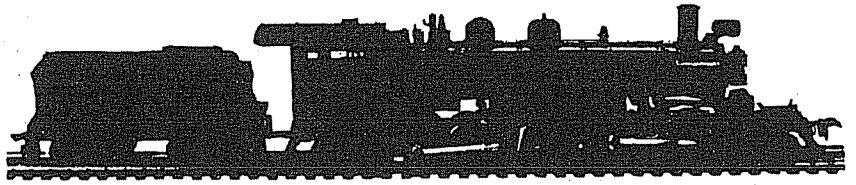


MANITUA



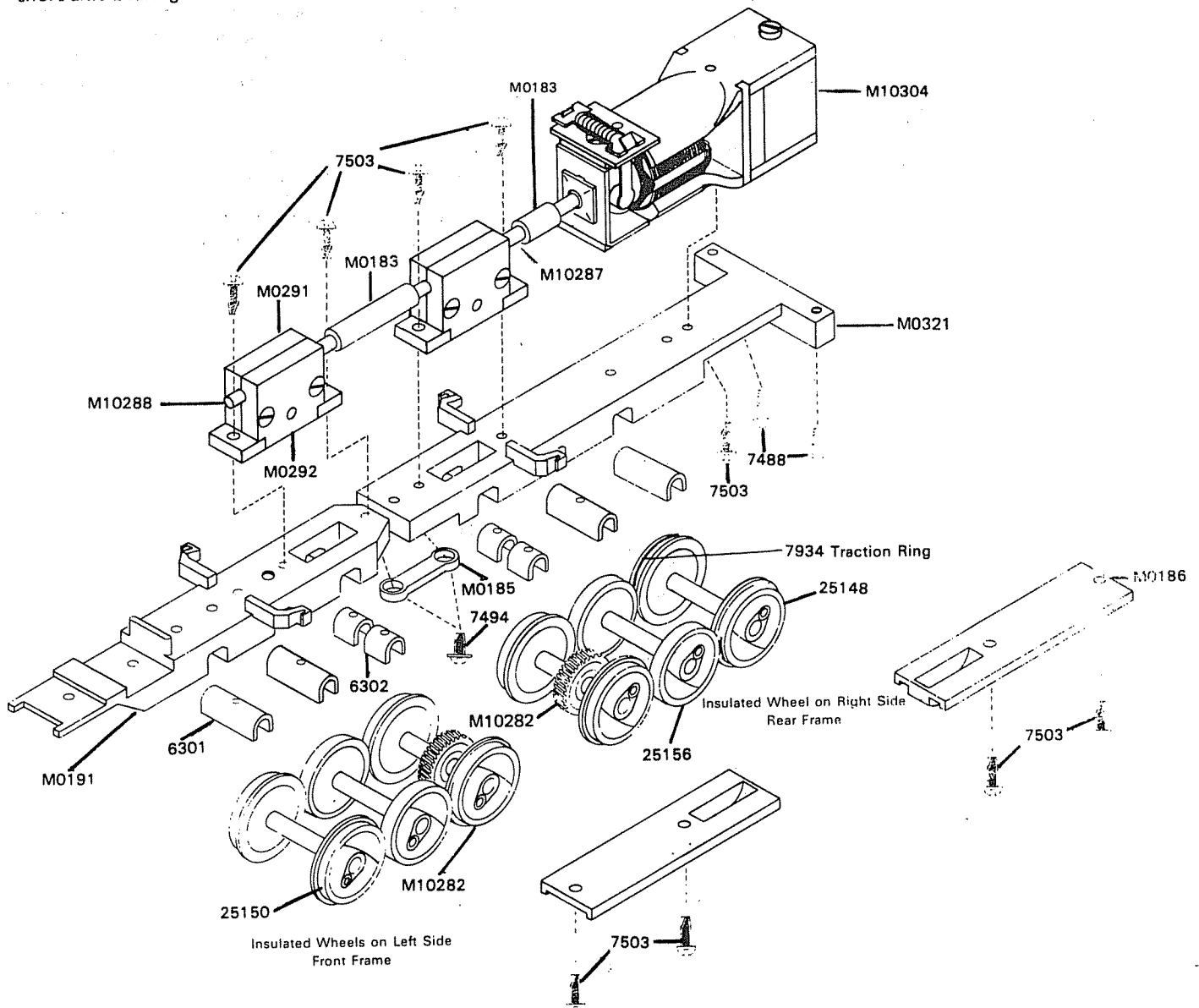
2-6-6-2 MALLET AND TENDER

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

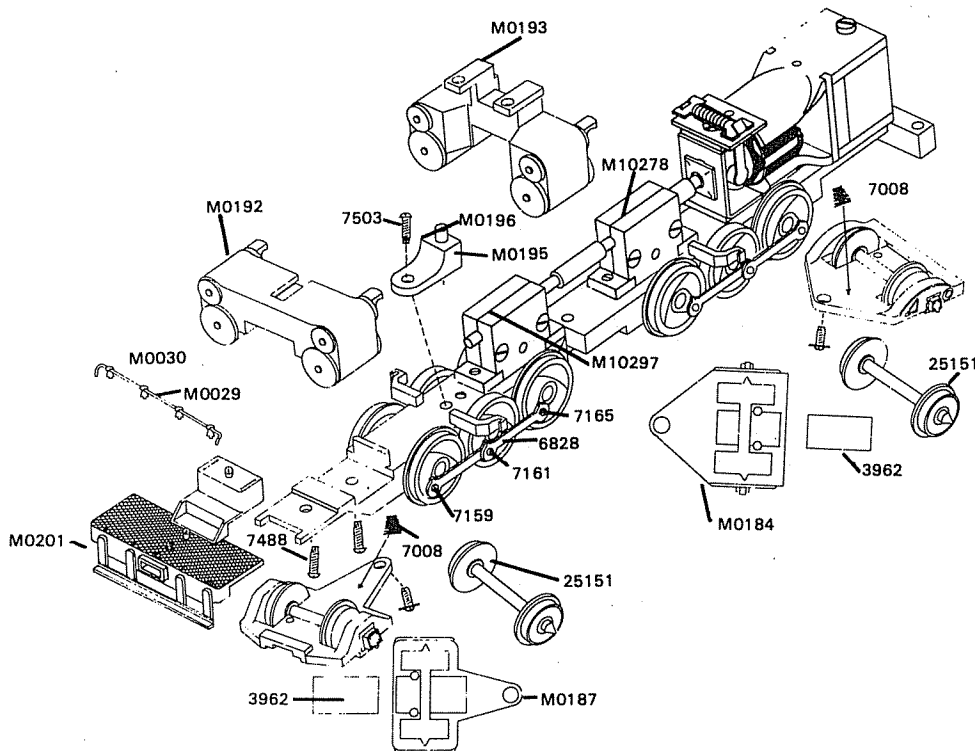
certain they are located on the pins and are properly seated in the bearing slots.

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 #M0321 rear frame place bearings as in step #2. Next place #M10282 Flg. driving wheels w/gear in front slot, #25156 blind driving wheels in center slot and #25148 Flg. 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, O-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 #M2093 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 secure motor with one #7503 screw. Assemble #M0193 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 14-17 of 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. Push #2601 coupler through slot and secure with #7477 screw, #0 x 7/32" S.T. down through deck into hole in coupler.
 2. Thread #M0029 handrail through four #M0030 handrail posts and assemble on front of pilot.



NO. IN KIT	DESCRIPTION	PART NO.	UNIT PRICE EACH
MECHANISM			
1	Frame, Front	M0191	\$
1	Frame, Rear	M0321	
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	M0192	
1	Cylinder, Rear	M0193	
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	
