

# ***U.S. Hobbies, Inc.***

## **CATALOG N° 3**

DEALER  
COUNTER COPY  
NOT TO BE SOLD

**O SCALE**

- **Locomotives**
- **Cars**
- **Parts**

5755 E. Fountain Way Fresno, California 93727  
Telephone: area code 209 - 291-6614

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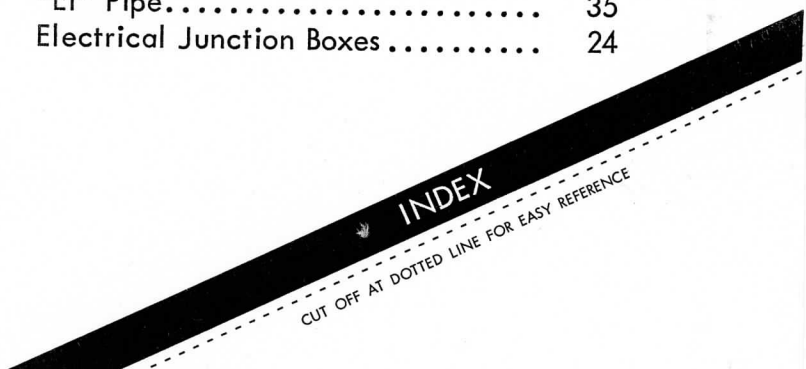
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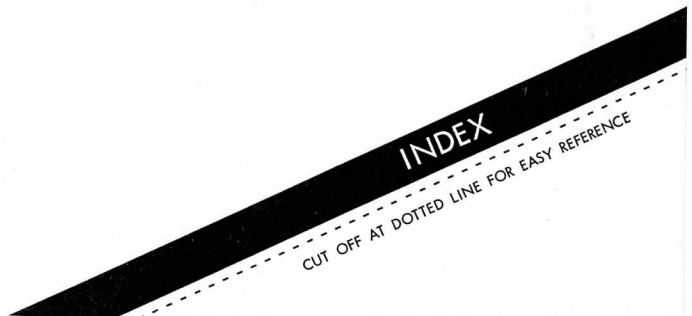
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If a price is not shown on an item in this list - - - it was not in stock at the time this catalog was printed.

If wanted, place a reservation for it. No deposit is required. You will be notified when it is available.

|      |   |             |
|------|---|-------------|
| U-1  | Hinges, Working.....dz  | \$ 1.00     |
| U-2  | Gondola Corner Caps.....4 pkg                                 | .35         |
| U-3  | Stirrups, Freight Car.....4 pkg                               | .50         |
| U-4  | Stake Pockets.....30 pkg                                      | 1.50        |
| U-5  | Poling Pockets.....5 pkg                                      | .50         |
| U-7  | Brake Wheel, Express Reefer....set<br>(OR).....12 sets        | .50<br>5.00 |
| U-8  | Brake Wheel Housing.....5 pkg                                 | .75         |
| U-9  | Brake Wheel, Miner.....5 pkg                                  | 1.00        |
| U-10 | Brake Wheel, Ajax.....5 pkg                                   | 1.00        |
| U-11 | Brake Wheel, Westinghouse....5 pkg                            | 1.00        |
| U-12 | Brake Lever.....2 pkg   | .25         |
| U-13 | Brake Platform.....10 pkg                                     | .75         |
| U-14 | Roof Walk End Support.....10 pkg                              | .50         |
| U-15 | Brake Gear Kit, Freight Car.....ea                            | .50         |
| U-17 | Ladder, 6 Rung.....4 pkg                                      | .75         |
| U-18 | Ladder, 7 Rung.....4 pkg                                      | .75         |
| U-19 | Backhead, Loco Small, Cast.....ea                             | 1.45        |
| U-20 | Backhead, Loco Large, Cast.....ea                             | 1.45        |
| U-21 | Gondola Brace, Even Rivets.....dz                             | 1.00        |
| U-22 | Gondola Brace, Staggard Rivets .dz                            | 1.00        |
| U-23 | Hopper Car Brace, Even Rivets...dz                            | 1.00        |
| U-24 | Hopper Car Brace, Staggered Riv..dz                           | 1.00        |
| U-25 | Ore Car Brace.....dz  | 1.00        |
| U-26 | Ore Car Brace.....dz  | 1.00        |
| U-27 | Covered Hopper Brace.....dz                                   | 1.00        |
| U-28 | Channel Brace.....dz  | 1.00        |
| U-29 | Hollow Rib.....dz   | 1.00        |
| U-30 | Angle Brace.....dz  | 1.00        |
| U-31 | Zee Brace.....dz  | 1.00        |
| U-34 | Brush Assembly, KTM.....ea                                    | 1.00        |
| U-35 | Rectifier for Lights.....ea                                   | .85         |
| U-36 | Plug & Socket.....ea  | 1.00        |
| U-37 | Ins. Bolster & Contact Plate...set                            | .60         |
| U-39 | Univ. Coupling, Brass w/Rubber..ea                            | 1.00        |
| U-40 | Headlight & Tender Light w/Bulb for<br>SP Daylight.....ea     |             |
| U-41 | Headlight w/Bulb, Erie K-5.....ea                             | 1.50        |
| U-42 | Headlight w/Bulb.....ea                                       |             |
| U-43 | Headlight w/bulb.....ea                                       | 1.50        |
| U-44 | Jrnl Box Cov, Alco 14 Whl Tender..ea                          | .35         |
| U-45 | Journal Box, Plain.....ea                                     |             |
| U-46 | Journal Box, Roller Bearing...ea                              | .50         |
| U-48 | Insulating Bolster Bushing..4 pkg<br>(Less Threaded Bushings) | .35         |
| U-49 | Body Bolster, Plastic.....pr                                  | .35         |
| U-50 | Bolster Springs.....dz  | .60         |
| U-51 | Kingpin Screws.....dz   | 1.20        |
| U-52 | Truck Spring.....dz   | .30         |
| U-53 | Bolster, Coil Sprung.....ea                                   | .30         |
| U-54 | Spring Plank, Coil Sprung.....ea                              | .20         |
| U-55 | Bolster, Coil Sprung.....ea                                   | .30         |
| U-56 | Spring Plank, Coil Sprung.....ea                              | .20         |
| U-57 | Bolster, Leaf Sprung.....ea                                   | .30         |

|        |  |       |
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| U-58   | Spring Plank, Leaf Sprung.....ea                                   | .20   |
| U-59   | Truck, Freight, Roller Bearing .pr                                 |       |
| U-59 B | Bearing used on U-59.....pkg of 8                                  | .50   |
| U-60   | Truck, Bettendorf, Coil Sprung..pr                                 |       |
| U-61   | Truck, Bettendorf, Leaf Sprung..pr                                 | 3.15  |
| U-62   | Roller Bearing Cap U-59.....8 pkg                                  | .50   |
| U-63   | Athearn Roller Bearing Type<br>Freight Truck.....pr                |       |
| U-64   | Athearn Bettendorf Type Freight<br>Truck.....pr                    |       |
| U-65   | Athearn Andrews Type Freight Trk.pr                                |       |
| U-66   | Athearn Arch Bar Type Freight Trk .pr                              |       |
| U-67   | Truck, 4 Wheel, Passenger, On3 .pr                                 | 3.95  |
| U-68   | Truck, Freight, On3.....pr   |       |
| U-69   | Truck, Sprung, Plain Jrnl, Common-<br>wealth 6 Wheel Tender.....pr |       |
| U-70   | Truck, Sprung, Roller Bearings,<br>Commonwealth 6 Whl Tender ...pr |       |
| U-71   | Truck, Sprung, Roller Bearings<br>Commonwealth 6 Whl Tender ...pr  |       |
| U-72   | Truck, Sprung, Plain Journals,<br>Commonwealth 6 Whl Tender ...pr  |       |
| U-73   | Truck, Sprung, Plain Journals,<br>Buckeye 6 Whl Tender.....pr      |       |
| U-74   | Truck, Roller Bearing Journals,<br>Buckeye 6 Whl Tender.....pr     |       |
| U-75   | Truck, Roller Bearing Journals<br>Commonwealth 8 Whl Tender..pr    |       |
| U-76   | Trk, Plain Jrnl, Buckeye 8 Whl<br>Tender.....pr                    | 18.00 |
| U-77   | Blowdown Muffler.....pr  | 2.00  |
| U-78   | Motor Mount for GP-35.....ea                                       | .50   |
| U-79   | Motor.....ea   | 15.00 |
| U-79A  | Armature.....ea  | 3.25  |
| U-80   | Motor.....ea   |       |
| U-80A  | Armature.....ea  | 3.50  |
| U-81   | Motor.....ea   | 3.95  |
| U-82   | Motor.....ea   | 3.75  |
| U-83   | Brush Assembly for DH-105.....ea                                   | .50   |
| U-84   | Feedwater Heater, Worthington,<br>Type SA.....ea                   | 1.00  |
| U-85   | Hot Water Pump, Worthington....ea                                  | 1.00  |
| U-86   | Cold Water Pump, Worthington... ea                                 | .95   |
| U-87   | Fdwtr Htr, Worthington, Tpe BL-2.ea                                | 2.00  |
| U-88   | Boiler Check, Nathan.....ea  | .85   |
| U-89   | Injector, Nathan.....ea  | 1.00  |
| U-90   | Turbo-Generator, Pyle Ntl, MO-6. ea                                | .85   |
| U-91   | Whistle, Nathan 6 Chime.....ea                                     | .85   |
| U-92   | Whistle, Hancock, 3 Chime.....ea                                   | .75   |
| U-93   | Brake Hangers, Loco.....8 pc set                                   | .80   |
| U-94   | Brake Hangers, Loco.....8 pc set                                   | .80   |
| U-95   | Brake Hangers, Loco.....6 pc set                                   | .95   |
| U-96   | Fan Guard, EMD.....ea  | .85   |
| U-97   | Kem-Trak, Code 100, On3 pkg  | 21.60 |
| U-100  | Gear Box, Complete.....ea  | 4.50  |
| U-101  | Gear Box, Complete.....ea  | 4.50  |
| U-102  | Bearing, Spherical.....pr  | .30   |
| U-103  | Combination Gear.....ea  | 1.00  |
| U-104  | Spur Gear, 25:1 for Axle.....ea                                    | .60   |
| U-105  | Worm.....ea  | .50   |
| U-106  | Shaft, for U-104.....ea  | .10   |
| U-107  | Retainer, for U-106.....ea   | .10   |
| U-108  | Washers.....set  | .25   |
| U-109  | Screws, 2 x 3 mm .....dz   | .60   |
| U-110  | Screws, 2.6 x 14 mm .....dz  | .60   |
| U-111  | Journal.....pr   | .50   |

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| U-112   | Shafting, 5 mm, .161 x 4".....ea          | .50   | U-184 | Shouldered Screw.....3 for  | 1.00  |
| U-115   | Gear Box Castings for U-117...set         | 1.00  | U-185 | 15:1 Gear Set.....3 pr set  | 2.50  |
| U-116   | Gear Box Cover.....ea                     | .25   | U-186 | Single Shaft.....ea   | 10.00 |
| U-117   | Gear Box, Complete.....ea                 | 2.50  | U-187 | Double End Shaft.....ea   | 10.00 |
| U-118   | Bearing, Spherical.....pr                 | .35   | U-188 | B&O C-16a Headlight.....ea  | 1.25  |
| U-119   | Bearing, Flanged.....pr                   | .50   | U-189 | Diesel Transmission.....  |       |
| U-120   | Worm.....ea                               | .50   | U-190 | Flex Armored Hose.....2 for   | .50   |
| U-121   | Gear, 6.5:1.....ea                        | .50   | U-191 | Brush Assembly for U-186/7....set                                   | 1.00  |
| U-122   | Washers.....2 set                         | .20   | U-192 | 4 mm Shafting.....ea  | .50   |
| U-123   | Washers.....2 set                         | .20   | U-193 | Delrin Bearing used on U-59 RB Trks,<br>also as a bushing.....8 pkg | .50   |
| U-124   | Washers.....2 set                         | .20   | U-195 | Small Plug & Socket.....ea  | 1.00  |
| U-125   | Set Screws.....dz                         | .60   | U-196 | 33" Spoked Wheel Assemblies...ea                                    | 6.00  |
| U-126   | Shafting, 3 mm, .117 x 4".....ea          | .50   | U-197 | 36" Spoked Wheel Assemblies...ea                                    | 6.00  |
| U-127   | Washers.....dz                            | 1.20  | U-198 | 40" Spoked Wheel Assemblies...ea                                    | 6.00  |
| U-128   | Washers.....dz                            | 1.20  | U-199 | 45" Spoked Wheel Assemblies...ea                                    | 6.00  |
| U-129   | Washers.....dz                            | 1.20  | U-200 | Headlight for AT&SF 2-10-4....ea                                    | 1.50  |
| U-130   | Washers.....dz                            | 1.20  | U-201 | Tender Light for AT&SF 2-10-4 .ea                                   | 1.50  |
| U-131   | Crankpin Screws<br>each.....set           | .15   | U-203 | 13:1 Worm & Gear Set (For U-117).set                                | 1.50  |
|         | dozen.....                                | 1.50  | U-204 | Journals as used on SD-45.....pr                                    | .60   |
| U-132   | Crankpin Screws<br>each.....              | .15   | U-205 | GP-35 Journals.....ea   | .50   |
|         | dozen.....                                | 1.50  | U-206 | Kingpin for Pilot Truck.....ea                                      | .75   |
| U-133   | Crankpin Screw & Washer Set....set        | .20   | U-207 | Special Bulb.....pr   | .50   |
| U-134   | Crankpin Screw, Steel<br>each.....        | .05   | U-208 | 3 mm Shaft.....ea   | .50   |
|         | dozen.....                                | .50   | U-209 | UP Mars Light.....ea  | 1.50  |
| U-135   | Crankpin Screw, Brass, Long<br>each.....  | .06   | U-210 | Motor Mount Screws & Grommets....set                                | 1.00  |
|         | dozen.....                                | .60   | U-211 | 4 mm Shaft.....ea   | .50   |
| U-136   | Crankpin Screw, Brass, Short<br>each..... | .06   | U-212 |   |       |
|         | dozen.....                                | .60   | U-213 |   |       |
| U-137   | Rivet, Shouldered.....dz                  | .65   | U-214 | AHM Scale Coupler Kit.....set                                       | 1.75  |
| U-138   | Screw, Fil. Head.....dz                   | .60   | U-215 | Motor Mount.....ea  | .75   |
| U-139   | Rivet, Shouldered.....dz                  | .50   | U-216 | Mounting Screws.....set of 2  | .60   |
| U-140   | Rivet, Long.....dz                        | .65   | U-217 | 6 Wheel Buckeye Tender Trucks...pr                                  | 25.00 |
| U-141   | Rivet, Long.....dz                        | .80   | U-218 |   |       |
| U-142   | Rivet, Long.....dz                        | .65   | U-219 | Switch.....ea   | .35   |
| U-146   | Light Bulb, Replmnt for Hdlt.....ea       | .25   | U-220 | 6 Wheel Passenger Trucks.....pr                                     |       |
| U-152   | Dummy Couplers<br>4 pair.....             | 1.25  | U-221 | Small Motor<br>1 for.....   | 1.00  |
|         | In Bulk, 25 pair.....                     | 6.00  |       | 10 for.....   | 5.00  |
|         | In Bulk, 100 pair.....                    | 20.00 | U-222 | Small Motor<br>1 for.....   | 1.00  |
| U-153   | Number Plate, #96, B&O.....ea             | .50   |       | 10 for.....   | 5.00  |
| U-154   | Number Plate, #99, B&O.....ea             | .50   | U-225 | Blinker Bulb & Socket.....set                                       | .50   |
| U-155   | Journal Box, R.B. Hyatt Type...ea         | .50   | U-226 | UP Decals.....set   | 1.35  |
| U-156   | Journal Box, RB Timken Type...ea          |       | U-230 | Jrnl Bearing for ungeared drivers.pr                                | .50   |
| U-157   | Journal Box, Plain.....ea                 |       | U-231 | King Pin Screw (Long).....dz  | 1.20  |
| U-158   | Headlight for Big Boy.....ea              | 1.50  | U-232 | KMT Motor.....ea  | 5.00  |
| U-159   | Headlight for K-4.....ea                  | 1.50  | U-233 | KMT Motor.....ea  | 5.75  |
| U-160   | Kingpin for Loco Pilot Truck...ea         | .75   | U-234 |   |       |
| U-160-A | Coilspring for U-160 & U-174...ea         | .10   | U-235 |   |       |
| U-161   | Motor, 12 Volt.....ea                     | 3.00  | U-236 |   |       |
| U-162   | Motor, 12 Volt.....ea                     | 4.00  | U-237 |   |       |
| U-163   | Motor, 12 Volt.....ea                     | 4.25  | U-238 |   |       |
| U-164   | Driver Axle, Knurled for Gear..ea         | .35   | U-239 | Fine Stranded Wire, 100'.....                                       |       |
| U-165   | Driver Axle, Plain.....ea                 | .35   | U-240 | Switch.....ea   | .60   |
| U-168   | Coil Spring (Buckeye Trucks)...dz         | .40   | U-354 | 36" Blunt Axle Wheel Assemblies.ea                                  | .66   |
| U-174   | Kingpin Screw (Loco Pilot Trk)...ea       | .20   | U-356 | 38" Blunt Axle Wheel Assemblies.ea                                  | .66   |
| U-175   | W/4 Ea - RGA Jwls Cbse Mrkr Lmps .pr      | .65   | U-358 | 33" Blunt Axle Wheel Assemblies.ea                                  | .66   |
| U-177   | Back-Up Light.....ea                      | 1.00  |       |   |       |
| U-178   | Loco Driver Spring.....dz                 | .50   |       |   |       |
| U-179   | Brushes & Springs (for DV-130).set        | .50   |       |   |       |
| U-181   | Single Plate Rectifier.....ea             | .80   |       |   |       |
| U-182   | Hopper Brace, Even Rivets.....dz          | 1.00  |       |   |       |
| U-183   | Hopper Brace, Staggered Rivets.dz         | 1.00  |       |   |       |

- - - continued - - -

**CODE & PRICE LIST**  
CUT OFF AT DOTTED LINE FOR EASY REFERENCE

|           |                                     |      |          |   |      |
|-----------|-------------------------------------|------|----------|---|------|
| X-8       | Escutcheon Pins, #24.....pkg        | .75  | X-305    | Engine Ladder.....ea  | 1.25 |
| X-8L      | Escutcheon Pins, #24 Long.....pkg   | .75  | X-312    | Boiler Check.....ea   | .85  |
| X-9SD     | Working Coupler.....pr              | 1.75 | X-326    | Air Horn.....ea   | .65  |
| X-10      | Damper Control.....ea               | 1.00 | X-327    | Air Hose.....pr   | 1.00 |
| X-12      | Front Mount Bell.....ea             | 1.25 | X-337    | Whistle.....ea  | .85  |
| X-20      | Number Plates (steam).....1 thru 5  | 1.25 | X-338    | Hancock Boiler Check.....pr   | 1.50 |
| X-21      | " " " .....6 thru 10                | 1.25 | X-351    | 33" Unmachined Spoked Wheels....pr                                  | 1.85 |
| X-22      | " " " .....11 thru 15               | 1.25 | X-352    | 36" Unmachined Spoked Wheels....pr                                  | 1.85 |
| X-23      | " " " .....16 thru 20               | 1.25 | X-353    | 40" Unmachined Spoked Wheels....pr                                  | 1.85 |
| X-28      | Pop Valves.....pr                   | .50  | X-354    | 45" Unmachined Spoked Wheels....pr                                  | 1.85 |
| X-29      | Side Mount Bell.....kit             | 2.25 | X-357    | R & L Hancock Injector.....set                                      | 2.50 |
| X-39      | Stack.....ea                        | 1.60 | X-360    | Top Mount Bell.....kit  | 2.00 |
| X-46A     | Dual Headlight.....pr               | 1.25 | X-361    | Air Pipe w/valve.....ea   | .85  |
| X-54      | Air Horn.....pr                     | .90  | X-367    | Junction Boxes.....pr   | .85  |
| X-56      | Stack, "B", GP-7.....ea             | .85  | X-374    | Diesel Steps.....set  | 1.25 |
| X-64      | Angle Cocks.....pr                  | .50  | X-375    | Safety Tread.....pr   | 1.00 |
| X-65      | Glad Hands.....pr                   | .50  | X-386    | Nut & Bolt.....dz   | .85  |
| X-66      | Air Hose Material, Plastic.....pkg  | .50  | X-391    | Air Horn.....pr   | .85  |
| X-68      | Valve Gear.....kit                  | 7.50 | X-400    | Bulbs are available as listed in catalog in color and voltages....2 | .50  |
| X-70      | Trailing Truck, 4 Wheel.....kit     | 8.50 | X-401    | Bulbs are available as listed in catalog in color and voltages....2 | .50  |
| X-73      | Valve Gear.....kit                  | 7.50 | X-402    | Socket for X-401.....2  | .35  |
| X-89      | Whistle.....ea                      | .85  | X-403    | Round Bulb.....2  | .45  |
| X-90      | Whistle.....ea                      | .85  | X-404    | Bulbs are available as listed in catalog in color and voltages....2 | .45  |
| X-95      | Mechanical Lubricator.....ea        | .85  | X-405    | Opal Glass Round Bulb.....2   | .45  |
| X-98      | Globe Valves.....ea                 | .80  | X-406    | Large Screw Base Bulb.....2   | .50  |
| X-99      | Globe Valves.....ea                 | .50  | X-407    | Socket for X-406.....2  | .35  |
| X-100     | Globe Valves.....ea                 | .80  | X-408-1  | Bulb (Special for Headlights)...ea                                  | .50  |
| X-103     | Molub-Alloy.....tube                | .50  | X-408-2  | Bulb (Special for Headlights)...ea                                  | .50  |
| X-117     | Number Board (diesel).....pr        | 1.00 | X-408-3  | Bulb (Special for Headlights)...ea                                  | .50  |
| X-155     | Electrical Hook-up Wire...5' coil   | .40  | X-409    | Bulb, Round.....pr  | .50  |
| X-159     | Lubriplate.....jar                  | .75  | X-410    | GOR Bulb.....2  | .55  |
| X-162     | Re-rail Frogs.....pr                | .50  | X-411C   | Special Bead End Bulb.....2   | .75  |
| X-177     | .020" Wire.....5' coil              | .75  | X-413    | Small Bulb in case.....2  | .75  |
| X-198     | Nut, Bolt & Washer.....4 dz         | .90  | X-414    | Small White Tubular Bulb.....2                                      | .50  |
| X-198A    | Nut, Bolt & Washer.....3 dz         | .90  | X-415    | Medium White Tubular Bulb.....2                                     | .75  |
| X-198B    | Nut, Bolt & Washer.....4 dz         | .90  | X-416    | Large White Tubular Bulb.....2                                      | .75  |
| X-198C    | Nut, Bolt & Washer.....4 dz         | .90  | X-417C   | Special Bulb w/lens, Small.....2                                    | .50  |
| X-203     | Nut, Bolt & Washer.....dz           | .90  | X-418C   | Special Bulb w/lens, Large.....2                                    | .45  |
| X-204     | Nut, Bolt & Washer.....dz           | .90  | X-419A   | Special Bulb.....2  | .50  |
| X-205     | Nut, Bolt & Washer.....dz           | .90  | X-420    | Tubular Bulb.....2  | .80  |
| X-211     | Scale Ruler.....ea                  | 2.35 | X-420FPS | Socket for X-420.....pr   | .75  |
| X-215     | Sunbeam Generator.....ea            | .95  | X-436    | Coil Springs.....4 pkg  | .30  |
| X-216     | Pyle National Generator.....ea      | .95  | X-437    | Fan Guards.....set  | 3.25 |
| X-231     | Steam Pipe Fittings.....set         | .85  | X-440    | Brass Blackener.....jar   | 1.00 |
| X-232     | Brass chain, 20 links per inch.pkg  | .50  | X-442    | Fan Guards.....ea   | 1.25 |
| X-235     | Dynamic Brake.....set               | 4.50 | X-444    | Caboose Top Marker Light.....ea                                     | .50  |
| X-237     | Power Reverse.....ea                | 1.45 | X-445    | Whistle Lubricator-Flag Staff..set                                  | 1.00 |
| X-238     | Brake Shoe & Hanger, Plastic...set  | .75  | X-451    | Pipe Unions.....dz  | .85  |
| X-243     | Brake Shoe & Hanger, Brass....set   | 3.00 | X-452    | Pipe Unions.....dz  | .85  |
| X-249     | Sal Met.....jar                     | 1.00 | X-453    | Pipe Unions.....dz  | .85  |
| X-250     | Switch Machine.....ea               | 2.95 | X-454    | Pipe Unions.....dz  | .85  |
| X-250 ULM | Under Layout Mounting for X-250.kit | .50  | X-455    | Pipe Unions.....dz  | .85  |
| X-252     | Smoke Box Cleaning Lid.....pr       | .85  | X-456    | Number Plates (steam).....ea  | .75  |
| X-253     | Pilot Beam Detail.....6 pc set      | 1.00 | X-457    | " " " .....ea   | .75  |
| X-255     | Brake Shoe & Hanger.....set         | 2.25 | X-458    | " " " .....ea   | .75  |
| X-257     | Armored Spring.....pkg              | .65  | X-459    | " " " .....ea   | .75  |
| X-259     | Brass chain, 18 links per inch.pkg  | .50  | X-468    | Hooks (3) & 4" of Small Chain..set                                  | .85  |
| X-269     | Pipe, "E1".....dz                   | .85  | X-469    | Hooks (3) & 4" of Large Chain..set                                  | .85  |
| X-294     | Pipe, "T".....dz                    | .85  | X-470    | Hooks, Large.....pkg  | .60  |
| X-295     | Globe Valve w/hole thru pipe.....ea | .75  | X-471    | Hooks, Small.....pkg  | .60  |
| X-296     | .025" Wire.....5' coil              | .75  | X-480    | Whistle, Chime, Left Mount.....ea                                   | .85  |
| X-297     | .030" Wire.....5' coil              | .75  | X-481    | Whistle, Rear Mount.....ea  | .85  |
| X-298     | .035" Wire.....5' coil              | .75  |          |   |      |
| X-299     | .040" Wire.....5' coil              | .75  |          |   |      |



|        |  |       |         |  |       |
|--------|--|-------|---------|--|-------|
| X-485  | .020" Straight Wire.....6, 12"                                     | 1.00  | X-809   | Escutcheon Pins, Brass.....pkg                                 | .75   |
| X-486  | .025" Straight Wire.....6, 12"                                     | 1.00  | X-822   | Chain, 28 links per inch.....pkg                               | .50   |
| X-487  | .030" Straight Wire.....6, 12"                                     | 1.00  | X-1008  | Marker Lights.....pr   | .85   |
| X-488  | .035" Straight Wire.....6, 12"                                     | 1.00  | X-1010  | Pilot Beam Detail.....7 pc set                                 | 1.00  |
| X-489  | .040" Straight Wire.....6, 12"                                     | 1.00  | X-1011  | Tender Brake Cylinder.....ea                                   | .95   |
| X-490  | Builders Plates.....pkg  | 1.00  | X-1014  | Drain Cock.....pr  | .85   |
| X-491  | Builders Plates.....pkg  | 1.00  | X-1015  | Pipe Bracket.....6 pkg   | 1.00  |
| X-492  | Builders Plates.....pkg  | 1.00  | X-1016  | Loco Brake Cylinder.....ea                                     | .95   |
| X-497  | Leaf Springs.....dz  | 1.25  | X-1017  | Pipe Bracket.....6 pkg   | 1.00  |
| X-498  | Fan Guards.....ea  | 1.25  | X-1019  | Tender Step.....ea   | .95   |
| X-532  | .014" Wire.....5' coil   | .60   | X-1020  | Air Sander.....pr  | 1.60  |
| X-539  | .050" Wire.....5' coil   | .75   | X-1022  | Boiler Check.....pr  | 1.50  |
| X-540  | .064" Wire.....5' coil   | .85   | X-1023  | Stack, Wabash.....ea   | 1.50  |
| X-568  | Nut, Bolt & Washer, Brass.....19                                   | .90   | X-1035  | Coupler Pocket.....ea  | 1.00  |
| X-569  | Nut, Bolt & Washer, Brass.....19                                   | .90   | X-1036  | Hatch.....ea   | .95   |
| X-570  | Nut, Bolt & Washer, Brass.....19                                   | .90   | X-1040  | Trk, Arch Bar, 33" Whls, Wabash<br>Tender.....pr               | 7.50  |
| X-571  | Nut, Bolt & Washer, Brass.....19                                   | .90   | X-1051  | Tender Ladder.....ea   | 1.50  |
| X-572  | Nut, Bolt & Washer, Brass.....19                                   | .90   | X-1057  | Worm & Gear Set.....set  | 2.00  |
| X-573  | Nut, Bolt & Washer, Brass.....19                                   | .90   | X-1057A | Gear ONLY.....ea   | 1.25  |
| X-574  | Nut, Bolt & Washer, Plastic.....50                                 | .90   | X-1057B | Worm ONLY.....ea   | .75   |
| X-575  | Nut, Bolt & Washer, Plastic.....50                                 | .90   | X-1059  | Coal Bunker Door.....ea  | 1.75  |
| X-576  | Nut, Bolt & Washer, Plastic.....50                                 | .90   | X-1068  | Cylinder Valve.....pr  | .85   |
| X-577  | Nut, Bolt & Washer, Plastic.....50                                 | .90   | X-1075  | Whistle, Right Mount.....ea                                    | .85   |
| X-578  | Nut, Bolt & Washer, Plastic.....50                                 | .90   | X-1081  | Lead Trk, 33" Whls, Wabash.....ea                              | 3.00  |
| X-579  | Nut, Bolt & Washer, Plastic.....50                                 | .90   | X-1088  | Cooling Coil.....ea  | 1.50  |
| X-580  | Jewelers Saw Frame.....ea  | 5.00  | X-1098  | Junction Boxes.....4 pc set                                    | .85   |
| X-581  | Jewelers Saw Blades.....dz   | .85   | X-1099A | Dummy Coupler.....ea   | .75   |
| X-582  | Jewelers Saw Blades.....dz   | .85   | X-1102  | Safety Tread.....ea  | 3.00  |
| X-582A | Jewelers Saw Blades.....dz   | .85   | X-1103  | Safety Tread.....ea  | 5.00  |
| X-583  | Jewelers Saw Blades.....dz   | .85   | X-1115  | 1½" Scale Bell.....kit   | 19.95 |
| X-591  | Styrene (2 ea) .010, .015, .020,<br>& (1 ea) .040.....(sheets) pkg | 1.25  | X-1133  | Dome Ends.....pr   | 3.00  |
| X-592  | Styrene Sheet Stock, .010".....dz                                  | 1.20  | X-1134  | Car Ends.....pr  | 6.00  |
| X-593  | Styrene Sheet Stock, .015".....dz                                  | 1.80  | X-1135  | Outhouse.....ea  | 1.65  |
| X-594  | Styrene Sheet Stock, .020".....dz                                  | 2.40  | X-1136  | Tank Car Running Boards.....set                                | 2.00  |
| X-595  | Styrene Sheet Stock, .040".....dz                                  | 4.20  | X-1137  | Boxcar Roof Walks.....set                                      | 2.00  |
| X-596  | Styrene Sheet Stock, Dealer's<br>Asst.....pkg                      | 5.90  | X-1138  | Etched Metal, 12" Planking w/Grain<br>Negative, 5" x 7".....ea | 4.00  |
| X-597  | Styrene Sheet Stock, .060" &<br>.080".....pkg                      | 1.00  | X-1139  | Etched Metal, 12" Planking w/Grain<br>Positive, 5" x 7".....ea | 4.00  |
| X-598  | Knife for cutting Styrene.....ea                                   | .75   | X-1142  | Safety Tread.....ea  | 3.00  |
| X-599  | Styrene Sheet Stock, Clear, .015.dz                                | 2.40  | X-1143  | Safety Tread.....ea  | 3.00  |
| X-601  | Styrene Sheet Stock, .060".....dz                                  | 6.00  | X-1144  | Safety Tread.....ea  | 3.00  |
| X-602  | Styrene Sheet Stock, .080".....dz                                  | 7.80  | X-1145  | Safety Tread.....ea  | 3.00  |
| X-603  | Styrene Sheet Stock, .100".....dz                                  | 9.60  | X-1146  | See Thru Grid.....ea   |       |
| X-607  | Stack, for B&O C-16a.....ea  | 1.25  | X-1156  | Screen, 60 Mesh, 4 x 6".....ea                                 | 1.50  |
| X-616  | Stack, Straight.....ea   | 1.25  | X-1157  | Screen, 70 Mesh, 4 x 6".....ea                                 | 1.75  |
| X-627  | Bell & Ornate Headlight Bracket.set                                | 2.15  | X-1158  | Screen, 80 Mesh, 4 x 6".....ea                                 | 1.95  |
| X-628  | Bell & Ornate Headlight Bracket.set                                | 1.25  | X-1160  | Roof.....ea  | 4.75  |
| X-632  | Kem-Flux.....jar   | .75   | X-1161  | Roof Walks.....ea  | 1.25  |
| X-640  | Styrene Rod, 1/2" x 12".....ea                                     | 1.50  | X-1162  | Sides (Specify Car).....pr                                     | 9.00  |
| X-642  | Styrene Rod, 1" x 12".....ea                                       | 3.25  | X-1163  | Dome Wrapper (UP).....ea                                       | 5.00  |
| X-650  | Styrene Fabrication Book.....ea                                    | 2.25  | X-1164  | Dome Wrapper (GN).....ea                                       | 8.00  |
| X-652P | Brake or Valve Wheel, 4 Spoke,<br>Plastic.....dz                   | .90   | X-1165  | Detail Set (Specify Car).....set                               | .35   |
| X-688  | Brake Wheel.....6 pkg  | .90   | X-1166  | Boiler Bands.....6 pkg   | 1.00  |
| X-700  | Logging Disconnet Trucks.....pr                                    | 10.35 | X-1167  | Mail Pouch Carrier.....pr                                      | 1.95  |
| X-801  | Escutcheon Pins, Brass.....pkg                                     | .75   | X-1170  | Boxcar Roof Walk Extra Long w/ Brake<br>step.....set           | 2.50  |
| X-802  | Escutcheon Pins, Brass.....pkg                                     | .75   | X-1195  | Locomotive Plates.....set                                      | 1.50  |
| X-803  | Escutcheon Pins, Brass.....pkg                                     | .75   | X-1196  | Eq. Trust Plates.....set                                       | 1.00  |
| X-804  | Escutcheon Pins, Brass.....pkg                                     | .75   | X-1197  | Eq. Trust Plates.....set                                       | 1.00  |
| X-805  | Escutcheon Pins, Brass.....pkg                                     | .75   | X-1300  | Solder Paint.....jar   | 1.00  |
| X-807  | Escutcheon Pins, Brass.....pkg                                     | .75   | X-1301  | Neolube.....jar  | 1.00  |
| X-808  | Escutcheon Pins, Brass.....pkg                                     | .75   | X-1303  | Brass Cleaner, Type A.....jar                                  | .75   |

--- continued ---

CUT OFF AT DOTTED LINE FOR EASY REFERENCE





GENERAL INFORMATION  
on U.S. HOBBIES "O" SCALE MODELS

THIS IS A REFERENCE CATALOG

Browse through this catalog to familiarize yourself with the way parts are listed and the wide range of valuable information contained in it. Items are arranged alphabetically for ease in finding. Some related parts are shown on several pages for your convenience.

As the size of this catalog grew, we decided against including photos of locomotives and cars that are no longer available from U. S. Hobbies.

If you are a subscriber to our Newsletter, you will receive new pages to add to the catalog. These pages will show current models and coming models - - - plus information sheets for future reference.

INDEX

The INDEX is a very important part of this catalog. Use it.

While the catalog is alphabetically arranged, and some parts are shown in more than one place, the INDEX will help you find what you want quickly.

CODE & PRICE LIST

The CODE & PRICE LIST is an important part of this catalog.

If any major price changes occur, a new Code and Price List will be issued and sent out with our Newsletter mailing.

Because of price fluctuations, most listings are shown less price. If the price is shown, it is because we are reasonably certain of no change in the foreseeable future.

PRICES on available items are shown in our Code and Price List.

If no price is given in the Code/Price List - - - it was not available at the time this catalog was printed.

If wanted, place a reservation for it. No deposit is required. Use the reservation forms in the back of this catalog. We will notify you when it is available again.

ORDERING INFORMATION

NOTE: Code numbers apply to the parts as packaged. If, for example, you order ONE U-50, you will receive one package of 12 bolster springs.

If you order ONE U-51, you will receive one package of 12 bolster screws.

If you order ONE U-18, you will receive one package of 4 ladders.

If you order ONE U-31, you will receive one package of 12 zeos.

Each package has a code number and the quantity is indicated in the catalog. We stress this because, many times we receive orders that read, for example, 24 U-50. Yet, all that is wanted is 24 bolster springs, NOT 24 packages! Keep this fact in mind when you write up your order.

BINDERS

BINDERS - - - U.S. Hobbies, Inc. offers a three ring binder - - - cover is Flexible Black stipple finish with Silver hot stamped title. Your catalog and subsequent pages from the Newsletter kept in it, will make it easy to refer to, as needed. With catalog, it is \$1.00 - - - sold separately, it is \$1.50.

NEWSLETTER

The Newsletter is very informative and well worth the cost. The rate, as of this date, is \$2.00 for 14 mailings.

You can advertise WANTED models or models FOR SALE. If for U.S. Hobbies or Max Gray models, there is no charge. For any other equipment, the rate is \$1.35 per column inch.

RESERVATIONS

If you want a particular model, and it is not available, or has never been made, place a RESERVATION order for it. No deposit should be made on such an order. However, as the number of reservations increase, on one particular model, we will be compelled to put it into production. When a delivery date is known, your dealer can expect a deposit from you.

***U.S. Hobbies, Inc.***

5755 E. Fountain Way Fresno, California 93727  
Telephone: area code 209 - 291-6614

GENERAL INFO.

