



AMERICANA

1717

SAVING THE WORLD... AND LOVING IT.



GET SMART

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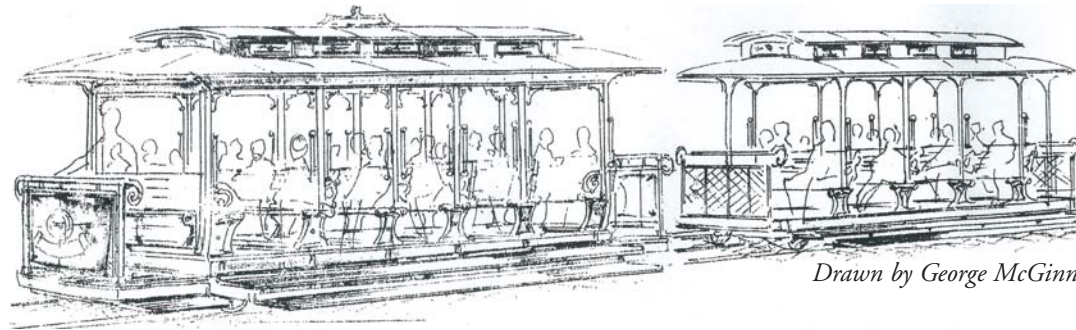
DREAMWORKS
KUNG FU
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PANDA
BEGINS

Gomaco Trolley Company

Manufacturers of Authentic Trolley Cars



BATTERY-POWERED, SEVEN-BENCH, OPEN-STYLE TROLLEY WITH FIVE-BENCH, NON-POWERED TRAILING CAR

Gomaco Trolley Company, in Ida Grove, Iowa, began building trolley cars in 1982 when the company received its first contract from the United States Department of the Interior. The contract called for the construction of two open-style double-truck electric trolley cars. Historical accuracy and attention to detail were key factors in the production of the trolleys. They were to be built as replicas of the J.G. Brill trolley, the 1597 to 1600 series trolley, built in 1902. In 1984, the trolleys were delivered to Lowell, Massachusetts. In 1987, a third car was delivered to Lowell. It was the first closed-style double-truck trolley car built in the United States since the early 1900s.

The success of those three trolleys has led to others of differing trolley styles

all across the United States, including: Denver, Colorado; Little Rock, Arkansas; Mount Pleasant, Iowa; St. Louis, Missouri; Memphis, Tennessee; Philadelphia, Pennsylvania; Charlotte, North Carolina; Tampa, Florida; and Fresno, Glendale and Los Angeles, California.

The Glendale trolley is a seven-bench, open-style trolley that is battery-powered and self-propelled. It was named Car Number 1717, the numbers relating to the birthdays of the owner's sons.

The second part of the contract included building a five-bench, non-powered trailing car to be towed by #1717. The trailing car was named GiGi, after a beloved grandmother, and was designed at a smaller scale for a child-friendly atmosphere.

The bright, richly colored and ornate cars were conceptionally drawn by George McGinnis. Mr. McGinnis has the honor of being the last Imagineer hired by Walt Disney, himself. Mr. McGinnis' designs bring out the best aspects of vintage trolleys, from highly polished brass fixtures, to stained glass panels, to new modern features which included a hideaway wheelchair lift.

His ideas and technical drawings were shared with the technicians and master builders at Gomaco Trolley Company. and his drawings became reality.

Both Trolley Car #1717 and GiGi are currently running the rails in Glendale, California.

The beautiful and ornate cars reflect the style of the very first Gomaco trolleys

made for Lowell, Massachusetts in the early '80s.

The success of the trolley and trailing car in Glendale prompted the owner to contact Gomaco Trolley Company again. This time for a refurbishing project for a double-decker trolley. Trolley #1759 was totally repainted, all of the original woodwork refinished, new flooring and steps were installed, new brass handrails were built, the controls rewired and replaced with the same Gomaco K35G controller as the car in Glendale, and the PCC trucks were repowered with the appropriate traction motors.

Car #1759 is once again a glossy and beautiful trolley car carrying passengers at its home in Los Angeles, California.