8	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	
14	Handrail Post	M0030	
3	Screw, O x 7/32" S.T.	7477	
1	Light Housing	M0168	
1	Bulb Holder	M0018	
1	Bulb and Lead Wire	M0028	
1	Coupler	2601	
2	Coupler	M0328	
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	
4	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 & Axle, 50" Flg. w/Traction	25148	
1	Wrench, 0-80	5511	
6	Rivet, Long	8355	
1	Lead and Terminal Lug	M10373	

VALVE GEAR

Valve Gear Kit

NO. IN KIT	DESCRIPTION	PART NO.
BOILER		
1	Boiler, Upper	M0178
1	Boiler, Lower	M0366
1	Boiler Front	M0322
2	Handrail	M0149
1	Bell Bracket	8183
1	Bell Crank	8182
1	Bell	8181
1	Dome, Steam	M0268
1	Dome, Sand	M0269
1	Whistle Base	M0160
2	Pop Valve	M0161
1	Whistle	M0162
1	Generator	M0163
1	Turret	M0164
1	Cab	M0150
1	Hatch, Cab	M0165
2	Cooling Coil	M0153
2	Air Tank	M0152
3	Insulating Tubing	7811
2	Lead Wire, 1 white, 1 black	M0301
1	Reverse Power	M0200
1	Compressor, Double	M0318
1	Weight	M0206
2	Screw, 2-56 x 3/16" S.T.	7152

TENDER PARTS

1	Tender Body	2289
1	Frame	3273
1	Truck (Pair)	34882
1	Coupler	2601
1	Coupler Pocket	2603
1	Screw, #0-7/32" S.T.R.H.	7477
1	Coal Pile	7922
1	Drawbar	6612
4	Screws, #2-56x3/16" S.T.W.H.	7494
2	Wave Washer	M0142

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.

MANTUA

O., INC.
EIGHTS, NEW JERSEY 08097

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