## GENERAL INFORMATION

U. S. Hobbies is currently importing "O" Scale models of popular locomotives and rolling stock for discriminating railroaders. Built from authentic railroad blueprints, we strive for accuracy, fidelity, and detail. All our models are constructed with regard for high quality craftsmanship and excellence in design. Each is a masterpiece of the modelmaker's art. Adequate power and gearing assure realistic operation at prototype speeds.

Construction is of heavy brass with lavish use of lost-wax castings, forgings, and stampings. Drive wheel tires are steel, as are all truck wheels. All drivers are sprung and, in many cases, the trailing and tender trucks are sprung. Powerful motors, mounted in rubber to reduce the level of noise, are connected to enclosed gear boxes by means of universal couplings. Both units of articulated locomotives are powered as well as both trucks on diesels. The frame, cylinders, and trucks are black-nickel and all running gear is bright plated. The superstructure and the tender tank are unpainted. Extra weight is included with each model, along with couplers and working lights. Rectifiers are provided for automatic switching of lights when engine is reversed. The wiring diagram for this feature is shown on page 16. Note the two sketches, one for self-contained units like the "Dockside" and diesel locomotives, the other for all engines with separate tenders.

Locomotive models are shipped in ready to construct form, because of Customs regulations. This means that the superstructure is separate from the chassis and the tender tank separate from the underframe. Assembly is with screws. Trucks, ashpan, and certain electrical components, are also packaged separately, as a rule. However, the chassis is completely assembled, ready to run, with the exception of leading and trailing trucks.

All necessary screws, wire, etc., are included and it is a simple matter to assemble the units and mount the trucks. Each component is separately wrapped, in a compartmented box, with a moisture-proof wrapping and plenty of padding to protect the model during shipment.

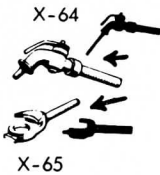
Rolling stock models are unpainted and shipped without trucks. Couplers and kingpin screws are included, however, and assembly is complete.

All models are contracted for, by U. S. Hobbies, on the basis of reservations and anticipated sales. Many are completely sold out before they arrive, others soon afterward. Refer to availability listings for current stock before ordering locomotives and cars. Parts and other items are carried in continual stock, so may be ordered at any time. Always use code numbers when ordering any item.

A great deal of credit is due the late Max Gray for his foresight and leadership in establishing the import of "O" Scale brass locomotive and car models over a decade ago. At a time when "O" Scale was thought to be "a poor gamble", Max pioneered in the "mass-production" of scratch-built models. Working against what must have been discouraging odds, he continually sought to improve quality in design and workmanship. His organizing ability, and his dedication to the hobby, are evidenced by the extensive line of models which Max conceived and had produced over the years. We salute him!

It is our intention, here at U. S. Hobbies, to carry on this tradition by constantly striving to further up-grade the constructional design, quality of component parts and excellence of detail in future models. We plan to expand our line as rapidly as production facilities permit. We have confidence in "O" Scale, too!

**A**



Angle Cocks and Glad Hands  
X-64 pair  
X-65 pair



Air Hose (Cast)  
X-327 pair

AIR HOSE MATERIAL



X-66 Plastic 4ft. for



X-257 Armored (Spring)  
8" piece

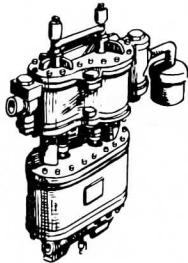


Air Sander  
X-1020 pair

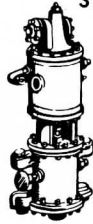
SINGLE PHASE AIR PUMPS



Westinghouse  
K-418



New York  
K-423



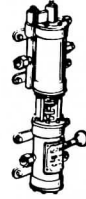
11" PUMP  
K-421



9 1/2" PUMP  
K-419



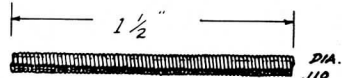
8" PUMP  
K-420



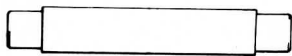
6" PUMP  
K-422



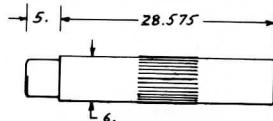
6" x 6"  
PUMP  
K-425 ea



FLEXIBLE ARMORED HOSE  
U-190 2 for

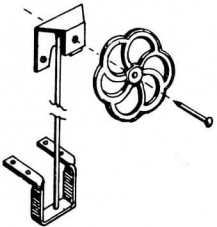


DRIVER AXLE (Plain)  
U-165 each

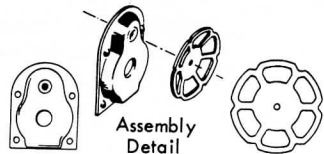


DRIVER AXLE (Knurled)  
U-164 each

**B**



EXPRESS REEFER  
or BAGGAGE CAR  
BRAKE WHEEL SET  
U-7 set

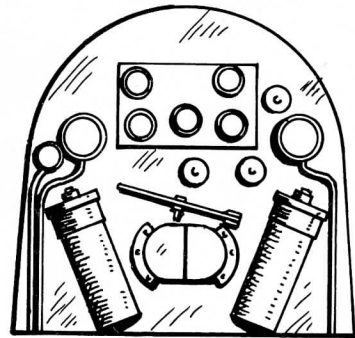


BRAKE WHEEL  
HOUSING  
U-8 5 for

MINER  
BRAKE WHEEL  
U-9 5 for

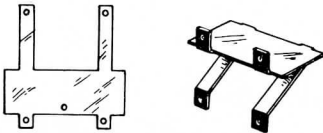


BRAKE WHEEL  
X-688 cast brass 6 for

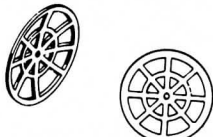


U-19

Two different types of backheads for super-detailing cabs. Sharp white metal castings, can be fastened with epoxy!

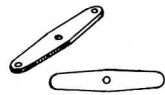


BRAKE PLATFORM  
Flat brass stamping  
w/holes pierced.  
U-13 10 for

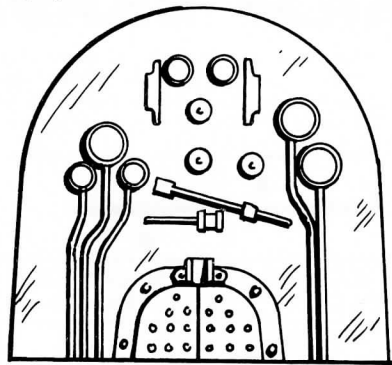


AJAX BRAKE WHEEL  
U-10 5 for

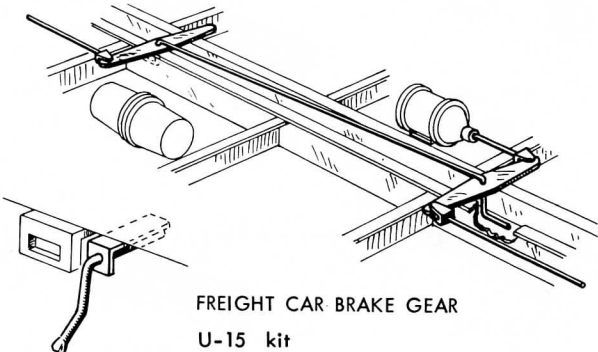
Westinghouse  
BRAKE WHEEL  
(Old style)  
U-11 5 for



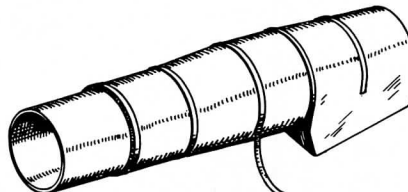
BRAKE LEVER (Drilled)  
U-12 2 for



U-20

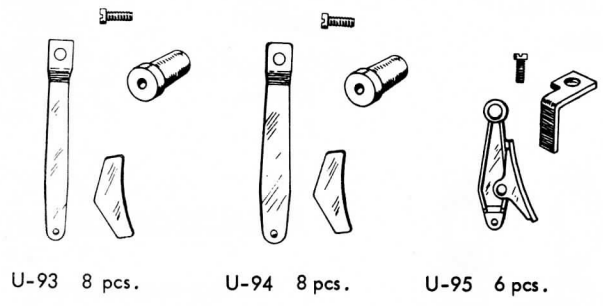


FREIGHT CAR BRAKE GEAR  
U-15 kit



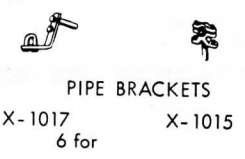
BOILER BAND STRIPS (brass)  
.006" x .080" x 10"  
6 pcs. for

**LOCO BRAKE RIGGING**

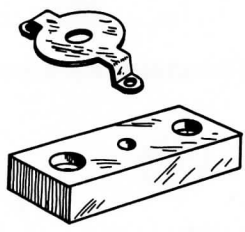


U-93 8 pcs.      U-94 8 pcs.      U-95 6 pcs.

This brake rigging is suitable for a variety of driver sizes. Drawings are actual size so you can determine YOUR requirements. Each "set" includes parts for ONE PAIR of drivers enabling you to order only what you need for a specific engine. ( A six-coupled engine requires two sets of either U-93 or U-94 and one set of U-95 ) U-95 is for rear drivers but can easily be adapted for use on locos with small drivers.



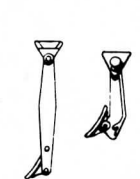
PIPE BRACKETS  
X-1017      X-1015  
6 for



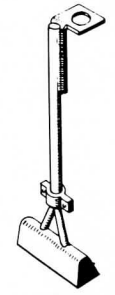
INSULATING BOLSTER & CONTACT PLATE  
U-37 .... set



Loco Br. Shoe & Hanger  
( Reversible for R & L )  
X-255 ea.



Loco Br. Hangers w/ shoes  
X-238 Plastic, set  
X-243 Brass, set



Blow down Mufflers (Brass castings)  
U-77 ...pr.



BOLSTER SPRING  
U-50 doz



KINGPIN SCREW  
Threads are 3mm  
U-51 dz



INSULATING BUSHING  
U-48 4 for



INSULATING BUSHING  
X-1495 pair

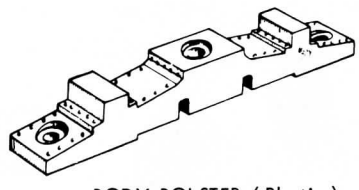
Insulating bushings are necessary and convenient to use for many applications. Keep them handy in your work shop --

**BRASS BRADS**

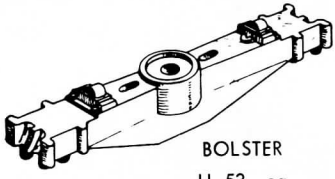
Escutcheon pins are an extremely useful item for all kinds of model work. An example of their versatility is illustrated below. Truly, these pins have 1000 and 1 uses! The range of sizes listed will cover most needs.

| CATALOG NUMBER | DIMENSIONS |      | WEIGHT COUNT (approx.) |
|----------------|------------|------|------------------------|
|                | A          | B    |                        |
| X-8            | 1/4        | .020 | 1,300                  |
| X-8 L          | 3/8        | .020 | 900                    |
| X-801          | 1-9/16     | .140 | 25                     |
| X-802          | 1-5/16     | .071 | 35                     |
| X-803          | 7/8        | .063 | 55                     |
| X-804          | 9/16       | .055 | 105                    |
| X-805          | 3/4        | .055 | 85                     |
| X-806          | 7/16       | .047 | 185                    |
| X-807          | 11/16      | .047 | 110                    |
| X-808          | 5/16       | .035 | 330                    |
| X-809          | 7/16       | .035 | 265                    |

Order by Catalog number .....pkg

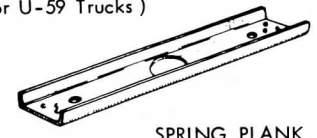


BODY BOLSTER ( Plastic )  
U-49 pair

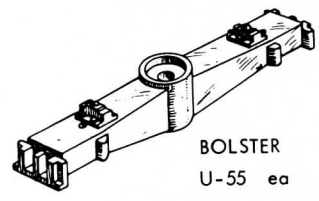


BOLSTER  
U-53 ea

( For U-59 Trucks )

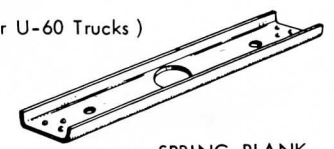


SPRING PLANK  
U-54 ea

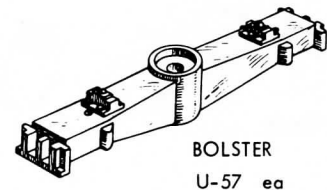


BOLSTER  
U-55 ea

( For U-60 Trucks )

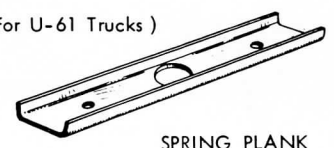


SPRING PLANK  
U-56 ea

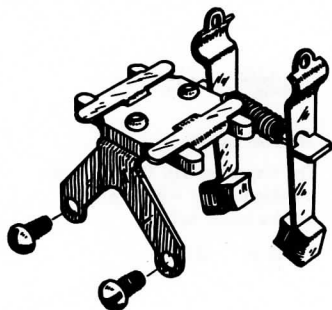


BOLSTER  
U-57 ea

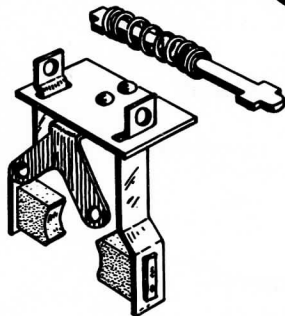
( For U-61 Trucks )



SPRING PLANK  
U-58 ea



**BRUSH ASSEMBLY**  
(for U-79 & U-80 Motors)  
U-34 ea.



**BRUSH ASSEMBLY**  
(for U-186 & U-187 motors)  
U-191 each



**BRUSHES w/ SPRINGS**  
(for U-81 motor)  
U-179 2 each



**BRUSH ASSEMBLY**  
for U-82 Motor  
U-83 each



**Double Boiler Check**  
(Top mount)  
X-312 ea.



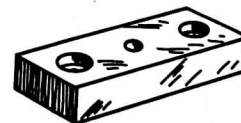
**Hancock Boiler Check**  
X-338 pair



**Boiler Check**  
X-1022 pair



**Nathan**  
**Boiler Check Valve**  
U-88 .. each



**INSULATING BOLSTER**  
& **CONTACT PLATE**  
U-37 .... set



**OLD STYLE BELL, BRACKET,**  
& **HEADLIGHT BRACKET**  
X-627 set



**OLD STYLE with**  
**ORNATE BRACKET**  
X-628 set



**Top mount Bell**  
X-360 kit form, ea.



**Side mount Bell**  
X-29 kit form, ea.

On these two bells, the piston and crank "work" for that extra touch of realism!



**Front mount Bell**  
X-12 kit form, ea.



**Diesel**  
GP-20-16 3 pcs.

**1 1/2" SCALE BELLS**

X-1115 Top Mounting  
#1501 Front Mounting

**1" SCALE BELLS**

B-1000 Top Mounting  
B-1001 Front Mounting

The bells are all brass; bell is a turned brass casting with a high polish finish. Parts are cast by the Lost Wax process.

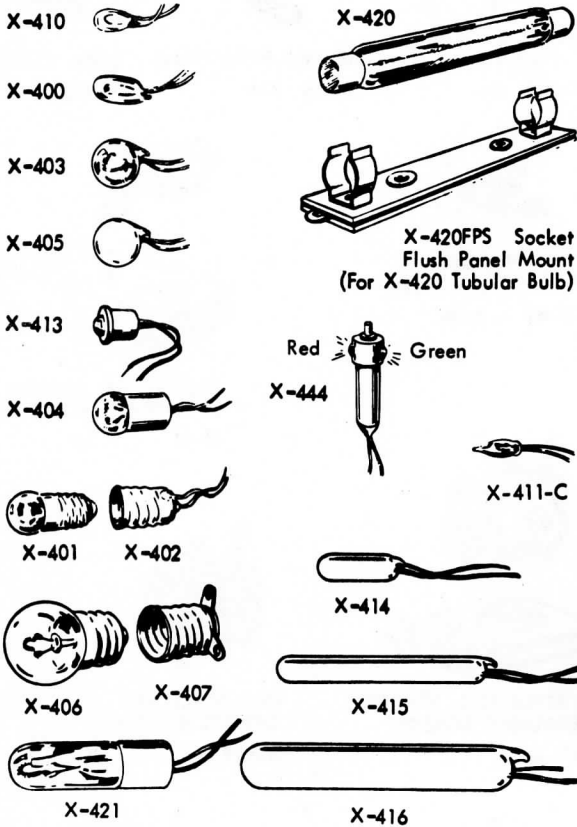
Can be used as a desk piece.

An ideal conversation piece.

Also used on live steam models.



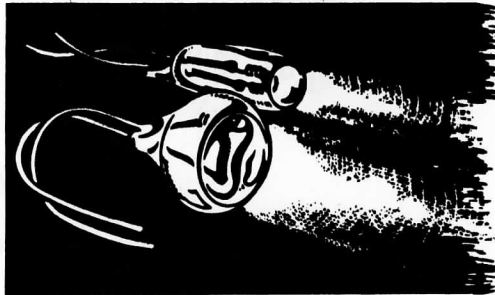
An array of BULBS for many uses



**BULB (Replacement for headlights)**  
U-146 each

**MICRO-BULB**  
1.5 v 25-30 ma  
U-176 each

**SPECIAL BULB**  
The tiny bead will fit into small headlights - - body of bulb can be inside boiler.  
X-419 A 2 for

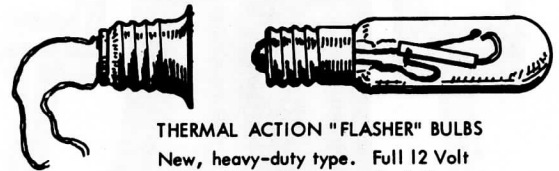


Two new light bulbs incorporate a built-in lens for directional light beam. Ideal for locomotive headlights, suitable for many applications.

**Special Bulb with LENS**  
12 Volts  
X-417-C 2 for

**Special Bulb with LENS**  
12 Volts  
X-418-C 2 for

- X-400 C Clear 1.5 - 3 - 4.5 - 6 - 8 - 12 - 18 Volts
- X-400 R Red 4.5 - 6 - 12 - 18 Volts
- X-400 G Green 6 - 12 - 18 Volts
- X-400 A Amber 6 - 12 - 18 Volts
- X-401 C Clear 6 - 12 - 18 Volts
- X-401 R Red 6 - 12 - 18 Volts
- X-401 G Green 6 - 12 - 18 Volts
- X-401 A Amber 6 - 12 - 18 Volts
- X-402 Socket
- X-403 Clear Round 12 Volts
- X-404 C Clear (in brass case) 12 Volts
- X-404 R Red (in brass case) 12 Volts
- X-404 G Green (in brass case) 12 Volts
- X-404 A Amber (in brass case) 12 Volts
- X-405 Opal Glass Round 12 Volts
- X-406 Large Screw Base Bulb 18 Volt
- X-407 Socket
- X-408-1 Special Headlight Bulb 12 Volts
- X-408-2 Special Headlight Bulb 12 Volts
- X-408-3 Special Headlight Bulb 12 Volts
- X-409 Round, Clear, 12 Volt
- X-410 Grain of Rice Bulb 12 Volt Clear only
- X-413 Spotlight in brass case 12 Volts
- X-414 Tubular, White, 12 Volts
- X-415 Tubular, White, 12 Volts
- X-416 Tubular, White, 12 Volts
- X-417 C With Lens, Clear, 12 Volt
- X-418 C With Lens, Clear, 12 Volt
- X-419 A Special Bulb, Clear, 12 Volt
- X-420 Tubular, White, 12 Volt
- X-420 FPS Socket
- X-1523 Large Dual Filament
- X-1524 Small Dual Filament
- U-146 Clear, 12 Volt
- U-176 Micro-Bulb 12 Volts
- U-225 Winker Blinker with socket, 12 Volt



**THERMAL ACTION "FLASHER" BULBS**  
New, heavy-duty type. Full 12 Volt rating will produce upwards of 40 flashes per minute.  
U-225 Bulb and socket .50¢



**DUAL FILAMENT BULB**  
X-1523 ea.



**DUAL FILAMENT BULB**  
X-1524 ea.



**HEADLIGHT BULBS**  
for "O" Scale  
Made in three sizes  
X-408-1 diam. .290"  
X-408-2 diam. .315"  
X-408-3 diam. .340"

← DIAMETER SHOWN IN PROFILE  
12" PIGTAILS



**ROUND HEADLIGHT BULB**  
diameter .240"  
X-409 ea

**FLANGED BALL BEARINGS**  
WITH EXTENDED INNER RACE

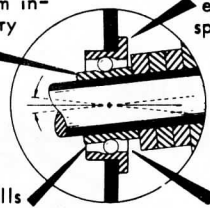
**1/8" BORE**  
**1/4" O.D.**

SR - 72H pair



Extended inner race on the SR-72 H prevents axle spacers or washers from interfering with stationary flanged outer race.

Flanged outer race holds bearing in frame without need for epoxy or loctite. No special bearing carrier to mount in frame.



Clearance between balls & races is precisely designed to allow 6° mis-alignment of axle shaft without impairing bearing efficiency. (exaggerated view)

Open face bearing carriage to facilitate periodical cleaning which results in negligible bearing wear.

ACTUAL SIZE PROFILES

OILITE BEARING  
3/32" hole  
Fits into 3/16" Tube  
X-2141 pr.



OILITE BEARING  
1/8" hole  
Fits into 7/32" Tube  
X-2142 pr.



OILITE BEARING  
1/8" hole  
Fits into 9/32" Tube  
X-2143 pr.



JOURNAL BEARING  
for Geared Drivers.

U-111 pr.



JOURNAL BEARING  
for Un-Geared Drivers.

U-230 pr.

**BRACING**



U-21

Even Rivets



U-22

Staggered Rivets



U-23

Even Rivets



U-24

Staggered Rivets



U-25

Ore Car Braces



U-26



U-27

Covered Hopper



U-31  
ZEEs



U-28

CHANNEL  
for Hoppers and  
ore cars.



U-29

RIBS



U-30

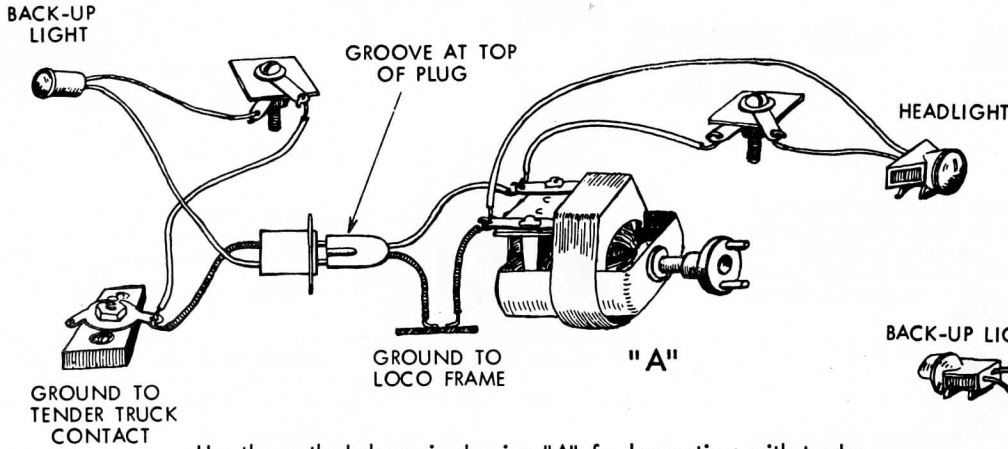
ANGLES



GONDOLA CORNER CAP  
U-2 pkg of 4....

GONDOLA or HOPPER CAR RIBS  
These parts are sold only in packages  
of 1 dozen of one type. pkg.

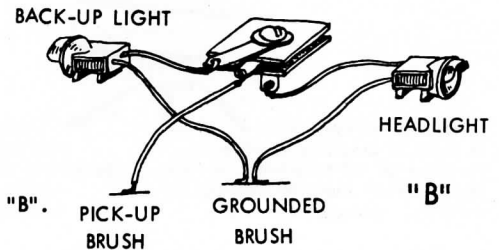
## WIRING HEADLIGHTS ON US HOBBIES LOCOMOTIVES



Use the method shown in drawing "A" for locomotives with tender. The lamps will light up according to the direction of travel.

For Tank locomotives or Diesels, use the method shown in drawing "B".

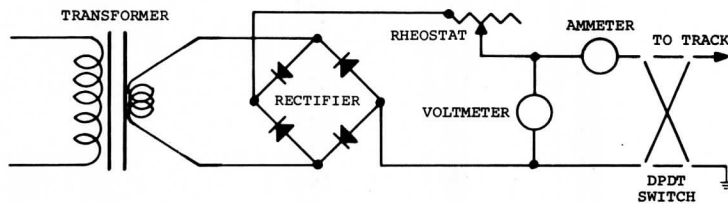
If the lamps light up in reverse to the direction of travel, simply reverse the wires on the rectifier.



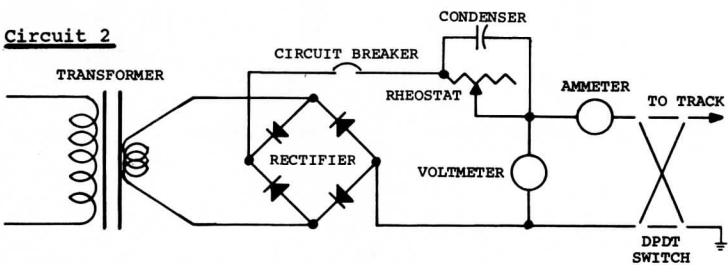
### POWER SUPPLY

If you intend to make your own, here are 2 circuits. While both are essentially the same, you may want to add a circuit breaker and a condenser shown in circuit 2.

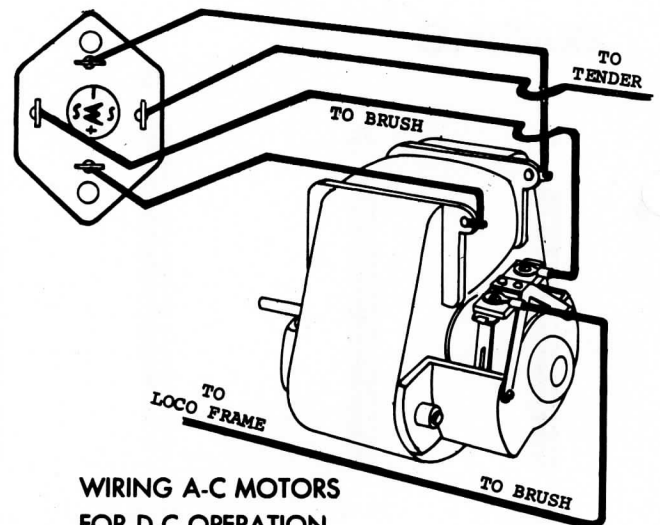
#### Circuit 1



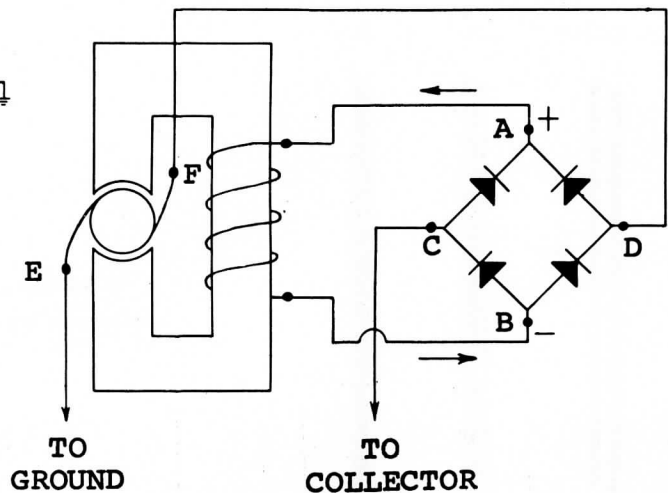
#### Circuit 2



Meters and finished POWER-PACK are shown on another page.

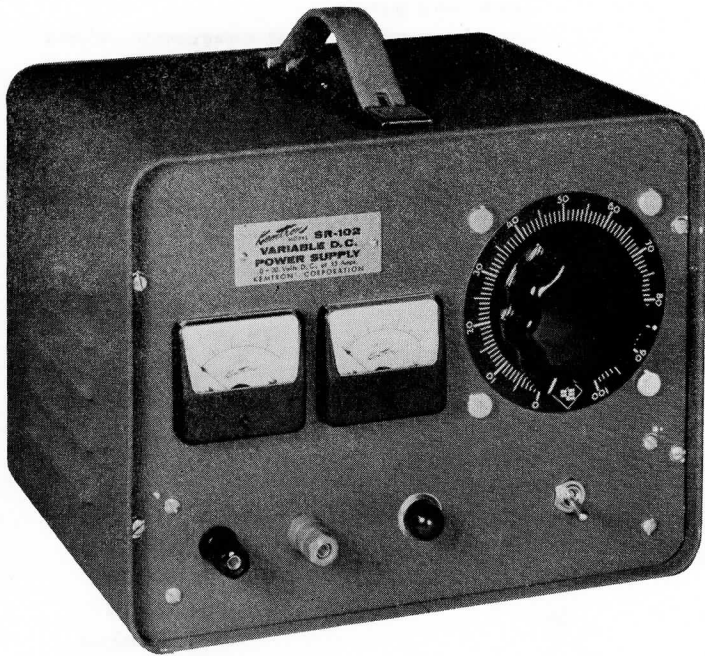


WIRING A-C MOTORS FOR D-C OPERATION



Before soldering A & B check direction of locomotive; interchange, if necessary.

The Motorola MDA 952-2 Rectifier shown may be purchased at Radio Supply Houses. Rated 6 Amps at 100 Volts.



*Kemtron*

**SR-102 POWER SUPPLY**

The SR-102 Power Supply delivers an actual 15 Amps at any voltage setting from 1 to 30 Volts DC.

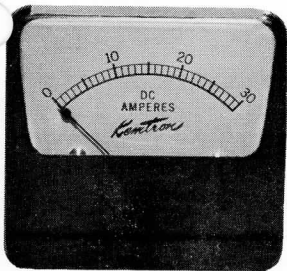
Designed for continuous full load use - - it will withstand peak loads beyond its rated capacity.

This is not a "cheap" unit - - the parts alone would cost more than the finished Power Supply.

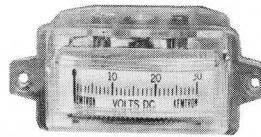
- Enclosed in a steel case
- Weights 30 pounds
- Variac Control
- Volt and Amp Meters

Ideal for "O" Scale operation of Model Railroads.

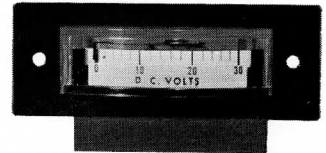
**VOLTMETERS, AMMETERS and PHONO PLUG...**



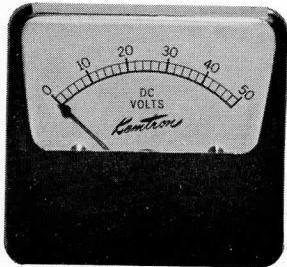
**KEMTRON D. C. AMMETER**  
 Size: 1-15/16 x 2-1/8" wide  
 Range: 0-30 Amperes  
 Scale divisions: 30-1 amp div's.  
 Movement: d'Arsonval  
 Shunt: External (incl. w/meter)  
 Accuracy: ±2% of full scale  
 Mounting hole: 1-7/8" diameter  
 Screw mount: Diagonal (2 screws)  
 SR-119 \$ 3.75



**KEMTRON Edgewise D.C. VOLTMETER**  
 Size: 7/8 x 2-3/16" (rear mount)  
 Range: 0-30 Volts D.C.  
 Scale divisions: 30-1 volt div's.  
 Movement: d'Arsonval  
 Accuracy: ±2% of full scale  
 Mounting hole: 1-3/8 x 19/32" rect.  
 Screw mount: Horizontal opposed (2)  
 SR-115 \$ 2.35



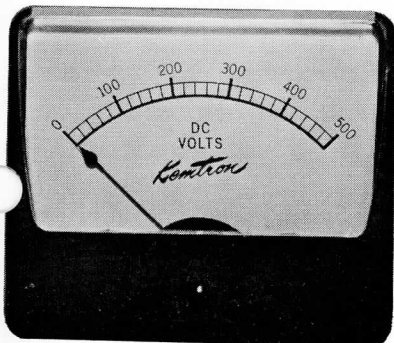
**SHURITE Edgewise D.C. VOLTMETER**  
 Size: 7/8 x 2-3/8" (rear mount)  
 Range: 0-30 Volts D. C.  
 Scale divisions: 30-1 volt div's.  
 Movement: Polarized Vane Solenoid  
 Accuracy: ±5% of full scale  
 Mounting hole: 1-21/32 x 17/32" rect.  
 Screw mount: Horizontal opposed (2)  
 SR-116 \$ 2.45



**KEMTRON D. C. VOLTMETER**  
 Size: 1-15/16 x 2-1/8" wide  
 Range: 0-50 Volts D. C.  
 Scale divisions: 25-2 volt div's.  
 Movement: d'Arsonval  
 Accuracy: ±2% of full scale  
 Mounting hole: 1-7/8" diameter  
 Screw mount: Diagonal (2 screws)  
 SR-118 \$ 2.75



**KEMTRON 3-WIRE PHONO PLUG**  
 (fits jack in SR-112 Control Panel)  
 SR-114 \$ .72

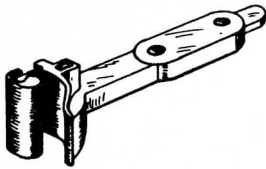


**KEMTRON D. C. VOLTMETER**  
 Size: 2-9/16 x 2-15/16" wide  
 Range: 0-500 Volts D. C.  
 Scale divisions: 25-20 volt div's.  
 Movement: d'Arsonval  
 Accuracy: ±2% of full scale  
 Mounting hole: 2-1/4" diameter  
 Screw mount: Diagonal (4 screws)  
 SR-117 \$ 2.95

**ALSO AVAILABLE, IN VERY LIMITED QUANTITY**

**SIMPSON D. C. VOLTMETER**  
 Size: 2-7/16 x 2-7/16 square  
 Range: 0-50 Volts D. C.  
 Scale divisions: 50-1 volt div's.  
 Movement: d'Arsonval  
 Accuracy: ±2% of full scale  
 Mounting hole: 2-1/4" diameter  
 Screw mount: Diagonal (4 screws)  
 No. 9600 \$ 11.75

**SIMPSON D. C. AMMETER**  
 Size: 2-7/16 x 2-7/16 square  
 Range: 0-25 Amperes  
 Scale divisions: 50-1/2 volt div's.  
 Shunt: Internally mounted in meter  
 Movement: d'Arsonval  
 Accuracy: ±2% of full scale  
 Mounting hole: 2-1/4" diameter  
 Screw mount: Diagonal (4 screws)  
 No. 2510 \$ 11.00



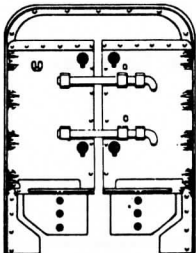
DUMMY COUPLER  
X-1099-A ea.

**DUMMY COUPLERS**

O scale, Zamac, Die-cast  
U-152 4 pr. .... 1.25  
In bulk 25 pr. .... 6.00  
In bulk 100 pr. ... 20.00



Chain Hangers  
C 16-47 4 for



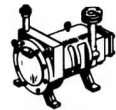
Coal Bunker Door  
X-1059 ea.



Working Coupler  
X-9 SD pair



Coupler Pocket  
X-1035 ea.



Worthington  
Cold Water Pump  
U-86 .. each



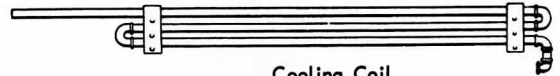
Nathan  
Boiler Check Valve  
U-88 ... each



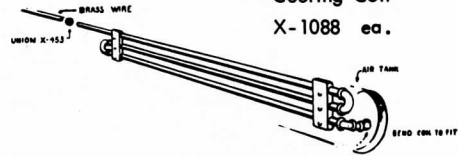
GONDOLA CORNER CAP  
U-2 pkg of 4....



Smoke box Cleaning  
Hole Lid  
X-252 pair



Cooling Coil  
X-1088 ea.



SMALL CHAIN  
X-232 10 inches  
(20 links per inch)



LARGE CHAIN  
X-259 10 inches  
(18 links per inch)

X-822 10 in.  
(28 links per in.)



**PLASTIC WELD**

The solvent type cement has been very popular with modelers. It can be used on many types of plastic, including ABS --- Bulyrate --- Lucite --- Plexi-glass and Styrene, or any combination.

X-2145 bottle - ea



UNIVERSAL COUPLING  
Brass w/ rubber disc  
for .197 shafts  
U-39 ..... set

**4" CHAIN & 3 HOOKS**



X-468 set



X-469 set

HOOK ONLY  
X-471 3 for

HOOK ONLY  
X-470 3 for



Loco Br. Cyl.  
X-1016 ea.



Tender Br. Cyl.  
X-1011 ea.

DRIVERS FOR STEAM LOCOMOTIVES

Drivers are on constant order with KTM. They are produced as fast as time permits. Since our stock is in a constant state of flux, it would be impractical to list them in our catalog. Refer to our Newsletter. All available drivers are listed in each issue.

DRIVERS FOR DIESELS

These have rim insulation and screw onto the axle. The stock situation is the same as mentioned above.

DRIVERS FOR TRACTION

Uninsulated, screw onto axle. The stock situation is the same as above.



Damper Control  
X-10 ea.

# DIESEL PARTS



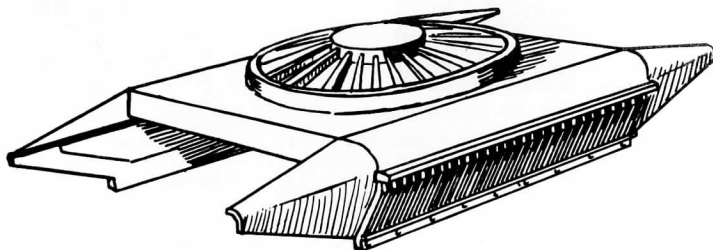
X-498 Large ea.