DOUBLE-TRUCK, BATTERY POWERED/SELF PROPELLED TROLLEY:

CAR NAME: #1717.

LENGTH: 33.5 feet.

WIDTH: 10.5 feet.

HEIGHT: 13 feet.

WEIGHT: 37,000 pounds.

SEATING CAPACITY: 42. Seven bench seats with six people per bench.

PAINT: Multi-coat, stenciled, hand-painted 10 coat base and clear coat process. Colors: Burnt Orange, Bonfire Flame (dark orange), Terra Cotta (red), and Metallic Gold.

FLOOR: Tongue-and-groove solid cherry wood.

CEILING: Tongue-and-groove cherry with solid cherry ornate trim.

Bench Seats: Roll-over style with alternating oak and cherry hardwood.

ROOF: Plywood construction with fiberglass shell and canvas cover.

CLERESTORY GLASS: Stained glass panes designed and built by James Thomas Stained Glass of Studio City, California.

SOLID BRASS:

- ♦ Ornate hand grab made in-house from sand-casted mold.
- ♦ Seat roll-over component.
- ♦ Seat end fixture.
- ♦ Corner braces.
- ♦ Conductor bell.
- ♦ Vertical grab rails.

STEPS: Fixed, solid cherry wood.

LIGHTS:

- ♦ 1200 decorative global accent lights.
- ♦ Steps illuminated for safety.
- ♦ Lighted destination sign.
- ♦ Brass fixture, interior lights with decorative globe. Ceiling mounted.
- ♦ Brass headlamp.
- ♦ Carriage lights.
- ♦ Tail lights.

HIDEAWAY WHEELCHAIR LIFT: Ricon cartridge lift. Retreats under the vehicle.

SIGNAL BELL: Electronic, push-button for pedestrian warning.

CONDUCTOR BELL: String-pulled clanger for conductor communications.

INTERIOR ADVERTISING PANEL.

RUNNING GEAR: Reconditioned Milan trucks. Standard gauge 56.5 inches.

26 INCH STEEL TIRES.

BRAKES:

- ♦ Electromagnetic rail brakes for emergency stop.
- ♦ Hydraulically-powered friction brakes with composite shoes.
- ♦ 24-volt hydraulic brake pump.
- ♦ Regenerative braking- energy capture for recharging.
- ♦ Full dead-man integration at all four operator locations (including trailer). If operator becomes incapacitated, the car automatically stops.
- ♦ Emergency stops located at 4-points.

FOUR (4) 25 HORSEPOWER GE MOTORS.

FRAME: GOMACO engineered. Steel construction. 1.5g strength.

BATTERY PACK: 30 lithium-phosphate, maintenance-free batteries produce 400 vdc. Performance specifications were five miles per hour for five hours, one hour mid-charge, and then another five hours running. Maximum grade was two percent. Currently achieving nine hours of operation out of one charge. Batteries capable of 2500 charge cycles.

CONTROLS: K35G IGBT controller and PLC system management for speed and power consumption. System diagnostics recording for troubleshooting analysis and documentation.

FIVE-BENCH, NON-POWERED TRAILING CAR:

CAR NAME: GiGi.

LENGTH: 22 feet.

WIDTH: 9 feet.

HEIGHT: 12 feet.

WEIGHT: 20,000 pounds.

UNIT IS DESIGNED SMALLER FOR CHILD-FRIENDLY ATMOSPHERE.

SEATING CAPACITY: 30. Five bench seats with six people per bench. Seats are fixed forward.

STEPS: Fixed, solid cherry wood.

