



LIL' CRITTER DIESEL TRAIN SET

INSTRUCTION MANUAL

ART-28300 - 01

- ★ LIL' CRITTER DIESEL LOCOMOTIVE
- ★ 20' 4-WHEEL GONDOLA
- ★ BOBBER CABOOSE
- ★ CURVED TRACK (12)
- ★ POWER PACK - 1.8 AMP DC
- ★ TRACK TO PACK CONNECTOR WIRE



ARISTO-CRAFT TRAINS

052397 NEW

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

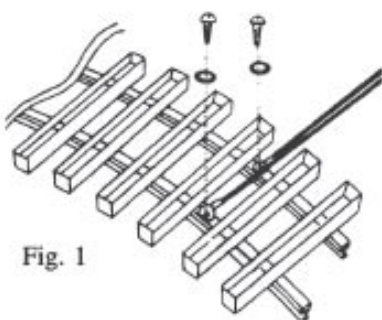


Fig. 1

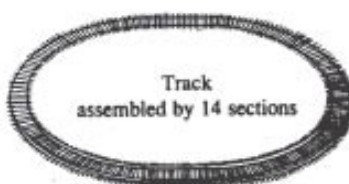


Fig. 2

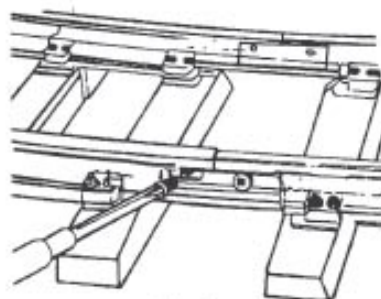


Fig. 3

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.

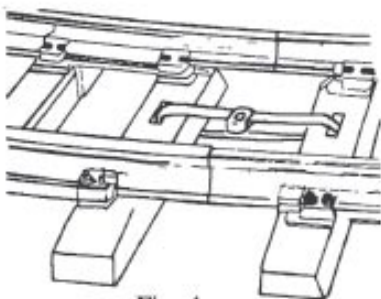


Fig. 4

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.

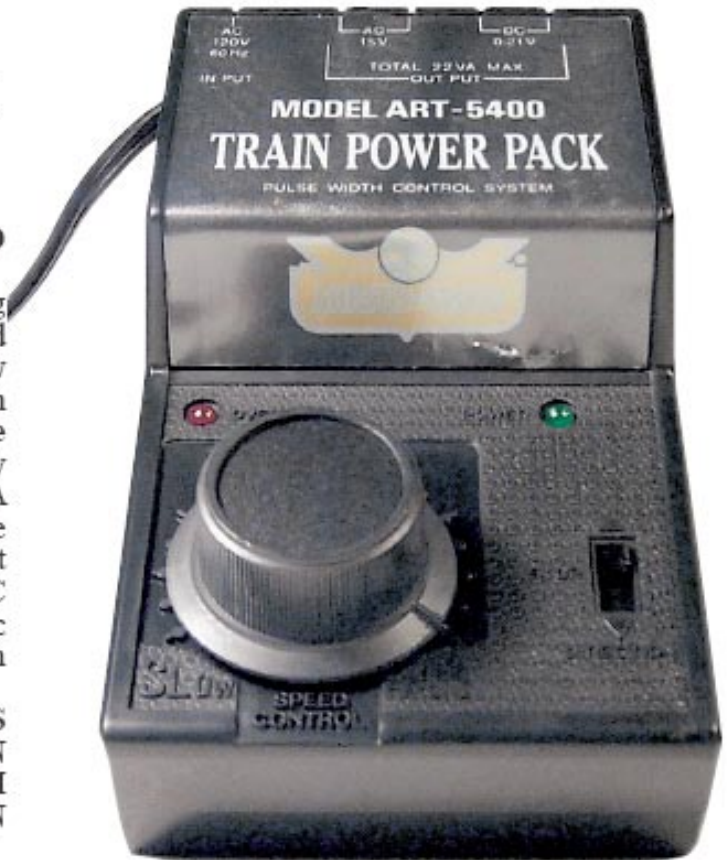
CRE-55400/ART5400 MODEL TRAIN POWER PACK INSTRUCTION MANUAL

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.