GP-351 (GP-35)  
3 large, 1 small set



X-437 (F-3) 4 for



DYNAMIC BRAKE HOUSING  
(Used on GP-7)

X-235 3 pc. kit  
X-235 C center only, ea.  
X-235 S sides only, pr.



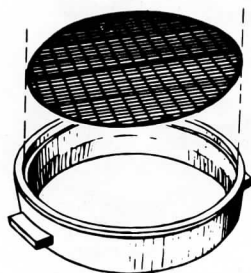
X-442 ea.



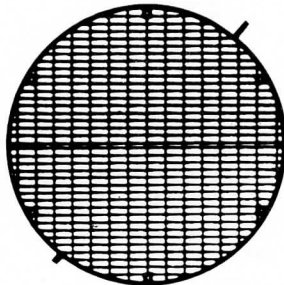
U-96 ea.

Fan Guards for EMD Diesels

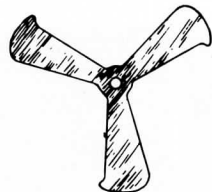
These "see through" fan guards are usable on several EMD models. Order quantity desired by number..



FAN SCREEN (Alco)  
OA-41 each



FAN HOUSING (Alco)  
OA-23 each



FAN (Alco Diesel)  
OA-35 each



STACK  
X-56 ea



STACK  
OA-34 ea



STEAM GENERATOR  
STACK  
OA-42



OA-33



X-54

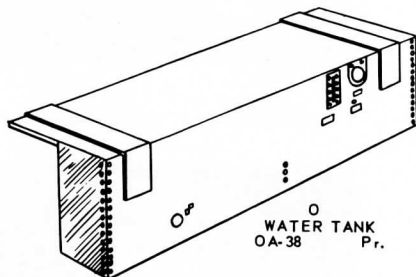


X-391

3 Chime Air Horn  
(4 piece casting)  
GP-20-17 set



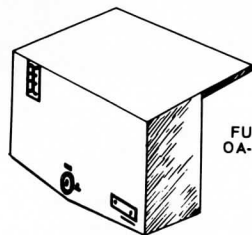
DIESEL STEPS  
All-Nations F-3  
X-374 3 for



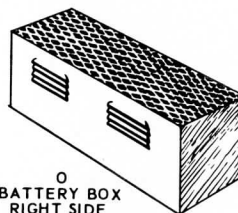
WATER TANK  
OA-38 Pr.



DIESEL  
AIR TANK  
OA-36 pr.



FUEL TANK  
OA-37 Pr.



BATTERY BOX  
RIGHT SIDE  
OA-39B Ea.

BATTERY BOX  
LEFT SIDE  
OA-39A Ea.



# ETCHED BRASS PLATES



## BUILDERS PLATES

In strips of 10 different numbers

- X-490 American... strip
- X-491 Baldwin ... strip
- X-492 Lima ..... strip



### LIMA LOCOMOTIVE & BUILDER PLATES

Etched into brass and blackened.

SH-68 set

### LIMA LOCOMOTIVE PLATES

Etched into brass and blackened.

X-1195 set

## EQUIPMENT TRUST PLATES



X-1196



X-1197

Actual size

"Trust Plates" were found on nearly all steam locomotives, in later years. In some cases, they were applied to the "cradle", under the firebox but, more often, such plates could be found fastened on either side of the smokebox near the builder's plate, etc.

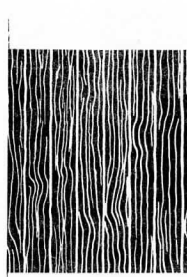
Two sets of plates are offered - one set for Eastern railroads, the other for Western lines. Each set includes a choice of two "Trust Plates" (one pair for a specific road - the other suitable for almost any railroad), a pair of "Superheater" plates, a choice of two "Trust No." plates, and choice of two types of Lubricator plates. A set will detail one locomotive

Etched on .010" brass, the plates can be easily cut out and soldered, or cemented, in place. A sketch, showing locations, comes with each set.

### EQUIPMENT TRUST PLATES

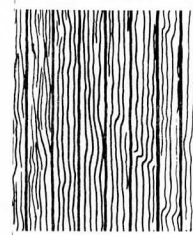
X-1196 Eastern RR set

X-1197 Western RR set



ETCHED PLANKING  
Wood Grain etched into Brass

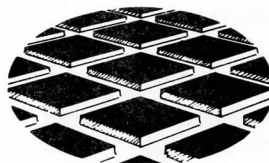
X-1138 5" X 7" ea.



ETCHED PLANKING  
Wood Grain raised on Brass

X-1139 5" X 7" ea.

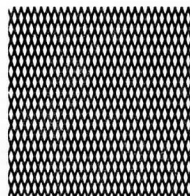
# Kemtron SAFETY TREAD



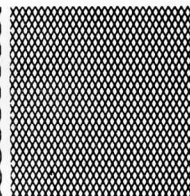
RAISED DIAMOND  
(grid is etched into the brass)



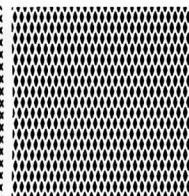
RAISED GRID  
(diamond is etched into the brass)



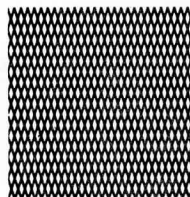
X-1102  
(5 x 7)  
raised grid pattern



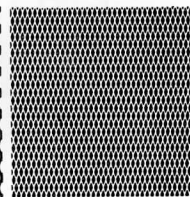
X-1103  
(5 x 12)  
raised grid pattern



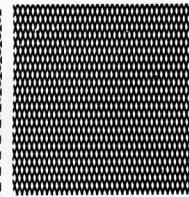
X-1142  
(3-3/4 x 10)  
raised diamond pattern



X-1143  
(3-3/4 x 10)  
raised grid pattern



X-1144  
(4-1/4 x 8-1/2")  
raised diamond pattern

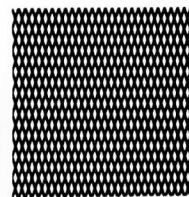


X-1145  
(4-1/4 x 8-1/2")  
raised grid pattern

Kemtron offers a wide range of safety tread. Etched on brass.



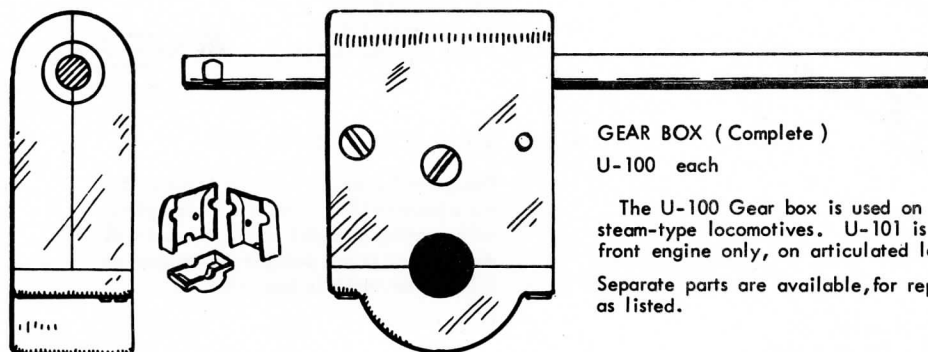
X-375  
(1/2 x 12)  
raised diamond pattern



X-1146  
(3-3/4 x 10)  
open grid - etched thru  
(you can see thru it)

# Gear boxes

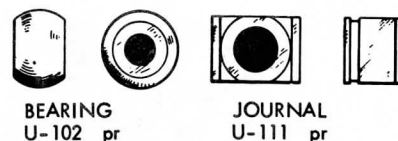
..... ILLUSTRATED ACTUAL SIZE .....



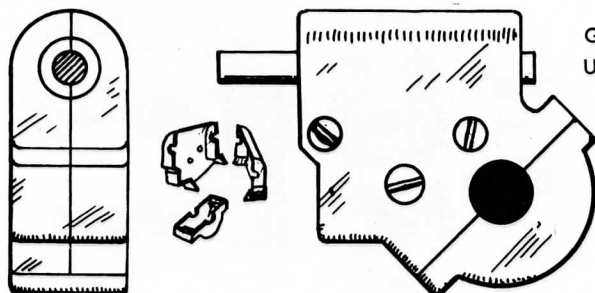
GEAR BOX (Complete)  
U-100 each

The U-100 Gear box is used on most steam-type locomotives. U-101 is for front engine only, on articulated locos.

Separate parts are available, for replacement, as listed.

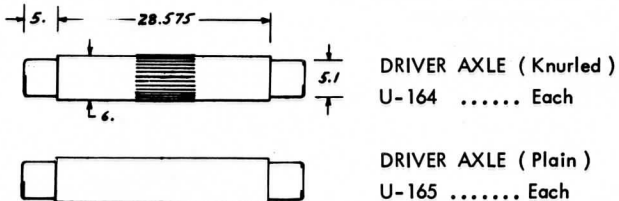
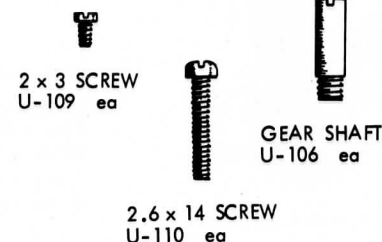
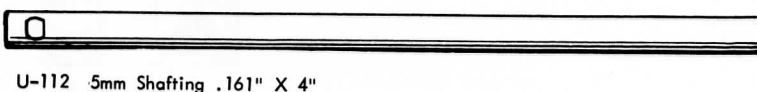
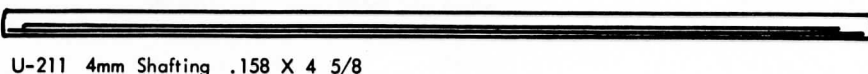
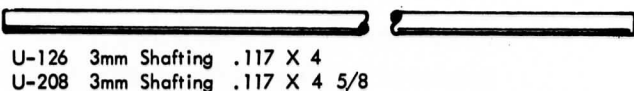
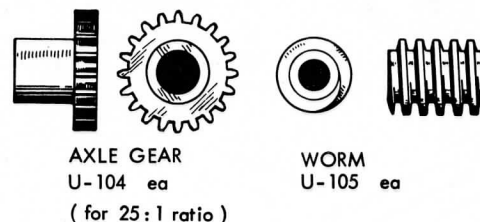


Both Gear Boxes are complete -- less U-111 Journals and U-104 Axle Gear. These parts are on each geared Driver.

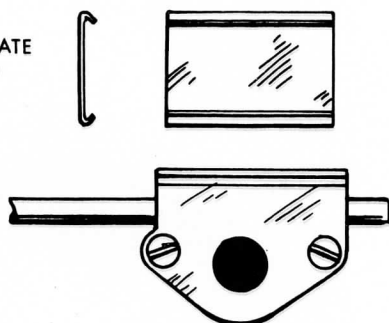
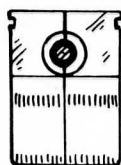


GEAR BOX (Complete)  
U-101 each

All Gear Boxes are Die-Cast for accuracy. Bearings are Oilite for long life. Easy to service for lubrication or to replace any worn parts.

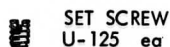


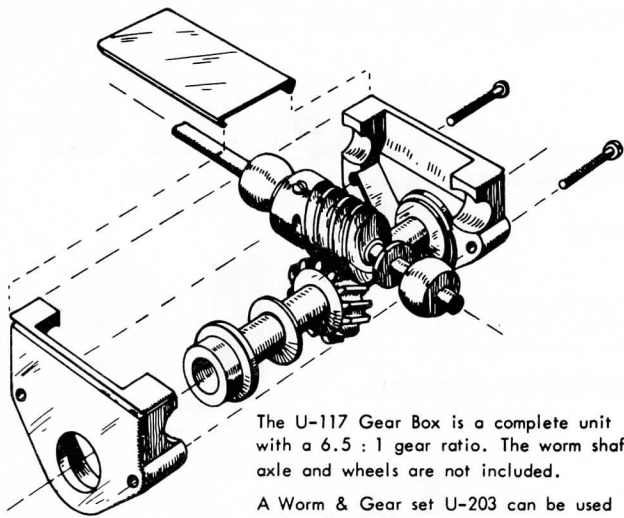
COVER PLATE  
U-116 ea



GEAR BOX (Complete)  
U-117 each 2.50  
(Shaft U-126 not inc.)  
RATIO = 6.5:1

The U-117 Gear box is designed for use in Diesel trucks and similar driving units. Can be used singly or in pairs.





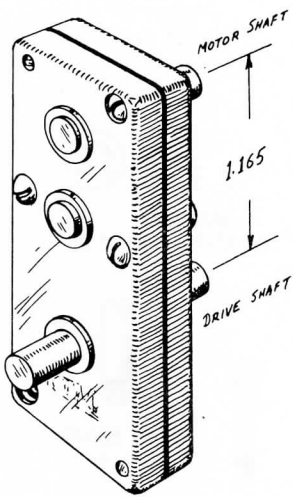
The U-117 Gear Box is a complete unit with a 6.5 : 1 gear ratio. The worm shaft axle and wheels are not included.  
A Worm & Gear set U-203 can be used with it for a 13 : 1 ratio.



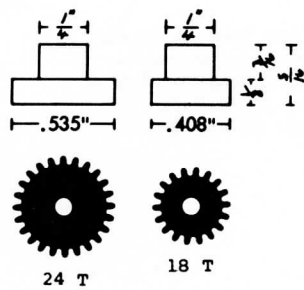
WORM & GEAR SET  
13:1 ratio Fits the U-117 Gear Box

WORM & GEAR SET for U-117  
Designed for use with the U-117 Gear Box for a ratio of 13:1. The U-117 is supplied with gearing for 6.5:1 - - this set will make direct drives possible, or to slow up a diesel for realistic operation.

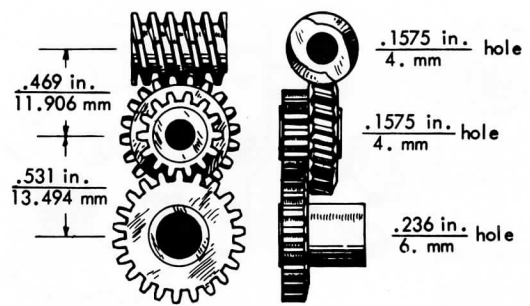
U-203 set



DIESEL TRANSMISSION  
This transmission is now die-cast for accurate alignment.  
Bearings are Oilite.  
U-189 ea.

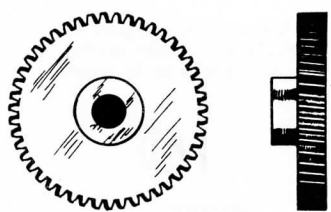


SPUR GEARS (brass)  
Dimensions are shown on profile drawing.  
Hole is 3/32  
Ratios: 1:1 - - 1-1/3:1 - - 1-1/3:1  
this is a close-out item - - either kind or mixed 10 for 1.00

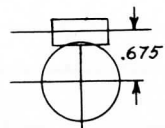


SPECIAL GEAR SET ( 15.71:1 ratio )  
( Sold only in complete sets )

WORM & GEAR SET for U-100 & U-101  
Designed for use in the U-100 and U-101 Gear Boxes to give a ratio of 15.71:1 which will speed up a locomotive for those who like the higher speeds.  
U-185 set



WORM GEAR ( Brass )  
47 teeth 3/16" hole  
X-1057-A .. each



WORM ( Steel )  
Single thread 1/8" hole  
X-1057-B .. each

WORM & GEAR SET ( Ratio=47:1 ) ( This worm and gear not used in gear boxes. )  
X-1057 ..... set



JOURNAL BEARING for Geared Drivers.  
U-111 pr.



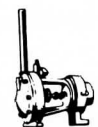
JOURNAL BEARING for Un-Geared Drivers.  
U-230 pr.



Pyle-National Type MO-6 Generator  
U-90 ea



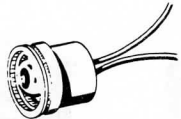
Pyle Nat'l GENERATOR  
X-216 ea



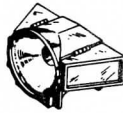
Sunbeam Generator  
X-215 ea



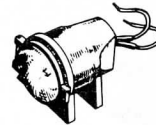
HEADLIGHT  
as used on the  
Santa Fe 2-10-4  
U-200



TENDER LIGHT  
as used on the  
Santa Fe 2-10-4  
U-201



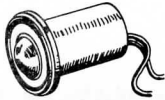
HEADLIGHT (B & O C-16-a)  
Casting only, no bulb  
U-188 ..... each



MARS HEADLIGHT  
as used on the  
U.P. 4-8-4  
U-209 ea.



BACK-UP LIGHT  
( for PT-2, C & O  
2-8-4, and others )  
U-177 each



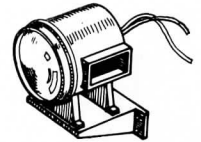
SP "DAYLIGHT" TYPE  
HEADLIGHT & TENDER LIGHT  
U-40 .....each



HEADLIGHT  
U-42 ea



HEADLIGHT  
U-43 ea



HEADLIGHT  
for Penn. K-4  
U-159 ....ea.



HEADLIGHT  
for UP "Big Boy"  
U-158 ..ea.



DUAL HEADLIGHT  
X-46-A pair



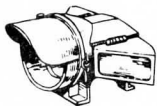
HEADLIGHT (Erie K-5)  
U-41 ..... each



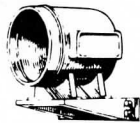
OA-33 pair



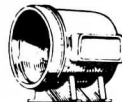
X-391 pair



Pyle-Nat'l.  
TR-13 ea.



TR-4 ea.



TR-11 ea.



TR-24 ea.



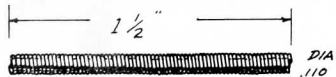
X-326 each



GP-7  
X-54 pair



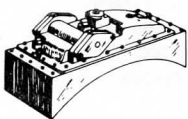
3 Chime type  
GP-20-17 4 pcs.



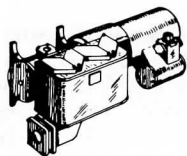
FLEXIBLE ARMORED HOSE  
U-190 2 for



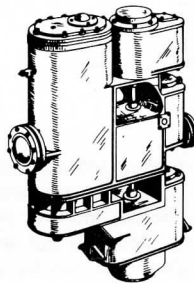
DIESEL HORN (brass)  
this is a close-out  
item. 5 for 1.00



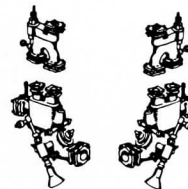
Worthington  
Feedwater Heater  
( Type SA )  
U-84 ...each



Worthington  
Hot Water Pump  
U-85 .. each



Worthington  
Feedwater Heater  
( Type BL-2 )  
U-87 each



Hancock Injector  
& Starter Valve  
X-357 R&L Set

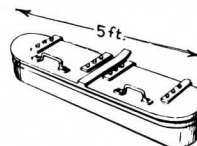


NATHAN INJECTOR  
( type 4000 )  
U-89 ea.



HINGES, WORKING  
(world's smallest)  
U-1 doz

These fully working brass hinges are the smallest available anywhere. Use them for reefers, engine houses, or wherever you need doors that can be operated manually or mechanically.



"O" TENDER WATER HATCH  
X-1036 ea



TENDER WATER HATCH  
C-16-33 ea



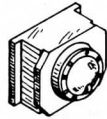
WATER HATCH  
C-16-33 R each



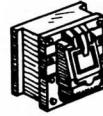
**JOURNAL BOX COVER**  
(for Alco 14-wheel tender)  
U-44 Brass ...each



**JOURNAL BOX**  
(for Commonwealth tender trucks)  
U-45 Plain ..each



**JOURNAL BOX**  
(for Commonwealth tender trucks)  
U-46 Roller bearing ea.



**JOURNAL BOX**  
Plain Bearing  
U-157 ...ea.



**JOURNAL BOX**  
Hyatt R.B. type  
U-155 ...ea.



**JOURNAL BOX**  
Timken R.B. type  
U-156 ...ea.



**JOURNAL BOX**  
as used on the SD-45  
U-204 list pr

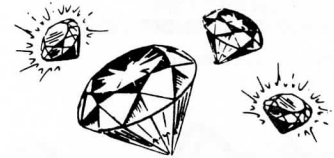


**JOURNAL BEARING**  
for Geared Drivers.  
U-111 pr.



**JOURNAL BEARING**  
for Un-Geared Drivers.  
U-230 pr.

**JEWELS for MARKER LIGHTS**

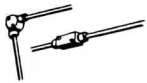


**JEWELS for Marker Lamps**

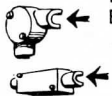
Packaged 12 of one color

- ML-235 Red
- ML-236 Green
- ML-237 Clear
- ML-238 Amber
- ML-239 Blue

Any one Color dz.



**Electrical Junction Boxes**  
(for Steam Locos)  
X-1098 4 pcs.



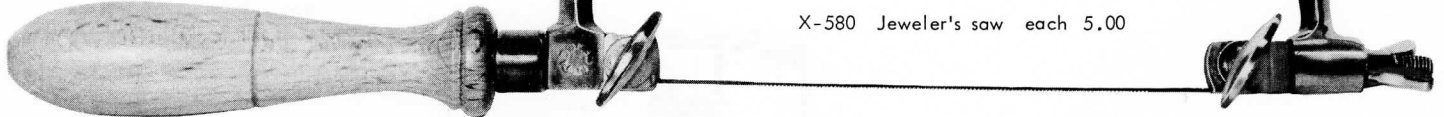
**Junction Boxes**  
(for Diesels)  
X-367 pr.

**JEWELERS SAW**



An indispensable tool for scratch-building. Cuts any material with ease and proficiency. Ideal for cutting irregular contours from brass or plastic sheet stock, slicing thin-wall tubing, etc.

Adjustable to various blade lengths. A high quality tool!



X-580 Jeweler's saw each 5.00

**& BLADES**

Four different blades are offered. Each has its own useage with the JEWELERS SAW No. 2 is for use on wood, cardboard, plastic etc. No. 5 is for average use on materials slightly harder than for No.2. The No. 3/0 is for use on Brass sheet, rod or tubing. No. 3/0 will cut steel rod easily. No. 3 is for softer materials to prevent "plugging" but can be used on heavy sections of brass.

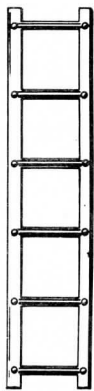


**Saw Blades**

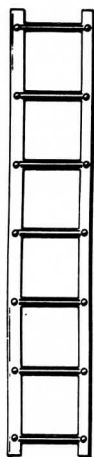
- No. 2 X-582 \_\_\_\_\_
- No. 5 X-583 \_\_\_\_\_
- No. 3/0 X-581 \_\_\_\_\_
- No. 3 X-582A \_\_\_\_\_

ALL BLADES ARE LIST .85 per dozen

**L**



6-RUNG LADDER  
U-17 4 for



7-RUNG LADDER  
U-18 4 for



Engine Ladder  
X-305 ea.



Tender Ladder  
X-1051 ea.



Mech. Lubricator  
X-95 ea.

**M**

MARKER LIGHTS .....

jewels included  
but not mounted



w/ jewels  
OA-16 pair



w/ jewels  
ML-99 pair



w/ jewels  
ML-100 pair



Hollow for bulb  
less jewels  
ML-109 pair 1.25  
w/ 12 v G.O.R. bulb  
ML-109 C pair



less jewels  
ML-107 pair

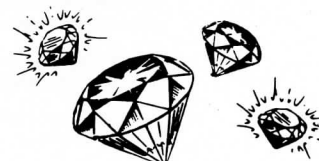


w/ jewels  
(Wabash)  
X-1008 pair

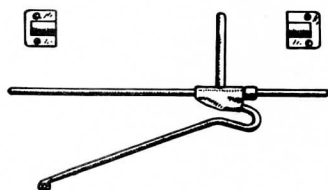


CABOOSE  
MARKER LAMPS  
w/ 4 each - Red,  
Green, Amber jewels  
U-175 pair

JEWELS for MARKER LAMPS



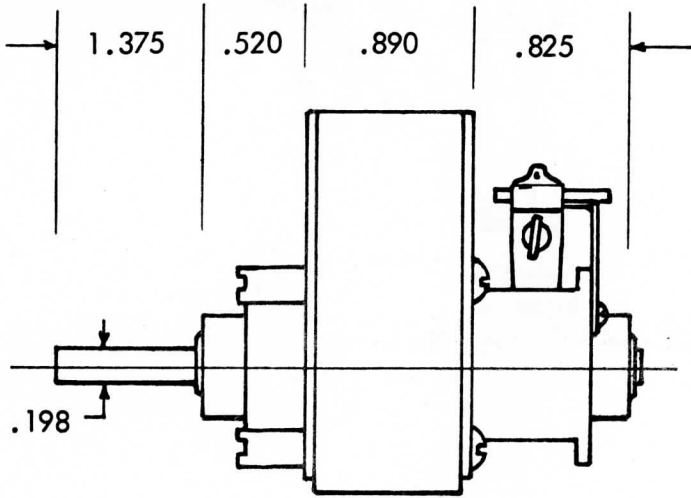
- JEWELS for Marker Lamps  
Packaged 12 of one color
- ML-235 Red
  - ML-236 Green
  - ML-237 Clear
  - ML-238 Amber
  - ML-239 Blue
- Any one Color dz.



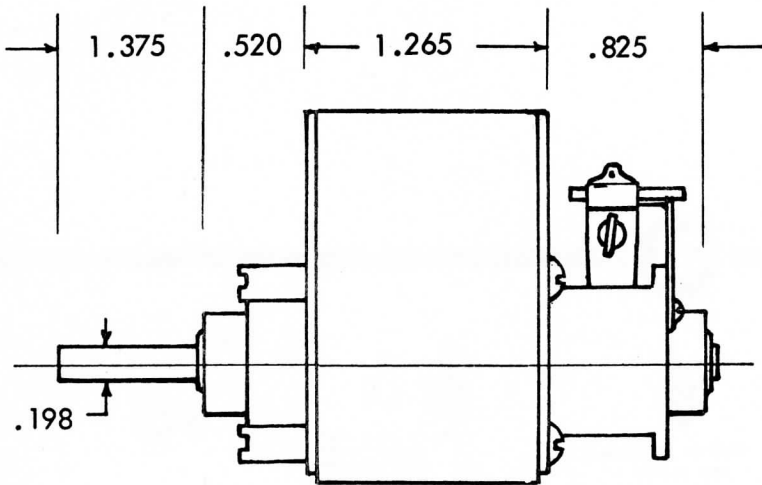
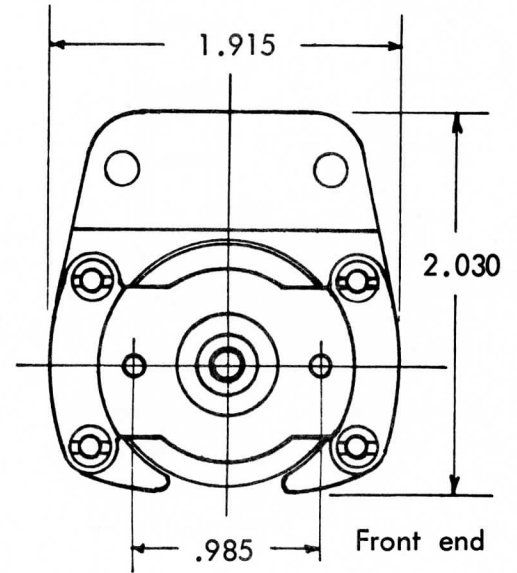
MAIL POUCH CATCHER  
X-1167 pair



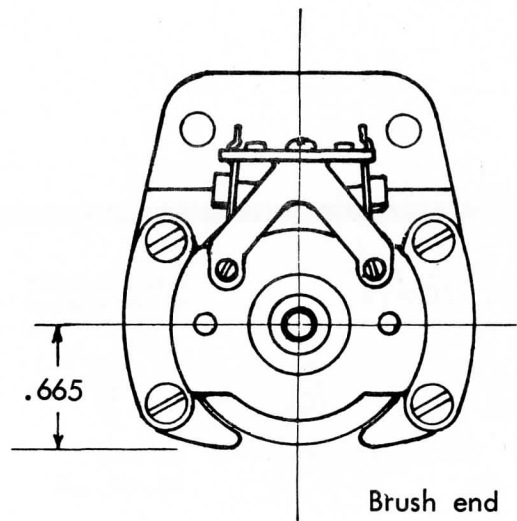
# Motors



U-79 each



U-80 each



Brush end

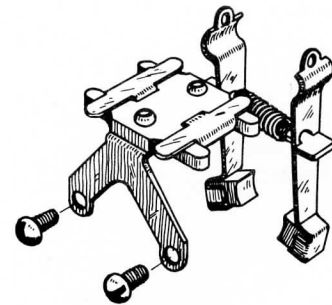
## ARMATURES

We have armatures for the U-79 and U-80 Motors. The shaft extends from the end opposite to the brushes.

When ordering, be sure to specify what motor it is for, and from which end the shaft extends.

We are trying to build up a stock of armatures. Watch each Newsletter for further information.

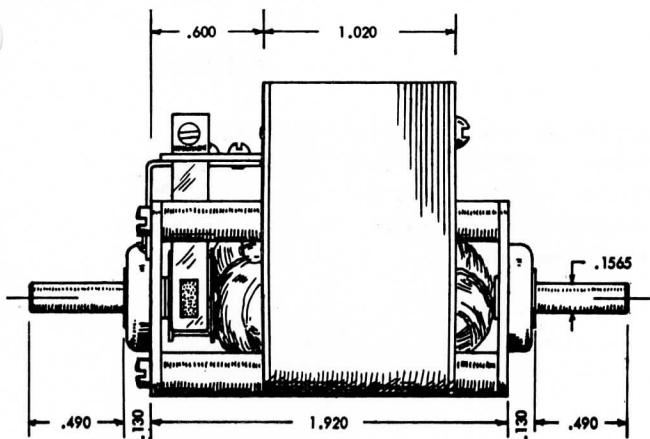
For prices, see the Code/Price List under U-79 and U-80.



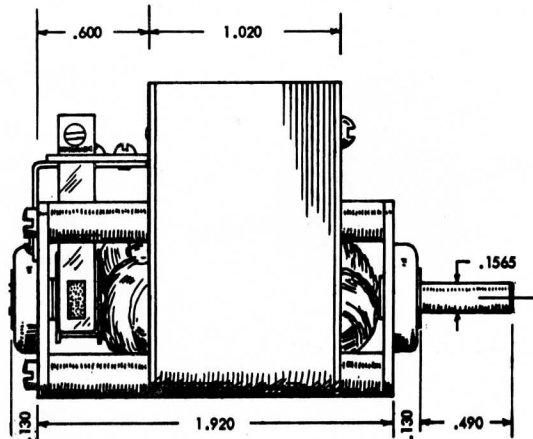
BRUSH ASSEMBLY  
(for U-79 & U-80 Motors)

U-34 ea.

# Motors

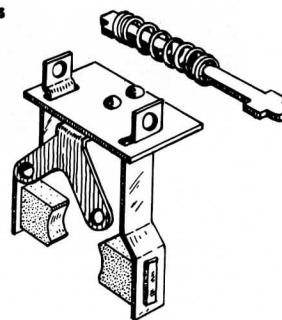
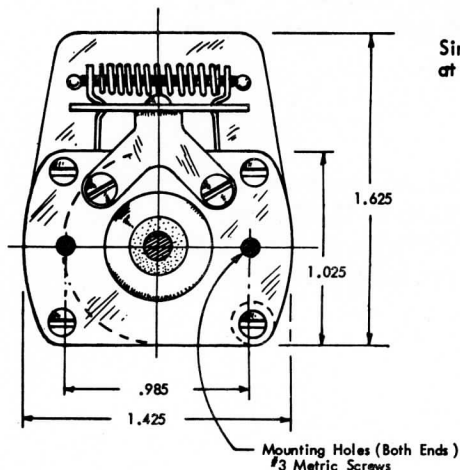


12 volt DC - 5 pole - MOTOR  
U-187 double shaft, each



12 volt DC - 5 pole - MOTOR  
U-186 single shaft, each

Smooth-running motors for diesels and medium size locomotives. Single or double shaft, large bearings for long life, mounting holes at both ends. Replaceable brushes.



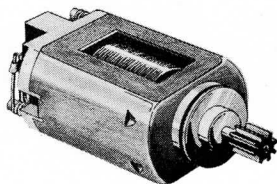
BRUSH ASSEMBLY  
( for U-186 & U-187 motors )  
U-191 each

MOTORS for 1001 USES  
Operate on 2 to 12 Volts DC

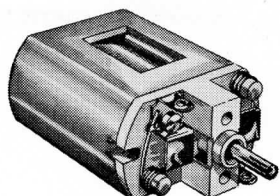
1 Motor ..... \$ 1.00  
10 Motors..... \$ 5.00



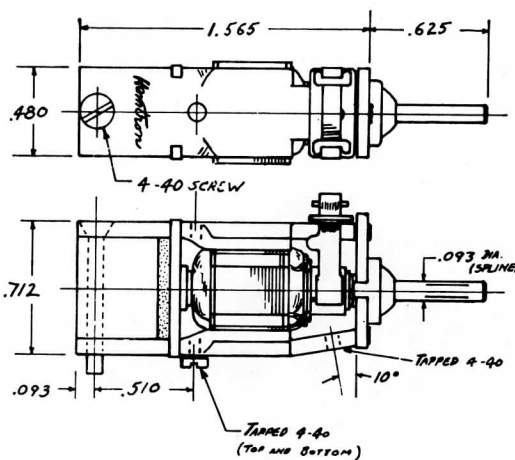
U-221



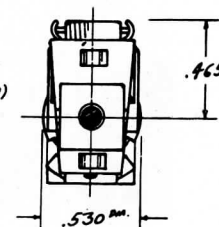
U-222



## MOTOR DRAWING ACTUAL SIZE



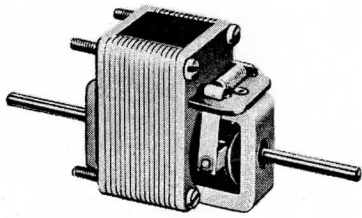
X-1499



Especially made for our Wabash Mogul, this small size, precision-built motor is suitable for almost any HO scale locomotive or power truck application. It can also be used in some HO<sub>3</sub> models, too! Shaft is splined for a sure grip on worm and mounting holes are provided on both top and bottom. 5-poles for lots of power!

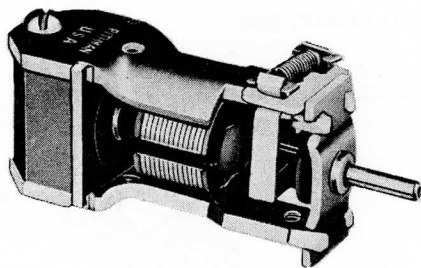
X-1499 12 Volt DC Motor, ea  
X-1499 BS Brush Rig.....set

# MOTORS *by Pittman*



## DC 65A

A small, but powerful double end shaft motor. Five pole armature,  $17/32$ " diameter. Alnico VI field. .0034 hp at 14,000 rpm. Dimensions:  $17/32$ " long x  $3/4$ " wide x  $13/32$ " high. .092" shaft extends  $11/16$ " each end. Standard motor wound for twelve volt DC operation.



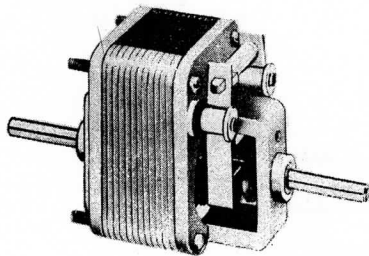
## DC 66

A compact, low cost, permanent magnet field motor. Five pole armature,  $17/32$ " diameter. Alnico V field. .0021 hp at 14,000 rpm. Dimensions:  $125/32$ " long x  $5/8$ " wide x  $23/32$ " high. .092" shaft extends  $3/8$ ". Standard motor would for twelve volt DC operation.

## DC 77A

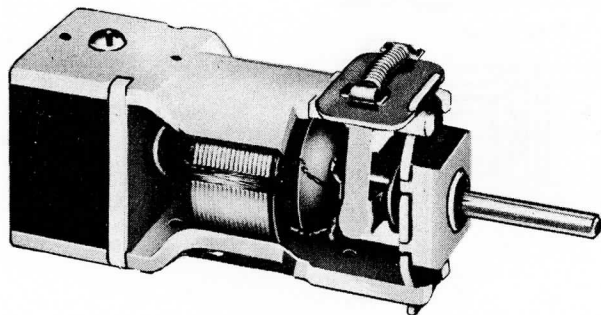
Larger version of the DC-66. Five pole armature,  $5/8$ " diameter. Alnico VI field. .0033 hp at 12,500 rpm. Dimensions:  $125/32$ " long x  $21/32$ " wide x  $11/16$ " high. .092" shaft extends  $3/8$ ". Standard motor wound for twelve volt DC operation.

Motor pictures are not actual size.



## DC 84

A rugged and efficient double end shaft motor with plenty of reserve power. Five pole armature,  $3/4$ " diameter. Alnico VI field. .009 hp at 9,500 rpm. Dimensions:  $111/16$ " long x  $11/16$ " wide x  $13/8$ " high.  $1/8$ " shaft extends  $21/32$ " each end. Standard motor wound for twelve volt DC operation.



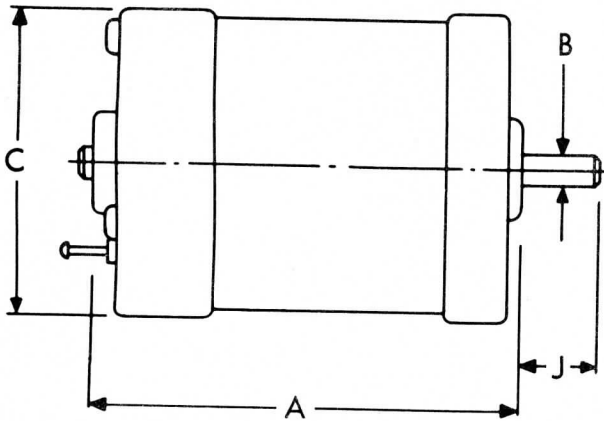
## DC 81

Husky in-line motor. Five pole armature,  $3/4$ " diameter. Alnico V field. .0055 hp at 7,000 rpm. Dimensions:  $25/16$ " long x  $13/16$ " wide x  $13/16$ " high.  $1/8$ " shaft extends  $3/4$ ". Standard motor wound for twelve volt DC operation.