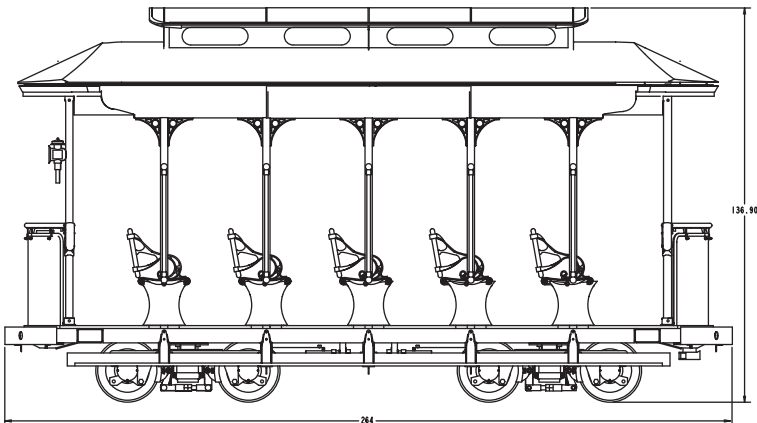
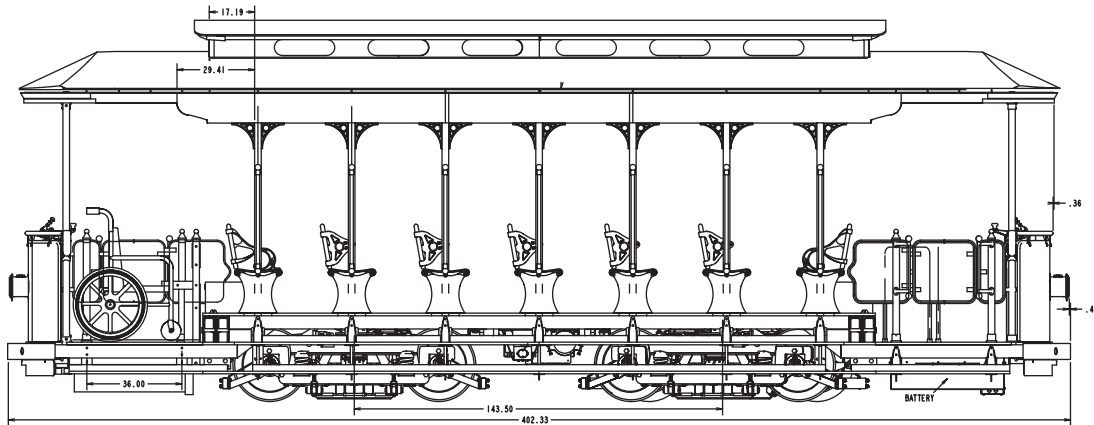
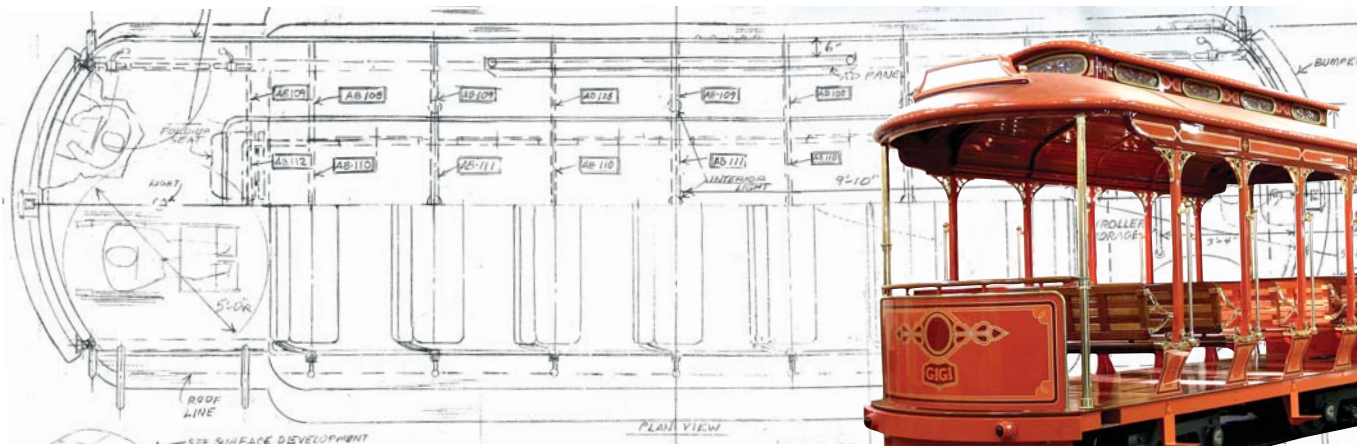
Hydraulically powered friction brakes with composite shoes, integrated with main car.



