

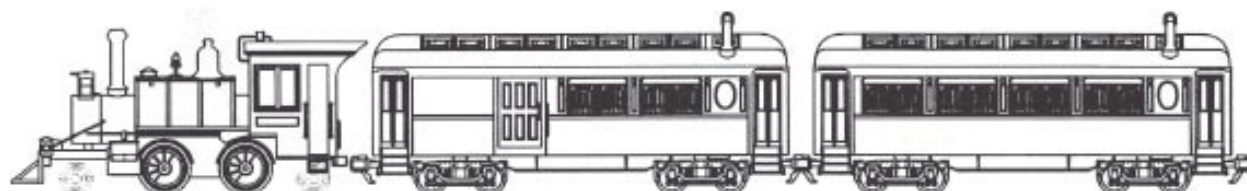


ROGERS STEAM PASSENGER TRAIN SET

INSTRUCTION MANUAL

ART-28500 - 01

- ★ ROGERS STEAM LOCOMOTIVE
- ★ SIERRA PASSENGER COBINE
- ★ SIERRA PASSENGER COACH
- ★ CURVED TRACK (12)
- ★ POWER PACK - 1.8 AMP DC
- ★ TRACK TO PACK CONNECTOR WIRE



ARISTO-CRAFT TRAINS

112798 NEW

ARISTO-CRAFT TRAINS

Dear Model Railroader,

This train set is highly detailed #1 Gauge 1/29th scale, and is suitable for both indoor and outdoor operation. It has been designed and manufactured to our usual high specifications. Please read this manual thoroughly before operation.

Should you have any questions regarding operation, proper usage or maintenance required on this or any other Aristo-Craft product, please do not hesitate to contact us at the following address:

ARISTO-CRAFT TRAINS / Polk's Modelcraft Hobbies, Inc.

Aristo-Craft Trains
698 South 21st Street
Irvington, NJ 07111

Phone: 973-351-9800
Fax: 973-351-9700
email: aristo@mindspring.com

Our customer service department phones are open from 10:00 AM to 5:00 PM Eastern time, Monday through Friday.

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

1. All ARISTO-CRAFT curved and straight track sections have four (4) screws in the bottom which secure the rail to the ties. In order to convert an ordinary section of track into a "Terminal Track" which conducts electric power to the rails, merely remove both screws at one end, insert the screws through the eyes of the TRACK TO PACK CONNECTOR WIRE and reattach the screws (See Fig. 1).
2. Join all twelve (12) curved track sections together (Fig. 2) to form a circle. If desired, each may be permanently attached to the adjoining section by inserting the small locking screw through the slot in the rail joiner into the hole in the rail and tightened (Fig. 3). These screws are stored underneath, in the hollow of one of the ties and encased in paraffin. If you do not wish to permanently join the track at this time, do not use the locking screws, but secure the sections together by using the provided plastic Tie Wraps. These Tie Wraps are inserted through the slot in the last tie and tightened. Please note that

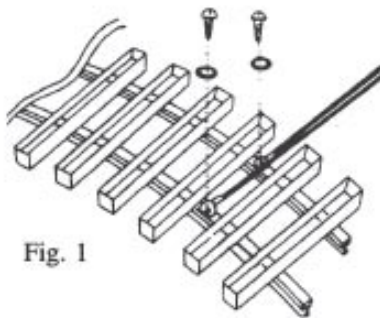


Fig. 1

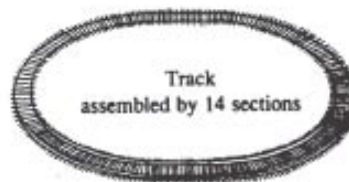


Fig. 2

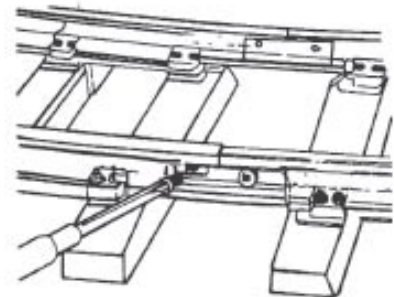


Fig. 3

there is a notch on the bottom of this tie into which the Tie Wrap lies so that the track will lie flat (Fig.4).

3. Connect the TRACK TO PACK CONNECTOR WIRE leads to the two (2) DC terminals at the back of the power pack by depressing the thumb tab at the bottom of the terminal and slipping the bare portion of the wire into the hole above the thumb tab. Insert one wire in each of the DC terminals. It does not matter which wire is connected to either terminal.
4. Place the locomotive and cars 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 120 V wall outlet. A green light will come on indicating that you have power. Rotate the speed control (large knob) to start the train. If the train runs backward, merely move the directional switch on the right of the power pack to the opposite side and the direction of travel of the train will reverse.