By special arrangement, Kemtron is able to supply five sizes and types of Pittman Motors.

*Kemtron* CORPORATION  
5755 E. Fountain Way Fresno, California 93727

# MOTORS *by Pittman*



Three sizes of Pittman Motors are now available for "O" Scale model locomotives.

Motor Mount for either one is our U-215  
Mounting Screws and Grommets are U-216

## PITTMAN 12V DC MOTORS 4500 RPM

| No. 9102   | No. 9103    | No. 9104    |
|------------|-------------|-------------|
| A = 2"     | A = 2 5/16" | A = 2 9/16" |
| B = 5/32"  | B = 5/32"   | B = 5/32"   |
| C = 1 5/8" | C = 1 5/8"  | C = 1 5/8"  |
| J = 1/2"   | J = 1/2"    | J = 1/2"    |
| 1/80th HP  | 1/60th HP   | 1/40th HP   |

## PITTMAN 9100 SERIES MOTORS

Designed and built for long, maintenance free operation.

Fully enclosed.

Long life copper-graphite brushes.

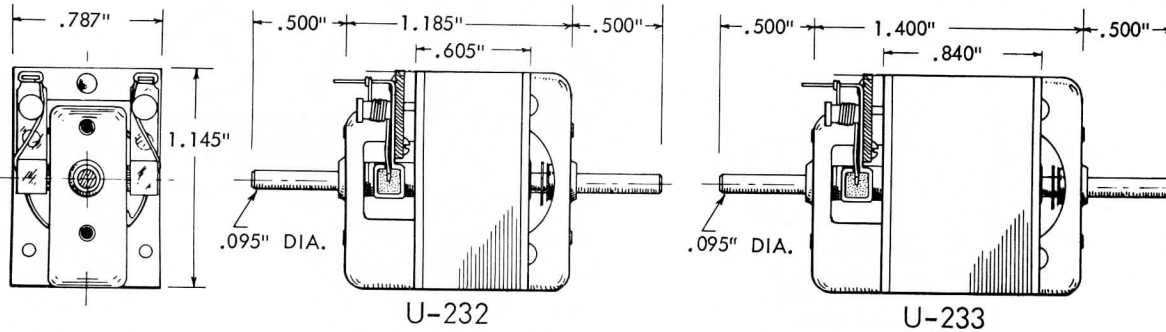
Brush arms and terminals are silver plated for high conductivity.

Easy access to brushes.

Barium Ferrite Magnets.

Self aligning bearings.

Made in 3 sizes.

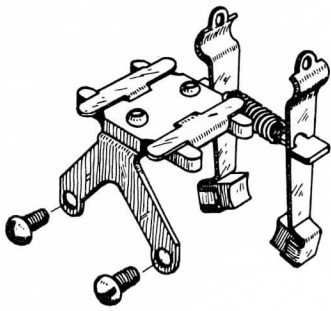


KMT MOTORS - - 7 POLE - - 12V DC - - PERMAG

Double end shaft - - Laminated Field - -  
For On3 and small 'O' Locomotives - -

U-232 ea.  
U-233 ea.

MOTOR PARTS



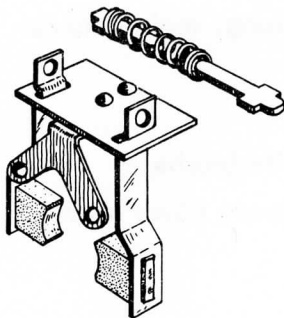
BRUSH ASSEMBLY  
(for U-79 & U-80 Motors)  
U-34 ea.



BRUSH ASSEMBLY  
for U-82 Motor  
U-83 each .50

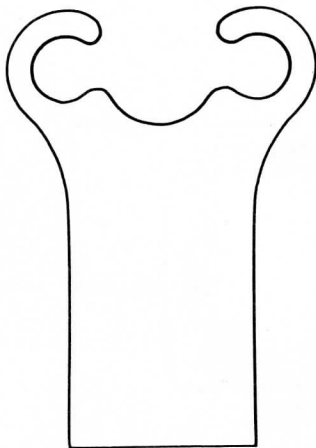


BRUSHES w/ SPRINGS  
(for U-81 motor)  
U-179 2 each .50



BRUSH ASSEMBLY  
(for U-186 & U-187 motors)  
U-191 each

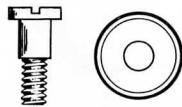
MOTOR MOUNTS



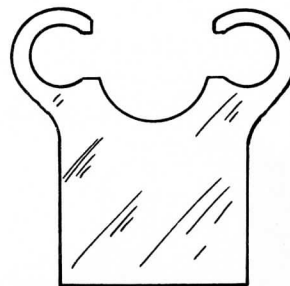
MOTOR MOUNT  
for Pittman 9102  
9103 & 9104 Motors  
U-215

This Motor Mount is made longer than needed so that it may be cut to fit any locomotive.

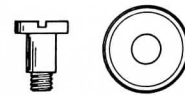
Made of .050" Brass for rigidity.



MOUNTING SCREWS  
and GROMMETS  
Threads are 6-32 for  
Pittman Motors  
U-216 set of 2 .60¢



MOTOR MOUNT  
U-78 ...each .50



MOUNTING SCREWS  
and GROMMETS  
Threads are 3 mm  
U-210 set of 4 \$1.00

ARMATURES

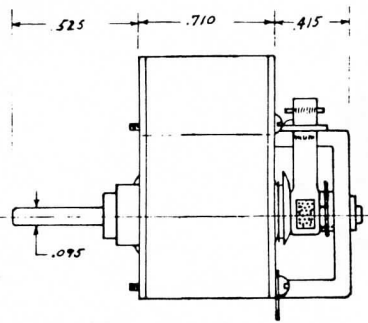
We have armatures for the U-79 and U-80 Motors. The shaft extends from the end opposite to the brushes.

When ordering, be sure to specify what motor it is for, and from which end the shaft extends.

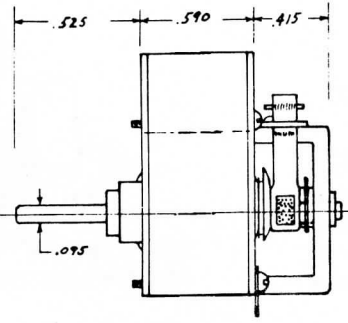
We are trying to build up a stock of armatures. Watch each Newsletter for further information.

For prices, see the Code/Price List under U-79 and U-80.

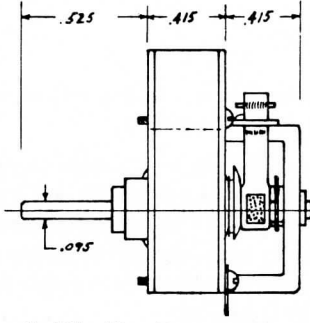
# Motors



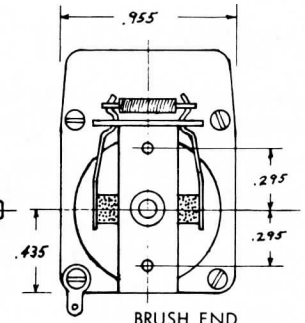
U-163 12 v Motor.. ea.



U-162 12 v Motor.. ea.



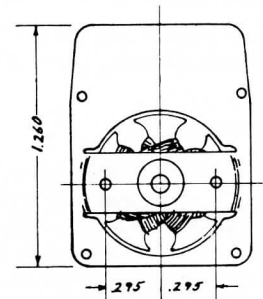
U-161 12 v Motor.. ea.



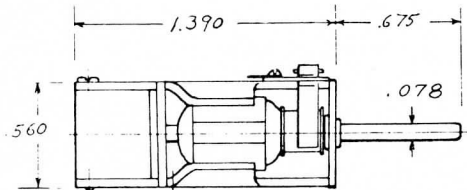
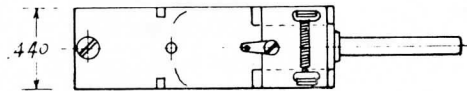
BRUSH END

## U-163 - - - U-162 - - - U-161 MOTORS

A 12 volt, DC motor of exceptional quality, made by KTM. 5 poles for smooth power, oilite bearings, large brushes. Can be mounted at either end. 3 sizes handle all power requirements. An excellent motor for small to medium O scale locos.



SHAFT END



← MOUNTING HOLE

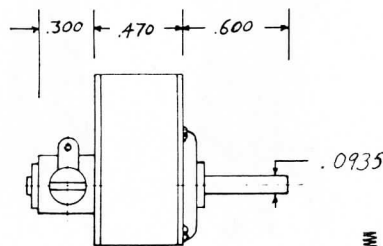
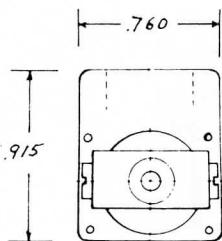
U-82 each

Long, slim permag type. 5 Poles, 12 volt DC, High quality motor for all scales.



BRUSH ASSEMBLY for U-82 Motor

U-83 each



U-81 each

Compact, laminated field type. 5 Poles, 12 volt DC, High torque. Ideal for narrow gauge.



BRUSHES w/ SPRINGS (for U-81 motor)

U-179 2 each



## MARS LIGHT

Every modeler is striving for realism - - - time and effort to make things "look real", in scale and effect.

With a choice of rail, ties and ballast - - - with locomotives and rolling stock - - - with trackside equipment and structures - - - with buildings and scenery - - - mountains and bridges - - - yet, something is missing, as a locomotive comes around a curve, the headlight is steadily sending out a single beam of light. The Mars Light action is missing!

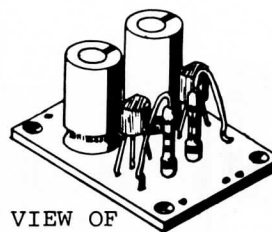
Now this added bit of realism is possible at very little cost.

Without mechanical action - - - an Electronic Unit plus a dual filament bulb, gives it the "real look".

### MARS LIGHT

- X-1521 Complete kit, with pre-wired E.U. Unit and large D.F. Bulb.
- X-1522 Complete kit, with pre-wired E.U. Unit and small D.F. Bulb.
- X-1520 Pre-wired Electronic Unit ONLY.
- X-1523 Large D.F. Bulb ONLY . . . . . ea
- X-1524 Small D.F. Bulb ONLY . . . . . ea
- X-155 Electrical Hook-up Wire

E.U. = Electronic Unit                      D.F. Dual Filament



TOP VIEW OF  
ELECTRONIC UNIT



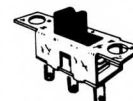
DUAL FILAMENT  
BULB

X-1523 ea.



DUAL FILAMENT  
BULB

X-1524 ea.



SUB-MINIATURE  
SWITCH

Ideal size for use with our Electronic Mars Light, Flasher, and other uses where size is important. Rated 1/2 amp at 50 V.

U-240 each

## FLASHER

Many structures on a layout are tall enough to put flashing warning light on it.

- Water Tanks
- Radio Towers
- Bridges
- Mountain Tops

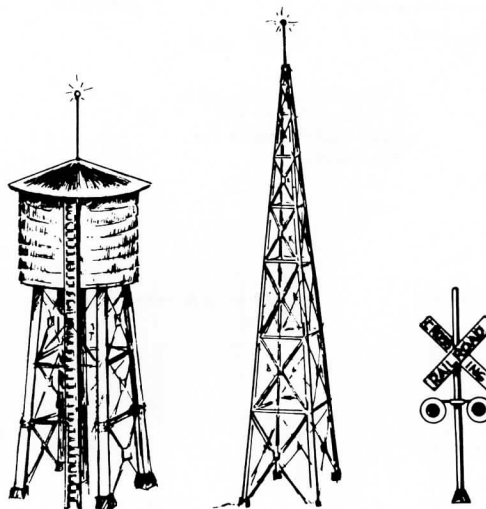
This same unit can be used for:

- Crossing Signals
- Top of Caboose
- Top of Diesels

The kit contains an Electronic Unit and two RED single filament bulbs and instructions.

### FLASHER

- X-1525 Complete kit, with pre-wired Electronic Unit and 2, 4.5 Volt Single Filament RED Bulbs.
- X-1520 Electronic Unit ONLY
- X-400 R Single Filament Bulb, 4.5 Volt RED
- X-400 C Single Filament Bulb, 4.5 Volt CLEAR

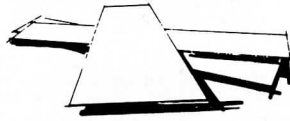


BRASS - - - Sheet Stock - - - Rods - - - Tubing - - -

**SHEET BRASS**

Cut to size for your order.  
Available in 5 thicknesses.

**BRASS SHEET STOCK**



- .012" weight 8 oz per sq ft
- .020" weight 14 oz per sq ft
- .025" weight 1 lb 1 oz per sq ft
- .040" weight 1 lb 12 oz per sq ft
- .050" weight 2 lb 4 oz per sq ft

\$3.50 per pound

**ASSORTED SIZES & THICKNESSES OF SHEET BRASS**

Too small for use in our processes, but all are useful for modelers.

X-1599 - - - 5 pounds for \$10.00

**BITS & PIECES**

Sheets - - - Rods - - - Tubing - - -  
Chunks. An ideal assortment for your "junk box".

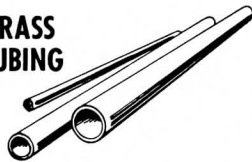
X-2144 Over 1 pound of Brass, \$1.00

**BRASS ROUND TUBING**

Available in 12" lengths

- 3/32" - - - .25
- 1/8" - - - .25
- 5/32" - - - .25
- 3/16" - - - .30
- 7/32" - - - .30
- 1/4" - - - .30

**BRASS TUBING**



**BRASS ROUND ROD**

Available in 12" lengths

- 1/16" - - - dz 1.20
- 3/32" - - - dz 2.40
- 1/8" - - - dz 3.00

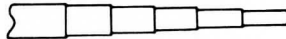
**BRASS SOLID ROD**



**BRASS SQUARE TUBING**

Available in 12" lengths

- 3/32" ..... .30
- 1/8" ..... .35
- 5/32" ..... .40
- 3/16" ..... .45
- 7/32" ..... .50
- 1/4" ..... .55



Each square tube size fits into the next larger size.

**BRASS SQUARE ROD**

Available in 12" lengths

- 3/32" fits into 1/8" tubing.... ea \$ .25
- 5/32" fits into 3/16" tubing.... ea .50
- 3/16" fits into 7/32" tubing.... ea .75
- 7/32" fits into 1/4" tubing.... ea 1.00

Each of these rods will fit into the next larger size of square tubing.

**SOLDERING FLUX**

This new Kem-Flux makes soldering easy. Residue washes off with water, leaving the soldered area clean.

Non-acid!

Kem-Flux X-632 .75



**NUT-BOLT-WASHERS**



**HEX or SQUARE**

|       |         |     |   |            |        |
|-------|---------|-----|---|------------|--------|
|       | X-568   | Sq  | B | Medium     | 19 for |
|       | X-569   | Hex | B | Medium     | 19 "   |
| ⊕ ⊕ ⊕ | X-574   | Sq  | P | Medium     | 50 "   |
|       | X-575   | Hex | P | Medium     | 50 "   |
|       | X-570   | Sq  | B | Small      | 19 "   |
|       | X-571   | Hex | B | Small      | 19 "   |
| ⊕ ⊕ ⊕ | X-576   | Sq  | P | Small      | 50 "   |
|       | X-577   | Hex | P | Small      | 50 "   |
|       | X-572   | Sq  | B | Very small | 19 "   |
| ⊕ ⊕ ⊕ | X-573   | Hex | B | Very small | 19 "   |
|       | X-578   | Sq  | P | Very small | 50 "   |
|       | X-579   | Hex | P | Very small | 50 "   |
| ⊕     | X-203   | Sq  | B | Large      | 1 doz. |
| ⊕     | X-204   | Sq  | B | Medium     | 1 "    |
| ⊕     | X-205   | Sq  | B | Small      | 1 "    |
|       | X-198   | Sq  | P | 3 sizes    | 4 doz. |
|       | X-198-A | Sq  | P | Large      | 3 "    |
|       | X-198-B | Sq  | P | Medium     | 4 "    |
|       | X-198-C | Sq  | P | Small      | 4 "    |

All NBW's .90 per package

B = BRASS P = PLASTIC

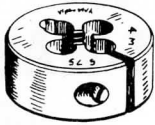
Use brass NBW detail on models requiring soldering or extreme durability. The more economical plastic type is suitable for use with all materials; ideal on styrene models!



NUT on BOLT  
(Brass)  
X-386 doz. .85



**METRIC TAPS & DIES**



SIZES of METRIC TAPS & DIES IN STOCK

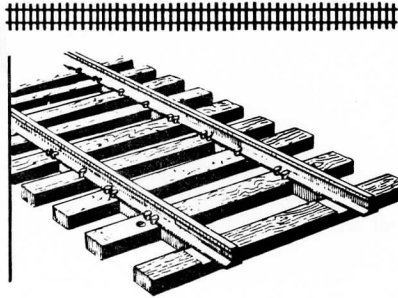
**Metric Taps & Dies**

| Size mm | Tap Price | Dies Price |
|---------|-----------|------------|
| 1.0     | .. \$1.35 | .. \$      |
| 1.2     | .. \$1.00 | .. \$ 3.00 |
| 1.4     | .. \$1.00 | .. \$ 3.00 |
| 2.0     | .. \$1.00 | .. \$ 3.00 |
| 2.6     | .. \$1.00 | .. \$ 3.00 |
| 3.0     | .. \$1.50 | .. \$ 3.00 |
| 4.0     | .. \$1.75 | .. \$ 4.00 |

1/16 W-60 Tap..\$1.00 ea  
 US Standard Taps  
 0-80..... .35¢  
 2-56..... .35¢

Ties and Spikes are DELRIN

**Kem-trak**



The easy, time-saving way to lay track! Kem-trak can be curved, either way, to any radius and, if desired, straightened again. Rails are always held in proper gauge and ties cannot slip out of place. Plastic ties are "grained" and feature a "natural" irregularity of spacing and alignment typical of the prototype. At least two "believable" spike heads hold the rail fast to every tie. Holes provide for fastening the track to the roadbed with brads, if you wish. What more could we possibly do except lay it for you?

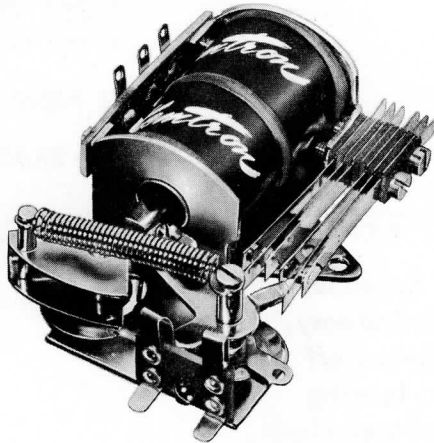
**On3 NARROW GAUGE**

KEM-TRAK CODE 100  
 w/Code 100 rail  
 U-97 36" lengths, pkg. of 12

*Pro built Quality*

the **Finest SWITCH MACHINE**

Ever offered to Model Railroaders



- Kemtron's NEW X-250 Switch Machine is a
- superb product of electro mechanical engineering.
- Silver Contacts for long trouble free operation.
- 12 Volt DC or AC operation.
- Mounts over or under your layout.
- Two sets of contacts, PLUS POLARITY CONTROL

X-250 each

**Kemtron CORPORATION**

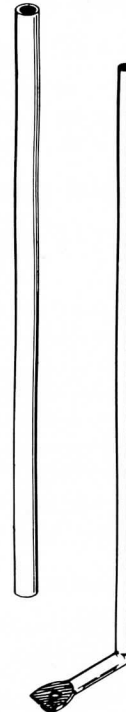


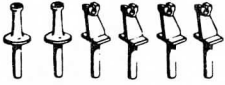
**UNDER LAYOUT MOUNTING KIT**

This is a kit of parts for mounting the X-250 Switch Machine, under the layout.

All Brass.

X-250ULM kit

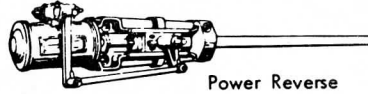




Pilot Beam Details  
X-253 6 pcs.



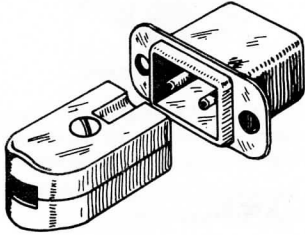
Pilot Beam Details  
X-1010 7 pcs.



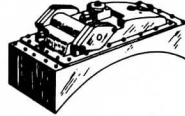
Power Reverse  
X-237 ea.



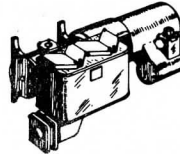
POLING POCKET  
U-5 5 for



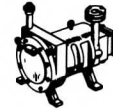
PLUG & SOCKET  
U-36 ...each



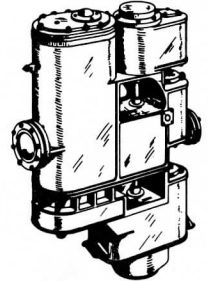
Worthington  
Feedwater Heater  
( Type SA )  
U-84 ...each



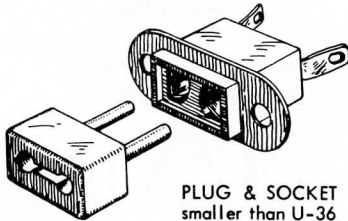
Worthington  
Hot Water Pump  
U-85 .. each



Worthington  
Cold Water Pump  
U-86 .. each



Worthington  
Feedwater Heater  
( Type BL-2 )  
U-87 each



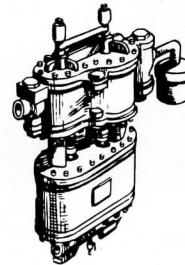
PLUG & SOCKET  
smaller than U-36  
U-195 each



Nathan Injector  
U-89 ... each

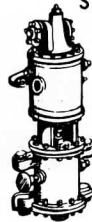


Westinghouse  
K-418



New York  
K-423

SINGLE PHASE AIR PUMPS



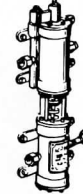
11" PUMP  
K-421



9 1/2" PUMP  
K-419



8" PUMP  
K-420



6" PUMP  
K-422



6" x 6"  
PUMP  
K-425 ea

PIPING DETAIL PARTS



UNIONS  
All scales can use.

- |   |  |       |              |
|---|--|-------|--------------|
| Cast in clusters of 12<br><br>Actual size Silhouettes |  | X-451 | clust. of 12 |
|   |  | X-452 | clust. of 12 |
|   |  | X-453 | clust. of 12 |
|   |  | X-454 | clust. of 12 |
|   |  | X-455 | clust. of 12 |



Cast in clusters of 12

PIPE "EL"  
All scales can use.  
X-269 clust. of 12



Cast in clusters of 12

PIPE "T"  
All scales can use.  
X-294 clust. of 12



New

GLOBE VALVE

GLOBE VALVE  
X-295 ea.

This valve is cast with a hole clear thru. Just push onto wire (pipe) and solder in place.



**RECTIFIER Double Plate**  
U-35 ea



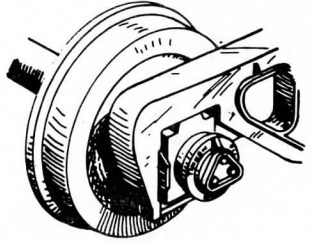
**SINGLE PLATE RECTIFIER**  
U-181 each



**ROOF WALK SUPPORT**  
U-14 10 for .50



**Rerail Frogs**  
X-162 pr.



**ROLLER BEARING CAPS**

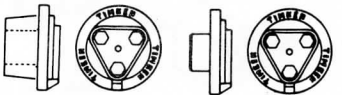
Two types of caps are made. These rotate with the axle for the realism so important in scale model operation.

The original Max Gray T-109 Trucks were improved in two stages.

The U-62 Roller Bearing end can be used to up-date the Max Gray T-109 trucks, by removing the small end plate. You will see a hole into which you can press the U-62.

The U-193 is used on the U.S. Hobbies' U-59 Roller Bearing trucks.

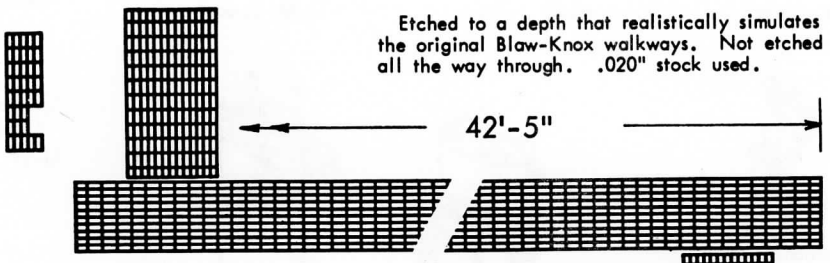
**HI-IMPACT R.B. CAPS**



**U-193**  
Press over  
Axle End

**U-62**  
Press into  
Axle End

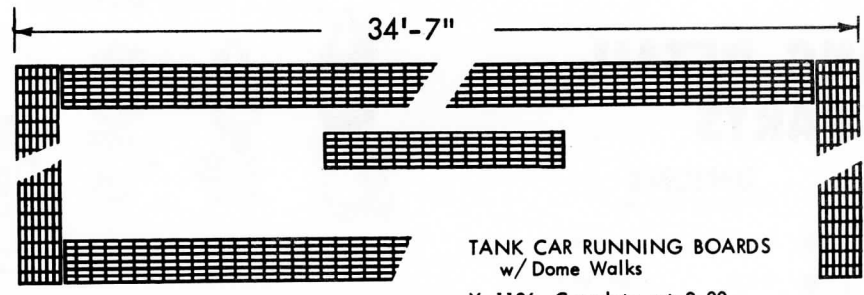
**EITHER STYLE, U-62 OR U-193**  
Package of 8..... list .50¢



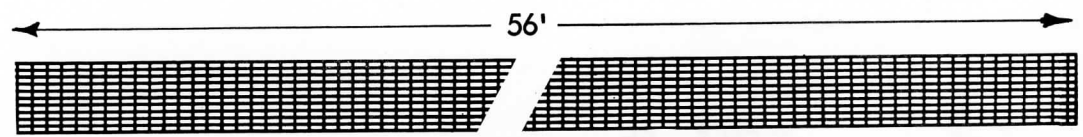
**BOX CAR ROOF WALKS w/ Brake Step**  
X-1137 Complete set 2.00

**VALVE GEAR RIVETS and SCREWS**  
(for O scale Locomotives)

- ▮ 0.9 x 1.5 .. doz. .30
- ▮ 0.9 x 2.0 .. doz. .30
- ▮ 0.9 x 2.5 .. doz. .30
- ▮ 0.9 x 3.0 .. doz. .30
- ▮ 1.1 x 2.0 .. doz. .30
- ▮ 1.1 x 2.5 .. doz. .30
- ▮ 1.1 x 3.0 .. doz. .30
- ▮ 1.1 x 5.0 .. doz. .40
- ▮ U-137 .....doz. .65
- ▮ U-138 .....doz. .60
- ▮ U-139 .....doz. .50
- ▮ U-140 .....doz. .65
- ▮ U-141 .....doz. .80
- ▮ U-142 .....doz. .65



**TANK CAR RUNNING BOARDS w/ Dome Walks**  
X-1136 Complete set 2.00



**BOX CAR ROOF WALK EXTRA LONG w/ Brake Step**  
X-1170 Complete set \$2.50



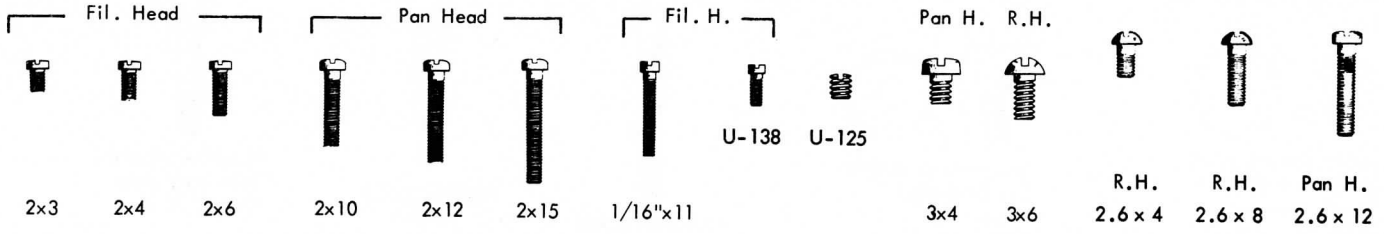
**"O" SCALE RULER**

A very useful tool with direct scale readings for "O" - - "S" - & HO It also has an inch scale in 64ths - - a metric scale in MM - - plus tap and clearance drill sizes - - and drill sizes in decimals.

X-211 each



# METRIC SCREWS -- NUTS -- WASHERS -- CRANKPIN SCREWS



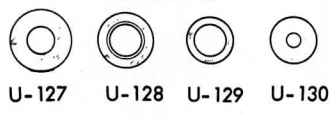
--- all Metric Screws are sold by the dozen at .60 ---

## HEX NUTS



--- all Hex Nuts are sold by the dozen at .60 ---

## WASHERS

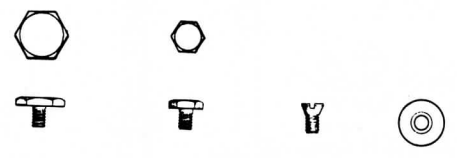


--- all Washers are sold by the dozen at 1.20 ---

Order Screws, Nuts, and Washers by size, as given. Packed, and sold, by the dozen, only.

## CRANKPIN SCREWS

( Actual size )



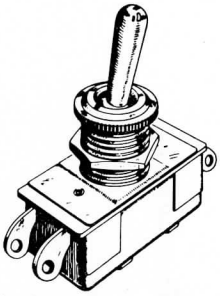
U-132 Any style ... each .15 Sold only in pkg. of 1 dozen 1.50  
U-131 set .... .20  
U-133

## CRANK PIN SCREWS

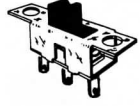
All screws 1-72 thread



U-134 Steel each .05 doz. .50  
U-135 Brass, each .06 doz. .60  
U-136 Brass, each .06 doz. .60



2 POLE SINGLE THROW SWITCH  
U-219 ea.



SUB-MINIATURE SWITCH  
Ideal size for use with our Electronic Mars Light, Flasher, and other uses where size is important. Rated 1/2 amp at 50 V.  
U-240 each



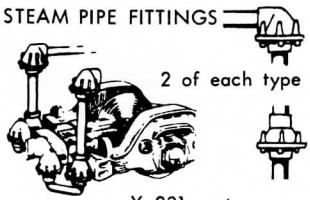
STIRRUP STEP  
Made of Brass  
Dimensions shown  
Close-out at 20 for \$1.00



Smoke box Cleaning Hole Lid  
X-252 pair



Air Sander  
X-1020 pair



STEAM PIPE FITTINGS  
2 of each type  
X-231 set



SHOULDERED SCREW  
U-184 3 for 1.00  
Use as kingpin with U-160-A spring.



KINGPIN SPRING  
Use with U-160 and U-174 Kingpin Screws  
U-160-A each .10



TENDER TRUCK SPRING ( Has many uses ! )  
U-168 dozen .40



KINGPIN SCREW  
U-51 doz 1.20



BOLSTER SPRING  
U-50 doz .60

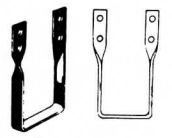


TRUCK SPRING  
U-52 doz .30



LOCO DRIVER SPRINGS  
U-178 dozen .50

Springs were used after mid-1957 in place of the above pads.



STIRRUP  
U-3 4 for .50



Tender Step  
X-1019 ea.



DIESEL STEPS  
All-Nations F-3  
X-374 3 for



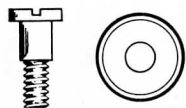
STAKE POCKET  
U-4 30 for 1.50



**SPECIAL SCREWS**



MOUNTING SCREWS and GROMMETS  
Threads are 3mm  
U-210 set of 4 \$1.00



MOUNTING SCREWS and GROMMETS  
Threads are 6-32 for  
Pittman Motors  
U-216 set of 2



KINGPIN SCREW  
Threads are 3mm  
U-231 dz \$1.20



SHOULDERED SCREW

U-184 3 for 1.00  
Use as kingpin with  
U-160-A spring.



KINGPIN SCREW  
Threads are 3mm  
U-51 dz \$1.20

KING PIN for  
PILOT TRUCK  
longer than the  
U-160. Use  
the U-174 Screw  
with it.  
U-206 each



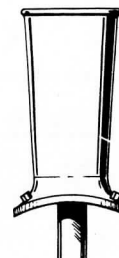
KING PIN for PILOT TRUCK  
(U.S.Hobbies Locos)  
U-160 each



SCREW for PILOT  
TRUCK KINGPIN  
U-174 each



X-1023 each

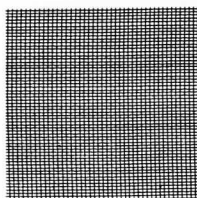


X-39 each

**BRASS  
WIRE SCREEN**

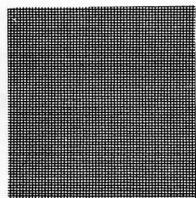
3 Textures Available

Fine mesh screen is often useful where expanded metal is too large or the wrong texture. Try it for spark arresters on logging locomotives or screen doors on buildings!



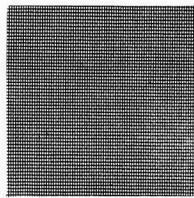
# 60

4 x 6  
X-1156 each



# 70

4 x 6  
X-1157 each



# 80

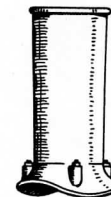
4 x 6  
X-1158 each



C-16-05 R each



X-616 each



X-607 each



C-16-05 C 2 pcs.



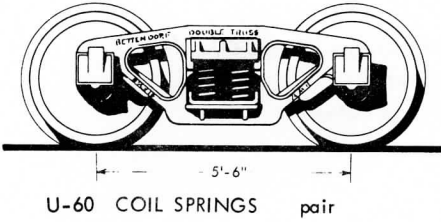
BASE ONLY  
C-16-05 B each

# Trucks ...all illustrated actual size.

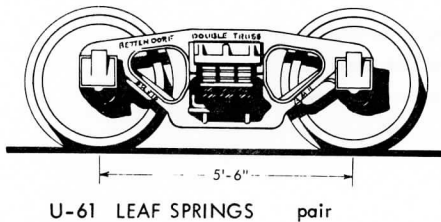
○ SCALE

STANDARD GAUGE BETTENDORF FREIGHT TRUCK

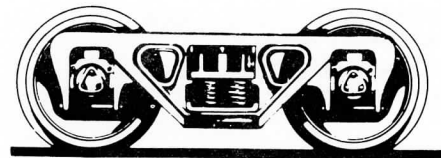
Zamac 33" Steel wheels Assembled



U-60 COIL SPRINGS pair

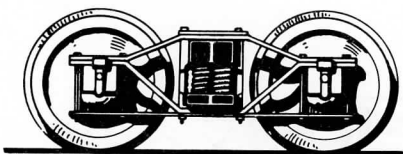


U-61 LEAF SPRINGS pair



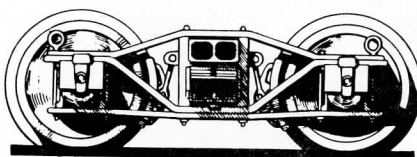
U-59 SPRUNG ROLLER BEARING FREIGHT TRUCK  
( with revolving journals )

5'-6" Wheelbase per pair  
33" Wheels

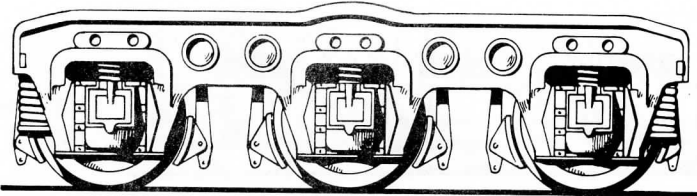


SHORT ARCH BAR TRUCK  
4'-10" Whb. 33" Wheels  
X-2111 pair .....

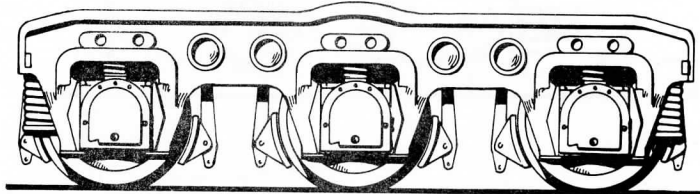
Although designed for use on our forthcoming 40'-6" flar car, these short wheelbase trucks are suitable for almost any "old time" car. Outboard brake beams were used on the prototype, in most cases hung from the car body. In kit form.



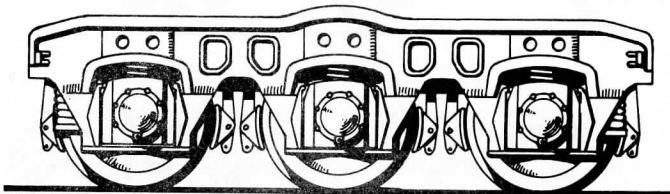
"O" ARCH-BAR TRUCKS  
X-1040 pr.



