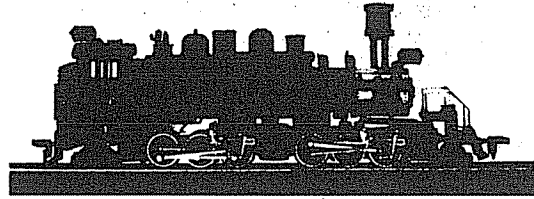


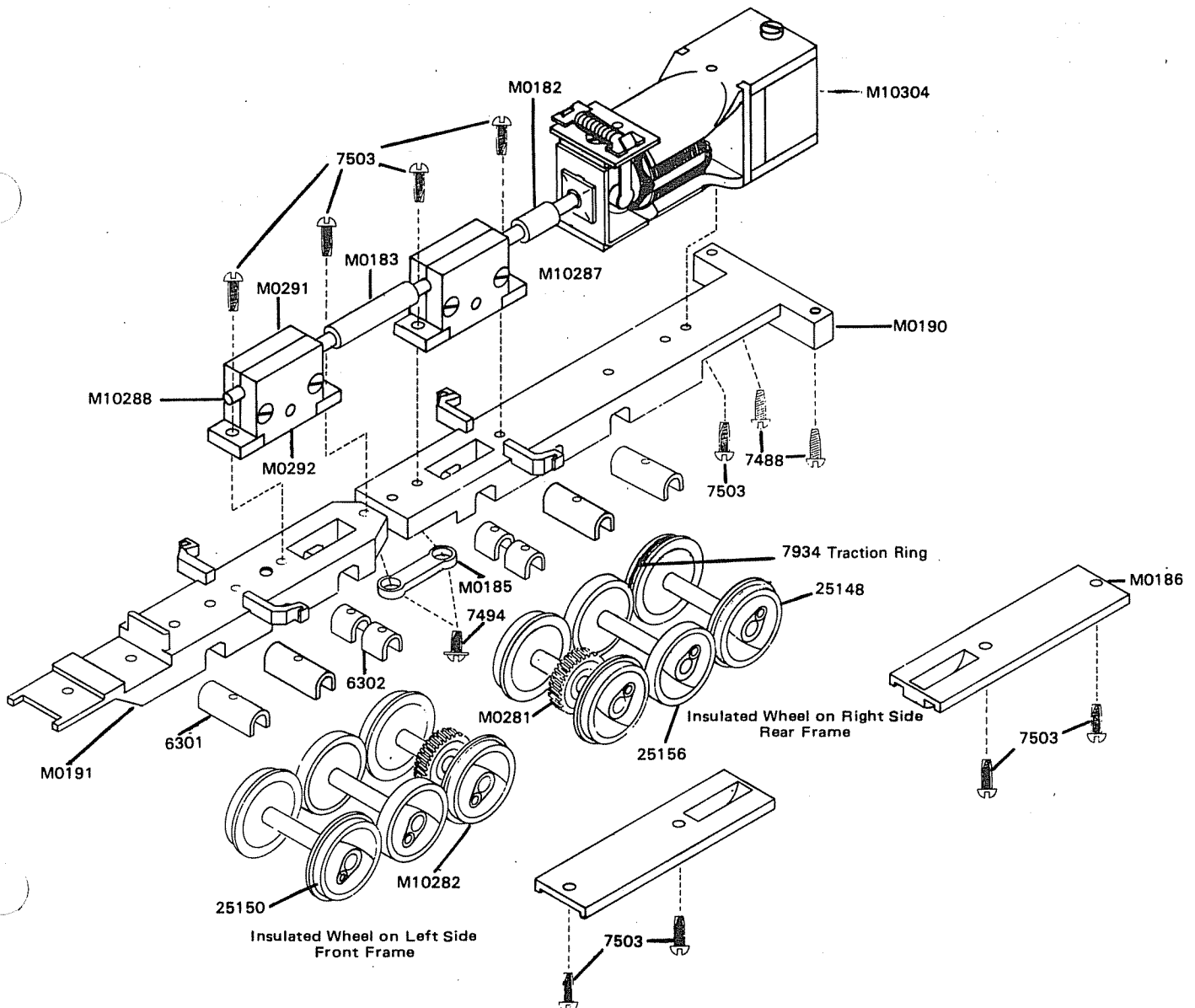
# MANTUA



## 2-6-6-2 LOGGING MALLET

### 