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## Instruction Manual - D&RGW C-16 Electric



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**D&RGW C-16**

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Thank you for selecting ACCUCRAFT TRAINS for your large scale modeling. Depending on your purchase, your selection is an accurate scale model of the Denver & Rio Grande old or modern version of C16 2-8-0 locomotives. Your ACCUCRAFT Model is crafted in brass and is a precision piece of equipment. Like all fine equipment it must be properly maintained and cared for.

The "C16" is one of the most famous narrow gauge locomotives of the Far West. For decades, the highly successful 2-8-0 Consolidation Class was the "standard motive power" of the narrow gauge railroad.

Every version of the "C16" is built to exacting standards from carefully researched plans and prototype measurements. All models are completely constructed with brass and stainless steel. Pittman gearhead motor is used to power this model. Gears are fabricated from steel. Each "C16" is meticulously hand painted and lettered to museum-quality finish.

Total production volume is very limited, and each unit is serially labeled on the bottom of each locomotive.

### ***Technical Specifications:***

Scale/Gauge:	1/20.3, 45 mm Gauge
Total Weight:	7.2 Kg, 15.9 lbs.
Length:	746 mm, 30 ins.
Width:	118 mm, 4.9 ins.
Height:	182 mm, 7.5 ins.
Driver Wheels:	Dia. 45 mm, 1.8 ins.
Minimum Radius:	0.76 M, 30 ins.
Power:	0v-24v DC Pittman Gearhead Motor
Features:	Constant Lighting Sound Ready





## General Information

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### *General information about your "C16"*

- Accucraft scale couplers are compatible with Kadee #835 couplers.
- Model is powered by Pittman DC gearhead motor, GM8712-31.
  - Peak voltage 19.1V
  - Gear ratio 60.5:1
  - Peak rated output torque 100 oz-in
  - Output shaft stall torque 202 oz-in
- Helical gear transfer box
- Tender trucks pickup both tracks

### *The following parts are packaged separately*

- M3 hex head screws
- 3mm hex head screw driver
- Whistle and rope
- Pilot (on some models)
- Cab. window shades (on some models)

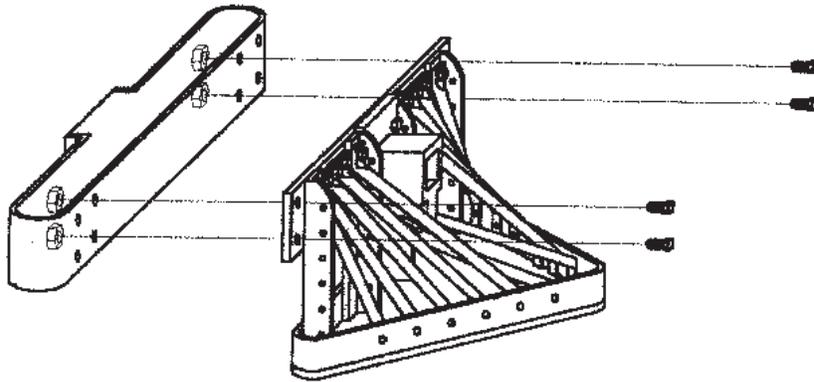




## Pilot Installation (if needed)

To avoid potential shipping damage, some pilots are moved from the model and installation is required.

You should find a C16 pilot, hex-head M3 screws, and a hex-head screw driver inside the packing box. The pilot is attached to the front bumper with four hex-head M3 screws (drawing below). Be careful when using the screw driver as the paint can be scratched easily.