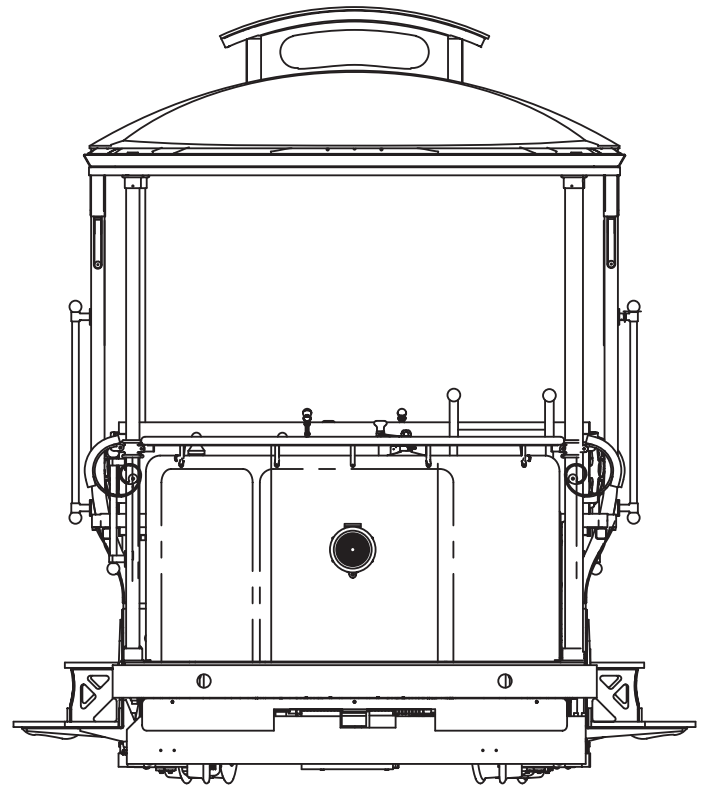
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A GREEN SOLUTION FOR PUBLIC TRANSPORTATION SYSTEMS— Trolley Car #1717 is powered by 30 lithium-phosphate maintenance-free batteries. Each battery is half the weight of similar-sized lead acid batteries, but delivers twice the run time. The trolley is able to run nine hours on a single charge. The trolley is an eco-friendly solution for efficiently transporting people around the trolley's 15.5 acre home in Glendale, California.





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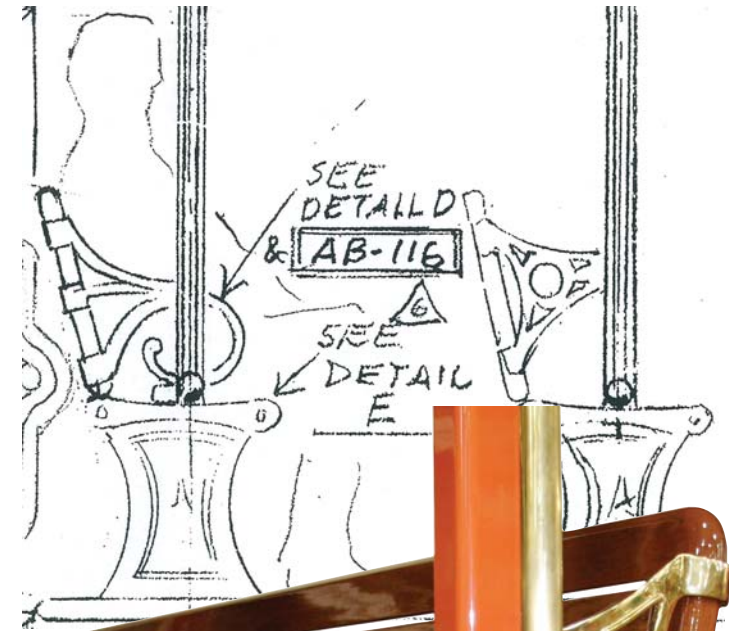
350 YEARS OF TROLLEY-BUILDING EXPERIENCE—

Woodworking is a craft taken very seriously at Gomaco Trolley Company.