COMMONWEALTH TENDER TRUCK 10'-3" Wheelbase 33" wheels  
Sprung, w/Plain Journals  
U-69 per pair

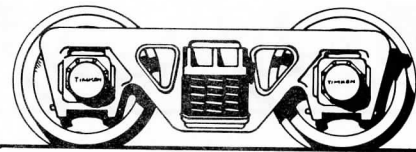


COMMONWEALTH TENDER TRUCK 10'-3" Wheelbase 33" Wheels  
Sprung, w/Roller Bearing Journals  
U-70 per pair

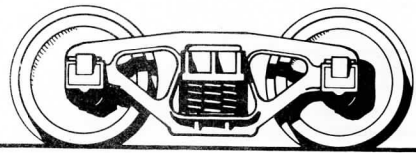


COMMONWEALTH TENDER TRUCK 102" Wheelbase 33" Wheels  
Sprung, w/Roller Bearing Journals  
U-71 per pair

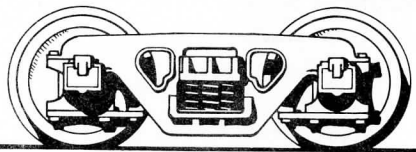
○ Scale - ATHEARN Freight Trucks



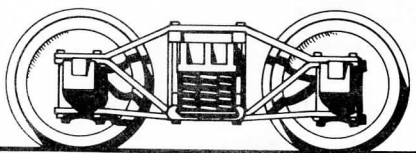
U-63 Roller bearing type ... pair



U-64 Bettendorf type ..... pair



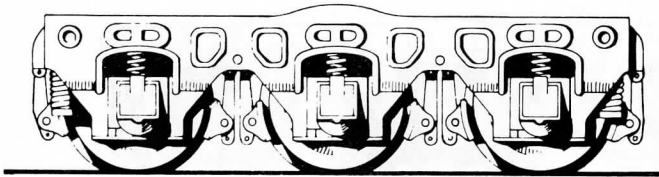
U-65 Andrews type ..... pair



U-66 Arch bar type ..... pair

All trucks  
5'-6" wheelbase  
33" wheels

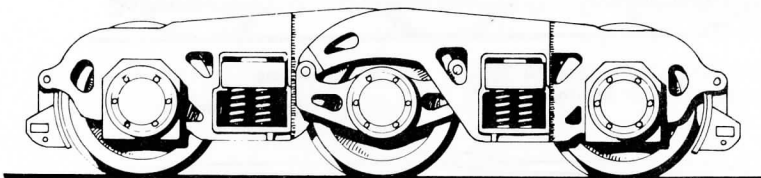
# Trucks ... O Scale unless noted ... all illustrated actual size.



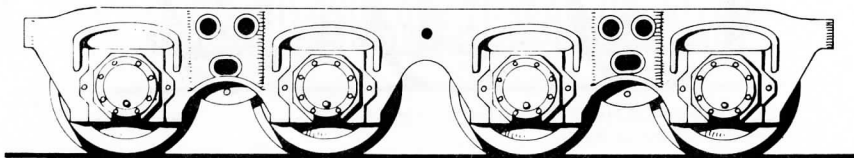
COMMONWEALTH TENDER w/plain journals,  
sprung and equalized.  
102" wheelbase, 33" wheels  
U-72 pr.



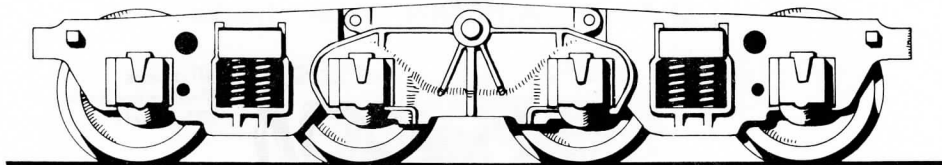
BUCKEYE TENDER w/plain journals,  
sprung and equalized.  
10'-3" wheelbase, 36" wheels  
U-73 pr.



BUCKEYE TENDER w/roller bearing  
journals, sprung and equalized.  
10'-3" wheelbase, 36" wheels  
U-74 pr.

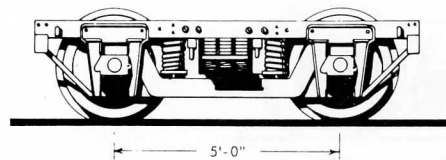


COMMONWEALTH TENDER w/roller  
bearing journals, equalized.  
12'-9" wheelbase, 33" wheels  
U-75 pr.

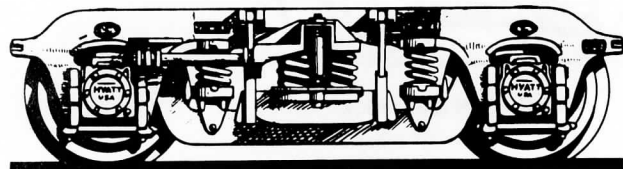


BUCKEYE TENDER w/plain journals  
sprung and equalized.  
14'-0" wheelbase, 36" wheels  
U-76 pr.

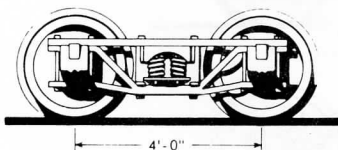
## On3 SCALE



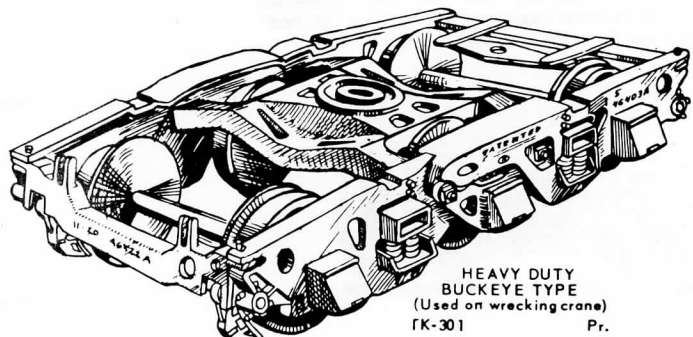
On3 NARROW GAUGE PASSENGER TRUCK  
Drop forged brass - Sharp detail - 26" wheels  
U-67 pair



STREAMLINE PASSENGER TRUCKS  
(Fully sprung and equalized journals)  
TK-300 Pr.

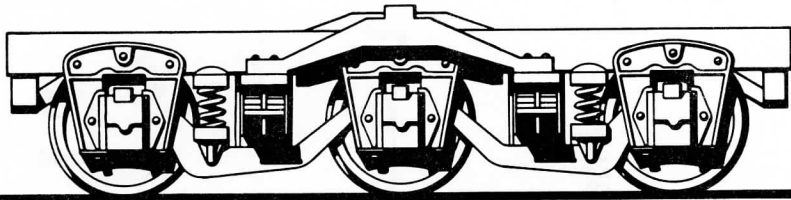


On3 NARROW GAUGE FREIGHT TRUCK  
Drop forged brass - Sharp detail - 26" wheels  
U-68 pair



HEAVY DUTY  
BUCKEYE TYPE  
(Used on wrecking crane)  
TK-301 Pr.

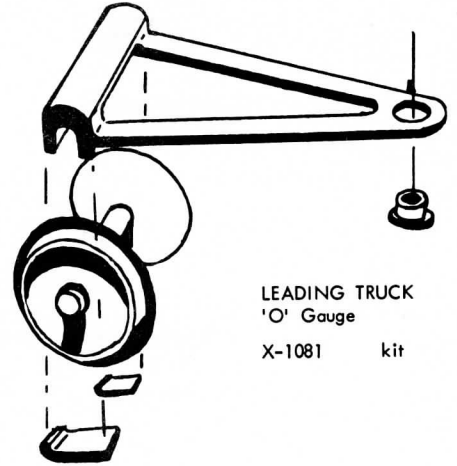
# Trucks



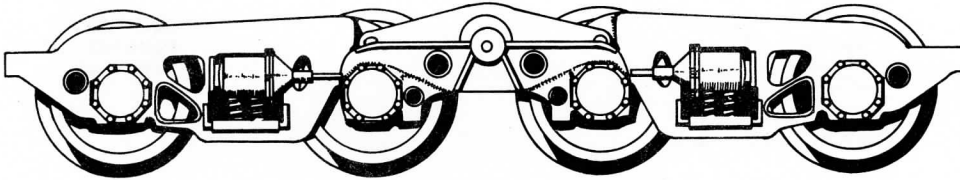
## 6 WHEEL PASSENGER TRUCK U-220

This truck is a superb example of Craftsmanship. Cast in Zamac, with Phosphor Bronze leaf springs, Brass retainers, Steel coil springs, Copper rivets, Steel axels, insulated one side.

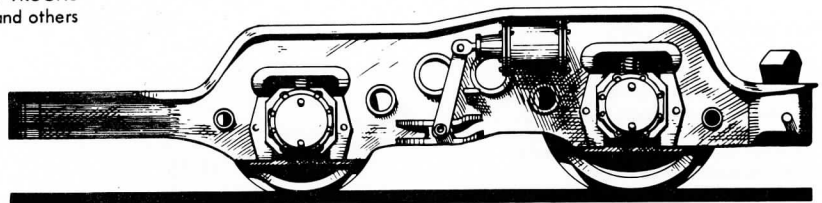
Over 150 pieces in this kit. These trucks are fully sprung!



LEADING TRUCK  
'O' Gauge  
X-1081 kit



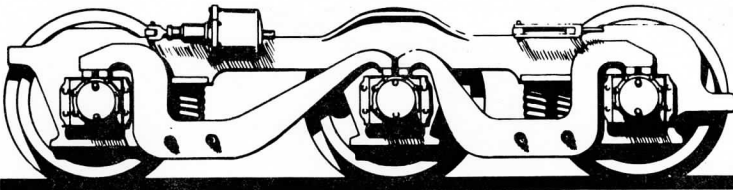
6 WHEEL BUCKEYE TENDER TRUCKS  
as used on the Santa Fe 2-10-4 and others  
U-217 pair



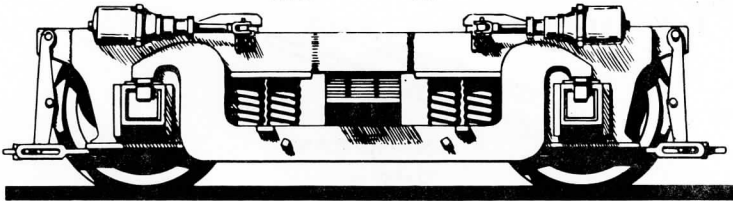
## "O" TRAILING TRUCK

One of the most superb trailing trucks offered in O scale All Brass, Sprung. It will do wonders for the appearance of any loco using such a truck.

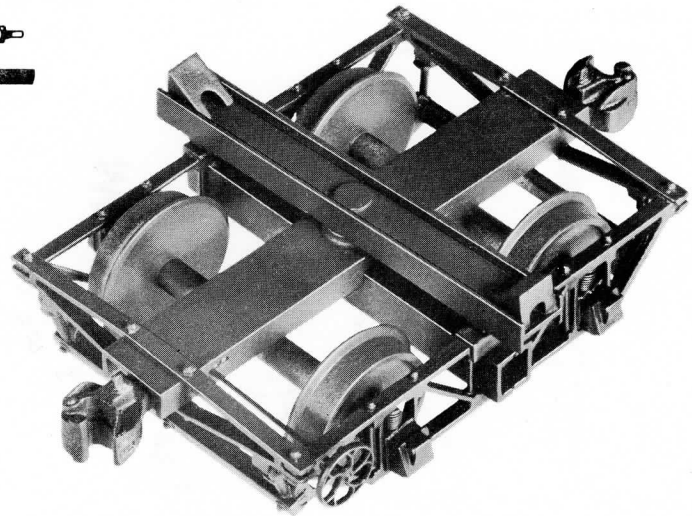
X-70 (kit) ea.



ALCO 6 WHEEL DIESEL  
OA-30 Pr.



ALCO 4 WHEEL DIESEL  
OA-25 Pr.



## LOGGING "DISCONNECT" -- 'O' Gauge

This Log Buggy kit is a sharply detailed set of over 40 parts. Brass castings by the Lost Wax process. Easy to assemble.

Kit is complete with Wheel Assemblies, Springs, Washers, Wire etc., Journals are sprung and fully working.

The only things left out are Paint and the Log Load!

X-700 kit

# TRUCK PARTS



COIL SPRINGS  
X-436 4 for



LEAF SPRINGS  
X-497 dozen



TRUCK SPRING  
U-52 dz.



TENDER TRUCK SPRING  
( Has many uses ! )  
U-168 dozen



KINGPIN SCREW  
Threads are 3mm  
U-51 dz



BOLSTER SPRING  
U-50 doz



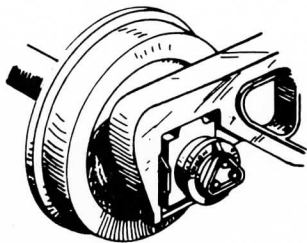
KINGPIN SCREW  
Threads are 3mm  
U-231 dz



INSULATING BUSHING  
U-48 4 for



INSULATING BUSHING  
X-1495 pair



## ROLLER BEARING CAPS

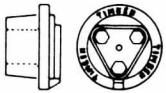
Two types of caps are made. These rotate with the axle for the realism so important in scale model operation.

The original Max Gray T-109 Trucks were improved in two stages.

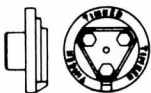
The U-62 Roller Bearing end can be used to up-date the Max Gray T-109 trucks, by removing the small end plate. You will see a hole into which you can press the U-62.

The U-193 is used on the U.S. Hobbies' U-59 Roller Bearing trucks.

## HI-IMPACT R.B. CAPS

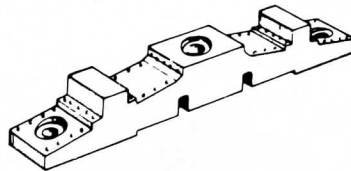


U-193  
Press over  
Axle End

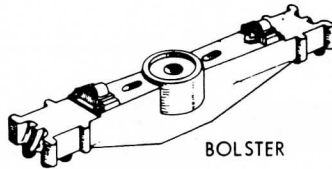


U-62  
Press into  
Axle End

EITHER STYLE, U-62 OR U-193  
Package of 8..... list .50c

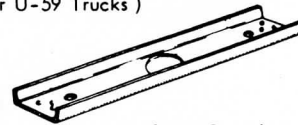


BODY BOLSTER ( Plastic )  
U-49 pair

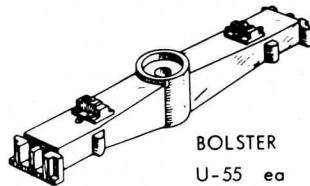


BOLSTER  
U-53 ea

( For U-59 Trucks )

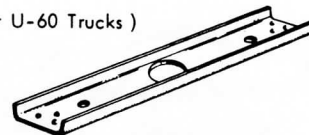


SPRING PLANK  
U-54 ea

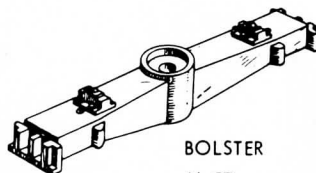


BOLSTER  
U-55 ea

( For U-60 Trucks )

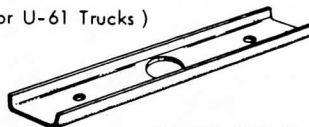


SPRING PLANK  
U-56 ea



BOLSTER  
U-57 ea

( For U-61 Trucks )



SPRING PLANK  
U-58 ea



KING PIN for PILOT TRUCK  
( U.S. Hobbies Locos )  
U-160 each



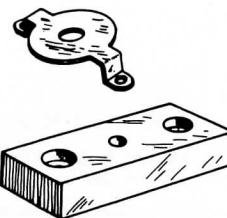
SCREW for PILOT TRUCK KINGPIN  
U-174 each



KINGPIN SPRING  
Use with U-160 and  
U-174 Kingpin Screws  
U-160-A each



SHOULDERED SCREW  
U-184 3 for  
Use as kingpin with  
U-160-A spring.

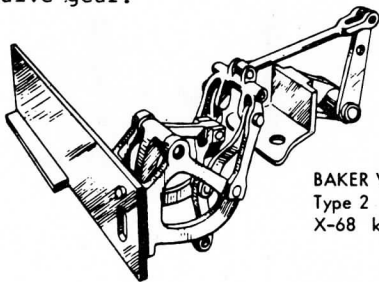


INSULATING BOLSTER & CONTACT PLATE  
U-37 .... set

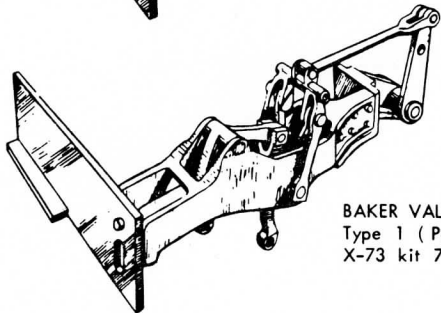
**'O' VALVE GEAR KITS**

Kemtron offers two styles of Baker Valve gear.

These Baker Valve Gear Kits are designed in such a manner that they can be made to fit any "O" scale loco.



BAKER VALVE GEAR  
Type 2 ( Freight )  
X-68 kit 7.50



BAKER VALVE GEAR  
Type 1 ( Passenger )  
X-73 kit 7.50

**VALVES .....**



POP VALVE  
X-28 pair



TURRET VALVE  
C-16-70 pair



WATER VALVE  
C-16-46 pair



BRAKE VALVE ( C-16 )  
C-16-71 each



RELIEF VALVE ( Cyl. )  
X-1068 pair



TWICE the actual size and you still can't see all the detail.



X-98 X-99 X-100

X-98 pair  
X-99 pair  
X-100 pair



GLOBE VALVE  
w/ hole thru  
X-295 each



VALVE WHEELS  
X-652 6 for  
( Plastic )  
X-652 P doz



DRAIN COCK  
X-1014 pr.



PIPE w/ VALVE  
X-361 each

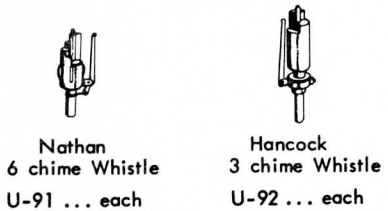


TOP FEED  
CHECK VALVE  
X-312 Ea.



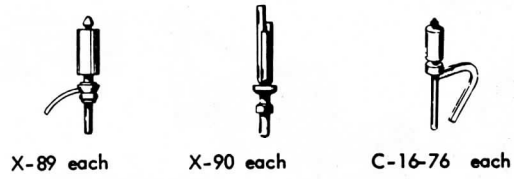


WHISTLES



Nathan  
6 chime Whistle  
U-91 ... each

Hancock  
3 chime Whistle  
U-92 ... each

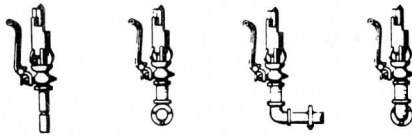


X-89 each

X-90 each

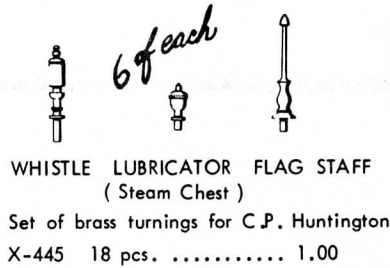
C-16-76 each

CHIME WHISTLES  
(4 different mounting  
positions on dome)



Chime whistle that mounts as needed

X-337 Top mount  
X-480 Left mount  
X-481 Rear mount  
X-1075 Right mount



WHISTLE LUBRICATOR FLAG STAFF  
( Steam Chest )

Set of brass turnings for C.P. Huntington  
X-445 18 pcs. .... 1.00

WASHERS



U-127 U-128 U-129 U-130

- - - all Washers are sold by the dozen at 1.20 - - -

PHOSPHOR BRONZE WIRE

Easily formed. "Springy" to avoid accidental bending on model. Solders as easily as brass. Excellent for small piping.

Round Wire  
X-532 - .014  
3-18" lengths, list

BRASS WIRE

Round Wire - 5' Coils

X-177 .020" list  
X-296 .025" "  
X-297 .030" "  
X-298 .035" "  
X-299 .040" "  
X-539 .050" "  
X-540 .064" "

COILED

Round Wire, 12" Straight

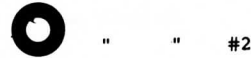
X-485 .020" list  
X-486 .025" "  
X-487 .030" "  
X-488 .035" "  
X-489 .040" "

STRAIGHT

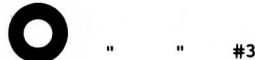
Note: Code number represents standard package of 6 lengths.



Brass Washer #1



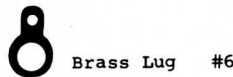
" " #2



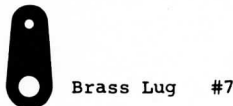
" " #3



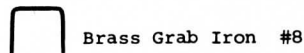
Phosphor Bronze Lock Washer #5



Brass Lug #6



Brass Lug #7



Brass Grab Iron #8

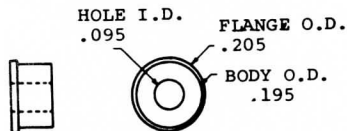
All items are actual size. Order by number.

All are priced at 50 for .50¢

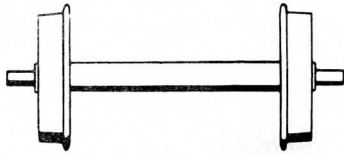
Do not order mixed lots

Minimum quantity 50 of any one kind.

BEARING -- BOLSTER -- BUSHING



This item - - - made of DELRIN can be used as a bearing or a bushing or as a bolster - - -  
U-59B - Package of 8...list .50¢



"O" GAUGE WHEEL ASSEMBLIES

Steel wheels -- steel axles -- blackened -- insulated one side.

Blunt axle projection as drawn.

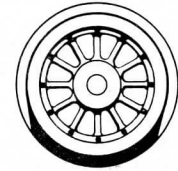
- WA-203 33" each
- WA-204 36" each
- WA-205 40" each

SPOKED WHEEL UNMACHINED CASTINGS

SPOKED WHEELS

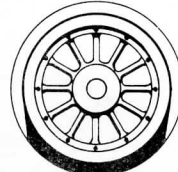
Cast in brass by the lost wax process. Un-machined -- Axles and Tires are not included.

For any application where Spoked wheels are required, i.e., Leading, Trailing Trucks and for Tender Trucks that require them.



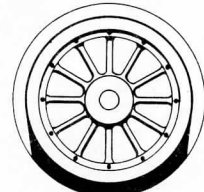
33"

X-351 pair



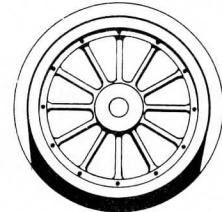
36"

X-352 pair



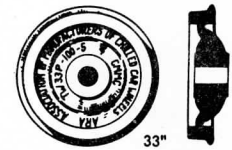
40"

X-353 pair



45"

X-354 pair



33"

U-358 Freight wheel with Ribbed back.



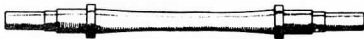
36"

U-354 Standard freight and Passenger wheels.



38"

U-356 Standard freight and Passenger wheels.



Axles are tapered like the prototype, and are made of steel.

CONTINENTAL MONARCH

Wheel Assemblies

Nylatron Wheels -- Steel Axles

- U-354 36".....each .66
- U-356 38".....each .66
- U-358 33".....each .66

ORDERING INSTRUCTIONS:

Order by code number and quantity. List price is .66¢ per assembly ( 2 Wheels on an axle ).

WHEELS are molded in NYLATRON.

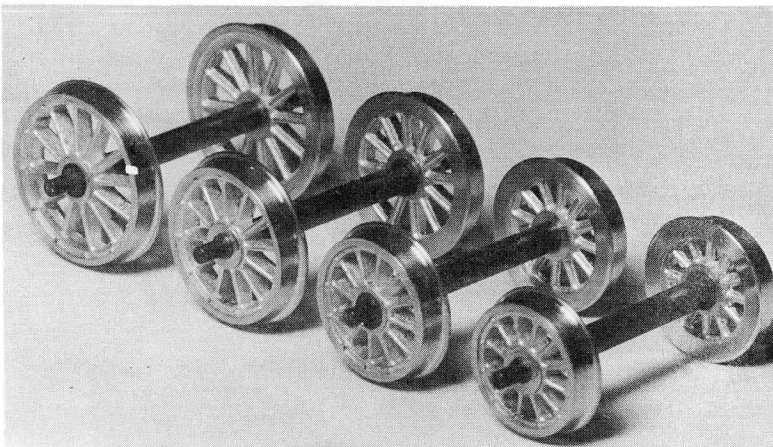
AXLES are steel, fully contoured.

Wheel profile dimensions are closer to prototype than any commercially available "O" Wheels.

The "N" dimension is .143".

Made in USA by Continental Monarch Model Company.

SPOKED WHEEL ASSEMBLIES



SPOKED WHEEL ASSEMBLIES

Cast in Nickle Silver by the lost wax process. Fully machined, pressed on steel axles, with blunt end projections. Insulated one side for two rail operation. Blunt axle projections can be cut off if of no use for certain applications.

TOP QUALITY Made in the U.S.A.

- U-196 33" ea
- U-197 36" ea
- U-198 40" ea
- U-199 45" ea

DRIVERS

Drivers of many kinds are on order. We do receive them as made.

Our stock is in a constant state of flux, so for this reason it is not advisable to list them in this Catalog. Refer to each current "NEWSLETTER" for sizes and styles available.

Each Newsletter has a current list.

BEAUTIFULLY DETAILED CARS

At the insistant request of "O" Scale modelers, U.S. Hobbies issued the first of a series of 50' 6" BoxCars.

If produced in brass, the cost would exceed \$50.00! If produced in plastic, the cost could be held down if the quantity made and sold would be adequate.

There are many kinds of plastic. Unfortunately, most models in the railroad field have been made of cheap styrene. The result was a bad reputation for plastic, which is undeserved.

Since there is a wide choice of plastic that will resist heat, U.S. Hobbies chose to use ABS which is very stable under conditions existing on model railroads. It cements well, can be painted with laquer, enamel or water based paint. Paints which would spoil a styrene model can be safely used on ABS.

The first car issued was the UP Standard. Soon after it, we issued the second car, a Plug Door model.

Both cars are "modern" without roof walks and with short ladders.

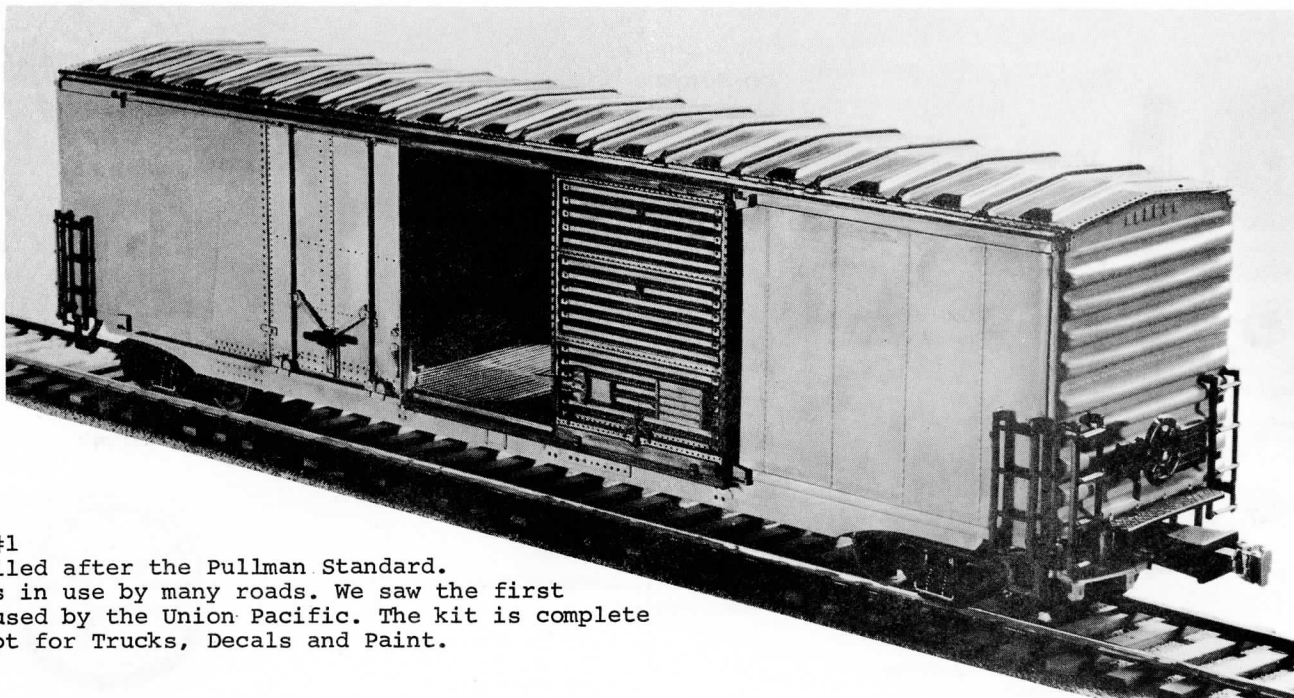
Unique feature of a working draft gear running the full length of the car is incorporated in each model.

Richly detailed!

- - - far more detail than would be possible if made in brass!

We expect to issue these cars with roof walks and with long ladders in time.

When sales justify more models, they will follow.



CAR #1  
Modelled after the Pullman Standard.  
It is in use by many roads. We saw the first one used by the Union Pacific. The kit is complete except for Trucks, Decals and Paint.

More detail and 3 dimensional qualities than ever offered to 'O' Scale Modelers.



CAR #2  
Another Pullman Plug Door Car.  
Used by N & W and many other roads.  
The kit is complete except for Trucks, Decals and Paint.

**CORRECT UNION PACIFIC DECALS**

We now have in stock for immediate shipment, the correct decals for use with the 50' 6" Pullman Standard Box Car.

The 3 color (Red, White and Blue) emblem is made in two styles i.e.,

UNION PACIFIC (and) UNION PACIFIC RAILROAD

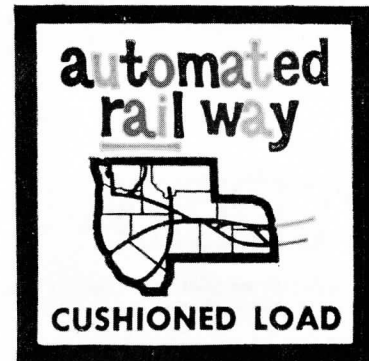
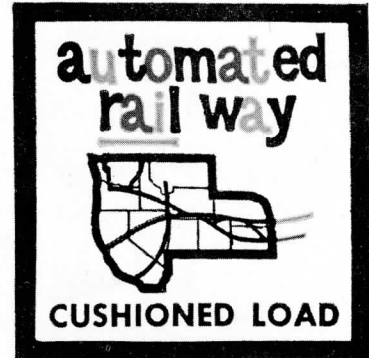
Both are included in the packet.

The "Automated Railway" map is printed in 6 colors (Red, White, Green, Orange, Blue and Black). Numbers are black.

If your dealer does not stock this item or is unwilling to order it, you may order it direct. But, see your dealer first. If ordered direct, give us your dealer's name.

U.P. DECAL Complete Set for use on Box Cars.

U-226 set



|        |        |          |        |        |          |
|--------|--------|----------|--------|--------|----------|
| CAPY   | 147000 | XME      | CAPY   | 147000 | XME      |
| LD LMT | 147000 |          | LD LMT | 147000 |          |
| LT WT  | 72300  | NEW 3-67 | LT WT  | 72300  | NEW 3-67 |

EXW 10-8 H 13-9 IL 50-6  
 EW 9-10 H 14-3 IW 9-6  
 CU FT 5059 IH 10-6 BLT 3-67

EXW 10-8 H 13-9 IL 50-6  
 EW 9-10 H 14-3 IW 9-6  
 CU FT 5059 IH 10-6 BLT 3-67

BE CAREFULL BE CAREFULL L R PUSH HERE

BE CAREFULL BE CAREFULL L R PUSH HERE

OPENING - MAIN DOOR W 8-0 H 9-10  
 TOTAL W16-0 H 9- 8

OPENING - MAIN DOOR W 8-0 H 9-10  
 TOTAL W16-0 H 9- 8

CLOSE AND LOCK THIS DOOR NO STEP  
 BEFORE MOVING CAR OR CLOSING MAIN DOOR

CLOSE AND LOCK THIS DOOR NO STEP  
 BEFORE MOVING CAR OR CLOSING MAIN DOOR

CP LUBRILINER RETAINING VALVE BESS 4-17-69

CP LUBRILINER RETAINING VALVE BESS 4-17-69

MINER A22XL DRAFT GEAR No. 24 BRAKE BEAM  
 KEYSTONE 20 IN TRAVEL SD 5 SPRING 3" TRAVEL  
 M33 WHEELS 6 x 11 RB STD AXLE  
 FREIGHTMASTER 10" HYDROFRAME CUSHIONING  
 IW WROT STEEL WHEELS

MINER A22XL DRAFT GEAR No. 24 BRAKE BEAM  
 KEYSTONE 20 IN TRAVEL SD 5 SPRING 3" TRAVEL  
 M33 WHEELS 6 x 11 RB STD AXLE  
 FREIGHTMASTER 10" HYDROFRAME CUSHIONING  
 IW WROT STEEL WHEELS



**U P**  
**167600**  
**U P**  
**167600**

**1682439587**  
**1682439587**  
**U P 1676001682439587**  
**U P 1676001682439587**

BC-70-6 -1-2-3-4-5 PULLMAN STANDARD PS-1  
 BC-70-6 -1-2-3-4-5 Series 167600 thru 168099

All Decals in the UP set are shown on this page in actual size.

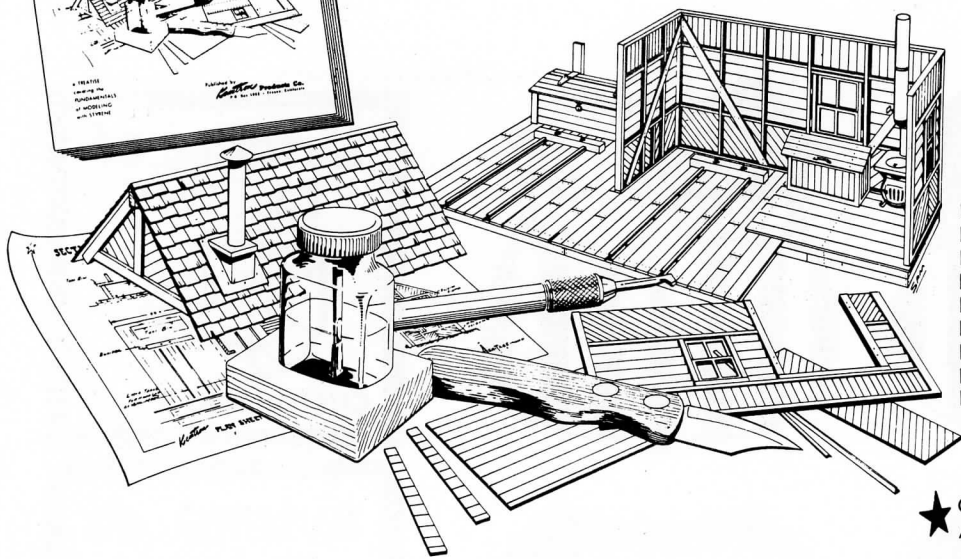
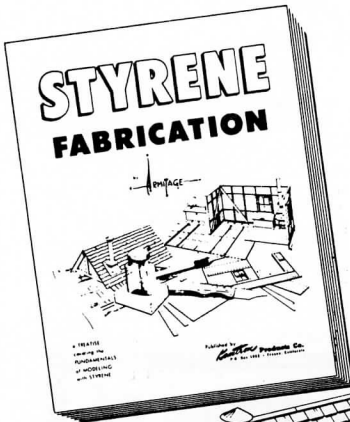


Styrene Fabrication is written and illustrated by Al Armitage, successful professional model builder for nearly a quarter of a century.

Mr. Armitage, noted also as author and illustrator, is well known to model railroaders for the many models he has constructed from styrene...many of which are shown in the handbook.

This fully illustrated, important reference handbook, explains all the simple techniques developed and employed by the author in professional model building. Mr. Armitage goes to great detail to explain the "how, when & why" to help beginners as well as advanced modelers in the use of this versatile material.

Styrene Fabrication is printed on heavy 24 pound stock, standard 8-1/2 x 11 inch size in loose-leaf form...ready for insertion in your own reference binder.



**X-650 "STYRENE FABRICATION"**  
each 2.25

For further information on styrene we suggest you read the following articles in Model Railroader:

|         |        |      |                |
|---------|--------|------|----------------|
| page 42 | August | 1959 | by Al Armitage |
| page 48 | Nov.   | 1959 | by Al Armitage |
| page 74 | Dec.   | 1959 | by Al Armitage |
| page 38 | Sept.  | 1960 | by Al Armitage |
| page 34 | Nov.   | 1960 | by Al Armitage |
| page 60 | Dec.   | 1960 | by Al Armitage |
| page 66 | Jan.   | 1961 | by Al Armitage |
| page 26 | Sept.  | 1961 | by Al Armitage |
| page 27 | May    | 1963 | by John Chapp  |

# STYRENE

The "wonder" material for model building! No grain, no warping, no splinters! And no bother about sanding or sealing, either!

Styrene can be cut with a knife, scraped, sawed, filed, drilled, tapped, carved, bent, formed, and machined like metal. Moisture proof, too!

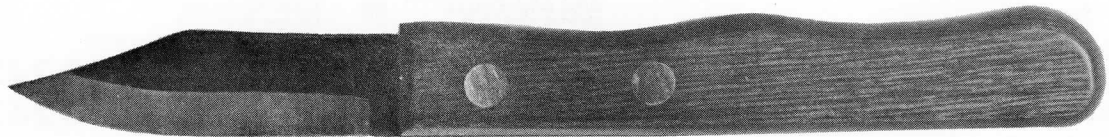
Styrene bonds together in seconds allowing you to assemble as fast as you can make parts.

Styrene can be used to modify or to add detail to existing plastic car and structure kits. Ideal for scratch-building in any scale.

Amazingly adaptable, styrene can reproduce wood, metal, stone, and brick textures with a high degree of fidelity. Unlimited versatility!

Kemtron offers the scratch-builder a selection of sheets and rods most suited to his needs. Supplied in convenient sizes for storage and use.

# STYRENE KNIFE



While styrene can be cut satisfactorily with almost any style of knife used in model making, it is more efficient to use one designed specifically for the purpose. Kemtron's Styrene Knife has a stainless steel, hollow-ground blade anchored firmly in a wood handle. Newly designed blade is heavier, stiffer, and will hold an edge longer than the knife offered in the past. Instructions for proper honing included with each knife!

