LIGHTS/INTERIOR

INSTRUCTION MANUAL

ART 31050-01



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 operations, 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/Polk's Modelcraft Hobbies Inc.
346 Bergen Avenue, Jersey City, NJ 07304 USA

Our phone lines are open from 10:00 AM to 5:00 PM (EASTERN STANDARD TIME) Monday through Friday at (201) 332-8100 or FAX at (201) 332-0521.

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

Good Railroading!!!!

W.M. (Walter) Matuch

ARISTO-CRAFT TRAINS – *Product Manager*



SIERRA PASSENGER CAR

The SIERRA PASSENGER CAR (COACH-COMBINE) 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.



FEATURES:

Operating AAR-design knuckle couplers.
Detailed passenger car trucks/wheelsets with individual springs and Wheels.
Operating doors.
Removable Roof.

EXTERIOR DETAILS:

BRASS Filigree Trim.
BRASS Grab Railings and End Railings/Brakewheel.
BRASS Underframe Truss Rods
Simulated WOOD-GRAIN.
Full Underframe, including Air Brake System components.
Decorated Plastic Windows with Design and Brightwork Trim.

TRUCK SPRINGS:

1. The truck/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.

1A. If you should decide to add interior detail into the passenger car, remember to distribute the weight evenly throughout the passenger car. If there is more weight at one end of the passenger car, the springs will compress only at the loaded end causing operational problems and, possibly derailments.

TRUCK BEARINGS:

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

2A. However, you MAY lubricate, if desired, using either a dry lubricant of powered 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 lubricant to axle ends at truck sideframe

COUPLERS:

3. 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.

3A. **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 the closed knuckle onto the ARISTO-CRAFT TRAINS knuckle coupler.

3B. 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.

3C. **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.

3D. Knuckle 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.

ROOF:

4. To remove roof, detach smokestack/chimney by pulling straight up on smokestack. Be careful and do not damage hinged smokestack/chimney cover during removal.

4A. Loosen and remove Phillips Head screws located above each end door.

4B. Press inward both sides of SIERRA PASSENGER CAR body at center just below roofline, then lift roof section off body.

4C. When replacing roof, CHECK center alignment with notches in roof.

4D. Press down on roof until it 'snaps' in place, then reinsert screws at end.

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

4E. **NOTE:** Roof is NOT 'position-changeable' – smokestack MUST be at front end of SIERRA PASSENGER CAR body.

4F. The roof must fit properly against the body.

4G. Reinsert the smokestack/chimney, by alligning the protrusion on smokestack flange with notch on roof ring.

4H. Holding the smokestack straight up, insert into roof hole and allign properly.

4I. Push to snug fit. The smokestack should fit tightly to roof when properly installed.

SERVICE NOTES:

5. All parts contained in the SIERRA PASSENGER CAR (COACH-COMBINE) 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.

ASSEMBLY INSTRUCTIONS:

6. No assembly required, all SIERRA PASSENGER CARs (COACH-COMBINE) are ready-to-run.

7. PARTS LISING FOR SIERRA PASSENGER CAR ART-31000 Series COACH – ART-31100 Series COMBINE, all railroad names and undecorated.

<u>PART #</u>	<u>DESCRIPTION</u>	<u>COST</u>
31000-01	Instruction Manual	\$ 1.00
310xx-02	COACH body	30.00
311xx-02	COMBINE body	30.00
312xx-02	OBSERVATION body	30.00
31000-03	Underframe w/o TRUSS RODS	15.00
31000-04	Interior floor	10.00
310xx-05	Roof	15.00
310xx-06	Roof Round Vent	1.00
310xx-07	SIDE/Folding Door	3.00
310xx-08	END Door	4.00
311xx-10	(COMBINE) BAGGAGE Side Door	5.00
310xx-11	END Gate-Plastic	3.00
31000-12	BRASS Truss Rod (1 Turnbuckle plus 2 Rod Sections)	6.00
31000-15	BRASS END Railing Set (L/R)	10.00
31000-16	BRASS TOP Filigree (each)	4.00
31000-17	BRASS Brakewheel	3.00
31000-18	BRASS Brakewheel Post	2.00
310xx-19	END Step (Plastic)	2.00
29107	TRUCK-PSGR. (SIERRA) Metal Whls. (Pair) w/o 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
29602	LUBRICANT – CONDUCTIVE	1.00
29607	CHAIR KIT (6 pcs.)	5.95



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