Woodworking techniques that have been used for hundreds of years are still used in the wood shop at Gomaco Trolley. They sit alongside modern woodworking equipment, creating a truly unique blend of old and new style. Gomaco Trolley's craftsmen create the beautiful, hand-made woodwork. They are a group of highly skilled technicians with over 350 years of combined trolley-building experience.

Only the finest quality lumber and woods are used in a Gomaco Trolley. Trolley Car #1717 and GiGi use cherry and oak woods. The roll-over style bench seats alternate oak and cherry hardwood. The ceiling is tongue-and-groove cherry with an ornate, solid cherry trim. The floor is solid cherry wood, constructed using the tongue-and-groove style. The steps are also built from solid cherry wood, combining and blending together the inside and the outside wooden elements of the trolley cars.

Each of the wood elements is built by hand, sanded, stained, and then finished to a high, glossy shine showcasing the beauty and the grain of the premium lumber.



OF-040819 D17

Oak and cherry wood bench seats.



OF-040819 D7

Tongue-and-groove cherry wood ceiling.



OF-040822 D2

Fixed steps built from solid cherry wood.



OF-050826 D2



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IDA GROVE
YEAR
SERIAL

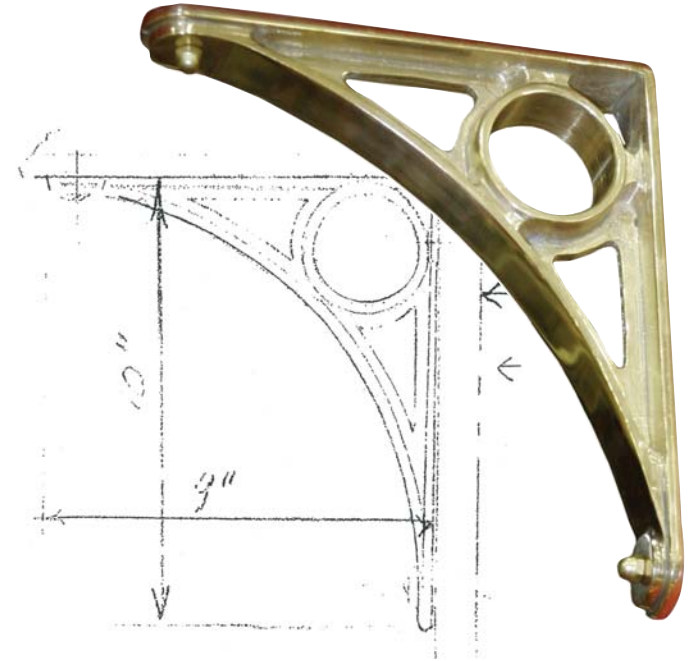
CUSTOM-BUILT PARTS FROM GOMACO'S TROLLEY FOUNDRY –

The clear, resounding “clang, clang” of the trolley’s solid brass conductor bell signals to passengers, motorists, and passers-by that a trolley is running the rails and making its stops. The string-pulled bell with clanger is one of the most unique aspects of a trolley and every one of Gomaco’s conductor bells is hand-casted to create its own unique sound. It’s just one of many hand-crafted brass pieces adding to the elegance and charm of a Gomaco trolley.

Gomaco Trolley has its own in-house brass foundry to create any variety of authentic brass parts using a sand casting process. The design of the part can be provided by an engineer or a designer, or our talented craftsmen can recreate the piece simply using old photographs.

The casting process combines old world processes with modern day technology. It involves a certain amount of chemistry, mathematic equations, careful mold construction, attention to detail, and care in creating a beautiful brass piece while ensuring the safety of the artisan doing the casting as they work with the molten brass.

Custom-built brass pieces on the seven-bench, open-style trolley and the five-bench, non-powered trailing car include ornate hand grabs, seat rolover components, seat end fixtures, corner braces, conductor bell, vertical grab rails and the brass plates proudly bearing the name and address of Gomaco Trolley Company, Ida Grove, Iowa.