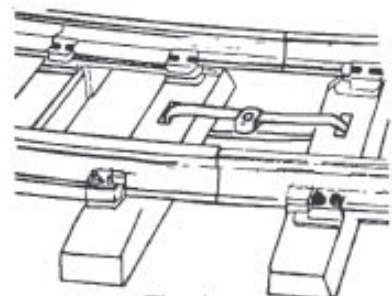


Fig. 4

At this time your train is operational. We have prepared detailed instruction manuals for each of the operating components included in this set. These manuals are included here and we urge you to read them before operating the set.

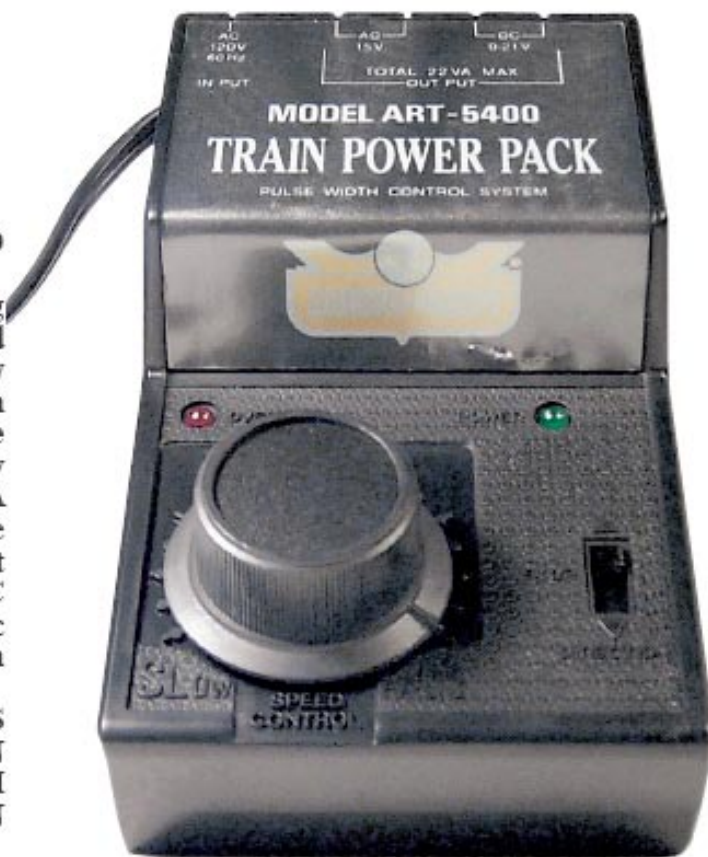
CRE-55400/ART5400 MODEL TRAIN POWER PACK INSTRUCTION MANUAL

FEATURES:

- 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 the sound level when the train is operated at slow speed. Also, dirty track can interfere with the operation of the train at slow speed due to reduced voltage. **Pulse Width Control (P.W.C.)** allows double features by separating the control of the train from the voltage. A high DC voltage is constantly fed to the tracks, but the speed of the train is regulated by a signal message sent along the tracks to the motor. The higher, constant DC voltage means that the lighting, smoke and electronic sound features work much better, even when the train is at a full stop.

NOTE: PULSE WIDTH CONTROL (P.W.C.) IS NOT PULSE POWER. SEE THE INSTRUCTION MANUAL FOR YOUR SOUND SYSTEM REGARDING COMPATIBILITY ISSUES WHEN USED WITH P.W.C.



- AUTOMATIC ELECTRONIC MOMENTUM

This power pack provides a realistic momentum which starts and stops the trains without the use of AC voltage pulses that are harmful to DC motors. There is a momentary delay between the increase of the throttle and the movement of the train. There is also a delay in stopping as well.

- AUTOMATIC CIRCUIT PROTECTION

If there is a short circuit in the tracks or an overload in the power supply, the components of the CRE-55400/ART-5400 are protected by a circuit breaker and the unit will not be damaged. If there is a short circuit or overload, the overload indicator lamp will light.

- THREE POSITION DIRECTION SWITCH

This switch features forward (upward position), stop (middle position) and reverse (down position). The stop position stops the train, there may still be voltage applied to the rails powering lights and accessories.

- L.E.D. INDICATORS

L.E.D. lights indicate whether or not the power is on and if there is an overload. The power light indicates if the power supply is receiving power and is on regardless if the three position switch is set in the stop position.

INSTALLATION & OPERATION

WITH THE POWER PACK UNPLUGGED:

- Place the direction switch on "stop" and the speed control switch at "slow".
- Connect the track power leads to the two red terminals (DC) on the back of the power pack by depressing the thumb tab at the bottom of the terminal and slipping the bare portion of the wire into the hole above. Place one wire in each of the DC (red) terminals and connect the opposite ends of the wires to the track (see figure 1). It does not matter which wire is connected to either terminal

- CAUTION

Do not try to force the wire into the terminal and insert only the end of the bare portion. Do not put the insulated part of the wire into the terminal.