★ **OPAQUE WHITE SHEET**  
Approx. 6 1/2" x 10"

| CODE  | THICKNESS | LIST PRICE<br>12 Sheets per pkg |
|-------|-----------|---------------------------------|
| X-592 | .010      | 1.20                            |
| X-593 | .015      | 1.80                            |
| X-594 | .020      | 2.40                            |
| X-595 | .040      | 4.20                            |
| X-601 | .060      | 6.00                            |
| X-602 | .080      | 7.80                            |
| X-603 | .100      | 9.60                            |

★ **CLEAR RODS**  
Approx. 11 1/2" long

| CODE  | DIAMETER | PRICE PER<br>LENGTH |
|-------|----------|---------------------|
| X-640 | 1/2"     |                     |
| X-642 | 1"       |                     |

★ **CLEAR SHEET**  
Approx. 6 1/2" x 10"

| CODE  | THICKNESS | LIST PRICE<br>12 Sheets per pkg |
|-------|-----------|---------------------------------|
| X-599 | .015      | 2.40                            |

★ **ASSORTMENT of SHEETS**  
2 sheets of all thicknesses Opaque White +  
2 sheets of Clear = 16 sheets total.  
X-596 assortment, 5.90

X-597 1 each .060"-.080" sheets 1.00

X-591 2 each .010, .015, .020  
1 each .040 (Total: 7 sheets) 1.25

X-598 Styrene Knife each .75

15 BOOKS AVAILABLE NOW !

|     |        |  |      |
|-----|--------|--|------|
| #1  | X-600  | Railroad Structures, Vol. 1 .....          | 2.25 |
| #2  | X-643  | Buildings of the Old West, Vol. 1 ....     | 1.50 |
| #3  | X-644  | Buildings of the Old West, Vol. 2 ....     | 1.50 |
| #4  | X-645  | Buildings of the Old West, Vol. 3 ....     | 2.25 |
| #5  | X-646  | J.S.Cain Residence, Bodie, Calif. ....     | 2.50 |
| #6  | X-647  | Sacramento Dwelling .....                  | 1.50 |
| #7  | X-648  | Brick Dwellings, Eureka, Nev. ....         | 1.75 |
| #8  | X-649  | Churches .....                             | 2.25 |
| #9  | X-1202 | Donkey Engines .....                       | 2.25 |
| #10 | X-1203 | Logging Cars .....                         | 1.95 |
| #11 | X-1204 | Heisler Locomotive ( 3ft. gauge ) .....    | 2.95 |
| #12 | X-1205 | Shay Locomotive ( 3ft. gauge ) .....       | 2.95 |
| #13 | X-1206 | Climax Locomotive ( Standard gauge ) ..... | 3.25 |
| #14 | X-1207 | Heavy Motor Trucks .....                   | 2.95 |
| #15 | X-1208 | Wagons .....                               | 2.95 |

MORE COMING !!!!!

Published by

**Kentron**  
CORPORATION

**LOGGING CARS**  
Volume No. 1  
by Ampage  
**PLAN BOOK No 10**  
0 SCALE  
\$1.95  
Published by **Kentron CORPORATION**  
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X-1203

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by Ampage  
**PLAN BOOK No 9**  
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X-1202

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**PLAN BOOK No 6**  
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1111 North 1st Street  
X-648

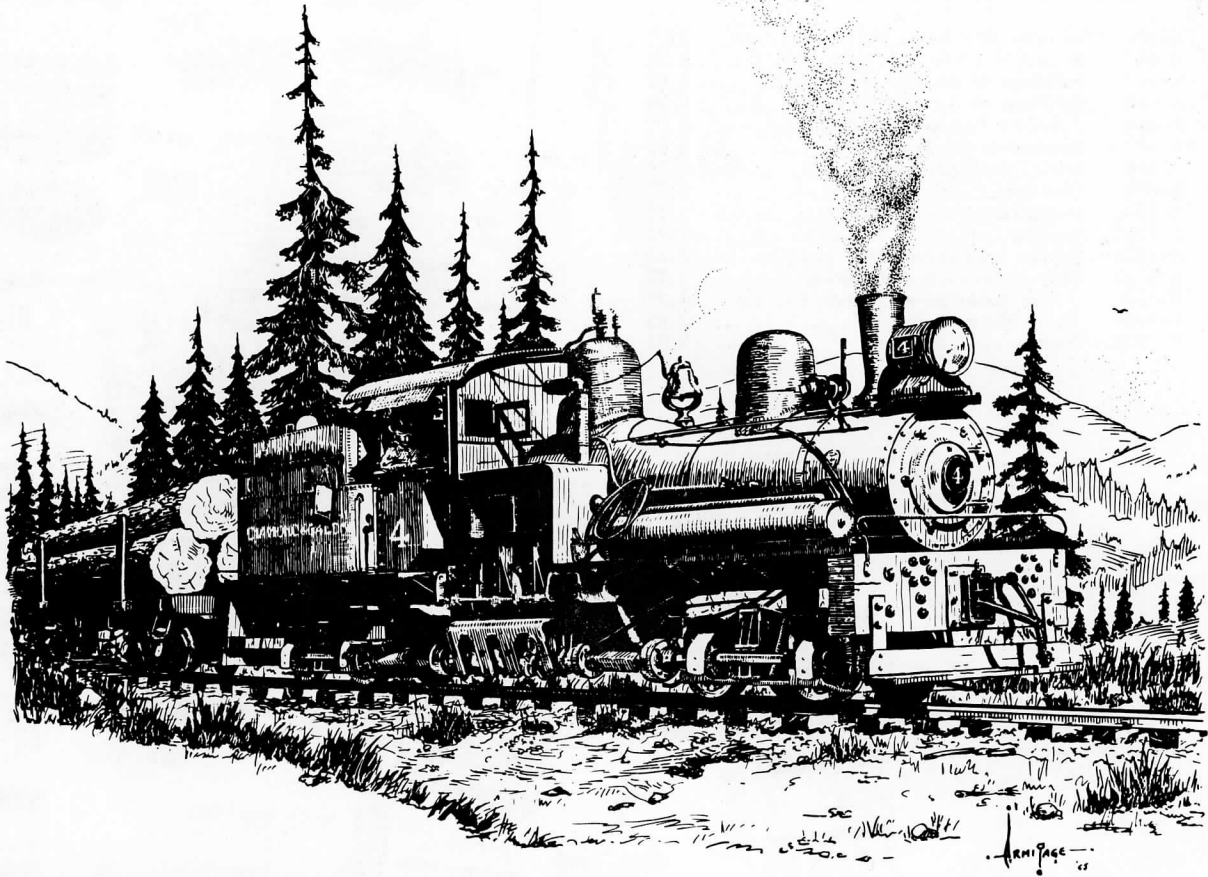
**CHURCHES**  
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Published by **Kentron CORPORATION**  
1111 North 1st Street  
X-1206





# SHAY

- GEARED LOCOMOTIVE -

# CATALOG

.....  
:

**On3**

Shay Locomotives with their unique engine, complex motion, geared drive to all wheels, are without question, the most interesting to see in operation.

Designed in prototype for short radius operation on steep grades because of the terrain on which it was used --- makes it an ideal locomotive to model.

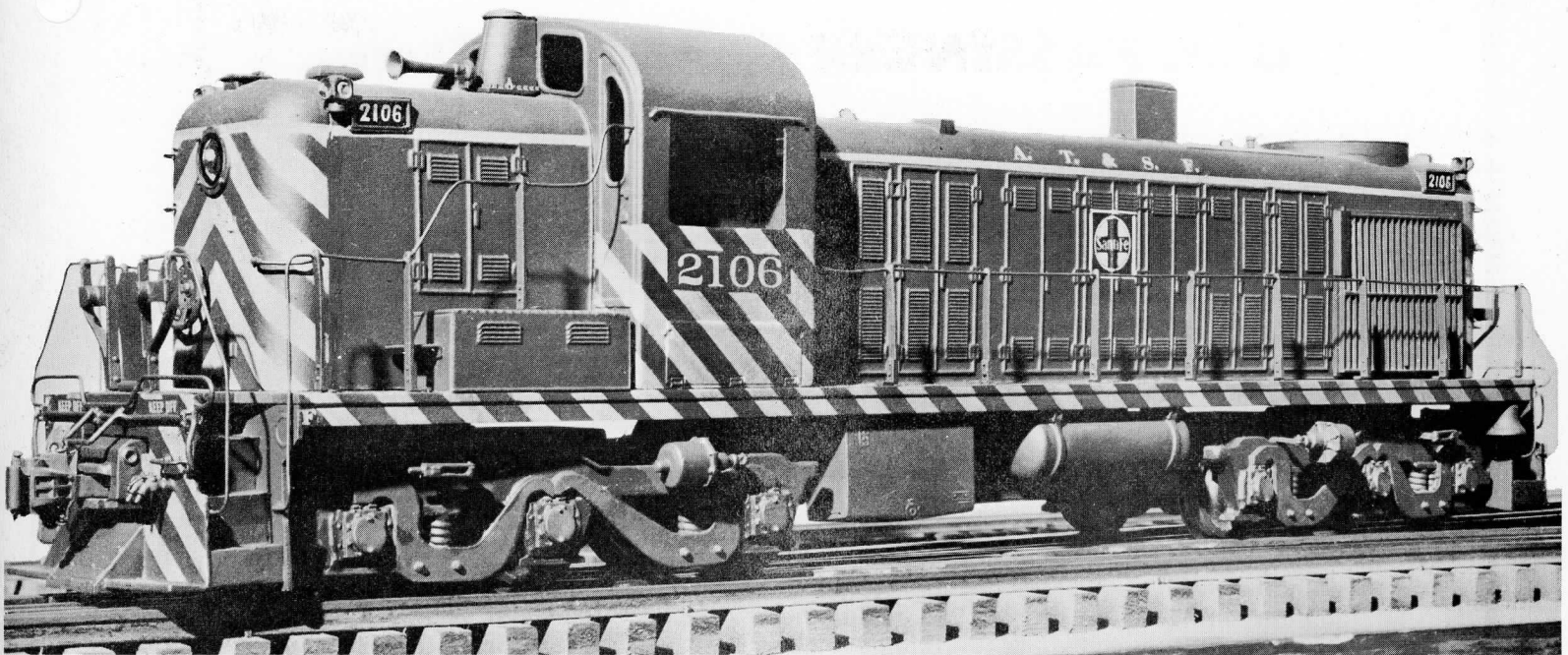
The second issue of Kemtron's "Shay" Catalog is now ready. This catalog is of interest to all modelers in all scales with its photographs and drawings.

Over 40 pages.

Catalog ONLY, 3 hole punched \$ 1.00  
Catalog with binder..... \$ 2.00

# DIESEL KITS

○ Scale ALCO "RS" Diesel Kit .....



The famous "RS" multi-service locomotive produced, without major design change, for 17 years and used by nearly every railroad in the land. Kemtron's kit consists of exquisitely detailed, etched hoods and cab, and superb lost-wax castings for trucks and other parts. Available with 4 wheel, or 6 wheel trucks. Kit can be modified to suit a wide variety of specific "RS" models. Motor and gear drive is NOT INCLUDED but floor is cut out for mounting your choice of motor and either single or double drive trucks. Assembly instructions with each kit. This model is featured on the cover of July '66 Model Railroader.

Kit price: 4 Wheel trucks \$80.00  
6 Wheel trucks \$85.00

○ Scale EMD "GP-7" Diesel Kit .....



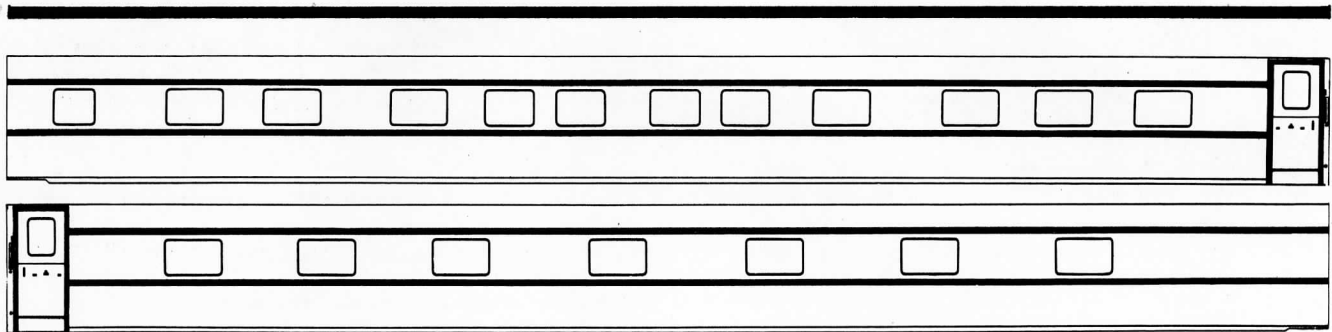
Electromotive's "General Purpose" power package, known far and wide as the "Geep", follows the trend toward "hood" units. Used in all types of service by many railroads throughout the country. Can be built with numerous variations in detail. Kemtron has produced this popular locomotive, in kit form, using luscious engravings and lost-wax castings of superlative detail. Proof of this can be seen in the twin-unit model above. All brass, with provision for mounting your choice of motor and single or double drive units. Trucks included but motor and gear drive are NOT INCLUDED in kit.

Kit price: \$80.00

# U. P. PASSENGER CARS "O" Scale

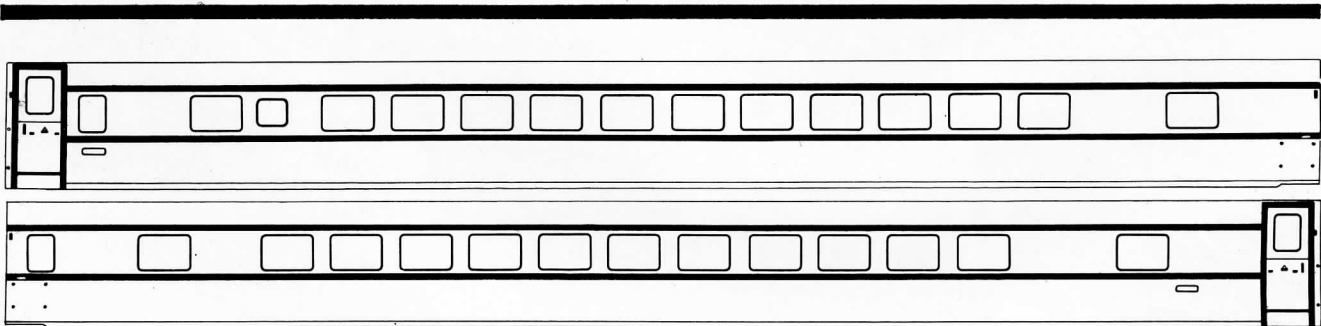
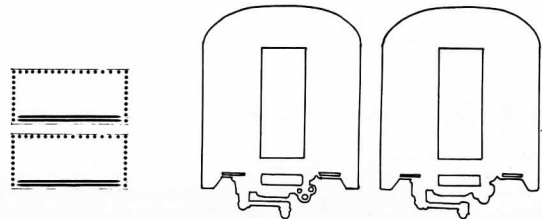
Kemtron has developed nine superb Union Pacific cars consisting of highly accurate photo-engraved sides, roof & detail parts with lost-wax cast ends, complete with integral cast train air and steam fittings. These cars are sold as is, without trucks, couplers, underbody detail or instructions. Following is a complete list of the cars.

- X-1501 Pullman.....
- X-1502 Coach.....
- X-1503 Baggage.....
- X-1504 10 Bedroom 6 Section Pullman....
- X-1505 11 Bedroom Pullman.....
- X-1506 5 Bedroom Club Sleeper.....
- X-1507 Dome Observation (less one end)
- X-1508 Dome Coach.....
- X-1509 Dome Diner.....



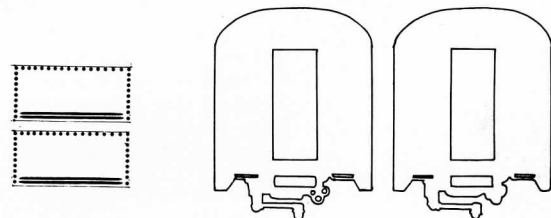
This group of PARTS is for the X-1501 PULLMAN...list

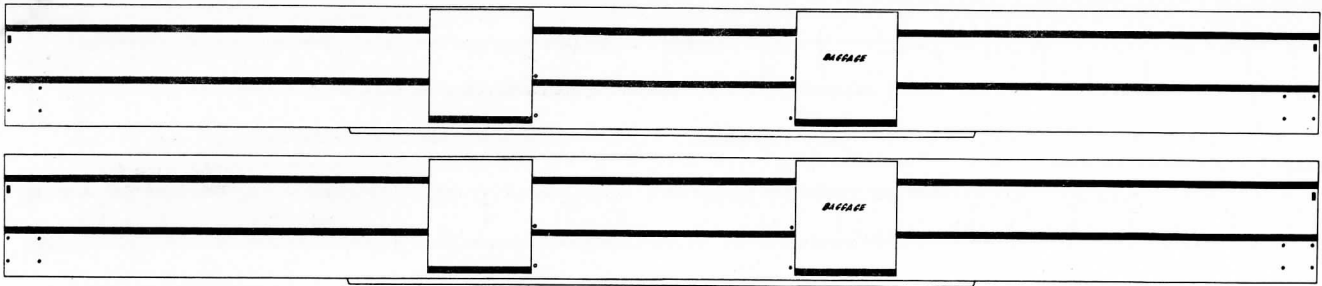
Roof & roof walk is supplied with all cars.



This group of PARTS is for the X-1502 COACH...list

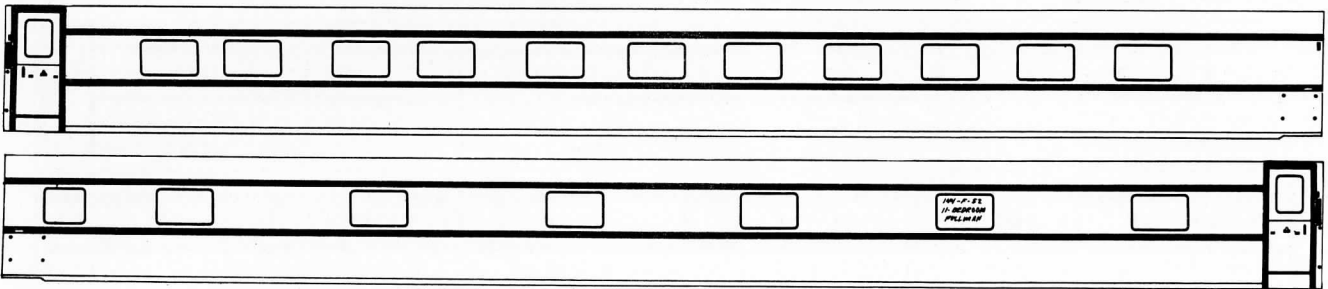
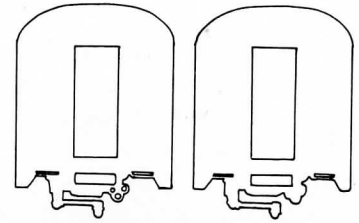
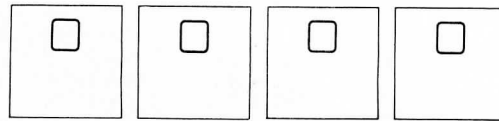
Roof & roof walk is supplied with all cars.





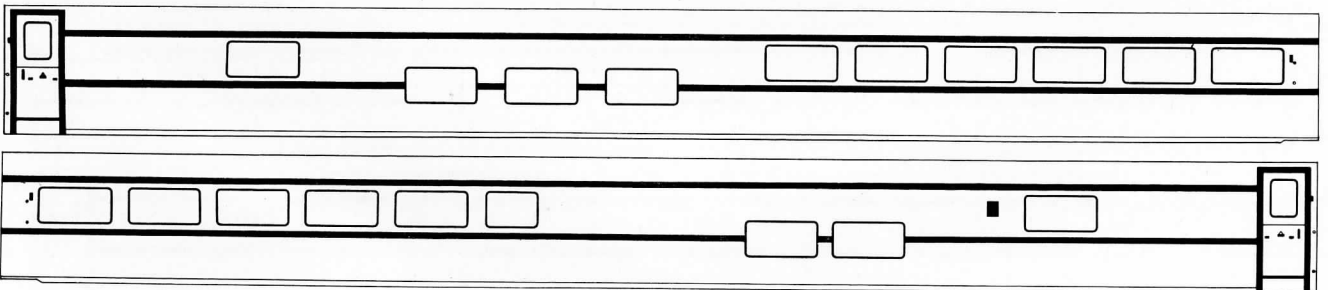
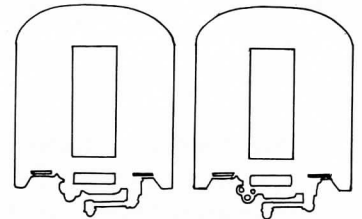
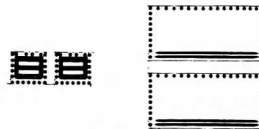
This group of PARTS is for the X-1503 BAGGAGE...list

Roof & roof walk is supplied with all cars.



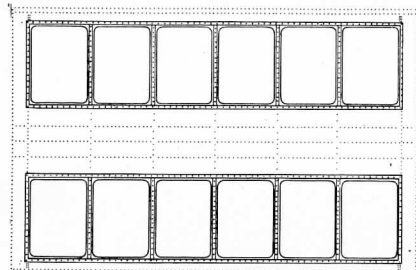
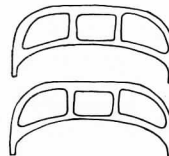
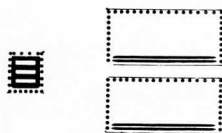
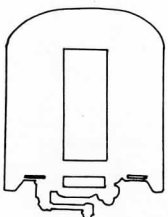
This group of PARTS is for the X-1505 11 BEDROOM PULLMAN...list

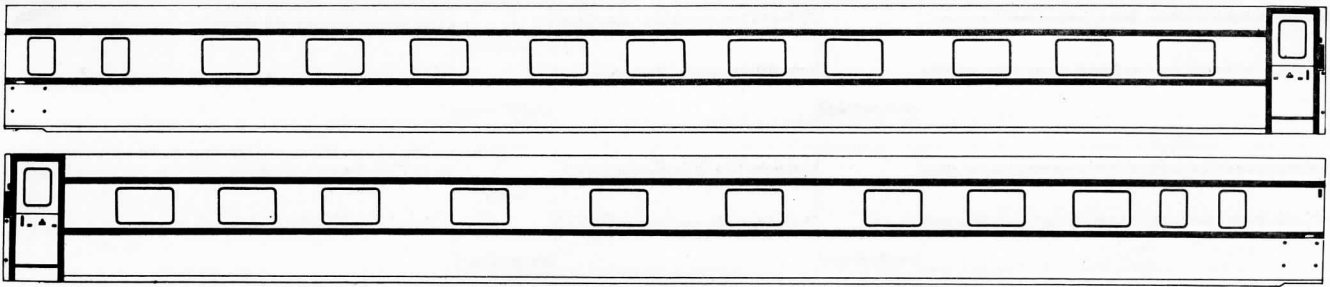
Roof & roof walk is supplied with all cars.



This group of PARTS is for the X-1507 DOME OBSERVATION...list

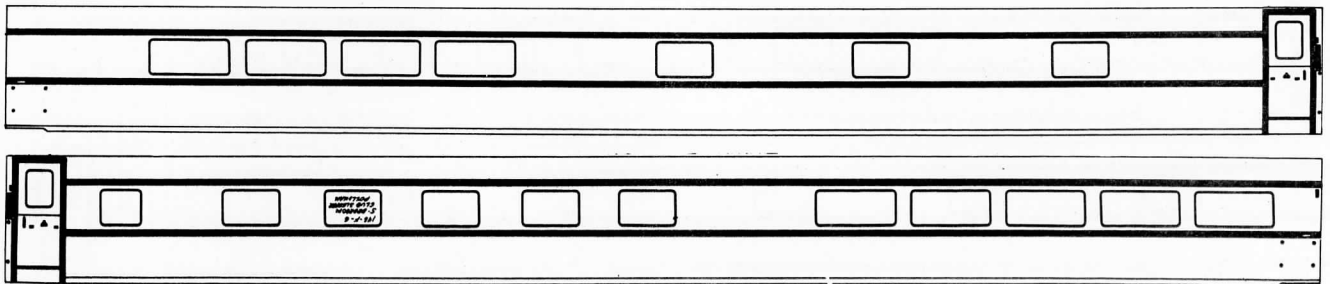
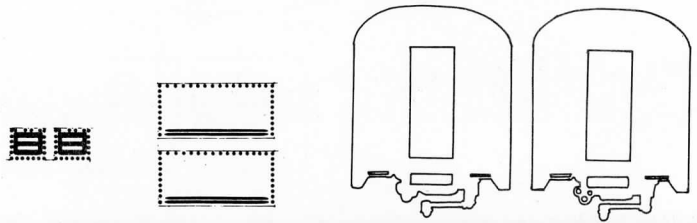
Roof & roof walk is supplied with all cars.





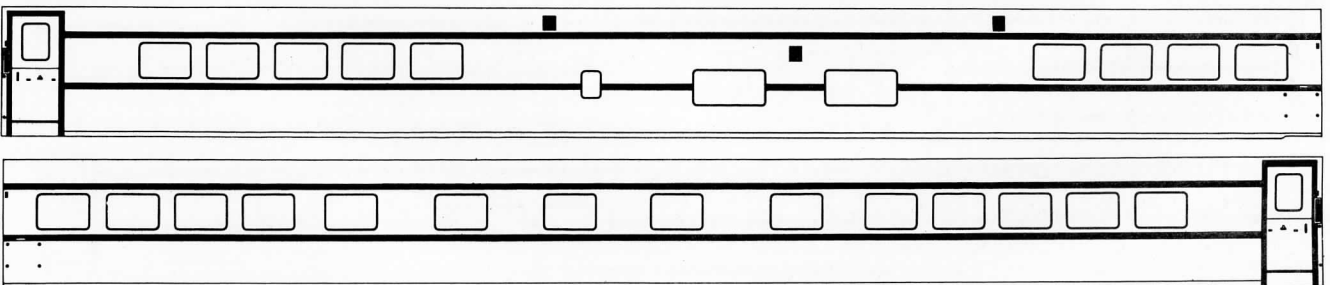
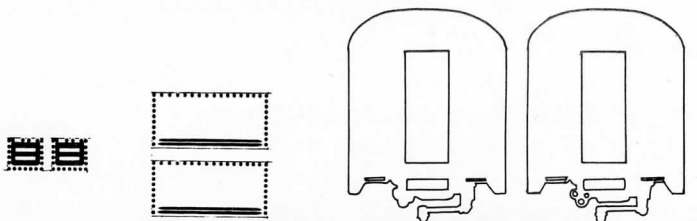
This group of PARTS is for the X-1504 10 BEDROOM 6 SECTION PULLMAN...list

Roof & roof walk is supplied with all cars.



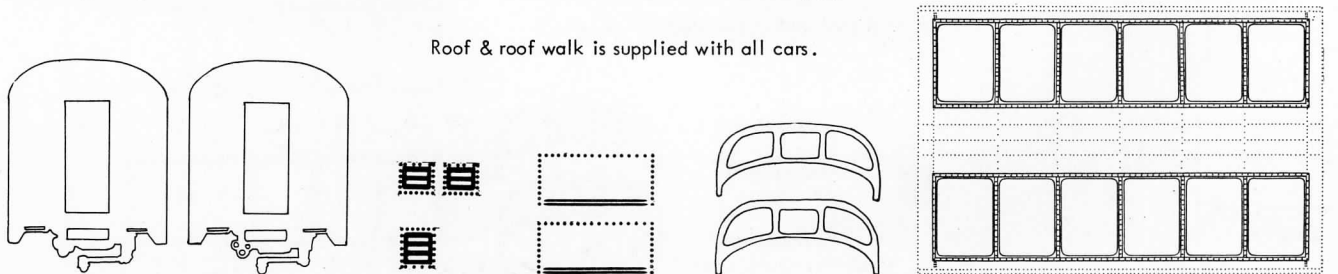
This group of PARTS is for the X-1506 5 BEDROOM CLUB SLEEPER...list

Roof & roof walk is supplied with all cars.

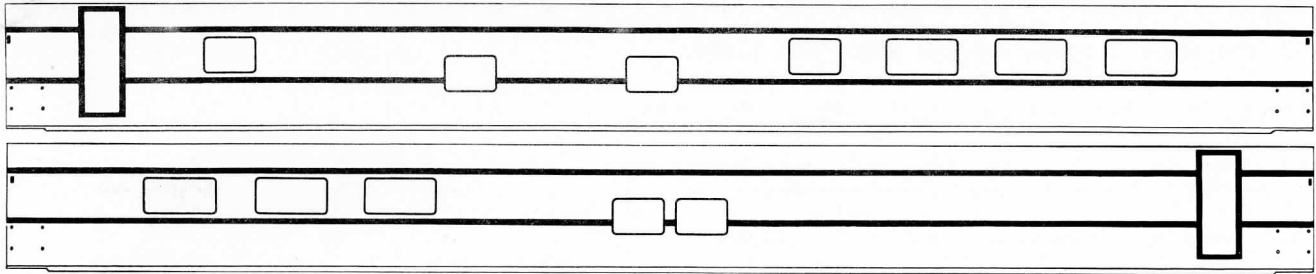


This group of PARTS is for the X-1508 DOME COACH...list

Roof & roof walk is supplied with all cars.

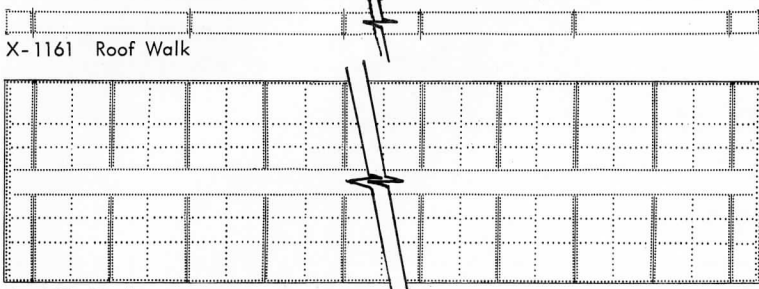
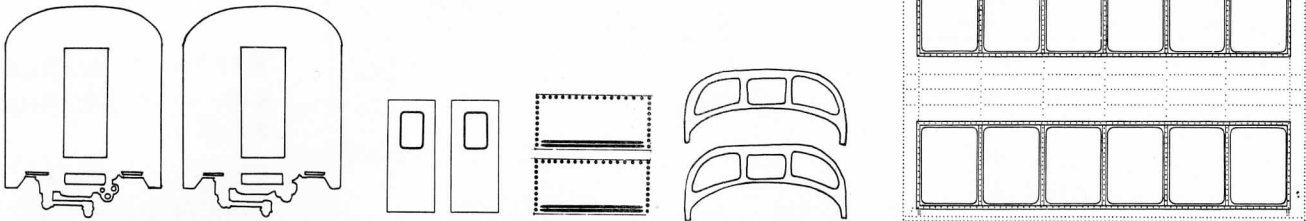






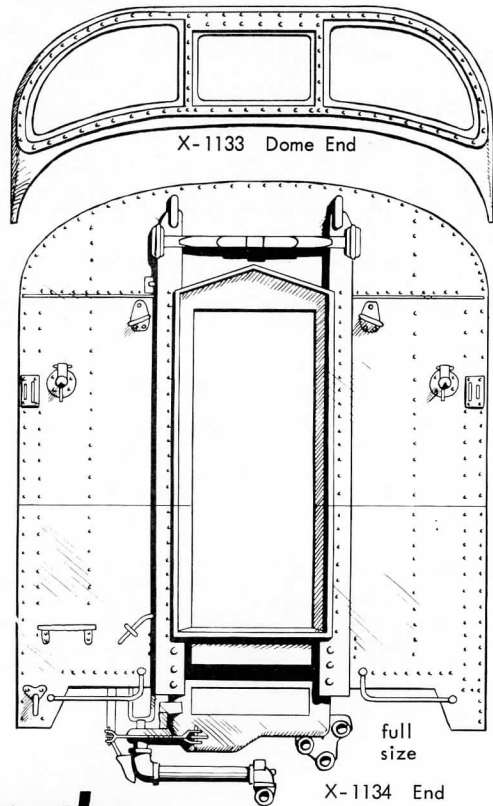
This group of PARTS is for the X-1509 DOME DINER...list

Roof & roof walk is supplied with all cars.



X-1161 Roof Walk

X-1160 Roof



X-1133 Dome End

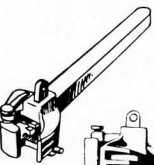
X-1134 End

## U.P. Parts

Roof and roof walk (supplied on all cars) are illustrated here to avoid repetition. Drawing is foreshortened to conserve space.



Dummy  
OA-44



Working  
X-9SD

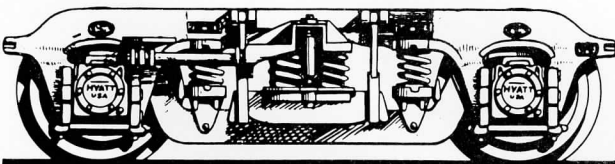


full  
size

- X-1160 Roof..... ea
- X-1161 Roof Walk ..... ea
- X-1162 Sides (specify car\*)..... pr
- X-1134 Ends ..... pr
- X-1163 Dome Wrapper (UP) ..... ea
- X-1164 Dome Wrapper (GN) ..... ea
- X-1133 Dome Ends ..... pr
- X-1165 Detail Set (specify car\*)..set

\* i. e.; X-1162 Coach, X-1165 Baggage, etc.

- OA-44 Dummy Coupler ..... pr
- X-9SD Working Coupler ..... pr



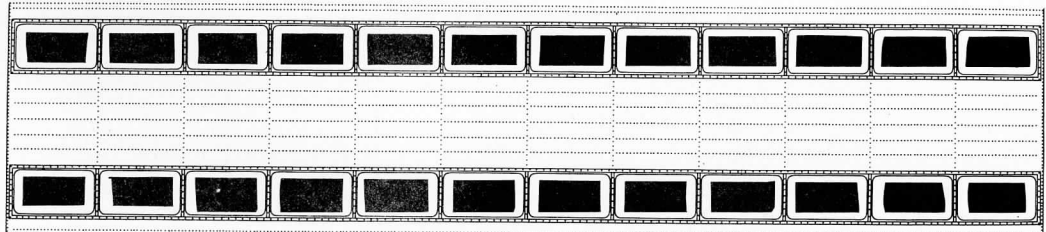
## U.P. Trucks

- TK-300 U. P. Streamline..... pr
  - TK-300A U. P. Streamline (less wheels) pr
- (Note: Truck journals are fully sprung & equalized.)

## G.N. Vista Dome Wrapper

At the request of "O" Scale modelers, we have produced a "full length" dome wrapper. Used with our U.P. car parts, it makes a fairly accurate version of the Great Northern vista dome cars.

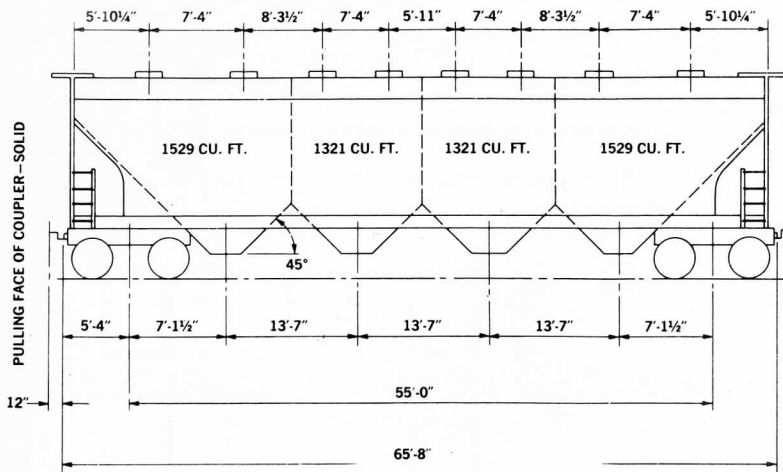
X-1164.....ea





All 5 types of Center Flow Hoppers have been ordered. Delivery is expected on 2 types that are in production, late in 1971 or early in 1972. The first 2 types are the 3560B and 5250C.

Place your reservations now for any of these models. No deposit is required.

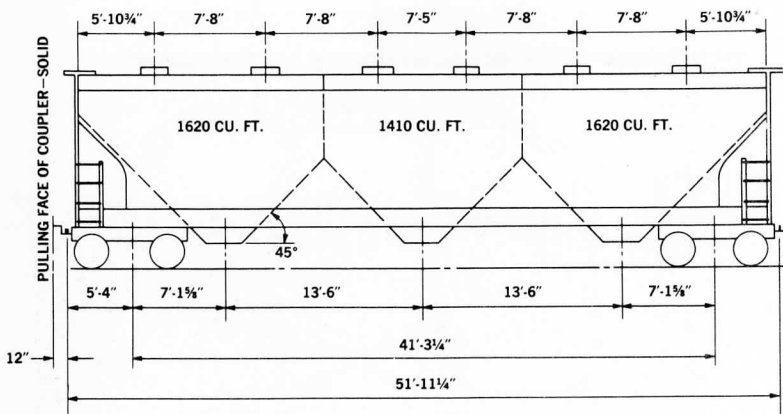


5700C

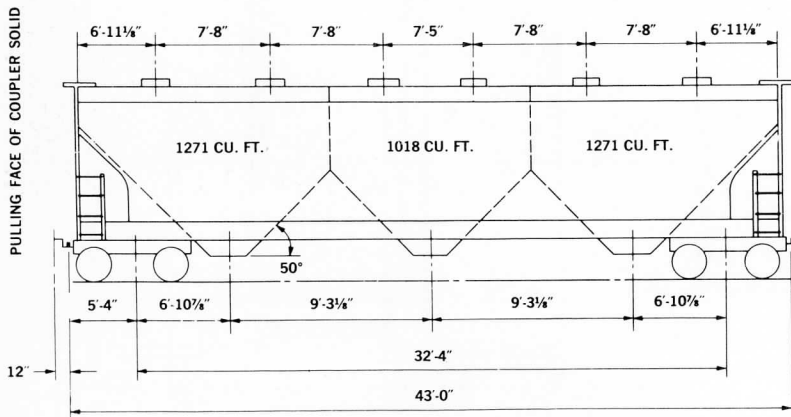
These drawings are not to any scale.

They do show the number of Hatches and compartments.