Solid brass conductor bell.



Custom-designed, ornate hand grab.



Solid brass fixtures on #1717.

Custom-designed, ornate hand grab.

OF-040821 D12

OF-040820 D17

OF-040818 D18

OF-050830 D5



LIGHTING THE WAY FOR PEDESTRIAN AND PASSENGER SAFETY—

Thousands of feet of electrical wiring go into a Gomaco trolley to provide the power for both essential and decorative lighting elements. Gomaco Trolley electricians carefully graph and plot out each piece of wiring to ensure maximum conduction and total compliance to the electrical standards and specifications.

Lighting features on Trolley Car #1717 and GiGi include both the necessary and the whimsical. The steps are illuminated so passengers can easily see them as they get on or off the trolley. A lighted destination sign illuminates the trolley's stopping point. A brass headlamp lights the path for the trolley conductor while tail lights alert vehicles and pedestrian traffic of trolley stops. Dazzling light shines through the clear glass panels of the carriage lights mounted on each side of the conductor's platform.

Interior lights are ceiling mounted with a brass fixture and decorative, frosted-glass globe. One thousand two hundred decorative global accent lights line the outside of the trolley, adding a touch of fun and whimsy to its night-time look.

Also electronically powered is the push-button signal bell, which serves as a pedestrian warning.



Brass head lamp.



Decorative, global lights, all 1200 of them, light the trolley's exterior.



Ceiling-mounted interior lights with frosted globes.



Carriage lights.



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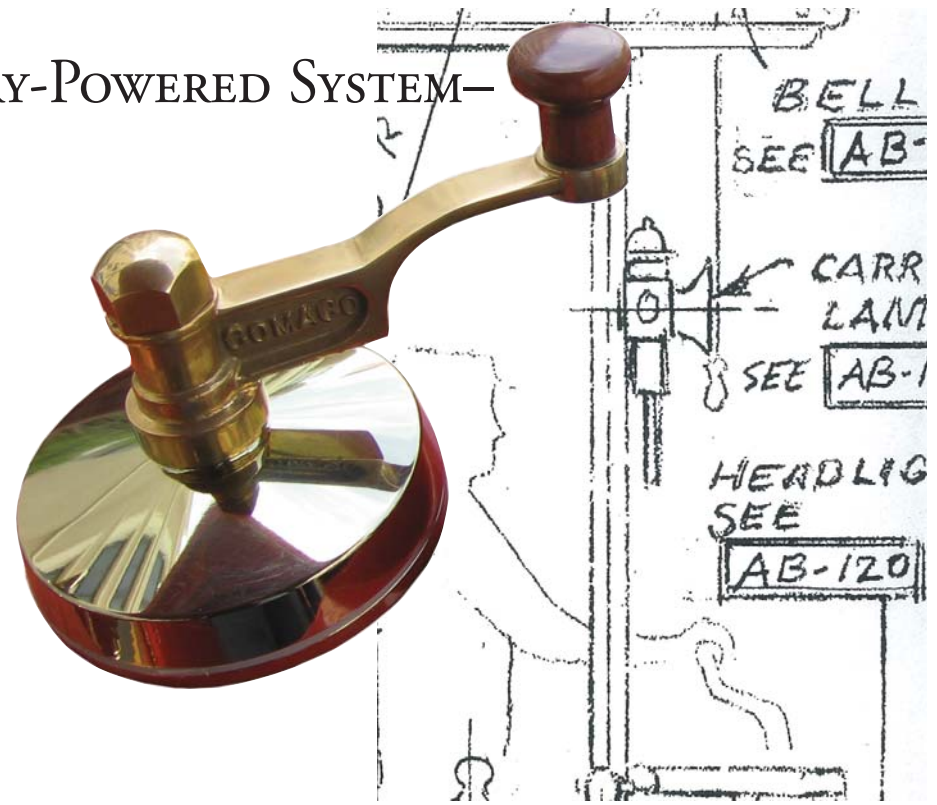


A STATE-OF-THE-ART CONTROL AND BATTERY-POWERED SYSTEM—

The trolley's operator station is where old-time craftsmanship and the latest technology available merge together to create a station for the operator that is both easy and safe to operate. First of all, the station has been designed for excellent visibility inside and out of the trolley, while keeping all of the operating controls within easy reach for the operator. Trolley #1717 has a K35G IGBT (insulated gate bipolar transistor) controller and PLC (programmable logic controller) system management to control speed and monitor power consumption. It includes a system diagnostics recording that can be used for troubleshooting analysis and documentation.