NEVER connect the track to the black (Accessory) terminals of the power pack as this will damage your equipment.

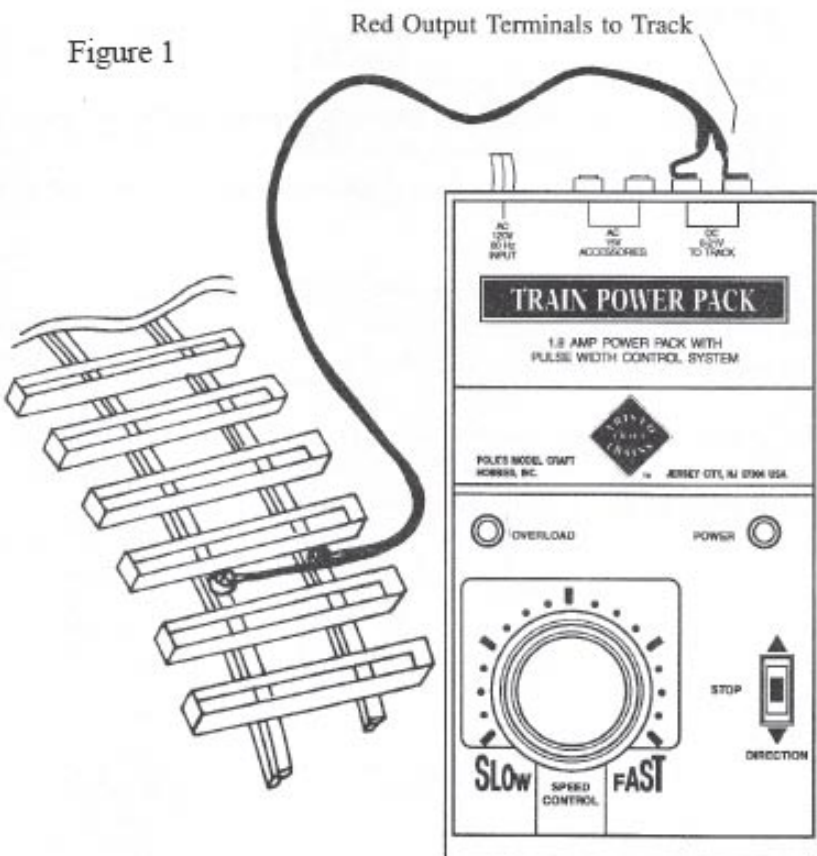
PLUG THE POWER PACK INTO A STANDARD 120V WALL OUTLET

- A green light will come on indicating that you have power
- Rotate the speed control to the right to start the train.
- If the train runs backwards, simply move the direction switch to the opposite position and the train will change direction.

TROUBLE SHOOTING

- If the power light (green) does not light, check to see if the 120V outlet plug is properly connected.
- If the power light is on but the train does not move, check the connection between the tracks and the red terminals.
- If the overload light (red) is flickering, unplug the power supply and:
 - Check all wire connections
 - See if any metal object is on the track causing a short circuit.
 - Check the train for possible short circuit.
 - Check to see if any other power source is inadvertently connected.

Figure 1



CAUTION - ELECTRICALLY OPERATED PRODUCT

Not recommended for children under eight (8) years of age. As with all electric products precaution should be observed during the handling and use of this unit to prevent electric shock.

It is recommended that parents periodically examine the power pack, cords and wires for damage which could result in the risk of fire, electric shock or injury to a person. In the event of such conditions, the power pack should not be used until properly repaired.

SERVICING

Should your ARISTO-CRAFT TRAINS product require warranty service, please return it in the original box, if possible, protected by a proper shipping carton. Send the product fully insured and prepaid. ARISTO-CRAFT TRAINS will not be responsible for any loss or damage incurred during shipping. Be sure to include a brief, but thorough explanation of the problem, together with your name, street address (no Post Office box please), city state or province and country, if outside of the United States. Also include a daytime telephone number so that we may contact you if necessary. Your return address should be clearly marked on the outside of the shipping carton.

Payment for shipping and handling, in U.S. funds, is \$20.00 and should be included. Your check or money order should be made payable to: Polk's Modelcraft Hobbies, Inc. Do not send cash. If your item is not covered by warranty service, you will be contacted and a repair estimate given before any work commences. Warranty covers manufacturer defects, not normal wear and tear.

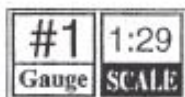
The shipping address to be used for returns is as follows:

Aristo-Craft Trains
Repairs Department
698 South 21st St
Irvington, NJ 07111

Phone: 973-351-9800
Fax: 973-351-9700
email: aristo@mindspring.com

Written confirmation of receipt of returned items will be sent with estimated repair time by the ARISTO-CRAFT TRAINS Customer Service Department.

