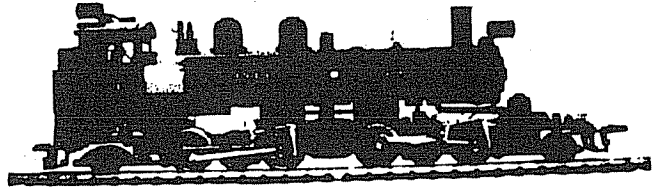


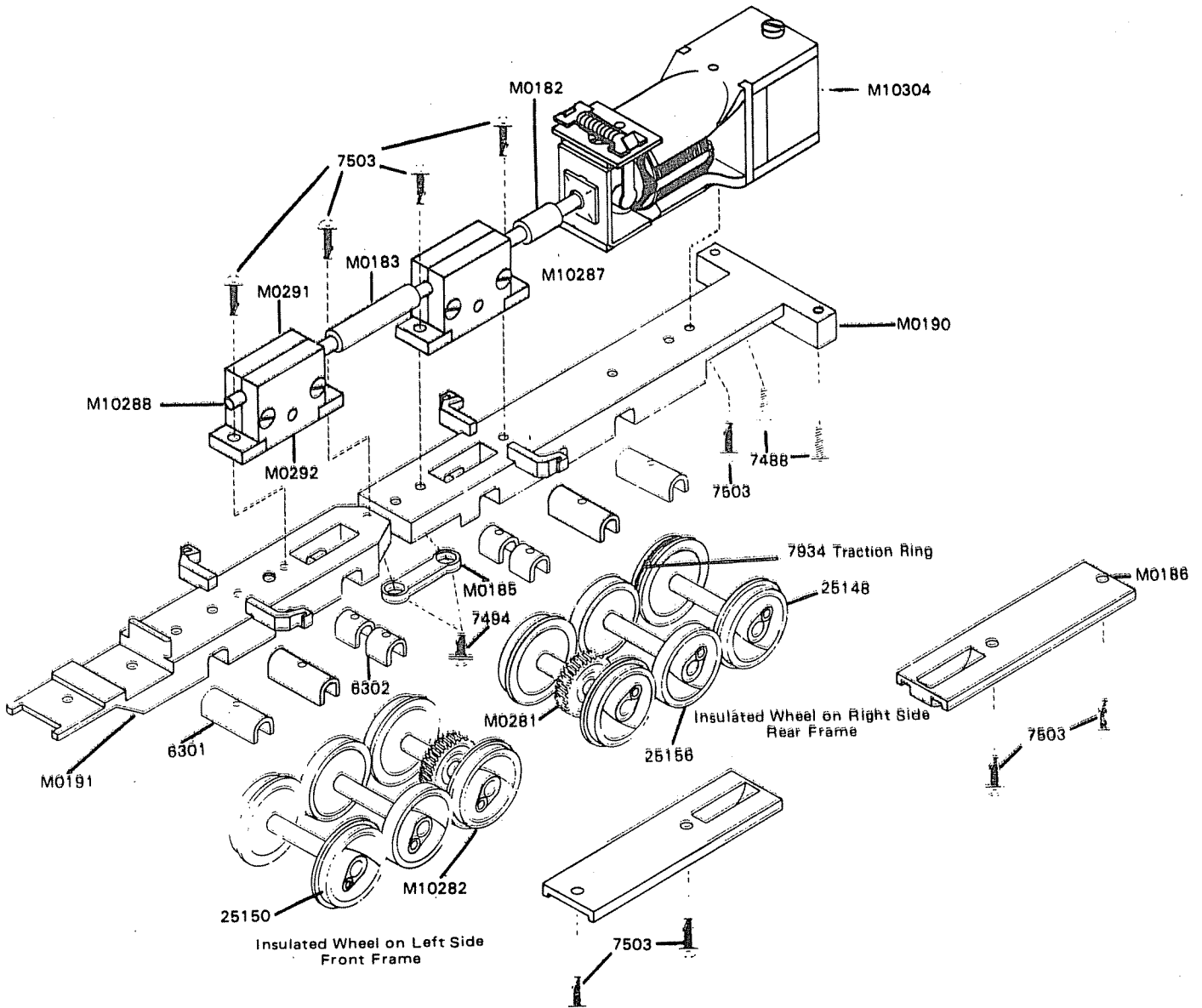
# MANTUA



## BOOTH KELLY LOGGER

### MECHANISM ASSEMBLY

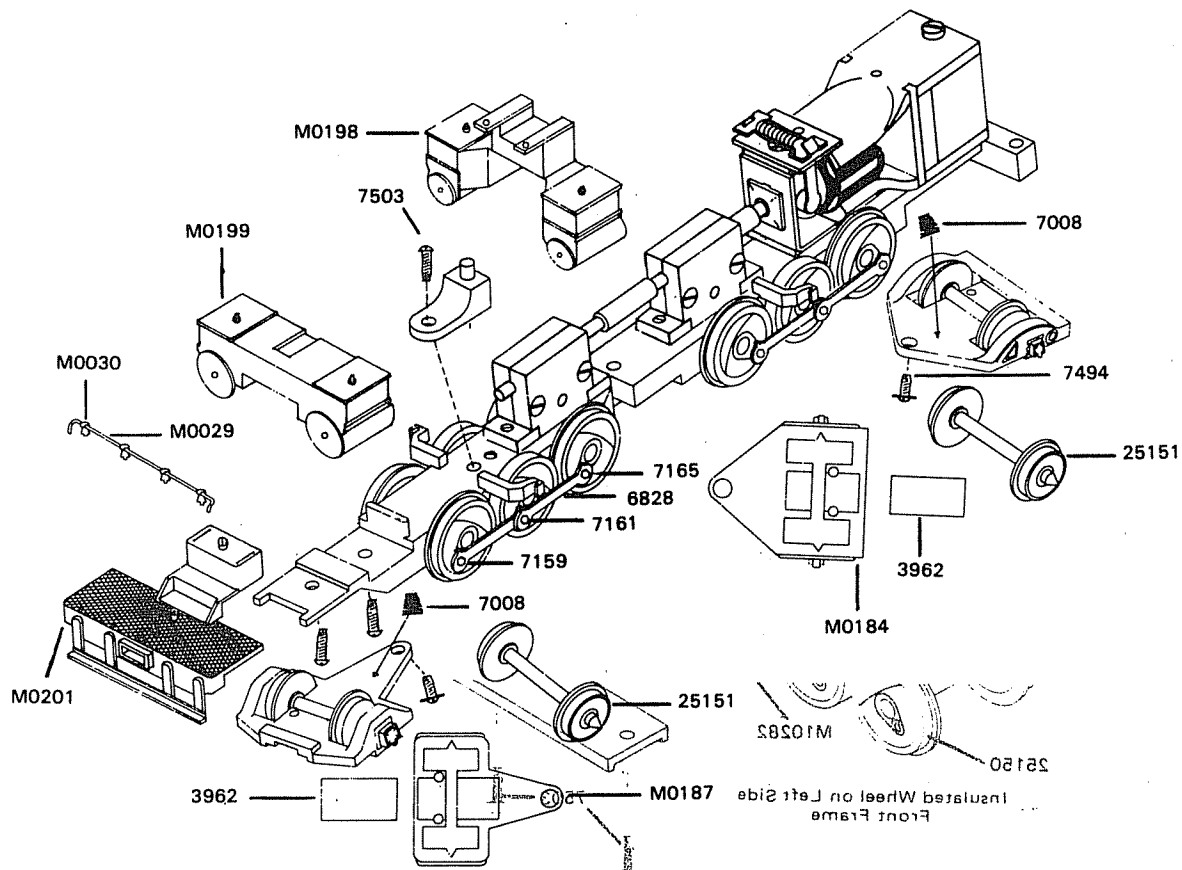
1. Check all parts with replacement parts list. Study the drawings to identify parts. Read instructions through before starting and BE SURE you understand how each part is to be mounted and avoid disappointing errors. Smooth edges of all cast metal parts with a knife or fine file to remove all flash and burrs. Use sharp knife for plastic parts.
2. Assemble two #6301 long axle bearings and two #6302 short axle bearings in #M0191 front frame making certain they are located on the pins and are properly seated in the bearing slots.
3. Place #25150 Fig. driving wheels in front slot and #25156 blind driving wheels in center slot and #M10282 Fig. driving wheels w/gear in rear slot. ALL INSULATED WHEELS on front frame are on left side.
4. Place #M0186 retainer plate in position and secure with two #7503 screws, #2-56 x 1/4" S.T.R.H.