Trolley #1717 is battery powered by four 25 horsepower GE motors. The battery pack is 30 lithium-phosphate, and the maintenance-free batteries produce 400 vdc. The performance specifications for the trolley required five miles per hour for five hours, a one hour mid-charge, and then another five hours of running time. Maximum grade was two percent. The battery packs are currently achieving nine hours of operation out of one single charge. The batteries are capable of 2500 charge cycles.

The braking system features hydraulically-powered friction brakes with composite shoes and a 24-volt hydraulic brake pump. The brakes are regenerative and capture their energy for recharging the batteries. Electromagnetic rail brakes are an added safety feature to allow emergency stops. Emergency stops buttons are located at four different points. Also, for added safety, there is full, dead-man integration at all four operator locations (including GiGi), so if for any reason the operator becomes incapacitated, the car automatically stops.



OF-050830 D3



OF-050828 D3



OF-050802 D13



HANDICAPPED/WHEELCHAIR ACCESSIBILITY—

Accessibility is an incredibly important aspect for today's transportation systems, with rules and regulations guarding the rights of handicapped citizens. Trolley cars are no different. Trolley Car #1717 is equipped with a hideaway wheelchair lift. The Ricon-brand cartridge lift stays under the vehicle, out of the way for general passenger boarding. When a wheelchair-bound person wishes to get on or off the trolley, the conductor simply activates the controls for the lift. The lift unfolds from underneath the trolley, transports the passenger into or out of the trolley, and then retreats again underneath the trolley.





A GOMACO TROLLEY REFURBISHING PROJECT FOR A CALIFORNIA TROLLEY—

A double-decker trolley with two spiral staircases has been carrying passengers in Los Angeles, California, since 2002. The trolley is not based on any particular prototype, but was created to move people easily within a large outdoor shopping area. The car runs an average of eight to 10 hours a day, seven days a week. It is estimated the trolley carries approximately 730,000 passengers each year.

The high-volume of passengers and long working hours were taking its toll on the trolley, named #1759. Its owner contacted Gomaco Trolley Company about refurbishing it. It was transported to Ida Grove, Iowa, Gomaco Trolley's home, and put through an intense refurbishing program. The program included: total repainting, refinishing all of the original woodwork, installing new flooring and steps, building new brass handrails, rewiring the controls and replacing the controller with the same Gomaco K35G controller as the car in Glendale, and repowering the PCC trucks with the appropriate traction motors.



OF-110826 D4



OF-110826 D19



OF-110828 D14



OF-110827 D7



Gomaco Trolley Company

Manufacturers of Authentic Trolley Cars

STEP BACK IN TIME...

STEP INTO A GOMACO TROLLEY—

Gomaco Trolley Company, located in Ida Grove, Iowa, USA, is a manufacturer of authentic vintage trolley cars which match the precision and quality craftsmanship of yesterday while incorporating the state-of-the-art technology of today. Gomaco can provide you with trolley manufacturing and engineering consultation on restoration or renovation of existing trolley cars or in the manufacturing of new trolley cars.

Gomaco Trolleys can now be battery powered or they can be built to meet the requirements of existing lines with a standard 600 volt system, and they are compatible with light rail vehicle 750 volt systems. All of the trolley construction and renovation is done by certified craftsmen in Ida Grove, including welding, painting, carpentry, programming, wiring and engineering.

CRAFTSMANSHIP—

Gomaco Trolley Company takes pride in the craftsmanship that goes into every manufactured trolley. The goal is to keep the trolley cars as authentic as possible and to match the quality workmanship that went into the trolleys of the past. This has been accomplished along with using modern technology to improve the durability. Gomaco craftsmen have learned to “hide” the new technology within the authentic-looking, historically

accurate car so you will always have an old-world feeling when you step aboard a Gomaco Trolley.