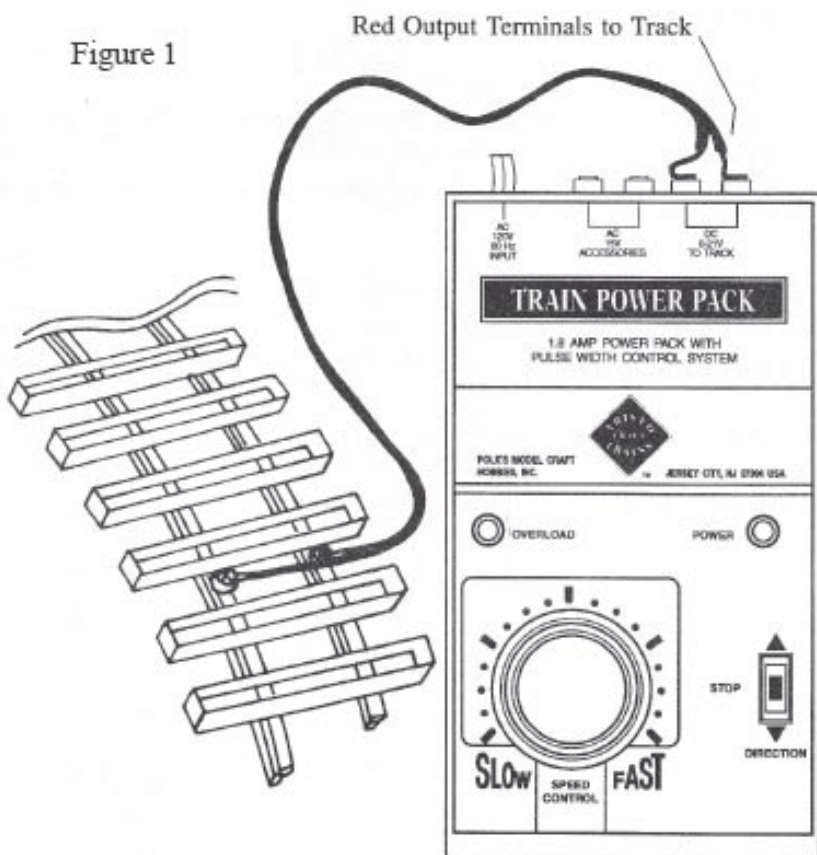
PLUG THE POWER PACK INTO A STANDARD 120V WALL OUTLET

- 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.

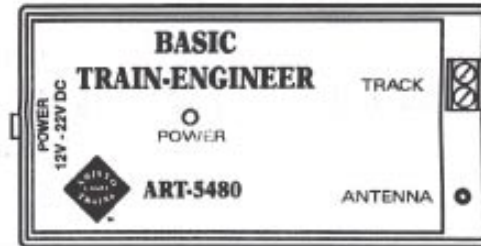
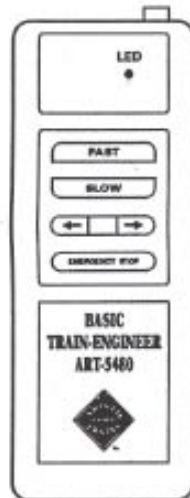
Call for proper shipping/handling if outside continental US

FOR SETS WITH BASIC TRAIN ENGINEER

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.