5. Using #M0190 rear frame place bearings as in step #2. Next place #M10282 Fig. driving wheels w/gear in front slot. #25156 blind driving wheels in center slot and #25148 Fig. driving wheels with traction ring in rear slot. Insulated wheels in rear frame are on right side.
6. Place #M0186 retainer plate in position and secure with two #7503 screws, #2-56 x 1/4" S.T.R.H.
7. Make sure each set of wheels revolves freely in its bearing.
8. Side rods are assembled the same on each frame as follows: Fasten one #6828 side rod to front wheel with #7159 short side rod screw. Align other end of side rod with hole in second set of wheels and place one end of next side rod over it, secure both of them with #7161 intermediate side rod screw. The other end of this side rod is fastened to third driver by using #6390 bushing and #7165 side rod screw. Use #5511, 0-80 wrench to tighten hex screws.
9. Check rotation of coupled drivers. Tight spots in side rods may be freed by reaming with a round needle file. DO NOT REAM any more than is absolutely necessary. Assembled mechanisms should roll freely.
10. Assemble gear boxes as follows: Gear Box assembly "A" Assemble #M10287 worm shaft assembly in large half of gear box #M0291 with #M0293 self centering bearing. Put #M0289 idler gear and #M0290 shaft with #7556 steel washer on each side of gear in cavity below worm drive and put oil in shaft cavity. Small half of gear box #M0292 now fits onto other side, oil shaft cavity, secure with two #7503 screws #2-56 x 1/4" S.T. Tap gear box lightly to line up shaft and seat bearings. Using #10288 worm shaft assembly, assemble second gear box in same manner. This is Gear box "B" which goes on front frame of locomotive.
11. Fasten assembled gear boxes on frames as shown with two #7503 screws #2-56 x 1/4" S.T.R.H. in each unit.
12. Valve gear assembly — See separate instruction sheet.
13. Place flexible coupling #M0183 over shafts of gear box and motor and secure motor with one #7503 screw.

Assemble #M0198 rear cylinder and crosshead guides by inserting piston rod in cylinder, followed by the single point end of crosshead guide into elongated hole above it. Valve rod goes into hole above elongated hole. Hold completed unit over frame and place notched end of crosshead guides into notches in guide bracket. Cylinder should now rest over screw hole in frame and is fastened with #7503 screw, #2-56 x 1/4" S.T. #M0194 Steam pipe is placed in slot at top of front cylinder before assembling to frame. Refer to steps 13, 14, 15, 16 and 17 valve gear assembly for final main rod and valve gear assembly.

14. Assemble two frames with #M0185 drawbar and two #7494 screws, #2-56 x 3/16" S.T.W.H. Front coupling is fitted on to gear box shafts at this time.
15. Connect motor wires to 12 volt D.C. power and check in both forward and reverse for smooth operation. DO NOT TEST RUN without lubricating all gears with a light grease. Labelle #106.
16. Insert #M0302 insulator in spring cavity of frame. Assemble #M0195 boiler support holder, #M0196 support pin and #M0197 spring and secure to front frame directly in front of gear box with #7503 screw, #2-56 x 1/4" S.T.
17. Pilot Assembly
  1. Thread #M0029 handrail through four #M0030 hand-rail posts and assemble on front of pilot.
  2. Push #2601 coupler through slot and secure with #7477 screw, #0 x 7/32" S.T. down through deck into hole in coupler.
18. Pilot is fastened to front frame with #7488 screw.
19. Place one #25151 30" wheel and axle set in slot of #M0187 Lead truck frame and one set in #M0184 Trailing truck frame. Slide #3962 brass retainers forward through retaining slots until plate snaps into position in each truck.
20. Insert #M0028 bulb in #M0018 bulb holder threading wires through slot in rear. Do this for front and rear lights.



NO. IN KIT	DESCRIPTION	PART NO.	UNIT PRICE EACH
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NO. IN KIT	DESCRIPTION	PART NO.	P I
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### MECHANISM