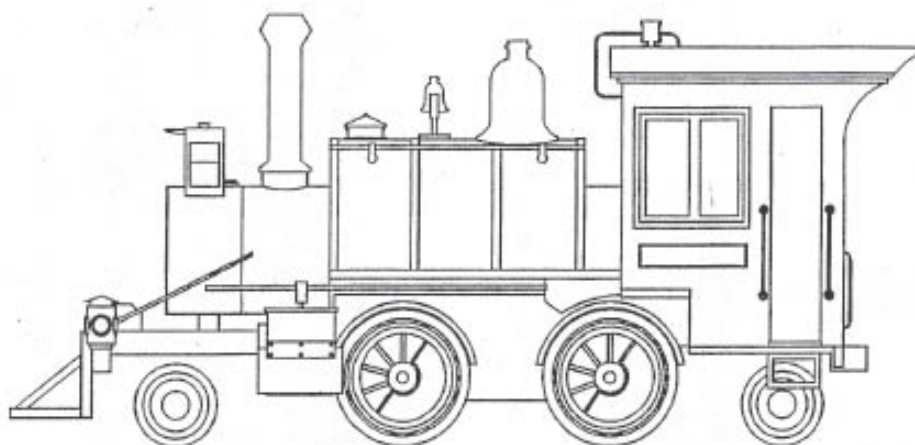
Call for proper shipping/handling if outside continental US



ROGERS 2-4-2 STEAM LOCOMOTIVE

INSTRUCTION MANUAL

ART-21000 - 01



ARISTO-CRAFT TRAINS

121597 NEW

Dear Model Railroader,

This item, the Rogers 2-4-2 Steam Locomotive, is a highly detailed #1 Gauge, 1/29 scale unit and is suitable for both indoor and outdoor operation. It is patterned after an engine constructed by the Rogers Locomotive Works, of Paterson, New Jersey, prior to 1900. The model closely follows the unique character of the prototype and features such fine details as solid brass handrails and grab irons, movable bell, cab detailing, working interior and exterior lights and a functioning smoke unit.

There are a number of features included in the Rogers, many of them working. Some of these features are:

- ★ Smoke Unit
- ★ Solid State Circuitry
- ★ Realistic Knuckle Couplers
- ★ Fully Sprung Lead and Trailing Trucks
- ★ Working Interior and Exterior Lights

Should you have any questions regarding operation, proper usage or maintenance required on this or any other Aristo-Craft product, please do not hesitate to contact us at the following address:

ARISTO-CRAFT TRAINS / Polk's Modelcraft Hobbies, Inc.

Aristo-Craft Trains
698 South 21st Street
Irvington, NJ 07111

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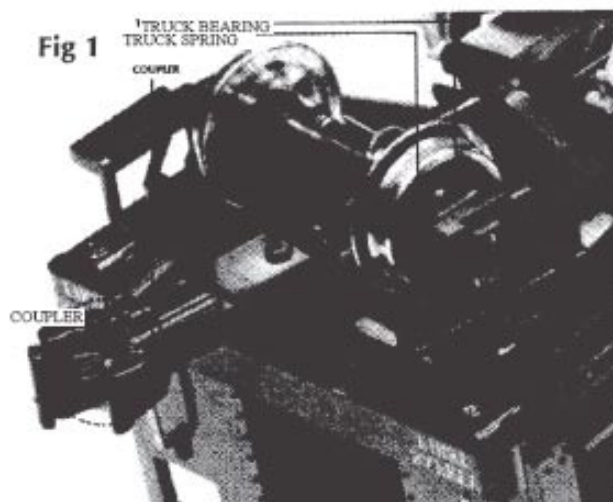
LEADING AND TRAILING TRUCK SPRINGS AND BEARINGS

The leading and trailing trucks on this model have springs just like the prototype. They have springs for equalization and act as shock absorbers to cushion the ride. (Fig. 1)

The truck bearings are designed to operate with little or no lubrication. If lubrication is absolutely necessary, use only a very small amount of a dry lubricant such as powdered graphite or Teflon applied to the ends of the axles where they enter the bearings (Fig. 1).

COUPLERS

This locomotive does not have a coupler on the rear, but is equipped with a draw bar as there is a tender attached. If it is desired that the locomotive operate without the tender, an Aristo-Craft Knuckle Coupler (ART-29200) may be substituted. This is easily done by unscrewing the single screw holding the draw bar to the truck and attaching the knuckle coupler using the same screw.