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.

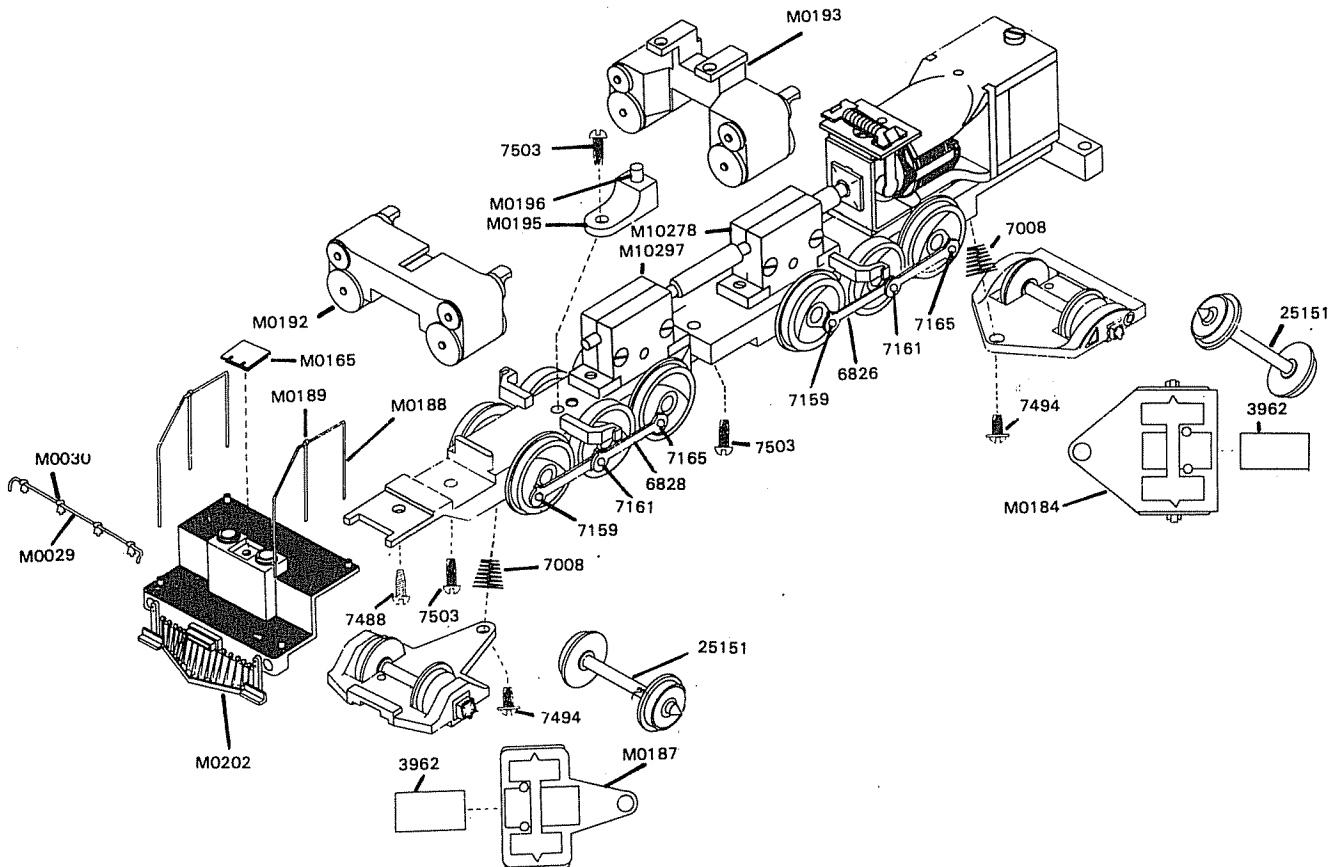


ALL INSULATED WHEELS on front frame are on left side.