1	Frame, Front	M0191	
1	Frame, Rear	M0190	
4	Bearing, Long	6301	
4	Bearing, Short	6302	
2	Retainer Plate	M0186	
18	Screw, #2-56 x 1/4" S.T.R.H.	7503	
1	Wheel and Axle, 50" Flg.	25150	
2	Wheel, Axle and Gear, 50" Flg.	M10282	
2	Wheel and Axle, 50" Blind	25156	
8	Side Rod	6828	
2	Crosshead and Piston Rod R.H.	8471	
4	Screw, Short Side Rod	7159	
4	Screw, Intermediate Side Rod	7161	
4	Shouldered Bushing	6390	
2	Crosshead and Piston Rod L.H.	8470	
4	Hex Head Side Rod Screw	7165	
4	Main Rod	7096	
1	Cylinder, Front	M0199	
1	Cylinder, Rear	M0198	
1	Truck Frame, Lead	M0187	
1	Truck Frame, Trailing	M0184	
2	Wheel and Axle Assem. 30" Ins.	25151	
2	Retainer	3962	
2	Spring, Conical	7008	
6	Screw, #2-56 x 3/16" W.H.S.T.	7494	
1	Drawbar	M0185	
1	Pilot	M0201	
3	Screw, #2 x 1/4" S.T.	7488	
1	Handrail, Pilot Beam	M0029	
1	Handrail Post, Pilot Beam	M0030	
5	Screw, #0 x 7/32" S.T.	7477	
2	Light Housing	M0168	
2	Bulb Holder	M0018	
2	Bulb and Lead Wire	M0028	
2	Coupler	2601	
1	Coupler Pocket	2603	
1	Steam Pipe	M0194	
1	Boiler Support Holder	M0195	
1	Boiler Support Pin	M0196	
1	Boiler Support Spring	M0197	
1	Suspension Support	M0204	
1	Insulator	M0302	
1	Worm, Shaft Assembly	M10287	
2	Self Centering Bearings	M0293	
2	Idler Gear	M0289	
2	Idler Gear Shaft	M0290	
8	Washers	7556	
2	Gear Box Half, Large	M0291	
2	Gear Box Half, Small	M0292	
1	Worm, Shaft Assembly	M10288	
1	MG-81 Motor	M10304	
2	Flexible Coupling	M0183	
1	Wheel and Axle, 50" Flg. w/Traction	25148	
1	Wrench, 0-80	5511	
6	Rivet, Long	8355	

### VALVE GEAR

Valve Gear Kit

### BOILER

1	Boiler, Upper	M0176	\$
1	Boiler, Lower	M0173	
1	Boiler, Front	M0154	
1	Water Tank, Left Side	M0179	
1	Water Tank, Right Side	M0180	
1	Bell Bracket	8183	
1	Bell Crank	8182	
1	Bell	8181	
1	Crossbar and Filler	M0171	
2	Dome	M0270	
1	Whistle Base	M0160	
2	Pop Valve	M0161	
1	Whistle	M0162	
1	Cab	M0166	
1	Hatch, Cab	M0165	
1	Oil Tank	M0169	
5	Insulating Tubing	7811	
1	Diode	M0300	
2	Lead Wire	M0301	
1	Reverse Power	M0200	
1	Compressor, Single	M0205	
1	Weight	M0206	
1	Screw, #2-56 x 3/16" S.T.	7152	
1	Compressor, Double	M0318	

### REPLACEMENT PARTS

See your Hobby Dealer. If he cannot supply them you may order from the factory. Please send check or money order for parts required, plus \$1.00 for postage and handling.

### DEFECTIVE PARTS

RETURN PARTS ONLY — NOT COMPLETE MODEL. Any defective part will be replaced at no charge. If complete or partially completed model is returned only the defective part will be replaced, not installed.

Please enclose check or money order for \$1.00 to cover the cost of postage and handling.