The framework is built with steel by certified welders. Gomaco also provides authentic brass parts from our foundry and wood beauty from our highly skilled craftsmen. Gomaco Trolley Company builds brass parts to meet all standard trolley requirements and to provide exact replicas cast from dies of authentic trolley parts. If you are in need of a special part, Gomaco will make a die and build exactly what you need.

PRIDE IN ENGINEERING—

Gomaco engineering has designed the trolley operator's station for ease of operation and safety. The station is designed for excellent visibility and all controls are within easy reach of the operator.

THE PERFECT PARTS—

Gomaco offers a large assortment of parts and accessories for trolley restoration, renovation and collectors of trolley memorabilia. Featured items are built from quality wood, iron and steel. Gomaco's Trolley foundry will build brass parts to provide exact replicas cast from dies of authentic trolley parts from around the world.

Gomaco Trolley Company specializes in restoration or renovation of your trolley truck assembly. Gomaco also will build the seat assembly with the finest craftsmanship in the world, whether you choose cane seats or wooden

seats with backs of ash and cherry in a variegated pattern and ash seat bottoms. Precision craftsmanship combined with quality materials also provide a beautiful interior and exterior design for trolley doors and windows.

UNMATCHED PRECISION—

Gomaco Trolley Company was founded in 1982 with a contract from the United States Department of the Interior. The contract called for the construction of two 1902 J.G. Brill, 15-bench, open-style trolley cars. These two trolleys would be the first of their kind to be constructed since the turn of the 20th century. A black and white photo of the original 1902 trolley was sent to Gomaco, and our engineers and craftsmen designed and constructed the cars from that photo. In 1984, the trolleys were delivered to the Lowell Historical National Park in Lowell, Massachusetts. They continue to be in use today, in the 21st century.

TODAY AT GOMACO TROLLEY—

It's been more than two decades since Gomaco Trolley received their first contract. The company's success can be seen riding the rails from coast to coast in the United States. Trolley car styles constructed to date include open-style; semi-convertible enclosed; reconditioned Melbourne, single-truck; semi-convertible enclosed; reconditioned Peter Witt; replica Birney; and battery-power, self-propelled seven-bench open-style.



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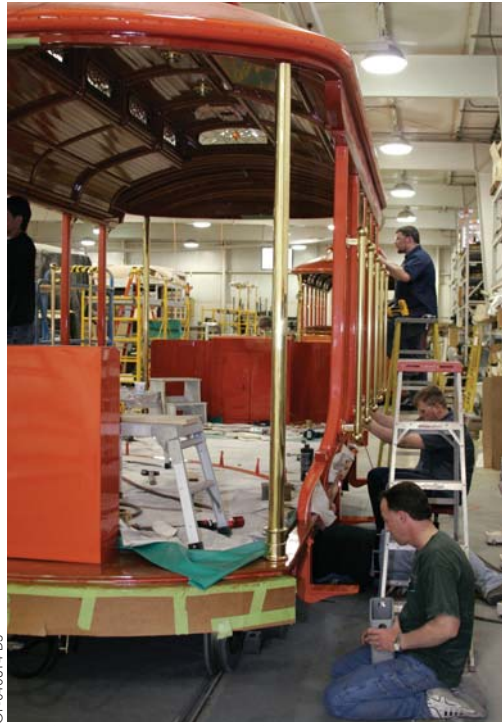
OF-020804 D10



Certified welders build the trolley's frame.



The frame of the trolley takes shape.



Trolley technicians put their expertise to work.



OF-040815 D17

Scaffolding surrounds the steel shell of what will be become Trolley #1717.

The final work is completed on GiGi while the finished Trolley #1717 awaits shipment.

IDA GROVE, IA 51445 USA

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www.gomacotrolley.com

*From dream to reality,
from yesterday to today...*



Gomaco Trolley Company

Manufacturers of Authentic Trolley Cars

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