ELECTRICAL PICKUP

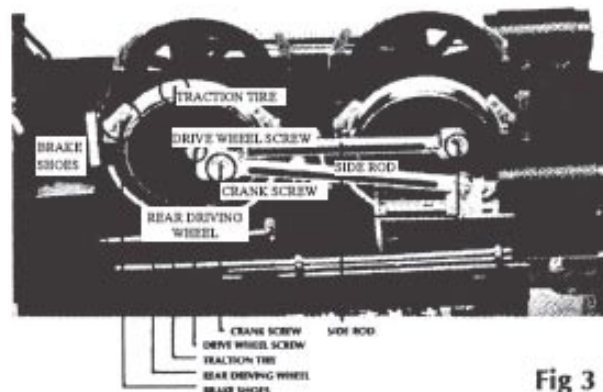
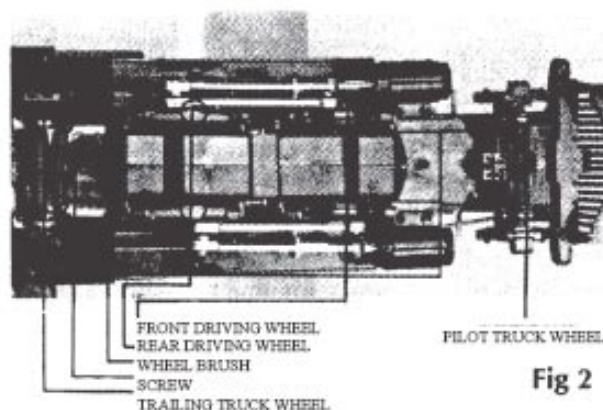
The wheels of this locomotive are designed for electrical power pickup and have been plated for good conductivity. After extended periods of operation, however, they will become dirty and will require cleaning in order to maintain good electrical contact. Aristo-Craft Smoke Fluid / Track Cleaner (ART-29601) applied with a clean

rag may be used to effectively clean the wheels.

Pressing against the backs of the wheels are small spring loaded carbon brushes which transfer the electric current from the wheels to the lights and motors. After prolonged operation it may be necessary to replace these brushes which is accomplished by the following instructions.

A) Leading and Trailing Trucks: Using a small Phillips screwdriver, remove the small screw that fastens the plastic brush holder to the truck frame. Remove the old brushes and replace them with new ones. Remember that these brushes are spring loaded. Reinstall the brush holder by reversing the above process. Be careful not to break the connections of the wires.

B) Driving Wheels: To replace the brushes on the driving wheels, it is first necessary to swing the brake shoes out of the way as shown in Fig. 3. Then, remove the side rods by removing the crank and the drive wheel screws (Fig. 3). Gently pull the drive wheel off of the axle, remembering that the brushes are spring loaded and may fly out if care is not exercised. Insert the new brushes and



springs and reassemble by reversing the above procedure.

TRACTION TIRES

The two rear driving wheels of this locomotive are equipped with traction tires to enhance the pulling power. These should be periodically checked for wear and replaced if necessary. To replace the traction tires, remove the drive wheel as outlined above. Remove the old tire by inserting a small, thin screwdriver under it and pull up and off. Now install the new traction tire and reattach the drive wheel.

DRIVE TRAIN

This locomotive is equipped with a unique drive mechanism designed to give greater pulling capacity and efficiency, even on rough or irregular track. Each pair of driving wheels has its own motor, gear train and sealed gear box. The gear boxes have been factory lubricated which should last indefinitely.

If it does become necessary to disassemble a sealed gear box, these steps should be followed:

A) Unscrew and remove the end retainer plates as

shown in Fig. 4.

B) Unscrew the connecting spacer (Fig. 4).

C) Slide the gear box out of the chassis until the power leads are exposed.

D) Disconnect the power leads.

E) Remove the driving wheels as outlined above.

F) The gear box is now free of the chassis and may be removed.

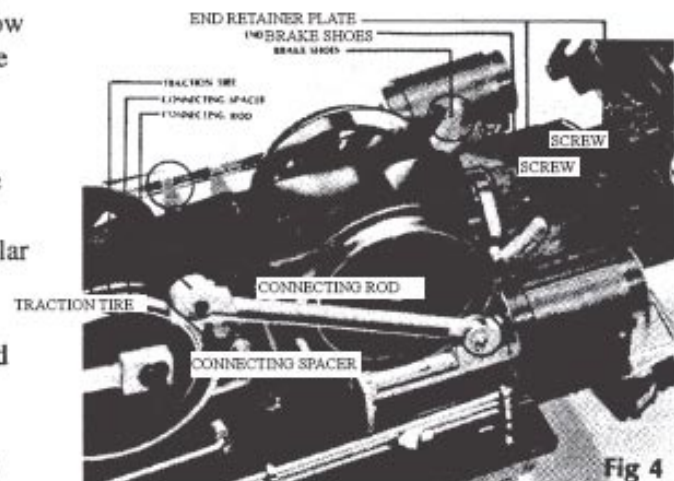


Fig 4

Under normal usage, lubrication of the driving axles should not be required. However, if it does become necessary to lubricate the item, it is not necessary to dismantle the locomotive. Merely turn the locomotive upside down and place one drop of Aristo-Lube Oil (ART-29603) on each axle between the wheel and the side of the gear box. After oiling the axles, run the locomotive for about ten minutes to allow the lubricant to work in.