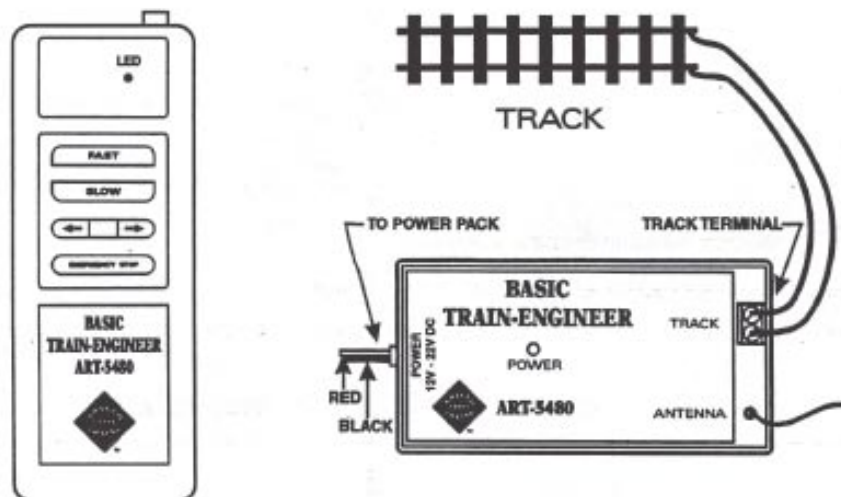
Operation This system has a "momentum function" built into the controls. This means that "jack-rabbit" starts and fast stops are eliminated. The trains will accelerate and slow down gradually, just like the real thing. If a fast stop is needed, press the "Emergency Stop" button on the transmitter and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

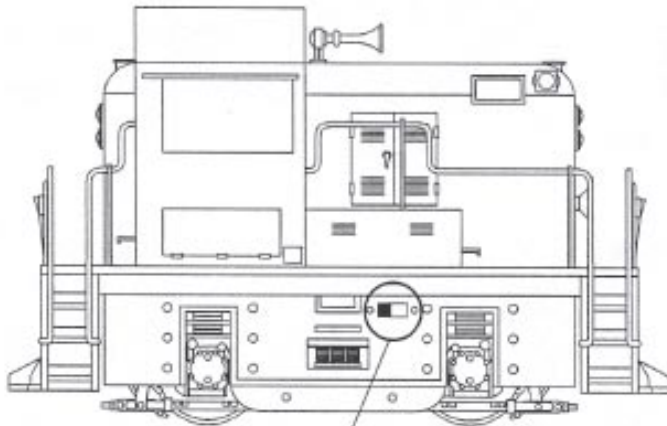
Caution

- 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."

LIL' CRITTER DIESEL LOCOMOTIVE



POWER
ON - OFF SWITCH

ARISTO-CRAFT TRAINS

Dear Model Railroader,

This locomotive, the Lil' Critter, is a highly detailed #1 Gauge 1/29th scale unit and is suitable for both indoor and outdoor operation. It has been designed and manufactured to our usual high specifications.

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:

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HISTORY

The Lil' Critter represents a popular type of diesel electric locomotive which was an economical answer to construction, industrial, and railroad switching in branch line service. It was the successor to the small steam switching locomotives which were commonly employed for these purposes.

The diesel electric switching locomotive is the ideal motive power unit for industrial purposes because of its low operating cost, high availability, smooth performance, reduced track and wheel wear and its ability to negotiate very short radii curves.

FEATURES

This unit has the following features which make it look and operate in a superior manner:

- Modular electrical connections
- Modular carbody and power unit assembly
- Ball bearing axles and gear case
- Lighted front and rear headlights
- Lighted number boards
- Interior cab lighting

electrical pick up and possibly electrical flashover which may cause discoloring of the affected surfaces of the wheels and/or track.

A good indication that the wheels require cleaning is the flickering of the lights. To clean the wheels properly, remove the locomotive from the tracks and turn it upside down to expose the metal wheels. Use ARISTO-CRAFT Smoke Fluid/Track Cleaner (ART-29601) applied with a clean, soft rag to clean the accumulated dirt and grease from the metal wheels. DO NOT use abrasives as the resulting grit may enter the motor and gearing and cause operational problems.

DRIVE TRAIN

The Lil' Critter, as well as all other ARISTO-CRAFT diesel locomotives, is equipped with a unique drive mechanism that allows greater pulling power and smoother operation than other, similar locomotives. Each axle (pair of wheels) is articulated and independent from the other axle in the power unit. Each axle can move vertically and horizontally without affecting operation of the other paired axle. This allows for better adhesion and electrical contact on switches and especially on rough or uneven track.

The power unit gearbox has been lubricated at the

Interior cab detail - including the engineer

Front and rear operating AAR knuckle couplers

Solid metal handrails

Clear plastic window glazing installed

Crisp painting and lettering

OPERATION

Because of the extremely short wheel base, this locomotive will operate on very sharp curves. It is important, however, to be sure that the freight cars being pulled will negotiate the same radii without derailling. Be sure that the molded air hoses on the front and rear pilots do not interfere with the knuckle couplers.