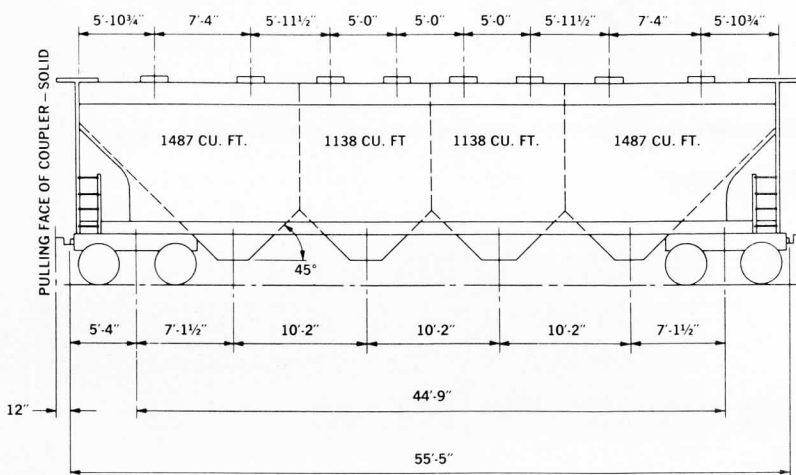
Dimensions are also given.



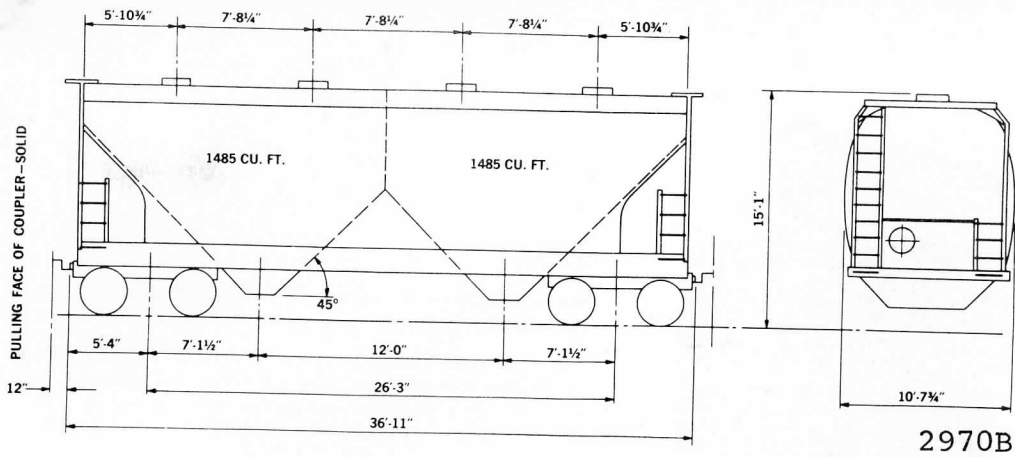
4650C



3560B



5250C

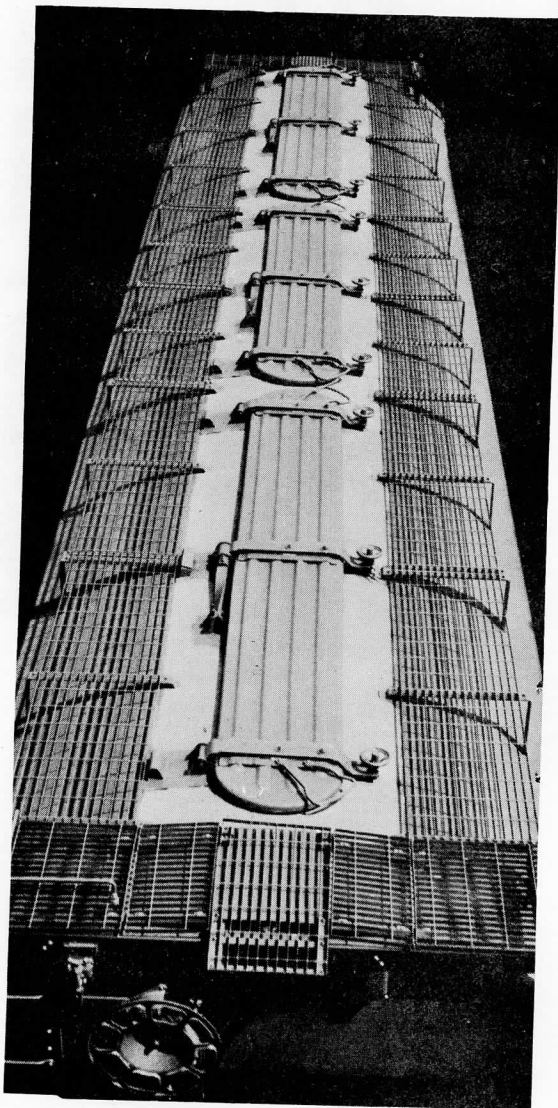


PLACE YOUR RESERVATIONS NOW

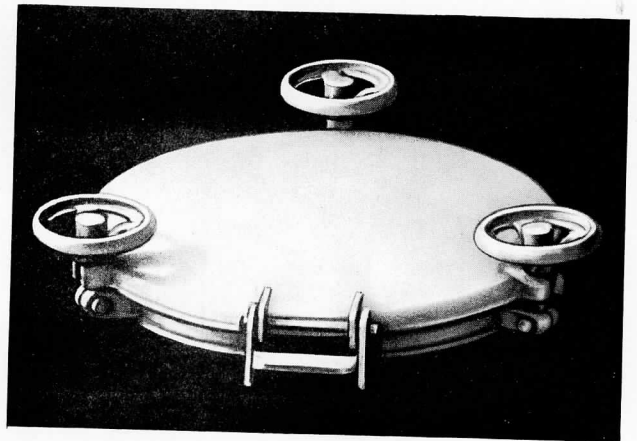
Use the number only on the five types shown:

|         |             |   |             |     |                    |         |
|---------|-------------|---|-------------|-----|--------------------|---------|
| 2970B   | 36' 11"     | 2 | Compartment | 20" | Round Hatch...list | \$33.00 |
| 4650C   | 51' 11 1/4" | 3 | Compartment | 30" | Round Hatch...list | \$37.95 |
| * 3560B | 43'         | 3 | Compartment | 30" | Round Hatch...list | \$37.29 |
| * 5250C | 55' 5"      | 4 | Compartment |     | Long Hatch...list  | \$43.98 |
| 5700C   | 65' 8"      | 4 | Compartment |     | Long Hatch...list  | \$46.56 |

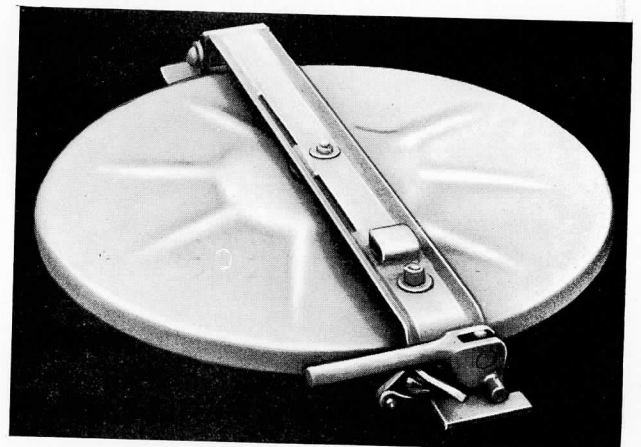
\* These two are in production now.



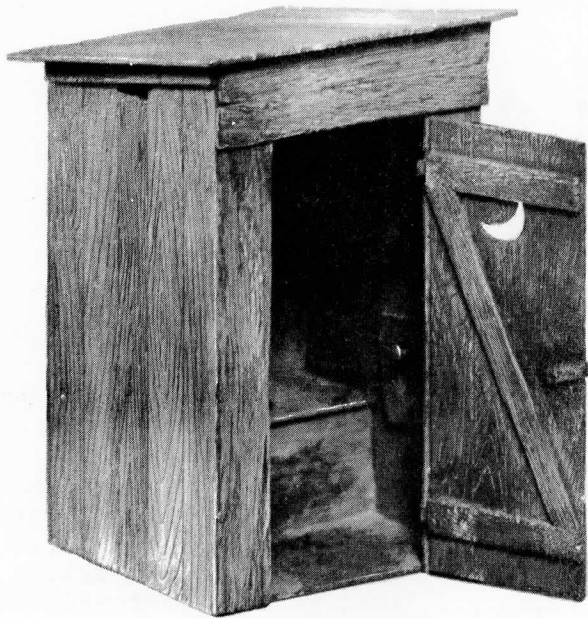
Elongated Center Flow Hatches



20" Round Hatch (not to scale)  
FOR CONTAMINATION-PRONE LOADINGS



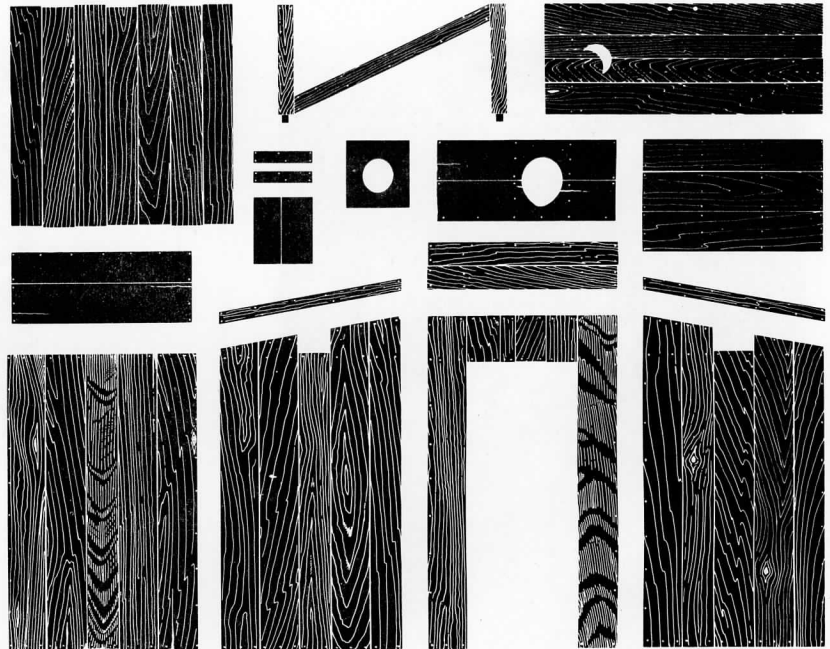
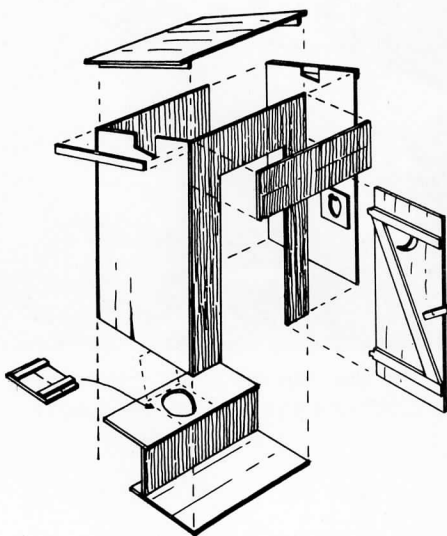
30" Round Hatch (not to scale)  
FOR GENERAL SERVICE LOADINGS



REMEMBER - - ? - - ?

Now available in "O" Scale. this picture is about two times larger than the model, to show detail.

Odes have been written to this classic bit of American architecture from the past. You old timers will remember it; maybe some of the new generation too. As one of lifes necessities, you should have several on your layout!



"ONE-HOLE CHIC SALE"

All parts are etched in detail on .020" Brass.  
Ready to cut and solder up into a cute little  
"Outhouse"!

X-1135 ea.

## Lubricants



X-159 each .75



X-1301 each 1.00



X-103 each .50

- LUBRIPLATE

One of the finest lubricants available for small mechanisms such as model railroad equipment. Long-lasting, ideal for Nylon, Delrin, etc.

- NEOLUBE

A pure graphite that you can "paint" on! Leaves a film of dry lubricant. Perfect for automatic couplers or for painting smokeboxes.

- MOLUB-ALLOY

A superior lubricant that will not harden in gear boxes. Protects all wearing surfaces with a tenacious, slippery film that stays put!

## Solder & Flux

- Kemtron's SOLDER PAINT is the favorite of many modelers. The perfect material for sweat soldering! Use anywhere for strong, neat joints without fuss! You only use a little at a time so a jar goes a long way! Try it, you'll swear by it!

- SAL-MET is generally conceded to be the best all-purpose flux for model building. Unexcelled for brass, also solders steel, zamac, and other metals. Sal-Met is non-corrosive, easy to clean.



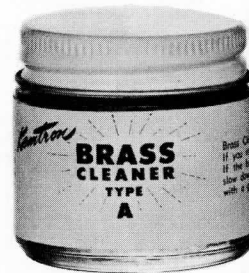
X-1300 each 1.00



X-249 each 1.00

## Cleaners

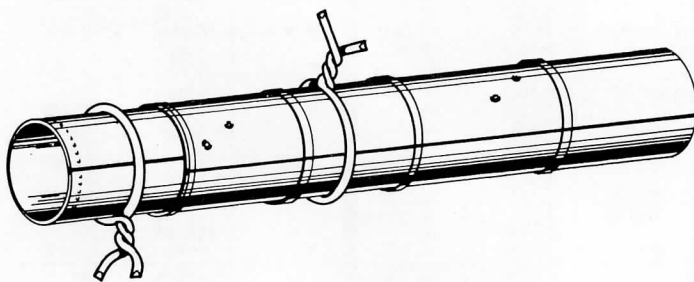
- TYPE A Brass Cleaner will give your models the "satin" finish of custom work. If the brass is to remain unpainted, the retarding agent in TYPE A will slow up tarnishing.
- TYPE B Brass Cleaner removes the oxides and prepares the brass for painting or plating. TYPE B is grease-free.



X-1303 each .75



X-1304 each .75



Since solder won't stick to Aluminum, under ordinary circumstances, this dead soft wire is extremely useful as a soldering aid. Just wrap it around the parts and twist as shown here on this boiler. Can be used over and over.

X-1307 .065 Dia. Aluminum wire .5 ft coil

## Blackener



Will blacken all alloys such as BRASS, COPPER, NICKEL SILVER. Use wherever paint will obliterate fine detail of lost wax castings, etc

X-440 each 1.00





# conversion table:

## fractions, decimals and millimeters

| inches    |          | m m    | inches    |          | m m    | inches    |          | m m     | inches    |          | m m     |
|-----------|----------|--------|-----------|----------|--------|-----------|----------|---------|-----------|----------|---------|
| fractions | decimals |        | fractions | decimals |        | fractions | decimals |         | fractions | decimals |         |
| —         | .0004    | .01    | 25/32     | .781     | 19.844 | —         | 2.165    | 55.     | 3-11/16   | 3.6875   | 93.663  |
| —         | .004     | .10    | —         | .7874    | 20.    | 2-3/16    | 2.1875   | 55.563  | —         | 3.7008   | 94.     |
| —         | .01      | .25    | 51/64     | .797     | 20.241 | —         | 2.2047   | 56.     | 3-23/32   | 3.719    | 94.456  |
| 1/64      | .0156    | .397   | 13/16     | .8125    | 20.638 | 2-7/32    | 2.219    | 56.356  | —         | 3.7401   | 95.     |
| —         | .0197    | .50    | —         | .8268    | 21.    | —         | 2.244    | 57.     | 3-3/4     | 3.750    | 95.250  |
| —         | .0295    | .75    | 53/64     | .828     | 21.034 | 2-1/4     | 2.250    | 57.150  | —         | 3.7795   | 96.     |
| 1/32      | .03125   | .794   | 27/32     | .844     | 21.431 | 2-9/32    | 2.281    | 57.944  | 3-25/32   | 3.781    | 96.044  |
| —         | .0394    | 1.     | 55/64     | .859     | 21.828 | —         | 2.2835   | 58.     | 3-13/16   | 3.8125   | 96.838  |
| 3/64      | .0469    | 1.191  | —         | .8661    | 22.    | 2-5/16    | 2.312    | 58.738  | —         | 3.8189   | 97.     |
| —         | .059     | 1.5    | 7/8       | .875     | 22.225 | —         | 2.3228   | 59.     | 3-27/32   | 3.844    | 97.631  |
| 1/16      | .062     | 1.588  | 57/64     | .8906    | 22.622 | 2-11/32   | 2.344    | 59.531  | —         | 3.8583   | 98.     |
| 5/64      | .0781    | 1.984  | —         | .9055    | 23.    | —         | 2.3622   | 60.     | 3-7/8     | 3.875    | 98.425  |
| —         | .0787    | 2.     | 29/32     | .9062    | 23.019 | 2-3/8     | 2.375    | 60.325  | —         | 3.8976   | 99.     |
| 3/32      | .094     | 2.381  | 59/64     | .922     | 23.416 | —         | 2.4016   | 61.     | 3-29/32   | 3.9062   | 99.219  |
| —         | .0984    | 2.5    | 15/16     | .9375    | 23.813 | 2-13/32   | 2.406    | 61.119  | —         | 3.9370   | 100.    |
| 7/64      | .109     | 2.778  | —         | .9449    | 24.    | 2-7/16    | 2.438    | 61.913  | 3-15/16   | 3.9375   | 100.013 |
| —         | .1181    | 3.     | 61/64     | .953     | 24.209 | —         | 2.4409   | 62.     | 3-31/32   | 3.969    | 100.806 |
| 1/8       | .125     | 3.175  | 31/32     | .969     | 24.606 | 2-15/32   | 2.469    | 62.706  | —         | 3.9764   | 101.    |
| —         | .1378    | 3.5    | —         | .9843    | 25.    | —         | 2.4803   | 63.     | 4         | 4.000    | 101.600 |
| 9/64      | .141     | 3.572  | 63/64     | .9844    | 25.003 | 2-1/2     | 2.500    | 63.500  | 4-1/16    | 4.062    | 103.188 |
| 5/32      | .156     | 3.969  | 1         | 1.000    | 25.400 | —         | 2.5197   | 64.     | 4-1/8     | 4.125    | 104.775 |
| —         | .1575    | 4.     | —         | 1.0236   | 26.    | 2-17/32   | 2.531    | 64.294  | —         | 4.1338   | 105.    |
| 11/64     | .172     | 4.366  | 1-1/32    | 1.0312   | 26.194 | —         | 2.559    | 65.     | 4-3/16    | 4.1875   | 106.363 |
| —         | .177     | 4.5    | 1-1/16    | 1.062    | 26.988 | 2-9/16    | 2.562    | 65.088  | 4-1/4     | 4.250    | 107.950 |
| 3/16      | .1875    | 4.763  | —         | 1.063    | 27.    | 2-19/32   | 2.594    | 65.881  | 4-5/16    | 4.312    | 109.538 |
| —         | .1969    | 5.     | 1-3/32    | 1.094    | 27.781 | —         | 2.5984   | 66.     | —         | 4.3307   | 110.    |
| 13/64     | .203     | 5.159  | —         | 1.1024   | 28.    | 2-5/8     | 2.625    | 66.675  | 4-3/8     | 4.375    | 111.125 |
| —         | .2165    | 5.5    | 1-1/8     | 1.125    | 28.575 | —         | 2.638    | 67.     | 4-7/16    | 4.438    | 112.713 |
| 7/32      | .219     | 5.556  | —         | 1.1417   | 29.    | 2-21/32   | 2.656    | 67.469  | 4-1/2     | 4.500    | 114.300 |
| 15/64     | .234     | 5.953  | 1-5/32    | 1.156    | 29.369 | —         | 2.6772   | 68.     | —         | 4.5275   | 115.    |
| —         | .2362    | 6.     | —         | 1.1811   | 30.    | 2-11/16   | 2.6875   | 68.263  | 4-9/16    | 4.562    | 115.888 |
| 1/4       | .250     | 6.350  | 1-3/16    | 1.1875   | 30.163 | —         | 2.7165   | 69.     | 4-5/8     | 4.625    | 117.475 |
| —         | .2559    | 6.5    | 1-7/32    | 1.219    | 30.956 | 2-23/32   | 2.719    | 69.056  | 4-11/16   | 4.6875   | 119.063 |
| 17/64     | .2656    | 6.747  | —         | 1.2205   | 31.    | —         | 2.750    | 69.850  | —         | 4.7244   | 120.    |
| —         | .2756    | 7.     | 1-1/4     | 1.250    | 31.750 | —         | 2.7559   | 70.     | 4-3/4     | 4.750    | 120.650 |
| 9/32      | .281     | 7.144  | —         | 1.2598   | 32.    | 2-25/32   | 2.781    | 70.6439 | 4-13/16   | 4.8125   | 122.238 |
| —         | .2953    | 7.5    | 1-9/32    | 1.281    | 32.544 | —         | 2.7953   | 71.     | 4-7/8     | 4.875    | 123.825 |
| 19/64     | .297     | 7.541  | —         | 1.2992   | 33.    | 2-13/16   | 2.8125   | 71.4376 | —         | 4.9212   | 125.    |
| 5/16      | .312     | 7.938  | 1-5/16    | 1.312    | 33.338 | —         | 2.8346   | 72.     | 4-15/16   | 4.9375   | 125.413 |
| —         | .315     | 8.     | —         | 1.3386   | 34.    | 2-27/32   | 2.844    | 72.2314 | 5         | 5.000    | 127.000 |
| 21/64     | .328     | 8.334  | 1-11/32   | 1.344    | 34.131 | —         | 2.8740   | 73.     | —         | 5.1181   | 130.    |
| —         | .335     | 8.5    | 1-3/8     | 1.375    | 34.925 | 2-7/8     | 2.875    | 73.025  | 5-1/4     | 5.250    | 133.350 |
| 11/32     | .344     | 8.731  | —         | 1.3779   | 35.    | 2-29/32   | 2.9062   | 73.819  | 5-1/2     | 5.500    | 139.700 |
| —         | .3543    | 9.     | 1-13/32   | 1.406    | 35.719 | —         | 2.9134   | 74.     | —         | 5.5118   | 140.    |
| 23/64     | .359     | 9.128  | —         | 1.4173   | 36.    | 2-15/16   | 2.9375   | 74.613  | 5-3/4     | 5.750    | 146.050 |
| —         | .374     | 9.5    | 1-7/16    | 1.438    | 36.513 | —         | 2.9527   | 75.     | —         | 5.9055   | 150.    |
| 3/8       | .375     | 9.525  | —         | 1.4567   | 37.    | 2-31/32   | 2.969    | 75.406  | 6         | 6.000    | 152.400 |
| 25/64     | .391     | 9.922  | 1-15/32   | 1.469    | 37.306 | —         | 2.9921   | 76.     | 6-1/4     | 6.250    | 158.750 |
| —         | .3937    | 10.    | —         | 1.4961   | 38.    | 3         | 3.000    | 76.200  | —         | 6.2992   | 160.    |
| 13/32     | .406     | 10.319 | 1-1/2     | 1.500    | 38.100 | 3-1/32    | 3.0312   | 76.994  | 6-1/2     | 6.500    | 165.100 |
| —         | .413     | 10.5   | 1-17/32   | 1.531    | 38.894 | —         | 3.0315   | 77.     | —         | 6.6929   | 170.    |
| 27/64     | .422     | 10.716 | —         | 1.5354   | 39.    | 3-1/16    | 3.062    | 77.788  | 6-3/4     | 6.750    | 171.450 |
| —         | .4331    | 11.    | 1-9/16    | 1.562    | 39.688 | —         | 3.0709   | 78.     | 7         | 7.000    | 177.800 |
| 7/16      | .438     | 11.113 | —         | 1.5748   | 40.    | 3-3/32    | 3.094    | 78.581  | —         | 7.0866   | 180.    |
| 29/64     | .453     | 11.509 | 1-19/32   | 1.594    | 40.481 | —         | 3.1102   | 79.     | —         | 7.4803   | 190.    |
| 15/32     | .469     | 11.906 | —         | 1.6142   | 41.    | 3-1/8     | 3.125    | 79.375  | 7-1/2     | 7.500    | 190.500 |
| —         | .4724    | 12.    | 1-5/8     | 1.625    | 41.275 | —         | 3.1496   | 80.     | —         | 7.8740   | 200.    |
| 31/64     | .484     | 12.303 | —         | 1.6535   | 42.    | 3-5/32    | 3.156    | 80.169  | 8         | 8.000    | 203.200 |
| —         | .492     | 12.5   | 1-21/32   | 1.6562   | 42.069 | 3-3/16    | 3.1875   | 80.963  | —         | 8.2677   | 210.    |
| 1/2       | .500     | 12.700 | 1-11/16   | 1.6875   | 42.863 | —         | 3.1890   | 81.     | 8-1/2     | 8.500    | 215.900 |
| —         | .5118    | 13.    | —         | 1.6929   | 43.    | 3-7/32    | 3.219    | 81.756  | —         | 8.6614   | 220.    |
| 33/64     | .5156    | 13.097 | 1-23/32   | 1.719    | 43.656 | —         | 3.2283   | 82.     | 9         | 9.000    | 228.600 |
| 17/32     | .531     | 13.494 | —         | 1.7323   | 44.    | 3-1/4     | 3.250    | 82.550  | —         | 9.0551   | 230.    |
| —         | .547     | 13.891 | 1-3/4     | 1.750    | 44.450 | —         | 3.2677   | 83.     | —         | 9.4488   | 240.    |
| 35/64     | .5512    | 14.    | —         | 1.7717   | 45.    | 3-9/32    | 3.281    | 83.344  | 9-1/2     | 9.500    | 241.300 |
| 9/16      | .563     | 14.288 | 1-25/32   | 1.781    | 45.244 | —         | 3.3071   | 84.     | —         | 9.8425   | 250.    |
| —         | .571     | 14.5   | —         | 1.8110   | 46.    | 3-5/16    | 3.312    | 84.1377 | 10        | 10.000   | 254.001 |
| 37/64     | .578     | 14.684 | 1-13/16   | 1.8125   | 46.038 | 3-11/32   | 3.344    | 84.9314 | —         | 10.2362  | 260.    |
| —         | .5906    | 15.    | 1-27/32   | 1.844    | 46.831 | —         | 3.3464   | 85.     | —         | 10.6299  | 270.    |
| 19/32     | .594     | 15.081 | —         | 1.8504   | 47.    | 3-3/8     | 3.375    | 85.725  | 11        | 11.000   | 279.401 |
| 39/64     | .609     | 15.478 | 1-7/8     | 1.875    | 47.625 | —         | 3.3858   | 86.     | —         | 11.0236  | 280.    |
| 5/8       | .625     | 15.875 | —         | 1.8898   | 48.    | 3-13/32   | 3.406    | 86.519  | —         | 11.4173  | 290.    |
| —         | .6299    | 16.    | 1-29/32   | 1.9062   | 48.419 | —         | 3.4252   | 87.     | —         | 11.8110  | 300.    |
| 41/64     | .6406    | 16.272 | —         | 1.9291   | 49.    | 3-7/16    | 3.438    | 87.313  | 12        | 12.000   | 304.801 |
| —         | .6496    | 16.5   | 1-15/16   | 1.9375   | 49.213 | —         | 3.4646   | 88.     | 13        | 13.000   | 330.201 |
| 21/32     | .656     | 16.669 | —         | 1.9685   | 50.    | 3-15/32   | 3.469    | 88.106  | —         | 13.7795  | 350.    |
| —         | .6693    | 17.    | 1-31/32   | 1.969    | 50.006 | 3-1/2     | 3.500    | 88.900  | 14        | 14.000   | 355.601 |
| 43/64     | .672     | 17.066 | 2         | 2.000    | 50.800 | —         | 3.5039   | 89.     | 15        | 15.000   | 381.001 |
| 11/16     | .6875    | 17.463 | —         | 2.0079   | 51.    | 3-17/32   | 3.531    | 89.694  | —         | 15.7480  | 400.    |
| 45/64     | .703     | 17.859 | 2-1/32    | 2.03125  | 51.594 | —         | 3.5433   | 90.     | 16        | 16.000   | 406.401 |
| —         | .7087    | 18.    | —         | 2.0472   | 52.    | 3-9/16    | 3.562    | 90.4877 | 17        | 17.000   | 431.801 |
| 23/32     | .719     | 18.256 | 2-1/16    | 2.062    | 52.388 | —         | 3.5827   | 91.     | —         | 17.7165  | 450.    |
| —         | .7283    | 18.5   | —         | 2.0866   | 53.    | 3-19/32   | 3.594    | 91.281  | 18        | 18.000   | 457.201 |
| 47/64     | .734     | 18.653 | 2-3/32    | 2.094    | 53.181 | —         | 3.622    | 92.     | 19        | 19.000   | 482.601 |
| —         | .7480    | 19.    | 2-1/8     | 2.125    | 53.975 | 3-5/8     | 3.625    | 92.075  | —         | 19.6850  | 500.    |
| 3/4       | .750     | 19.050 | —         | 2.126    | 54.    | 3-21/32   | 3.656    | 92.869  | 20        | 20.000   | 508.001 |
| 49/64     | .7656    | 19.447 | 2-5/32    | 2.156    | 54.769 | —         | 3.6614   | 93.     | —         | —        | —       |

# PATTERNS for "LOST WAX" CASTINGS

## General Information

The "art" of "lost wax" casting is not new. Its origin is lost in antiquity. Modern use of it in the dental profession and in industrial casting differs only in materials used. The process is the same as Cellini used for his masterpieces in gold and silver. This process of casting is unique in that intricate shapes with "undercuts" can be cast in one piece.

Costs are governed by many factors - - - principle ones being size and material. We use copper, silver, nickle silver, beryllium copper, beryllium brass and plain brass. The bulk of our parts are cast in beryllium brass. The choice of metal is governed by the characteristics desired for the part i.e., strength, bendability, etc.

Other factors governing costs are 1)making duplicate masters, or groups of small parts, 2) grouping of small parts on a single sprue, to reduce cost of mold and subsequent cost for waxing.

For large quantities of small parts, a die will often save on the total cost. If production runs of parts are in small or moderate lots, a pattern will cost less than making a die. However, if one type of part is wanted in large quantities and the size permits, it is possible for us to produce duplicate masters by the Kemtron Process.

These duplicate masters can be grouped to produce the parts in clusters to reduce the cost per piece.

For special problems, ask for quotations and suggestions.

## MAKING MASTER PATTERNS

When you have a need for a part and want to make a master pattern of it, for casting purposes, make a search for plans. You can draw the plans yourself, by taking measurements and from the actual prototype, or from Simons-Boardman Cyclopedias on Locomotives and parts used on them, or any other authentic source.

## PATTERNS

The best metal for use in making patterns is brass. We discourage the use of soft solder on patterns. We recommend a low melting temperature "Silver Solder", the trade name is "Stay Brite", made by J. W. Harris, 433 West 9th Street, Cincinnati, Ohio 45203.

It is as easy to use as soft solder but has a better holding quality when heat is applied for mold making.

A casting can be no better than the master pattern from which it is made. All effort to produce superior patterns will pay off on each casting.

If several large pieces are used by combining them to make one pattern, it is best to "Pin" the pieces together after soldering.

## SHRINKAGE

Compute shrinkage from "pattern" to final casting at 4%.

Do not fail to allow for shrinkage.

Your pattern must be 4% larger than the final casting.

## SPRUES

Sprues should be 1/8" in diameter and 2" long. We will cut to optimum length on receipt of pattern. Sprues should be placed advantageously for "flow" in casting as well as ease for cutting a parting line on the mold. Unless you have done pattern work before, it would be best to let us do the "spruing" on the pattern.

## ADDING RIVET DETAIL

1. Spot the position.
2. Carefully center punch the position (use a sharp pointed punch).
3. Use a pin vise or drill press to drill a hole smaller than the rivet size.
4. Select brass wire nearest to the size of the rivet.
5. Re-drill the hole to match the wire size of the rivet.
6. Cut 1/2" of the wire, file both ends flat, then break the corners with a file.
7. Now insert and "tap" the wire into the hole.
8. When it is firmly tapped into the hole, clip off the excess wire and file the remaining stub to form the rivet.

## USEFUL TOOLS AND MATERIALS

1. Jewelers Saw
  2. Pin Vise or Drill Press
  3. Set of small drills
  4. Swiss Pattern Files
  5. Butane Torch
  6. Soldering Iron
  7. Solder (resin core)
  8. Flux (resin)
  9. Vise
  10. Small Hammer
  11. Center Punch
  12. Magnifying Glass
  13. Pliers
  14. Wire Cutter
  15. Brass, sheet, rod, wire and bar stock
- A Lathe and a Mill will be of value but not absolutely necessary.

**Kemtron** CORPORATION  
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## WHAT'S IN A NAME . . . . . ?

Not much, it would seem, except to those who use it and recognize it. Take the names applied to the various locomotive types, for instance. Certainly, you know what an "Atlantic" type is, or an "American", a "Consol", or a "Mogul", but do you recognize a "Mastodon"? Or a "Jubilee"? Probably not, unless you are an old hand at steam railroading. Of course, any self-respecting rail buff can tell you a "Mogul" is a 2-6-0 and a 2-8-2 is a "Mikado" on every pike in the country. He might even be able to tell you the "Mike" was named for the high mucky-muck of Japan for whom the first 2-8-2 was built. Chances are, though, there's a bunch of fair and fancy sounding monikers he would not know unless he is a real aficionado of the iron horse and well up in his studies. Partly because some of the names were strictly local to a particular area, or region, and partly because some of the types, themselves, were not common enough for their names to become widely known. Often, too, a type was known by more than one title. The "Mastodon" was one of these. Did you know this was a 4-8-0? Perhaps the name "Twelve-wheeler" is more familiar! How about the "Jubilee"? Well, that was the tag attached to the 4-4-4 type by the Baltimore & Ohio, the only road that had one.

Most of the type names came about naturally enough, and with considerable logic, if you think about it. The privilege of choosing the name usually went to the road who ordered the first example of a given wheel arrangement. Some roads, with justifiable pride, (and perhaps a sense of publicity value) honored themselves in the choice of a name. Thus, "Atlantic" for the Atlantic Coast Line's pioneer 4-4-2. Others with less pomp, picked a name reminiscent of the territory they served. The Burlington, for instance, decided on "Prairie" for the first 2-6-2 type. In most cases, the original name "stuck" and the type was, henceforth, known by it regardless of the railroad operating the engine. However, there was rivalry among the nation's expanding lines as each sought to outdo its competitor in every way possible. This extended to the picking of "associated" names for new type locomotives, too. Look what happened to the 4-6-4 type! It was initially conceived by the Milwaukee Road who christened it the "Baltic" type but, because the road's financial condition prevented immediate purchase, the first actual example of the type was delivered to the New York Central. They promptly dubbed them "Hudsons", establishing the name that has become synonymous for all time. Everywhere but on the Milwaukee, that is! There, a 4-6-4 is a "Baltic", or else!

A similar incident attended the naming of the 4-8-2 type, first built in this country for the C & O, who tabbed it "Mountain" in deference to the terrain the engines were designed to overcome. When the NYC bought some 4-8-2's for their water-level route, they apparently figured the name, "Mountain", was slightly incongruous so changed it to "Mohawk", taking the name from one of the Indian tribes of the region. Both names

survived through the years though the type was called "Mountain" by all but the Central.

Out in the far west there was rivalry over names, too. Union Pacific bought the original 4-10-2 and gave it the title, "Overland" type. Not to be outdone, competitor SP labeled their 3-cylindered versions of the same wheel arrangement the "Southern Pacific" type. It was purely a local argument for the type was never popular elsewhere. If you reverse the wheel arrangement, though, you come up with a "Texas" type, so named because it was first sponsored by the Texas & Pacific. As might be expected, somebody had to be different, of course. In this case, the C B & Q balked at the name "Texas" preferring, instead, to designate their 2-10-4's as "Colorado" types. (Bet that's one you didn't know!)

Even the famous "Berkshire", named in honor of the hills traversed by the Boston & Albany and, eventually, used by virtually every major road in the land, had an alter ego on the C & O called a "Kanawa", for the river the 2-8-4's ran alongside. The C & O had a couple of other unique names, too. The 2-8-8-2, generally acknowledged to be a "Yellowstone" type (Northern Pacific), was a "Chesapeake" on the C & O. The shoe was on the other foot, however, with their notable 2-6-6-6 "Alleghany" type because, when the Virginian bought some of these machines they demurred, changing the name to "Blue Ridge" type. So there!

The C & O was, also, a party to what is, no doubt, the most confusing situation in the naming of locomotive types. Just for the heck of it, what do you call a 4-8-4? Well, the C & O listed theirs as "Greenbriers". On the Lehigh Valley, it was a "Wyoming" type though the connection escapes me. Lackawanna 4-8-4's were called "Pocono" after the similarly named mountains they crossed, while N.C. & St. L. favored the name, "Dixie", for obvious reasons. Up north, on the NYC, some very handsome locos with the same wheel arrangement were running under the pseudonym of "Niagara" types. To stretch the farce a little farther, the "GS" symbol of the Espee's famed "Daylight" 4-8-4 engines was sometimes translated to mean "Golden State" type, though I do not believe this was official. But, despite all the fancy titles given this mighty machine by nearly every line that had them, the most commonly accepted tag is "Northern" type, fondly bestowed by the Northern Pacific when the first one was delivered in 1926. A pretty fouled up affair, wouldn't you say?

So what's in a name? It may well be, in fact I might say inevitable, that in time, all these intriguing labels will have become part of a lost age like the marvelous and fascinating machines that bore them and we "old timers" who remember them with fondness.

Are you still sure you know what an "Atlantic" is? It's a 4-4-2? Well, of course, but with one small reservation. The M St. P & P had a couple of streamlined racers of that type that set a few speed records in their day. What were they called? Why, "Milwaukee" types, what else? A rose by any other name . . . . .

Al Armitage

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## TRICKS: to help beginners

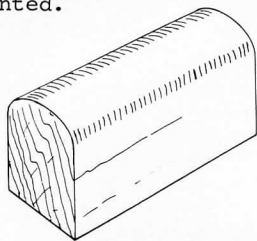
### SCARED?

We have had modelers from all over the world, visit with us. At some time during these visits, discussion has turned to scratch building - - - "horrors - - I don't know how" is a common response.

Have YOU ever tried it? - - - - No!

Well, don't start with a big project - - don't go out and buy a lathe, drill-press and a mill. All you need is a set of files, a pin-vise with some drills, a torch, a soldering iron and last but not least a Jewelers Saw.

Let's start with a piece of sheet brass. Heat it red with your torch - - cool it off, note that it is soft and can be easily formed. Shape a block of wood for simple or for compound curves wanted.