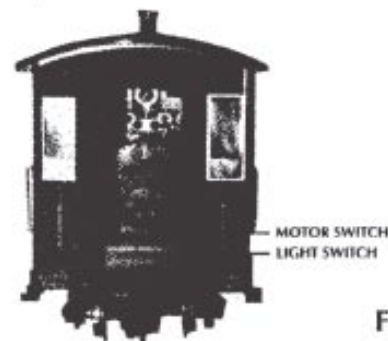


Fig 5

MOTOR, LIGHT AND SMOKE SWITCHES

The motor, lights and smoke units on this locomotive can be controlled (turned on and off) independently by using the three switches installed for this purpose. The motor and light switches are located on the fire box door inside the cab and the smoke unit switch is located inside of the round door in front of the boiler.

★ Motor Switch (up-on, down-off) – Located on the right side of the fire box door. (fig. 5)

★ Light Switch (up-on, down-off) – Located on the left side of the fire box door. (Fig. 5)

★ Smoke Switch (right-on, left-off) – Located inside of the round door in front of the boiler. (Fig. 6)

SEE PAGE 9 FOR UPDATED INFORMATION

SMOKE GENERATOR

This locomotive is equipped with a smoke generating smoke stack which produces a burst of smoke with each stroke of the piston. To operate this feature the stack must be filled with Aristo-Craft Smoke Fluid, ART-29601. Do not over fill. Use only 6 or 7 drops of fluid, poured down the opening in the center of the stack. Turn the smoke generator switch to the right or "on" position. This switch is located behind the round smoke box door in the front of the locomotive. This door may be opened by rotating the latch on the upper left of the door counter clock wise (Fig. 6). Never let the smoke unit run dry as it may cause it to burn out. If the locomotive stops smoking, stop and turn the switch to the "off" position unless the smoke fluid is refilled.

Should it ever become necessary to replace the smoke unit, simply pull up and unplug the stack and plug in a new stack. When installing the new stack, align the small port (the off center hole) in the base of the stack with the metal exhaust tube that protrudes from the smoke box (Fig. 7).

SEE PAGE 9 FOR UPDATED INFORMATION



Fig 6



Please note that this smoke unit will only work efficiently with full power to the track. We recommend the use of Aristo-Craft power packs equipped with "Pulse Width Control" (PWC). This is not pulse power. PWC keeps maximum current on the rails at all times, allowing track powered accessories to operate to their best degree.

LIGHT BULB REPLACEMENT

The bulb in the headlight can be replaced by first unscrewing the headlight housing and then the bulb. (Fig. 8). To replace the bulb in the cab, merely reach in and unscrew. The classification lights on the pilot beam are illuminated by light emitting diodes (LED's) and should last indefinitely.

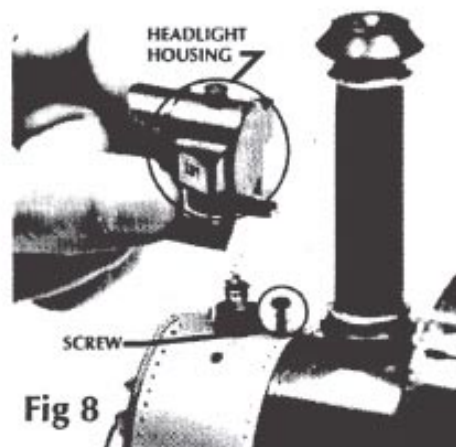


Fig 8

The Rogers (2005 Version) now has the ART29311 (SD45 type) Smoke unit replacing the older smoke unit as shown and explained on Page 7 of the manual. The instructions on Page 7 do not apply to the 2005 Version of the Rogers. Instead of following the Smoke Generator instruction on Page 7 follow the Smoke Unit instructions below.

The ART21000 Series 2-4-2 Rogers Steam Locomotive now has the ART29311 Prime Mover Smoke Unit common to the SD45, Dash-9, Mallet, Pacific, Mikado and other locomotives.

The Smoke Unit is located beneath the smoke stack, which is situated on the top of the boiler in the front of the locomotive. The power switch to turn the smoke unit on and off is located under the locomotive next to the fireman's side cylinder on the Main Mount Cover (Part #117 in the Exploded Parts Diagram). Push the switch to the forward position to turn the smoke unit on and push the switch to the rear position (towards the cab) to turn the smoke unit off.