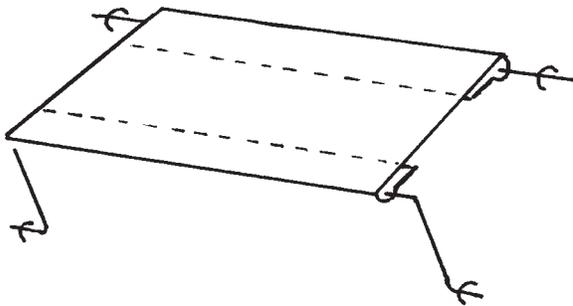


## Cab. Window Shade Installation (if needed)

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Window shades are provided with your C16 model. To Install:

1. Cut the provided paper cloth to proper width (must be smaller than the window shade bracket)
2. Decide the length of shade
3. Cut the paper cloth to the length of shade + 10mm
4. Fold 5mm on each end of the paper cloth
5. Glue the edge of paper cloth with the frame wire in place
6. Paint the shade with dark gray or canvas color
7. Install the shade assembly to the cab. window





## Maintenance Instructions

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### *Tools you will need for maintenance*

- 1.5 mm allen wrench
- 3 mm hex wrench (Included)
- Flat head crew driver

### *Lubrication*

Lubricants: always use quality lubricants!

Light oil such as Labelle #108 or Whal Clipper Oil

Heavy lubricant such as Labelle #102 heavy gear oil or Label grease

Prepare the engine for lubrication by placing the model gently on the work surface on a piece of foam sheet or soft towel to protect the locomotive finish. The engine should be on its side. Be careful to keep lubrication off the painted surfaces as this causes shiny areas.

1. First lube the bushings on the driver journals with a small amount of heavy lube oil. The oil is easily applied with a wood tooth pick.
2. Next lube the U-Joints and tender journals with light machine oil.
3. Next lube the CRANK SHAFT JOURNALS, MAIN ROD BEARINGS AND CROSSHEAD with light machine oil.
4. THE MAIN GEAR BOX IS LUBRICATED IN THE FACTORY. NO LUBRICATION IS NECESSARY WHEN YOU RECEIVE YOUR MODEL. To lube the main gear box, remove the cover of the gear box carefully (make sure you familiarize your self with the position of all parts). Place the screws in a small container to prevent loss. Grease the gearing and shaft bearings generously. Replace the cover exactly the way it was when you started.

It is a good idea to wipe off all excess light oil when you complete the lubrication process.

You have now completed the lubrication of your Accucraft "Consolidation".

**THIS LUBRICATION SHOULD BE REPEATED EVERY 25 HOURS OF OPERATION!**



## Operation

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After following the recommended lubrication procedures your "C16" is ready to provide many years of reliable operation. We recommend that you use a D.C power supply with a capacity of 2.5 amps or larger. Always pick your model up by grasping it under the frame on both ends. It is a very heavy model so make sure that you grasp it firmly.

### - ***Electrical Pickup***

The C16 model is powered by the DC voltage off the track through the engine and the tender. All C16 drivers are insulated on the left side of the locomotive, and the electricity is picked up on the right side. The tender is the opposite of the engine, and provides the opposite DC voltage. Track power is connected to the constant lighting circuit and Pittman motor. The constant lighting circuit powers the front and rear headlights on some models. The constant voltage is set at 6V and the circuit board is located in the smoke box. Access the circuit board in inside the smoke box door. Please note that engine and tender will short out the circuit if they come in contact. The engine and tender connecting bar is insulated.

### - ***Smoke unit (not included)***

A smoke unit may be Installed in the barrel of the smokestack. Connect the wires to the wires that connect the lighting unit inside the front of the smoke box. The lighting unit is connected to the main wiring via push on connector. An on-off switch should be installed to enable the unit to be turned off when not in use or when there is no fluid in the unit. The smoke unit will burn out if left on with out fluid. Access to the wiring is inside the smoke box door.

### - ***Sound Installation (not included)***

Phoenix and Sierra provide sound units for this model. Please contact them for installation directions. The C16 tender has a speaker opening that will fit an 3" speaker.

### - ***General maintenance***

Clean the exterior surfaces of your locomotive with a clean, soft and lint free cloth. To remove stubborn soil or greasy spots from the painted surfaces use alcohol on a soft, lint free cloth.