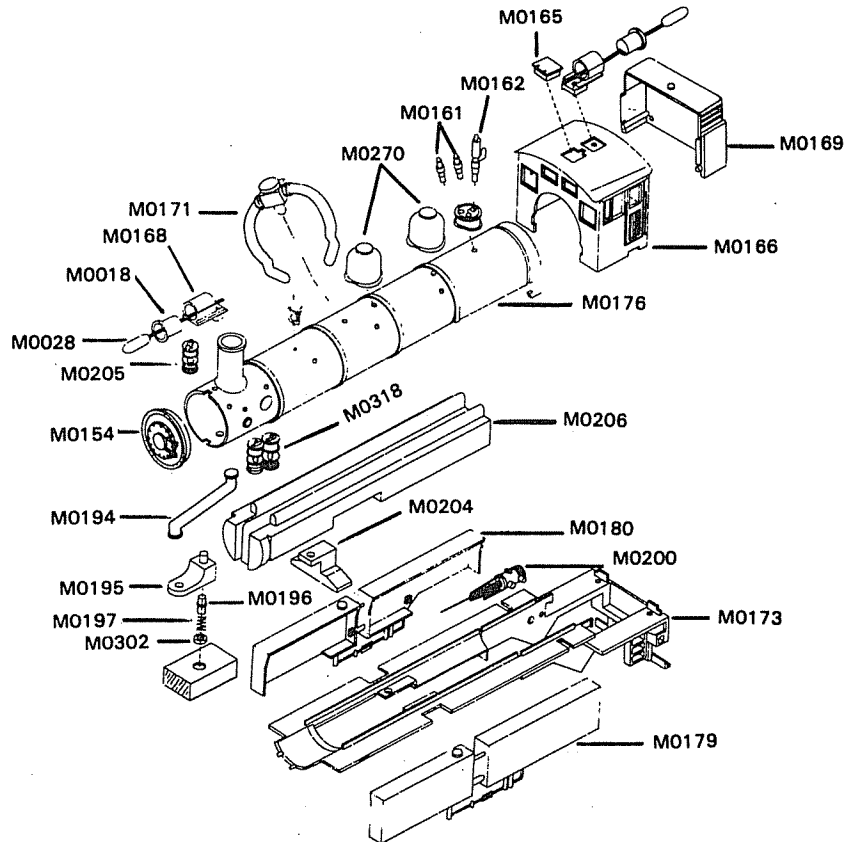
### MANTUA FULL ONE YEAR WARRANTY

All Mantua Products are thoroughly inspected and tested prior to shipment and are guaranteed to operate satisfactorily and be free from factory defects. If within one (1) year from the date of purchase this product fails due to defect in material or workmanship Mantua will repair or replace it free of charge. This guarantee does not apply to (a) electric bulbs, (b) damage caused by accident, abuse or mishandling, dropping and (c) units which have been subjected to unauthorized repair. To prevent damage in transit please pack securely and return to: Mantua Service, Grandview Avenue, Woodbury Heights, N.J. 08097.

21. Push bulb holder into #M0168 light housing and screw light onto #M0176 Boiler with #7477 screw, #0 x 7/32" S.T. Wires go down through hole in Boiler. The other similar assembly goes on cab roof.
22. Insert #7008 conical spring in cavities of each frame and place lead and trailing trucks over spring and boss. Fasten with #7494 screws, #2-56 x 3/16" W.H.S.T. as shown. Assemble #2603 coupler pocket, #2601 coupler to cavity in rear frame with #7477 screw, #2 x 7/32" S.T.

## BOILER ASSEMBLY

1. Insert the tabs on front of #M0173 lower boiler under front of #M0176 upper boiler and carefully hook tabs at back end of both pieces.
2. Slide #M0206 weight into boiler from rear. Use #7152 screw, #2-56 x 3/16" S.T. to secure weight to boiler at the front.
3. Suspension support #M0204 is fastened to boiler weight with a #7503 screw, #2-56 x 1/4" S.T.
4. Press #M0179 water tank on running board on left side of boiler matching up slots on tank with running board. Using #M0180 water tank, repeat process for right side.
5. #M0171 crossbar and filler is placed around boiler and pressed into hole in top of boiler.
6. Press two #M0161 pop valves and one #M0162 whistle into #M0160 whistle base. Press assembly into boiler at location shown.
7. Place two #M0270 domes in boiler as shown.
8. Fasten one #M0318 double compressor in hole in left side of boiler, clip off one post, then fasten #M0205 single compressor on right side.
9. Reverse #M0200 fits on right side of lower boiler under rear end of tank.
10. Assemble #8183 bell bracket and #8181 bell and #8182 bell crank. Mount bell and bracket in hole in boiler with #7477 screw, #2 x 7/32" S.T.



## WIRING

The equal lengths of black and white wire are threaded through the length of boiler and connected to motor, frame, lights, and diode as shown. After wiring #M0166 cab is set in groove on rear end of boiler.

11. Assembled boiler is placed on top of mechanism (making sure lower steam pipe is inserted into slot at bottom of smoke box) and fastened with two #7503 screws, #2-56 x 1/4" S.T. through rear cylinder and into boiler weight. Two #7488 screws, #2 x 1/4" S.T. secure frame to lower boiler at rear.
12. Carefully put wires into front of boiler and snap #M0154 boiler front in place. Wires in back end are folded into cab. #M0169 oil tank is snapped into position on rear of cab.