To fill the smoke unit, remove the Smoke Stack (Part #34 in the Exploded Parts Diagram) and pour Aristo-Craft/CREST CRE-29601 Smoke Fluid down the smoke unit opening. Add 25 to 50 drops of smoke fluid to the smoke unit. Reinstall smoke stack and ensure smoke unit power switch is in the "On" position.

Note:

Smoke Unit will only work when the Motor Switch is in the "On" position.

CAUTION:

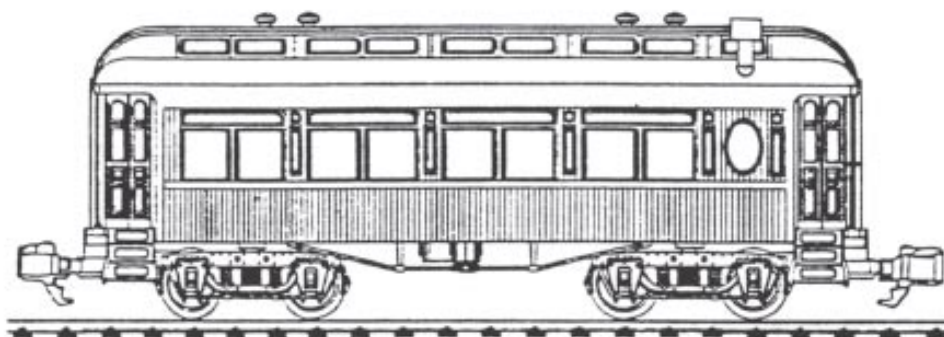
Do not turn the locomotive upside down or on its side when the smoke unit contains smoke fluid. Any smoke fluid may leak out of the locomotive. The fluid may be hot enough to cause injury.



SIERRA PASSENGER CAR COACH – COMBINE – OBSERVATION

INSTRUCTION MANUAL

ART 31000-01



ARISTO-CRAFT TRAINS

REV. 082494

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.

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.

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

WHEELS:

T1. 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.

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.*

Starter Set version may not include features listed in Steps 6 - 10C See Notes on Page 10

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 it 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.

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 separately 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.

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 aligning the protrusion on smokestack flange with notch on roof ring.

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

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 Sierra Passenger Car Exploded Parts Diagram/Parts List for part descriptions, part numbers, and prices.

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
Accessories, switch-track
individual freight cars\$10.00 US
railcars, tender, or Buildings

– 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.

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.

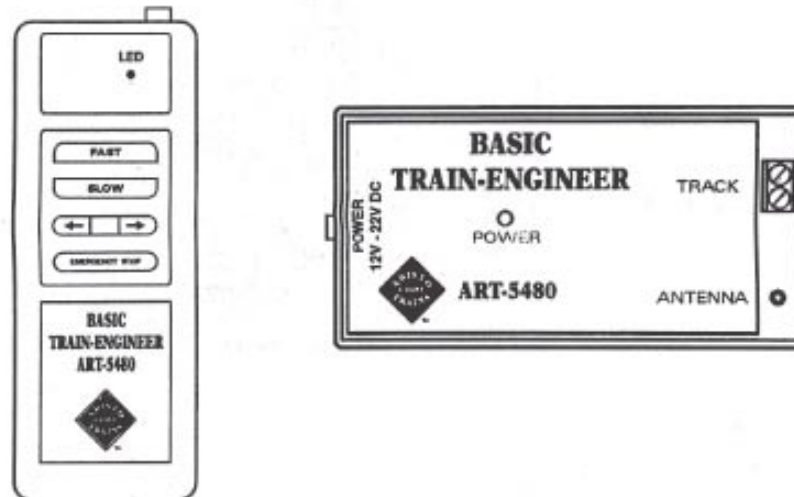
17A. Return product with foam insert in ORIGINAL Black BOX, AND pack product carefully in (another) corrugated cardboard box, FULLY INSURED and PREPAID. ARISTO-CRAFT TRAINS will not be responsible for any damage or loss incurred during return for servicing.

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.

BASIC TRAIN ENGINEER WALK-AROUND CONTROL SYSTEM

INSTRUCTION MANUAL

ART-5480 - 01



ARISTO-CRAFT TRAINS

090198 NEW

CRE-55480/ART-5480 BASIC TRAIN ENGINEER CONTROL SYSTEM

The Basic Train Engineer is a 2 piece set, consisting of the Transmitter (TX) and the Receiver (RX).

Specifications are as follows:

Transmitter (TX)

Frequency: 27MHz

Band Modulation: FM (Code Type)

Power Supply: 9 V Alkaline Battery (Internal)

Receiver (RX)

Frequency: 27 MHz

Type of Emission: FM (Code Type)

Input Voltage: 12 V – 22 V DC

Output Control Current: 2.5 AMP

Preparation of Transmitter 1) Use a Phillips-head screwdriver to remove the 2 recessed screws from the back cover. 2) Remove the back cover. 3) Install a 9V battery (Not included). 4) Remove the top left screw and attach the flexible antenna by inserting the screw through the wire loop at the end of the antenna. 5) Replace the back cover, allowing the antenna to protrude through the top.