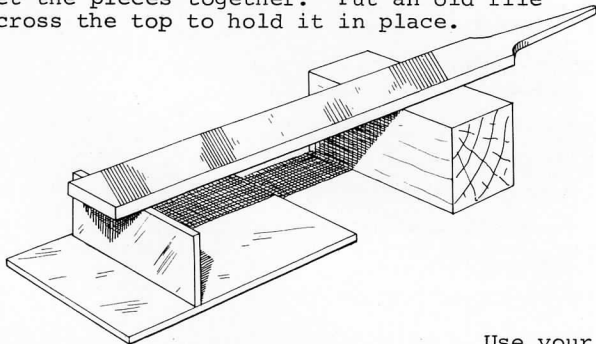
Hammer it on the wooden form to shape - note that it hardens. (This is called work hardening.) This is the first step in learning to work with brass.

Now try your pin-vise, see how easy it is to drill holes at random at first, then try symmetrical patterns. After you have had some fun at drilling, try the Jewelers Saw. Insert the blade through a hole in the brass, tighten it up in the saw and start sawing - - oops it broke - - - I forgot to tell you, do not press. Let the saw itself do the sawing, go slow, steadily stroke with the saw as you turn the metal - - you will be fascinated at the patterns you can cut. Now try a straight line. True it's not so easy, but you will learn.

Did I say it is fun? It is!

Soldering? "I simply can't!" is the most common response - - - so let's try it. Pick up two pieces of brass, no need to clean them. Apply Kemtrons "Solder-Paint" sparingly to the edge of one piece. On the other, smear some Solder Paint on the area on which you will solder the piece.

Set the pieces together. Put an old file across the top to hold it in place.



Use your torch. Gently heat it with easy strokes of the flame. After it has heated up, apply the flame

where needed and watch the solder melt and flow. Do not heat the areas any more than necessary to get the solder to flow.

If you want a strong filet on the joint, touch the soldered area with "wire solder" which will melt and flow. You may need to apply a little more heat as you apply the wire solder.

You can allow it to cool off naturally - - or if you are in a hurry, squirt some water on it. I use a Plastic Catsup dispenser, available at Woolworths or other dime stores.



Catsup or Mustard Dispenser

Let's try another - - - this time instead of a torch, let's use a soldering iron.

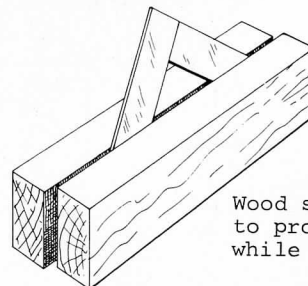
First clean the tip, file it or use a piece of emery cloth. It should be bright clean copper. Heat up the iron, as it heats up, dip it into resin paste flux. If it is hot enough, the flux will sizzle. Now quickly touch some wire solder to the clean tip. The solder will melt and coat the tip. This is called "Tinning the iron".

An untinned iron (which is copper), when heated, will oxidize. The surface will not readily melt solder nor will it "hold" any solder. As solder is melted, it will run off as quickly as it melts. The use of an untinned iron is the root of the difficulty encountered in soldering.

Now prepare the pieces to be soldered, clean them with emery cloth or fine grit sandpaper.

Apply flux to both pieces, sparingly, at the spot where you will solder them together. Position the pieces. Use thin strips of wood to hold together, (so you will not burn your fingers!) and you are ready.

Take the heated soldering iron, touch the wire solder - if properly tinned, the solder will "take" and you can now place the iron at the spot to be soldered.



Wood strips to protect fingers while holding work.

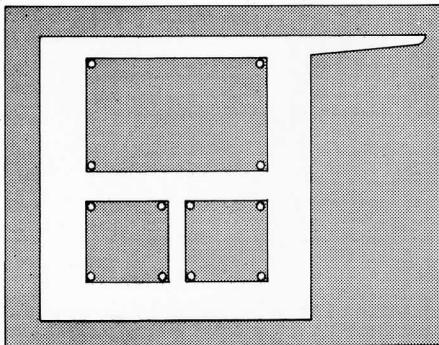
It takes a second or two to transfer the heat, but then you will see the solder start to flow. If the area to be soldered is long, move the iron along the line, adding solder as needed to complete the joint.

After such a demonstration, visitors have left with a new approach to fun in railroad modeling.

How about a small project now that you have experimented?

Let's make a cab side.

Take a piece of .025 brass. Rubber Cement, the template "A" to it. Use a sharp knife and a ruler to cut through the paper, to "scribe" the brass, (press hard).



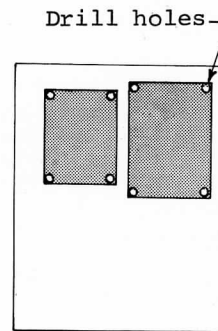
Template "A"

When all lines are cut, the lines are clearly scribed on the brass, remove the paper and wipe off any remaining rubber cement.

All shaded areas are to be cut away with your Jewelers Saw, (use a 3/0 Blade). Drill holes at all four corners of "inside" openings. Insert the blade and saw away. Do not apply pressure when sawing, let the saw do the work as you stroke it! File finish up to the scribed line. This part is now ready.

Saw away from the line to leave a little material to file off for a finish.

Make the window with template "B"



Template "B"

Place this part behind the cab side. Position it and solder in place.

You will have your "window" and "panel sides". Now you can add rivets, arm rests etc., to suit your fancy.

Rivets? Drill holes wherever you want them, insert a 1" piece of brass wire in each hole. Solder from the back side, snip off excess brass wire and then carefully file off until you have the rivet at the desired height. A touch or two of emery cloth will round off the tops of the rivets!

Sure, you can make rivets in other ways i.e., "bump them up" but this is another story!

Hope you had as much fun doing this as I have had in telling you about it.

#### TOOLS & MATERIALS YOU CAN USE

Scrap Brass  
 Solder Paint  
 Resin Solder Flux  
 Solder  
 Soldering Iron  
 Weller Gun  
 Jewelers Saw  
 Pin-Vise/Drills  
 Files  
 Knife  
 Strips of Wood  
 Catsup or Mustard Dispenser for Water  
 Torch (Ronson or Bernz-O-Matic)  
 Emery Cloth  
 Sand Paper (Flex-I-Grit)

## CLASS SYMBOLS .....and WHAT DO THEY MEAN?

### LOCOMOTIVE CLASS SYMBOLS .....

Did you ever wonder just what those odd hieroglyphics mean which usually appear on the cab of a steam locomotive under the road number? Strange markings like P-4, M-1a, or AC-9? And how come, for instance, the symbol C-16 appears on the cabs of the Rio Grande's narrow gauge Consolidations and on the B&O "Dockside" switchers as well? The explanation is quite simple, really, though it may seem puzzling to the uninitiate, at times. C-16 stands for the Class designation of a particular design of engine on the official roster of each of those roads. The engines are totally different, in both type and purpose, and one was built many years before the other was even thought of, in fact, so it is pure coincidence that the same symbol is found on both. It is also possible to find similar symbols on locos of the same vintage though of quite different type and from widely separated railroads. What you won't see, however, is the same symbol on different engines of ONE railroad! Not exactly the same, that is. Even locomotives that may LOOK the same might have variations, not readily visible, that make a difference to the operating department. And therein lies the reason for all the strange markings.

It all started back in the early days of railroading when most roads had relatively few iron horses in their stables. There was no mass production and builders were numerous, each with definite ideas of design and decoration. Engines were ordered one at a time, generally, and each was a separate entity in relation to its stable-mates. Though most of them carried numbers on their boiler fronts, many locomotives of the period also sported names on their handsomely decorated cabs; names of road officials, famous personages, mythological characters, and even animals. Thus, it was not too difficult to keep track of the "family". As the railroads expanded their lines, and necessarily added more and more locomotives, the situation began to change, though. There were several new types of engines being built and the larger systems had begun to acquire sizable and varied locomotive studs to maintain. This could get confusing in shop records, maintenance schedules, etc. so someone, somewhere, decided to divide into separate "Classes", according to types, to keep things straight. Alphabetical classification was a natural choice so one type, say a 4-4-0, became Class A, a 2-6-0 type might be Class B, and the Consolidations Class C. The system worked fine, for a time, but, as the railroads grew longer and bigger, they bought locomotives in groups of five, ten, or more instead of one at a time. It became more efficient to "standardize" the design for a given type in accordance with the needs and requirements of the individual road. New theories, and improvements to existing designs, were constantly being developed by the builders as well as by the road's own mechanical departments. In view of these facts, it was common for a road to have a number of engines of the same wheel arrangement and general design, yet with specifically different features and, quite probably, constructed by different builders.

In order to properly classify them, a system of sub-class designations was developed. Thus, the first group of engines, of a given type, might be labeled Class A. The second group of that type, Class A-1. A third group, almost identical to group two with the exception, let's say, of slightly larger drivers, would be called Class A-1a. Further variations might result in Class A-1b, and so on. A major design change in the same type would normally be listed as Class A-2. Once a class was established for a given type it was, usually, assigned only to locomotives of that wheel arrangement. The Boston and Maine's 2-6-0's, for example, were so numerous they were numbered in both the 1300 and 1400 series. Built between 1895 and 1915, they all carried a Class B symbol; just plain B for the early ones and progressing up to B-15c on later engines, denoting both builder's variations and rebuilding modifications, as well.

If a railroad split an order for ten locomotives between two builders, let's say five to each, one group of five might be classed as D-7a, the other five, D-7b. Should two groups of similar engines be ordered a year or two apart, the same thing might happen. The first five 4-8-2's delivered to the B and M were Class R-1. When five more arrived, later, they were designated R-1b and the first group became R-1a. Two succeeding groups followed as Class R-1c and R-1d. The R-1a and b Classes were almost identical, with Coffin heaters, spoked drivers, and rectangular, 6-wheel truck tenders while the c and d groups had Worthington heaters, Baldwin disc drivers, and 14-wheel centipede tenders. Road numbers were 4100 to 4117.

You may have noticed that most of the Class symbols you've observed seem to be in the "middle" area of the alphabet, in general. This is because the first letters in sequence were applied to early Classes that have, long since, been scrapped and because most carriers did not acquire enough types to encompass the remaining letters. Apparently, some rosters did not maintain an unbroken continuity in the disposition of letters as unaccountable gaps can be found in the sequence on a great many pikes. This may be due to anticipated purchases which never came about or for other reasons not obvious at this late date. Not many roads went beyond S or T with their symbols. The Norfolk & Western did with the Y-6 Class Mallets and the Northern Pacific went them one better with the Z Class "Yellowstones" but even the mammoth Pennsylvania Railroad's last steamer was Class T-1.

Although, as a rule, the letter symbol had no connection with the type of loco it was applied to, I suspect, in a few instances, there was a direct relation between the two as evidenced by the MT-1 tag chosen for the S.P. Mountain type engines. And quite a few Pacifics, on a variety of roads, carry a P symbol which does not, in every case, seem to be chronologically correct. Ordinarily, it was the custom to assign the next letter available to whatever type locomotive, be it 2-6-0 or 4-6-2, that came along next in the ordering sequence. Since some roads had more varieties of wheel arrangements



than others, the symbols don't often match, type for type, on different railroads. Another thing that confuses the issue is the fact that, sometimes, an operating department will re-assign a symbol to a new type of engine if the original type that carried it is no longer in existence. A letter that once belonged to a 4-4-0 might, thus, now be used to identify a 2-8-4. In later years, there appeared an occasional "special" symbol like the GS-4 on Southern Pacific 4-8-4's which meant General Service. In rare cases, a railroad would identify a superheated locomotive by the inclusion of a small "s" in the symbol, as in the Southern's Ps-4 and the K-4s of the Pennsy. Note the reversal of form used by the two roads!

Offhand, I can think of only two major carriers who did not follow the symbol system of classification, one being the Union Pacific, the other the Santa Fe. Both used the road number assigned to each type as a Class marking. A new type would be given the next "thousand" series numbers, say 5000 to 5009, so the group became Class 5000. Apparently no sub-class designations were used.

With the demise of the steam locomotive, the symbol system of classification has passed into limbo along with many another fond remembrance of these fascinating machines. The advent of the deisel, that sausage-machine marvel of modern transportation, has made the symbols, as we once knew them, useless and unnecessary. A diesel is a diesel, no matter what road it runs on. They're the same breed of cat from Maine to California - just different colors! Nevertheless, each of the innumerable "types" of diesel power does carry a symbol assigned, by it's builder, to differentiate each specie from it's brethren. In the beginning, Electromotive tagged it's switchers SC or SW, passenger locos as E types, and freight units F. As various modifications took place, numerals were added to the letters and we had E-8's, E-9's, F-3's, and F-7's all over the place. Alco had it's big PA units and Fairbanks-Morse it's C-line, along with Baldwin and Lima-Hamilton growlers. Now, there are so many variations among diesels it is well nigh impossible to keep track of the different types, even those of the same builder. There's GP-7's, GP-9's, GP-35's, SD-9's and the new DD series from Electromotive. Most are similar in appearance, some nearly identical, but all are designed for different kinds of service. However, the symbols do have a meaning related to the purpose of the locomotive. Do you remember an early model produced by Electromotive called a BL-2? Only a few were built, intended for Branch line service - hence the BL symbol. SC means a switcher with cast underframe; SW, welded underframe. GP stands for General Purpose and SD for Special Duty. B, in a symbol, as in GP-30B, denotes a cab-less booster unit, sometimes referred to as a "calf". A P usually means a unit is equipped with steam generator for passenger service. I've mentioned only a few of the many variations in the stock line of EMD power and, what with rebuilds, modified versions, and special features among them, if you can tell one from another you've got sharper eyes and a better memory than I.

Alco's got a mess of 'em, too, with a variety of symbols for different types. For example, S-1's are the early switchers, PA means a "flat-nose" passenger unit, and FA a similar design freight motor. T represents a transfer locomotive. RS belongs to the popular Road Switcher with the

long and short hoods. There are RSC's and RSD's among this extensive group of engines and things are further complicated by the fact that many of them use a DL symbol, too. Late versions, like the C-425, are called Century models and they, too, use the DL symbol. I haven't quite got this figured out yet!

General Electric, one-time partner of Alco, is producing diesels on their own now. It's easy to tell the GE brood apart, though, because there aren't very many of them and they're all U-20 something or else U-50. If they keep on, they will probably get just as confusing as the others, in time!

There is one thing about the diesel symbols, though, that is definitely encouraging to the novice afficianado. No matter how complex the symbols are, they're the same all over the country. Not like it used to be when you had to learn a whole new set for each railroad so if somebody mentioned an H-10b you knew they were talking about a "mike" on the NYC or, if you saw Class H somewhere, the chances were pretty good it meant a C & NW 4-8-4. Come to think of it, that was half the fun of model railroading! At least to some of us old timers!

Al Armitage

U.S. Hobbies, Inc.

Sole importer of KTM  
Locomotives and Cars  
with an emphasis on  
"O" Scale Models.

**U.S. Hobbies, Inc.**

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A SIMPLE METHOD OF "WEIGHTING" A LOCOMOTIVE .....

It is well known that adding weight to a model locomotive will increase it's pulling power, within certain limits. The amount of weight permissible is governed by the motor used in the model, and by the amount of "space" available inside the superstructure. The first condition can be determined only by experimentation with the engine, itself. It is usually agreed that the maximum weight of the model should be slightly less than that which stalls the engine at full power, thus providing a safety factor to protect the motor against "burn out".

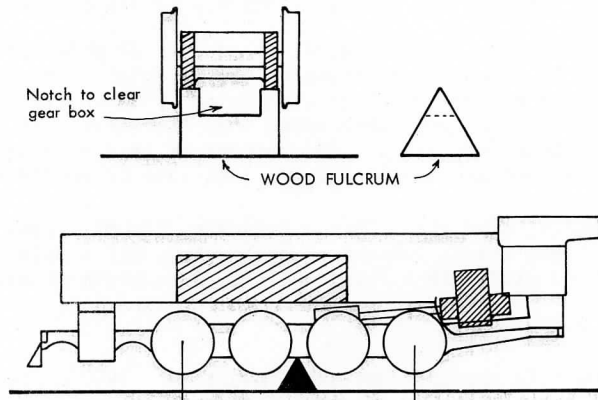
If you have a large layout, which permits the operation of long trains, or if you have heavy grades on your pike, you will want the extra advantage of maximum tractive effort. On the other hand, if your road runs short trains on light gradients, you may not require such total effort from your engines. Unnecessary weight results in greater wear on bearings, and often affects the operation of an engine at slower speeds. Because we use motors of similar capacity, there is generally very little difference in hauling ability between a small engine and a large one before weight is added. A large boiler provides more space for weight, of course, but we might find that in utilizing all the available space we have exceeded the capacity of the motor, whereas there may not be room enough in a small boiler to accept the full amount of weight that could be safely added. This problem is more common in HO scale locos, as might be expected, though it does occur frequently with small narrow gauge equipment in "O" scale.

Perhaps the most important consideration, in adding extra weight to a loco, is where to put it to gain the greatest efficiency. In most models, the motor is mounted behind the drivers. Sometimes the weight of the pilot and cylinder block is enough to balance the motor's weight but very often not, depending on the size and type of locomotive. Since it is most efficient to have the weight evenly balanced over the drivers, the placement of extra weight in this case should be more toward the front of the engine to offset the imbalance of the motor.

Probably the most difficult engine to "weight" properly, is an articulated, especially if it is sprung on all drivers. Theoretically, the weight should be equally distributed over both "engines", provided they are both powered, but this does not always work out in practice. Much depends on the arrangement of the boiler support on the front engine as to whether the weighting of this unit actually adds to the total tractive force of the model to any marked degree. Because of the flexibility of two driving units, both vertically and laterally, the condition of the track is a much more critical factor in the performance of an articulated as compared to a single frame engine on the same track. Hollows, or "dips" in a length of track, for example, would have more effect on the longer engine than they would on a smaller one which could take the "hills" and "dales" individually. Curves, too, offer more problems to a jointed engine because the front engine swings so far out from under the boiler. All things considered, it is really not necessary to strive for maximum tractive effort from an articulated loco since few layouts have sufficient trackage to allow the

model to haul the length of train usually associated with such power. I would suggest you determine the weight required to handle a normal train for the trackage you operate on, then place this weight primarily over the rear engine unit. You will probably find this arrangement entirely adequate for most operating conditions and you will have fewer problems, both in the way the model operates and the installation of the weight itself.

Of the many methods, and materials, used for adding weight to an engine, one of the simplest is packing the superstructure, or boiler with LEAD WOOL. Similar, in appearance, to the familiar steel wool, lead wool is used as a "packing". It can be pressed tightly into confined spaces with ease, even through relatively small openings, by using a "tamping" tool. Lead wool can be "molded" into almost any contour to provide clearance for internal parts like shafts, rectifiers, or wiring. Since no heat is required, lead wool can be packed directly into the boiler without harm to the model even after it has been painted. If you discover you've put too much in, it is a simple matter to pull some of it out! If the weight is not balanced right, add more somewhere else! If you are not sure of the balance point of your model, the lead wool can be packed into a piece of mailing tube small enough to be slipped into the boiler. By shifting the weight fore and aft, the proper location can be determined and the weight cemented permanently in place. However, it is not difficult to find the balance point of most models. All that is needed is a fulcrum which will fit between the drivers, as shown in the sketch. Once the balance point is known, the rest is easy. Balancing should be done after the locomotive has been assembled except for leading and trailing trucks. If the model has a "weight", leave it in place during balance tests unless you plan to discard it.



Loco should balance at center of driver group.

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SELECTING PROTOTYPE ROAD NAMES AND NUMBERS  
FOR ROLLING STOCK

by J. W. Mathews, Jr.

Hobbyists seeking greater fidelity to prototype in lettering their models are at somewhat of a disadvantage where rolling stock is concerned. Locomotive data is usually obtainable for all but the rarest types, thanks to those individuals who have preserved builders' photo collections and other pictures and to the publications in both prototype and model fields which have made such information available.

Data concerning rolling stock is often more difficult to obtain, since cars were not photographed as often as locos. This is no handicap to free-lance modelers using fictional road names, since they are free to letter and number cars as they choose, avoiding only such anachronisms as using a design of a later period than that which they are attempting to portray. But if we wish to letter a model for an actual prototype road and no photos are available, how do we know whether our prototype ever had such a car and what number series was used?

Many hobbyists are familiar with the Simmons-Boardman Car-Builders' Dictionaries and Cyclopedias, gigantic storehouses of valuable data on all types of rolling stock which can sometimes be found in larger public libraries, but some hobbyists may not be aware of another publication, one which can be very useful in answering questions concerning road names and numbers.

This lesser known publication is the Official Railway Equipment Register, published quarterly by the Railway Equipment and Publication Company, 424 West 33rd Street, New York, N. Y. 10001. This book lists all freight rolling stock by car number series for all railroads in The United States, Canada and Mexico. Also included are significant interior and exterior dimensions and capacities by weight and volume. The Register is not illustrated and does not provide light weights, load limits or types of trucks.

As a commercial publication, the Register is used by railroad freight offices and traffic departments of business firms which ship by rail. A common railroad industry practice is to pass older issues along to the smaller freight offices as they become dated, and an inquiry to a local freight agent, especially in a small community, might produce a free copy of an old issue. The same result might occur from an inquiry of the traffic manager of a large shipper as well. A current copy costs \$10 from the publisher.

Some prototype cars were built with unique dimensions, and if these can be ascertained, it is possible to use the Register to determine what railroads actually used a particular car and the number series thereof. Certain data, such as identity of builder and date built and other facts previously noted, is available only from photos or railroad files, and is largely inaccessible to the average modeler. But it is possible to obtain a greater degree of realism than can be had merely by slapping on any old name and number from a decal or transfer set.

The author became interested in the subject of prototype names and numbers some time ago, and is fortunately the owner of a couple of issues of the Register. The older copy is the April, 1955 issue--a date of no special significance but one which ties in rather nicely with the end of the steam era, midway in the 1950's. The following data has been abstracted from that issue, in addition to data from some of the Cyclopedias and back issues of hobby magazines. The purpose of this article is to assist other hobbyists interested in lettering their cars more accurately but who lack time or source data for research.

Abbreviations used are: CAPY - Capacity, LD LMT - Load limit (maximum weight on truck axle journals), LT WT - Light weight (weight of empty car), BLT - date built, CU FT - cubic feet, IL - inside length, IW - inside width, IH - inside height, EW - width at eaves or top of sides or platform, EXW - extreme width.

MODEL: # 505 Hopper

Prototype Information: Designed in October, 1942 by the Association of American Railroads Committee on Car Construction. Known as the "emergency composite hopper," intended to conserve steel for the war effort. Note that the "wood" portion of the sides extends only to the ladder area, not to the end of the car, unlike other composite hoppers built prior to that time. The design was planned to permit ready replacement of the wood with steel sides after the war. (See "Railway Age," August 28, 1943).

Prototype General Dimensions: IL 33' IW 9'7" EW 10'5" EXW 10'5" CU FT 1970 and CAPY 100000 except as noted by an asterisk (\*). The number in parenthesis at the extreme right is the quantity of cars actually in existence according to the Register and is provided only as a matter of possible interest--it is neither practical nor possible to attempt to determine which numbers comprised those cars in service at the time.

| <u>RAILROAD NAME &amp; REPORTING MARKS ( )</u> | <u>NUMBER SERIES</u> | <u>SPECIAL NOTES</u>           | <u>QUANTITY</u> |
|--|----------------------|--------------------------------|-----------------|
| Atchison, Topeka & Santa Fe (ATSF)             | 180400-180799        | See (1), below                 | (397)           |
| Baltimore & Ohio (B&O)                         | 30000 -31034         | *1980 CU FT, See (2) below     | (928)           |
| Chesapeake & Ohio (C&O)                        | See (3), below       | See (3) below                  | (32)            |
| Virginian (VGN)                                | 15000 -15999         | *CAPY 110000, CU FT 1967       | (652)           |
| Southern                                       | 104500-105949        | All rebuilt w/ steel sides (4) | (1,437)         |
| Clinchfield (CRR)                              | 48000 -48499         |                                | (498)           |
| Central of Georgia (CG)                        | 21700 -21799         |                                | (100)           |
| Gulf, Mobile & Ohio (GM&O)                     | 60000 -60849         |                                | (839)           |
| Wabash   | 39000 -39399         |                                | (398)           |
| Illinois Central (IC)                          | 73000 -73599         |                                | (593)           |
| Illinois Terminal (ITC)                        | 4000 - 4074          |                                | (75)            |
| Burlington (CB&Q)                              | 194000-194999        |                                | (994)           |

Notes: Photographs of three prototypes disclose the following data (Bettendorf trucks on all):

- (1) ATSF # 180572 -LD LMT 127500, LT WT 41400, BLT 1-44
- (2) B&O # 30243 -- LD LMT 128300, LT WT 40700, BLT 8-43
- (4) Southern # 104674 -- LD LMT 127100, LT WT 41900, BLT 7-43 by Pullman-Standard
- (3) Apparently the C&O had scrapped or rebuilt most of its cars by 1955, using the car numbers a second time, since its 32 remaining cars were scattered in a range of over 2,000 numbers. These cars were specifically listed in the Register as follows: # 53040,-116,-140,-225,-266,-270,-306,-329,-334,-343,-349,-365,-387,-452,-472,-504,-601,-605,-800; 54052,-204,-315,-455,-851,-969; 55187,-289,-333,-373,-575,-634 and -887.

Of the railroads listed above, most painted their cars black, except for Santa Fe (Mineral brown--a mixture of Tuscan Red and Roof Brown comes close), GM&O and CB&Q (box car red). For lettering diagrams see photos of prototypes or diagrams in Walthers or Champion Decal Company lettering plan books.

IMPORTANT: Please remember that the above data is taken from a specific point in time: April, 1955. It is entirely possible that other railroads had hoppers of this type which were off the roster by that date. A more accurate determination could be made from a Register printed during 1945 or '46, for example. In view of the fact that the car was designed in October, 1942, builders' dates prior to that time would be unrealistic. Available evidence indicates that the first cars were constructed during the summer of 1943 and most of them were likely built in the latter half of 1943 and during 1944, possibly into 1945.

MODEL: # 506 Hopper

Prototype Information: Designed by the United States Railroad Administration (USRA) as one of seven standard freight cars, five of which were actually built in large quantities to relieve critical car shortages during World War I. The car was first described in "Railway Mechanical Engineer" for April, 1918, and a list of the railroads receiving the original 25,500 cars was printed in "Railway Age," August 13, 1920. The design was later adopted by the American Railway Association (now the Association of American Railroads) and cars of this same design were built and rebuilt over the years, as late as the early forties. Among the larger railroads receiving the first cars in 1918 and 1919 were: B&O, B&LE, Buffalo, Rochester & Pittsburgh (now B&O), Clinchfield, CNJ, C&O, D&H, DL&W (now E-L), Erie (now E-L), L&N, LV, NYC, (CCC&StL - known as the "Big Four" and also the Toledo & Ohio Central, both now NYC), PRR, RDG, Toledo, St Louis & Western and the Wheeling & Lake Erie (later NKP and now N&W). As originally built, the cars had Andrews trucks, but later copies and rebuilds could logically have Bettendorf and other types of trucks installed.

Prototype General Dimensions: IL 30'6" IW 9'5" EW 10'2" EXW 10'4" CU FT 1880 CAPY 110000 or 100000. LW from 40400 to 41200 and LD LMT varying around 128600. In the following list, cars have 110000 CAPY if marked with \*, otherwise 100000 CAPY. The number in parenthesis following the number series is the quantity of cars in service as of April, 1955, according to the Register.

Note: Railroads are in the same order in which listed in the Register, not alphabetically. It is entirely possible that other railroads used this type of car prior to 1955--such information would best be obtained from older copies of the Register. No other hoppers, to the best of my knowledge, were 30'6" long with a capacity of 1880 cubic feet, and any such car listed is thus of the USRA design.

| RAILROAD NAME & REPORTING MARKS ( )  | NUMBER SERIES  | QUANTITY   | REMARKS   |
|--|--|--|---|
| Atlantic Coast Line (ACL)  | 80001 -- 80141   | (141)  |   |
| Charleston & Western Carolina (C&WC)   | 5200 -- 5561   | (362)  |   |
| Tennessee Central (TC)   | 9001 -- 9101   | (80)   |   |
| Atlanta & West Point (A&WP)  | 31000 -- 31054   | (48)   | Also 25 more # 31100 - 31124  |
| Western Railway of Alabama (W of A)  | 11000 -- 11044   | (40)   |   |
| Georgia Railroad (GA)  | 21000 -- 21051   | (51)   |   |
| Clinchfield (CRR)  | 43750 -- 45499   | (1,260)  |   |
| Central of Georgia (CG)  | 21001 -- 21300   | (287)  |   |
| Nashville, Chatanooga & St. Louis (NC&StL)   | 46200 -- 46299   | (16)   | Also 174 more # 47000 - 47224   |
| Louisville & Nashville (L&N)   | 27000 -- 28999   | (1,809)  | Several number series as shown  |
|  | 75000 -- 75999   | (885)  |   |
|  | 85650 -- 87999   | (1,325)  |   |
|  | 89000 -- 89999   | (905)  |   |
|  | 180000 -- 185999   | (5,409)  |   |
| Chesapeake & Ohio (C&O)  | 214000 -- 214499   | (-0-)  | All gone by 1955  |
| Pere Marquette (PM)  | 13991*   | (1)  | Last PM-lettered hopper (merged into C&O)   |
| Richmond, Fredericksburg & Potomac (RF&P)  | 3506 -- 3555   | (48)   | Also 30 more # 3561 - 3590  |
| New York Central (NYC)   | 831000 -- 831999   | (489)  | Several number series as shown (* All show 110000 CAPY in Register)   |
| Note: Time does not permit listing quantities on roster at April, 1955, for all series because of large number of cars owned by NYC. | 832100 -- 832599   | (240)  |   |
|  | 833000 -- 833999   | (390)  | 834500 - 834999, 837000 - 838499,   |
|  | 839200 -- 839699   | 840000 - 841999, 842988 - 842999, 843000 - 843749  |   |
|  | 844500 -- 845499   | 846000 - 847999, 848000 - 848978, 849500 - 849548, |   |
|  | 849843 -- 849899   | 850000 - 850099, 850300 - 850399.                  |   |
| Pennsylvania (PRR)   | 220000 -- 220299   | (34)   | Older cars apparently all gone.   |
| Union Railroad   | 3000 -- 3519   | (45)   | Another 458 cars in series show 140000 CAPY but other dimensions fit USRA cars. Numbers showing 100000 CAPY are (all from 3000): 7,9,24,32,39,40,44,70,102,111,116,126,175,186,207,223,234,etc. |
| Reading (RDG)  | 72500 -- 74499   | (1,766)  | *All 110000 CAPY  |
| Central RR Co. of New Jersey (CNJ)   | 65091 -- 65499   | (390)  | * Also 65000,-1,-3,-4,-5,-6,-7 and 65009  |
| Baltimore & Ohio (B&O)   | 5000 -- 5459, 233100 - 233496, 233500 - 233699, 320000 - 321899, 324000 -- 324998, 426000 - 426299, and 726000 - 726798 (all cars *) |  |   |
| Delaware, Lackawanna & Western (DL&W)  | 81000 -- 81019   | (7)  | Also 170 more # 81145 - 81799 less -688   |
| Delaware & Hudson (D&H)  | 3221 -- 4200   | (948)  | Except cars with 1,940 CU FT shown as 3340,3403,-78,3543,3636,-90,3768,3852, 3993 and 4081  |
| New York, Ontario & Western (NYO&W)  | 303 -- 899   | (18)   | Also 21 more # 901 - 921 (Both series *)  |
| New Haven (NYNH&H) or (NH)   | 115000 -- 115545   | (326)  |   |
| Roberval & Saguenay (RS)   | 840 -- 869   | (30)   | All *   |
| Akron, Canton & Youngstown (ACY)   | 7000 -- 7199   | (200)  |   |
| Montour (M)  | 600 -- 649, 15000 - 15499, 16000 - 16499, 17000 - 17499  |  |   |
| New York, Chicago & St. Louis (NKP)  | 99000 -- 99449   | (292)  |   |
| Bessemer & Lake Erie (B&LE)  | 43501 -- 44000   | (91)   | Blt 1918, 1st half by ACF, others built by Standard Steel Company   |
| Pittsburgh & West Virginia (P&WV)  | 2196, 2652, 3000 - 3999  | (135) and # 5000 - 5358 (359)                      | (All cars *)  |
| Detroit, Toledo & Ironton (DT&I)   | 1300 -- 1599   | (295)  |   |
| Cambria & Indiana (C&I)  | 3400 -- 4399   | (950)  | All cars *  |
| Ann Arbor (AA)   | 30500 -- 30599   | (57)   |   |
| Chicago & Eastern Illinois (C&EI)  | 97000 -- 97260   | (112)  | All cars *  |
| St. Louis - San Francisco (SLSF)   | 87210*   | (1)  | Last "Frisco" USRA hopper   |
| Minneapolis & St. Louis (M&StL)  | 63001 -- 63579 and 65001 - 65355 (both series used odd numbers only)   |  | #70048 was last survivor at April, 1970   |
| Northern Pacific (NP)  | 70000 -- 70048   | (48)   |   |
| Texas & Northern (TN)  | 712 -- 730   | (19)   |   |
| Colorado River Western (CRW)   | 10910  | (1)  |   |
| Missouri Pacific (MP)  | 58000 -- 58749   | (298)  | 418 other cars in same series apparently rebuilt with panel sides, 1940 CU FT   |
| Colorado & Southern (C&S)  | 18000 -- 18299   | (292)  |   |
| Cleveland, Cincinnati, Chicago & St. Louis   | 79367  |  | This was original USRA builders' photograph, pictured in prototype and model magazines and books  |
| Possible copies owned by:  |  |  | (1,862) Also 203 more # 8912 - 9119   |
| Interstate (INT) (3" shorter length)   | 7010 -- 8911   |  |   |
| Norfolk & Western (N&W) (1" longer)  | 84000 -- 86743   | (2,667)  |   |

Re-printed from copy furnished by the "International Car Corporation", manufacturers and specialists of Caboose for most U.S. Railroads.

"The origins of the caboose car are clouded by the smoke of ancient woodburning locomotives and the fog that beclouds old railroaders' minds as they retire from a life on the road to one in a rocking chair.

This much we know. Long ago, when the early trains slowly puffed their loud and laborious journey from one way station to another, the Conductor, even then was King - albeit a busy one.

He loaded the freight. He directed the train. He set the tariff for hauling each box, barrel, trunk, or unit of merchandise entrusted to him from one point to another. When it reached its destination, he laid aside his manifests, wrestled it to the station platform, collected the money for its trip, and clambered back aboard for the next noisy, dirty and hot or cold leg of the day's run.

Where he parked his person between stops was up to him and the weather. Up with the engineer - - - back in a boxcar - - - prone on a flatcar - - - he had his choice. But he did not have that haven from the storm, that home way from home that around 1855 came to be called a "caboose". At one time it might have been a shanty on a flatcar. It is said the word "caboose" was derived from the nautical term for a ship's galley.

One day, one enterprising and perhaps shivering conductor spotted an abandoned boxcar on a siding and was struck with a brilliant idea. Why not appropriate it for his own personal and private use?

He did, with his road's permission, set up a desk and chair in the leaking gloom of its dank interior and - - - lo - - - the "conductor's car" was born.

One thing led to another.....a bunk, for example, a kerosene lamp. Why spend 15 cents a night for a room at the end of the journey? No doubt some deserving widow who eked out a barren living from "taking in boarders" lost a transient guest. And as time marched on those bleak trackside railroad, Y.M.C.A.'s lost many a regular to his new-found castle on wheels.

Lost in the dimness of those faraway days, are the actual facts as to how rapidly the caboose car became a standard appertenance on any self-respecting freight train.

But the little red caboose came into being and its crude, but welcome comforts contributed to generations of conductors who rode in greater safety with less grime on their faces and less cold in their bones.

Poking around in the past, we learn that about 1863 a freight conductor whose car was out of commission borrowed a boxcar. It had a hole in the roof. He had an idea. He piled some stuff up on the floor, sat on top of the pile with his head sticking up out of the hole. He got a better view of his train. So, he asked the shop to build a box over the hole to give him some protection and - - - lo - - - the cupola caboose was born. About 1923 the first bay window caboose was built.

Over the years, the coal-burning stove was replaced by modern stoves, kerosene lamps gave way to electricity, bunks got springs, insulation came into being, seats were upholstered, special trucks for greater riding comfort were introduced and safety rods cut the barked-shin and bruised-back rate down.

Today, this rolling field office, conductor headquarters shelter, bunkhouse, kitchen, dining room, tool house, observation post and social center which has borne such derisive terms as buggy, glory wagon, crummy, chariot, go-cart and bozo wagon is a true command car.

The kerosene lantern long used to signal the whole length of the train has, in the most modern cabooses, been replaced by a radio telephone whereby the conductor can converse with the engineer, operating men along the way, and even other train crews.

In many instances the richly romantic little red caboose has become a big green, orange or silver one - - - roaring along at the end of a mile-long train at up to 90 miles an hour. It gets from one terminal to another so fast that few meals are cooked in it. A victim of progress and a slave to the diesel age, the caboose has lost a lot of its old-time glamor and social prominence, but it has become a far more efficient and safer contribution to railroading.

In the quiet of the dusk, old-timers, hearing the distant wail of a locomotive whistle echoing over the countryside, will ever have a vision of the little red caboose hustling along behind, clickety-clacking out of sight as it must eventually disappear from the memories of a generation of aging railroad men."



# ***U.S. Hobbies, Inc.***

5755 E. Fountain Way Fresno, California 93727

Telephone: area code 209 - 291-6614

Hi ! - - - - -

Let's get acquainted. . . . .

## **INFORMATIVE MAILINGS**

We welcome your letters, however, it will be impossible to answer each one individually. Because of this reason, we are issuing "Bulletins" and information sheets to keep you informed.

If you subscribe to this service, we will prepare 14 envelopes. When the last one is mailed to you, a note will be enclosed, calling to your attention the expiration and inviting re-subscription to this service.

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When you write us to inquire about any specific item, follow these rules to insure a prompt response.

- 1) Use 8½ x 11 paper.
- 2) Write on left half of sheet, so we can answer on the right half.
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