WHEELS

The metal wheels have been designed for good electrical power pick up. Specially plated to insure good electrical conductivity, corrosion resistance and extended wear, the wheels will give normal service during the life of the Lil' Critter locomotive.

Over a period of time, however, these wheels may require cleaning. Dirty metal wheels will cause sporadic

factory with a new, high-tech lubricant, which, under normal operating conditions should last indefinitely, eliminating the need for periodic gearbox maintenance. However, if the unit is subject to heavy and continued usage, you may lubricate using ARISTO-CRAFT No. ART-29602, a high temperature, oil based paste. Use only a very small amount of lubricant. It will be necessary to disassemble the power unit to access the gears and shafts for lubrication. **Note:** Allow only a factory authorized ARISTO-CRAFT TRAINS repair technician to perform any repair, otherwise, the warranty may be voided.

To gain access to the power unit and gearboxes for inspection, maintenance or repair, follow the below steps:

- 1- Turn the locomotive upside down and remove the outer side skirts and side frames.
- 2- Remove the six (6) screws which hold the power unit together. There are four screws in the bottom half and two (2) in the top. The cover may now be removed, exposing one fixed axle with its gear and worm, and one floating axle with its enclosed gear box. The exposed worm and gear may be lubricated without any further disassembly. The floating axle, however, has an enclosed gear box which must be opened for inspection or lubrication. Gently pull the wheel and gear box assembly up and away from the motor. Once detached, the four

(4) screws in the gear box are to be removed and the cover opened for maintenance or repair.

3- To remove the motor, first unsolder the wire leads, but be sure to note which color is attached to either terminal of the motor. Lift the motor up to remove. When re-installing the motor, the wires must be soldered to the same terminal from which they were detached.

4- After maintenance or repairs have been completed, reverse the above sequence to reassemble the gear box and power unit.

LIGHTING

The Lil' Critter industrial diesel locomotive is equipped with operating front and rear directional headlights, lighted number boards and an interior cab light. The lighting includes two (2) bulbs and four (4) LED's. The number boards are lit with one (1) bulb, as is the cab interior. The headlights contain two (2) LED's each.

To gain access to the interior in order to service the lighting, first turn the locomotive upside down and remove the screws that hold the hood and cab in place.

- 1- Remove the ends of the railings from the cab.
- 2- Gently pull the hood away from the frame being careful with the wiring. Disconnect the modular plug and

set the hood aside.

3- Pull the cab away from the frame, disconnecting its modular plug.

4- All of the lighting units are now accessible for maintenance or repair.

COUPLERS

This locomotive is equipped with prototypically accurate, operating knuckle couplers. These couplers are factory installed on both the front and back of the locomotive. They may be operated manually by pressing upward on the small tab below each coupler assembly. Automatic uncoupling may be accomplished by using an LGB designed uncoupling device (*LGB is a trademark of the E.P. Lehman Company, Germany*).

The Lil' Critter uses coupler No. ART-29200, which is common to all ARISTO-CRAFT TRAINS. Do not confuse this coupler with the very similar coupler used only on the ARISTO CLASSICS items, No. ART-89200. While both styles of couplers look very similar, they are in fact not the same, and use different component parts and may not operate together automatically.

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.

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.

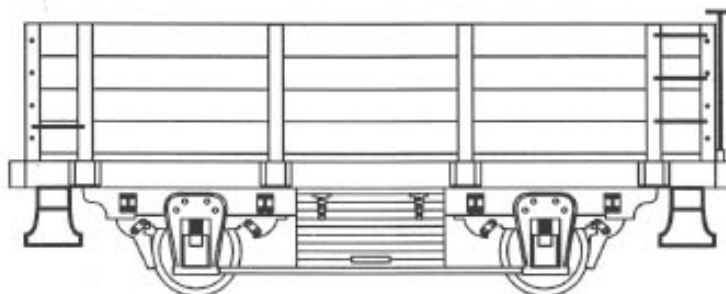
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Customer Service Department
698 South 21st Street
Irvington, NJ 07111 USA
Tel: (973) 351-9800

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

20 ft. 2-Axle GONDOLA

INSTRUCTION MANUAL ART-42000 - 01



ARISTO-CRAFT TRAINS

052397 NEW

UNDERFRAME

The side frames are molded of a thermal plastic which faithfully reproduces all of the details for these and the journal boxes.