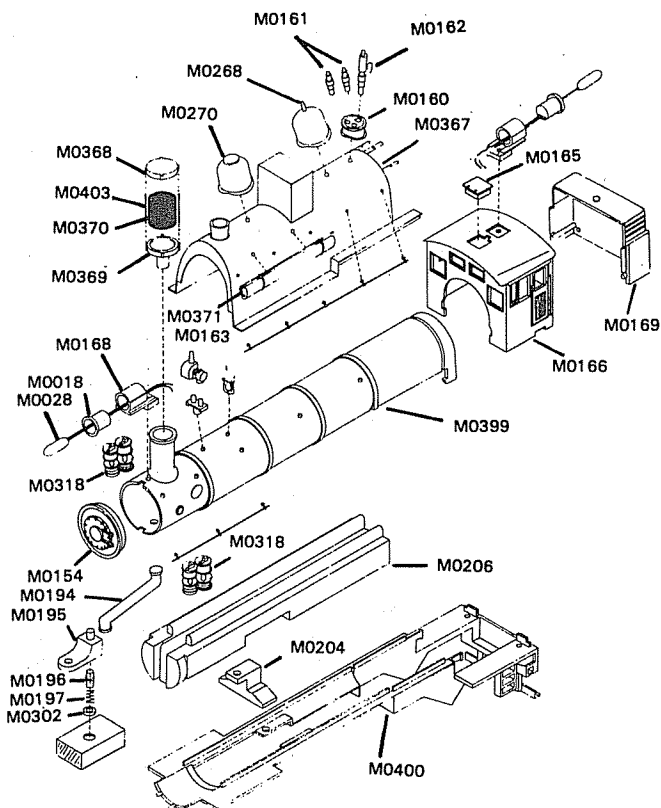
4. Place #M0186 retainer plate in position and secure with two #7503 screws, #2-56 x 1/4" S.T.R.H.
5. Using #M0190 rear frame place bearings as in step #2. Next place #M10282 Flg. driving wheels w/gear in front slot. #25156 blind driving wheels in center slot and #25148 Flg. driving wheels with traction 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, 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 #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 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.
  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.
  3. Press #M0165 cover into cavity on top of pilot as shown.
  4. Assemble #M0188 handrails and #M0189 handrail posts to each side of pilot as shown.
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 #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.

## BOILER ASSEMBLY

1. Insert tabs on front of #M0400 lower boiler under front of #M0399 upper boiler and carefully hook tabs at back end of both pieces.
2. Fasten saddle tank #M0367 to main boiler with a #7494 screw #2-56 x 3/16" W.H.S.T.
3. 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.
4. Suspension support #M0204 is fastened to boiler weight with a #7503, 2-56 x 1/4" S.T. screw.
5. Place two domes on saddle tank as shown.
6. Insert two #M0161 pop valves and one #M0162 whistle in #M0160 whistle base and press assembly into hole at rear of saddle tank.
7. Assemble two parts of M0163 generator together and press in hole as shown on main boiler.
8. Fasten #8183 bell bracket as shown with #7477 screw, #0 x 7/32" S.T. Bell #8181 and crank #8182 are inserted in bracket.
9. Spark arrestor is assembled as shown and pressed into smoke stack.
10. Insert #M0028 bulb in #M0018 bulb holder threading wires through slot in rear. Do this for front and rear lights.
11. Push bulb holder into #M0168 light housing and fasten light onto 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.
12. Press #M0372 air cylinder into holes of saddle tank on right hand side. #M0371 air cylinder goes on left side as shown.
13. #M0200 power reverse is fastened on right side of saddle tank.
14. Press one #M0218 double compressor in hole on each side of boiler as shown. Cut one pin off each compressor, making them R. & L. hand.
15. Cut handrail wire to proper lengths and attach to boiler and saddle tank as shown.
16. The equal lengths of black and white wire are threaded through the length of the boiler and connected to motor, frame, lights, and diode as shown. After wiring is finished M0166 cab is placed in groove on rear end of boiler.
17. 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.
18. 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. A drop of plastic cement can be used to secure parts that will not be moved.
19. Assemble #M0338 Coupler pocket, #2601 coupler to cavity in rear frame with #7477 screw, #2 x 7/32 S.T.