Preparation of Receiver 1) Connect input wire to a DC power pack and turn the pack up to full. If the power light on the receiver does not light, change the direction switch on the power pack. 2) Connect the track to the receiver using the connector wire included (See the drawing). If you are using other than Aristo-Craft track, clip the round ends from the connector wire, strip the ends and attach the wire to the track terminals being used. 3) Uncoil and stretch out the antenna, being sure that it does not cross itself.

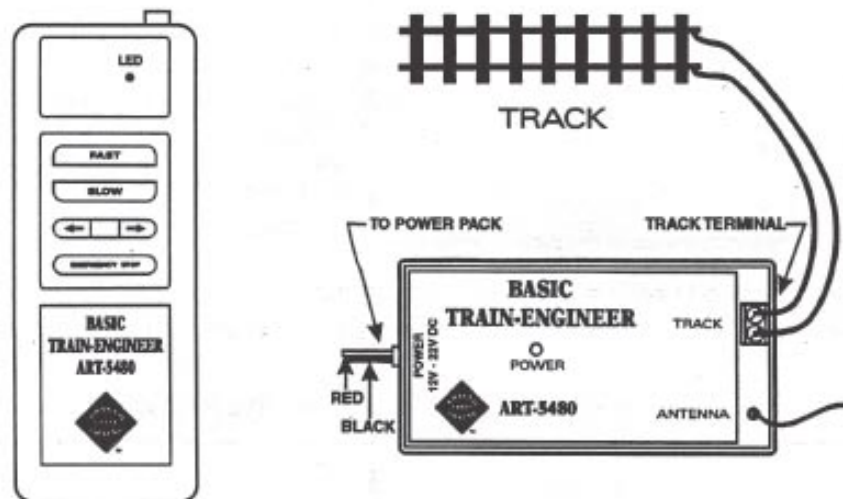
Operation This system has a "momentum function" built into the controls. This means that "jack-rabbit" starts and fast stops are eliminated. The trains will accelerate and slow down gradually, just like the real thing. If a fast stop is needed, press the "Emergency Stop" button on the transmitter and the momentum is overridden, causing a quick stop.

No programming is necessary to begin operation. Merely prepare the transmitter and receiver as above, press the "Fast" button and the train will begin to move.

Transmitter Button Functions Fast: Increases the train speed. Slow: Decreases the train speed. Left and Right Arrows: Changes the direction of the train. Emergency Stop: Stops the train quickly.

Caution

- 1) Do not operate more than 1 "G" scale locomotive. (2 AMPS max demand)
- 2) Do not apply AC power to the Train Engineer Receiver.
- 3) Do not connect any other power source to the track.



"This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference and (2) This device must accept any interference received, including interference that may cause undesired operation."

LIMITED WARRANTY

All ARISTO-CRAFT TRAINS products are under warranty for five (5) years from the date of purchase against defects in workmanship and/or materials. Proof of purchase *may be required* by ARISTO-CRAFT TRAINS.

This warranty is void and does not apply to any product and/or parts and components which have been improperly installed by the purchaser/owner, abused or damaged in any way through improper operation such as but not limited to derailment, repairs or modifications performed by non-authorized service centers or technicians.

SERVICING

Should your ARISTO-CRAFT TRAINS product require warranty service, please return it in the original box, if possible, protected by a proper shipping carton. Send the product fully insured and prepaid. ARISTO-CRAFT TRAINS will not be responsible for any loss or damage incurred during shipping. Be sure to include a brief, but thorough explanation of the problem, together with your name, street address (no Post Office box please), city state or province and country, if outside of the United States. Also include a daytime telephone number so that we may contact you if necessary. Your return address should be clearly marked on the outside of the shipping carton.

The proper payment for shipping and handling, in U.S. funds, should also be included as follows:

Locomotive or complete train set	\$26.00
Accessories, switches, track, freight or passenger cars, rail cars, tenders, etc.	\$10.00

CALL FOR CURRENT SHIPPING COSTS

Your check or money order should be made payable to: Polk's Modelcraft Hobbies, Inc. Do not send cash. If your item is not covered by warranty service, you will be contacted and a repair estimate given before any work commences.

The shipping address to be used for returns is as follows:

ARISTO-CRAFT TRAINS / Polk's Modelcraft Hobbies, Inc.

Customer Service Department

698 SOUTH 21ST STREET

IRVINGTON, NJ 07111

TEL: 973-351-9800

FAX: 973-351-9700

email: aristo@mindspring.com

Written confirmation of receipt of returned items will be sent with estimated repair time by the ARISTO-CRAFT TRAINS Customer Service Department.