The suspension on this model is designed exactly like a prototype 4 wheel freight car and uses springs in each journal for equalization and to act as shock absorbers to cushion the ride.

COUPLERS

This freight car is equipped with prototypically accurate, operating knuckle couplers. They may be operated manually by pressing upward on the small tab below each coupler assembly. Automatic uncoupling may be accomplished by using an LGB designed uncoupling device (*LGB is a trademark of the E.P. Lehman Company, Germany*).

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 lifting one closed coupler and inserting it into the closed knuckle of the ARISTO-CRAFT TRAINS coupler.

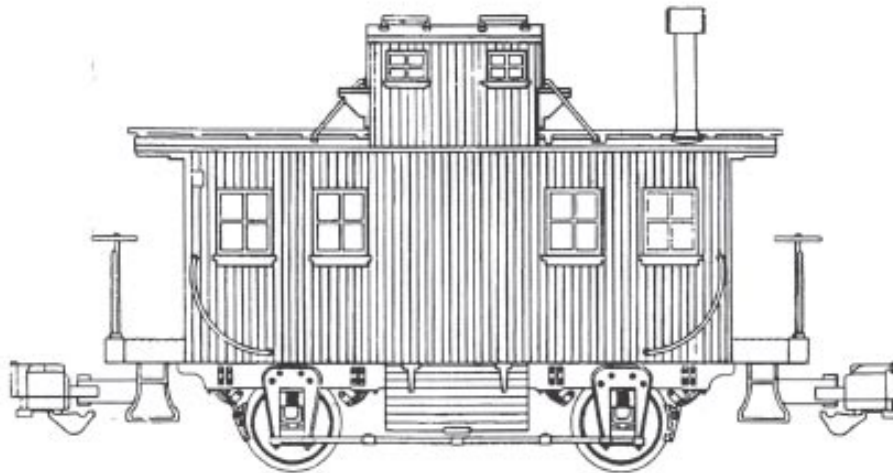
Loop style couplers are enclosed for those who wish to install and use them. Make the conversion by removing the single screw that holds the knuckle coupler to the underframe and attaching the loop style couplers with the same screw.



BOBBER CABOOSE

INSTRUCTION MANUAL

ART-28300 - 01



ARISTO-CRAFT TRAINS

052397 NEW

The **BOBBER CABOOSE** is based upon a 4-wheel Wooden Caboose of the mid-1800's to early 1900's era. Actual prototype examples of this type caboose are on display at various Railroad Museums in North America.

WORKING FEATURES: Operating AAR-design knuckle couplers. Detailed caboose underframe with sprung axles.

EXTERIOR DETAILS: Simulated Brass-color plastic Grab Railings. Simulated WOOD-GRAIN sides, ends, and walkways. Full Underframe. Clear Plastic Windows with brightwork trim. The axles/wheelsets on this model are designed exactly like the prototype **BOBBER CABOOSE**, and uses springs for equalization to act as a shock absorber and cushion the ride.

UNDERFRAME: The underframe unit is molded of a thermal plastic which reproduces all side and journal box detailing.

COUPLERS

This caboose is equipped with prototypically accurate, operating knuckle couplers. They may be operated manually by pressing upward on the small tab below each coupler assembly. Automatic uncoupling may be accomplished by using an LGB designed uncoupling device (*LGB is a trademark of the E.P. Lehman Company, Germany*).

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 lifting one closed coupler and inserting it into the closed knuckle of the **ARISTO-CRAFT TRAINS** coupler.

Loop style couplers are enclosed for those who wish to install and use them. Make the conversion by removing the single screw that holds the knuckle coupler to the underframe and attaching the loop style couplers with the same screw.

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

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

Locomotive or complete train set	\$26.60
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.

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