NO. IN KIT	DESCRIPTION	PART NO.	UNIT PRICE EACH
------------------	-------------	-------------	-----------------------

### MECHANISM

1	Pilot	M0202	
3	Screw #2 x 1/4" S.T.	7488	
1	Handrail, Pilot Beam	M0029	
4	Handrail Post, Pilot Beam	M0030	
5	Screw, #0 x 7/32 S.T.	7477	
2	Coupler	2601	
2	Coupler	M0328	
1	Coupler Pocket	M0338	
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	Washer	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	Drawbar	M0185	
1	Frame, Front	M0191	
1	Frame, Rear	M0190	
4	Bearings, Long	6301	
4	Bearings, Short	6302	
	Retainer Plates	M0186	
	Screw, #2-56 x 1/4" S.T.R.H.	7503	
1	Wheel & Axle, 50" Flanged	25150	
2	Wheel, axle & gear, 50" flanged	M10282	
1	Wheel axle, 50" flanged w/traction	25148	
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 & 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 & Axle Assem. 30" Ins.	25151	
2	Retainer	3962	
2	Spring, conical	7008	
7	Screw, #2-56 x 3/16" W.H.S.T.	7494	
1	Wrench, 0-80	5511	
6	Rivets, Long	8355	

### BOILER

1	Boiler, Upper	M0399	
1	Boiler, Lower	M0400	
1	Boiler Front	M0157	
	Saddle Tank	M0367	
	Air Tank L.H.	M0371	
1	Air Tank R.H.	M0372	
2	Handrail wire 8"	7609	
18	Handrail Posts	M0030	

NO. IN KIT	DESCRIPTION	PART NO.	UNIT PRICE EACH
------------------	-------------	-------------	-----------------------

1	Dome	M0270	
1	Dome	M0268	
1	Whistle Base	M0160	
1	Whistle	M0162	
2	Pop Valves	M0161	
1	Generator	M0163	
1	Bell Bracket	8183	
1	Bell	8181	
1	Bell Crank	8182	
1	Screen Base	M0369	
1	Screen Cover	M0368	
1	Screen	M0370	
4	Screen supports	M0403	
1	Cab	M0166	
2	Hatch Cover	M0165	
1	Oil Tank	M0169	
2	Extension Lead Wire		
	1 White		
	1 Black	M0301	
1	Power Reverse	M0200	
2	Light housing	M0168	
2	Bulb Holder	M0018	
2	Bulb and Lead Wire	M0028	
2	Compressor	M0318	
1	Boiler Weight	M0206	
1	Diode	M0300	
5	Insulating tubing	7811	
1	Screw, #2-56 x 3/16" S.T.	7152	

### VALVE GEAR

Valve Gear Kit

### 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.

### OUR GUARANTEES

Because of the workmanship of the Mantua product, we are able to offer a **Limited Lifetime Warranty**. As the owner of Mantua products, you'll enjoy a commitment to product dependability few companies can offer. All Mantua items are thoroughly inspected and tested prior to shipment. They are guaranteed to operate satisfactorily, and to be free from defects in material and/or workmanship. If it fails to perform because of defects in material or workmanship, Mantua will replace it free of charge. This guarantee does not apply to (a) electric bulbs, (b) damage caused by customer accident, abuse, mishandling or dropping; or (c) products which have been subject to unauthorized repairs. We cannot assume responsibility for the replacement of any parts that have been altered, or assembled and painted, unless, in our opinion, the defect did not become apparent until after the assembly.

**MANTUA** M GI

INC.  
HTS, NEW JERSEY 08097

7/84  
55-0058