

PRR M-1 MOUNTAIN 4-8-2

The M-1 was a single prototype model 4-8-2 that was designed and produced by Juniata in 1923. This model was locomotive 4700, shop construction No. 3819. After two years of testing and road trials, the M-1 was approved for fleet construction.

M-1 designers, W. F. Kiesel, Jr. and J. T. Wallis transplanted features from the I-1s decapods. They allowed for a larger combustion chamber, but left most of the other features unchanged. Other items borrowed from the I-1s included the following: guides, crossheads, and various machinery parts. Some special features of the M-1's were: pilot deck-mounted air reservoir tank, 27" x 30" cylinders, 72-inch drivers, medium sized tenders, 250 pounds of boiler pressure, KW type trailing truck, Belpaire firebox, small steel cab, a total weight of 385,000 pounds, and could haul a load of up to 64,550 pounds.

The original engine was built with a very small tender and no mechanical stoker. It was hand fired, which led to great difficulties in handling this massive machine. Stokers and larger tenders were soon implemented.

Mountains were the first classes of superheated power to drop the "s" from class designation. All engines were superheated by this time, so the "s" was no longer needed.

"Mountains" are so-named because they were considered big and powerful for such work when first designed during World War I. These were considered to be the best steam locomotives the railroad ever owned; they replaced the Mikados, Decapods, and Santa Fe's. They became known as "the hallmark of Pennsy fast freight service".

BOWSER M-1 MOUNTAIN 4-8-2

KITS AND ACCESSORIES

PROTOTYPE SPECIFICATIONS

Cylinders	27" x 30"
Firebox	125-15/16" x 79-7/8"
Steam pressure	250 lbs.
Tractive force	64,550 lbs.
Weight of engine in working order	382,400 lbs.
Weight of engine on lead truck	59,300 lbs.
Weight of engine on drivers	266,500 lbs.
Weight of engine on trailing trucks	56,600 lbs.
Weight of tender, loaded	217,900 lbs.

MODEL SPECIFICATIONS

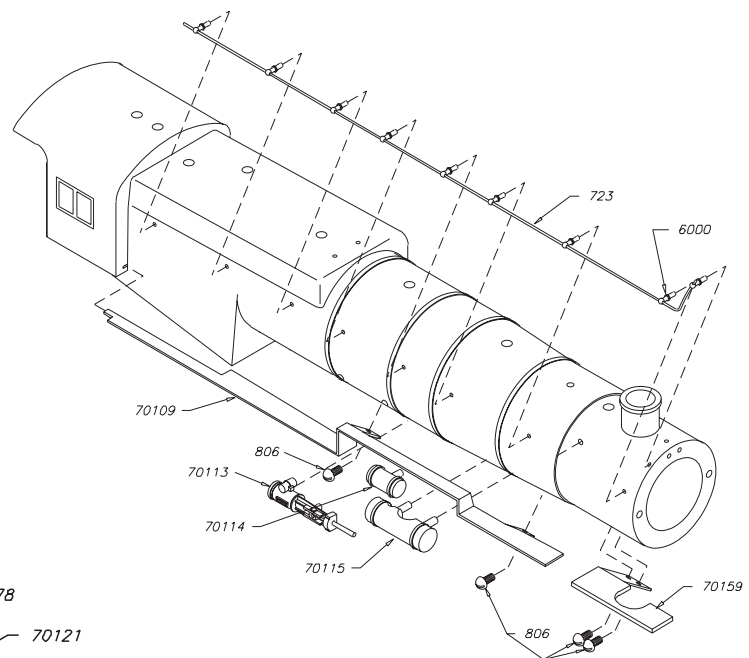
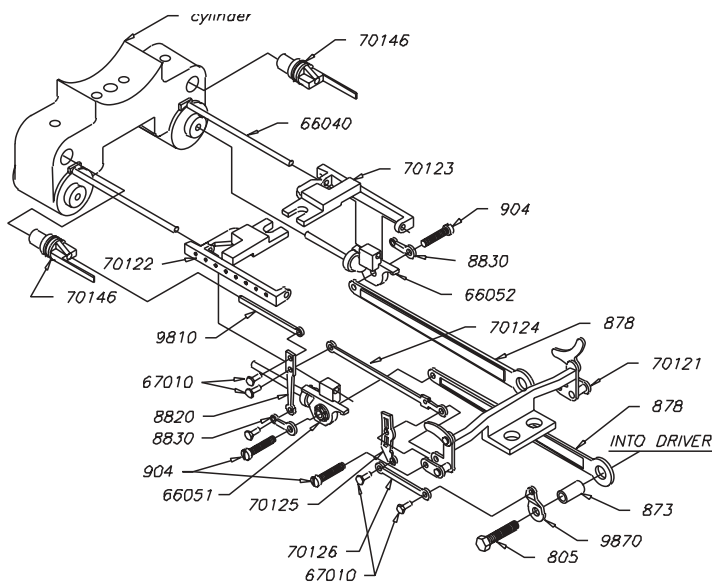
Length with Tender	12-3/8"
Height	
Weight	2 lbs 6 oz.
Minimum radius	22"
Power	Bowser DC-71
Drivers	72"
Color	Brunswick Green

#100430	PRR M-1 Mountain w/ Tender, Kit
#100440	PRR M-1 Super Detail Kit
#100442	Painted Engineer & Fireman not included in #100440
#100443	Assembled piping, Not in #100440
#100514	Operating Headlight, Not in #100440
#500435	Assembled Valve Gear, Not in #100440
#100416	Smoke Unit

VALVE GEAR ASSEMBLY:

KIT #100435
ASSEMBLED #500435

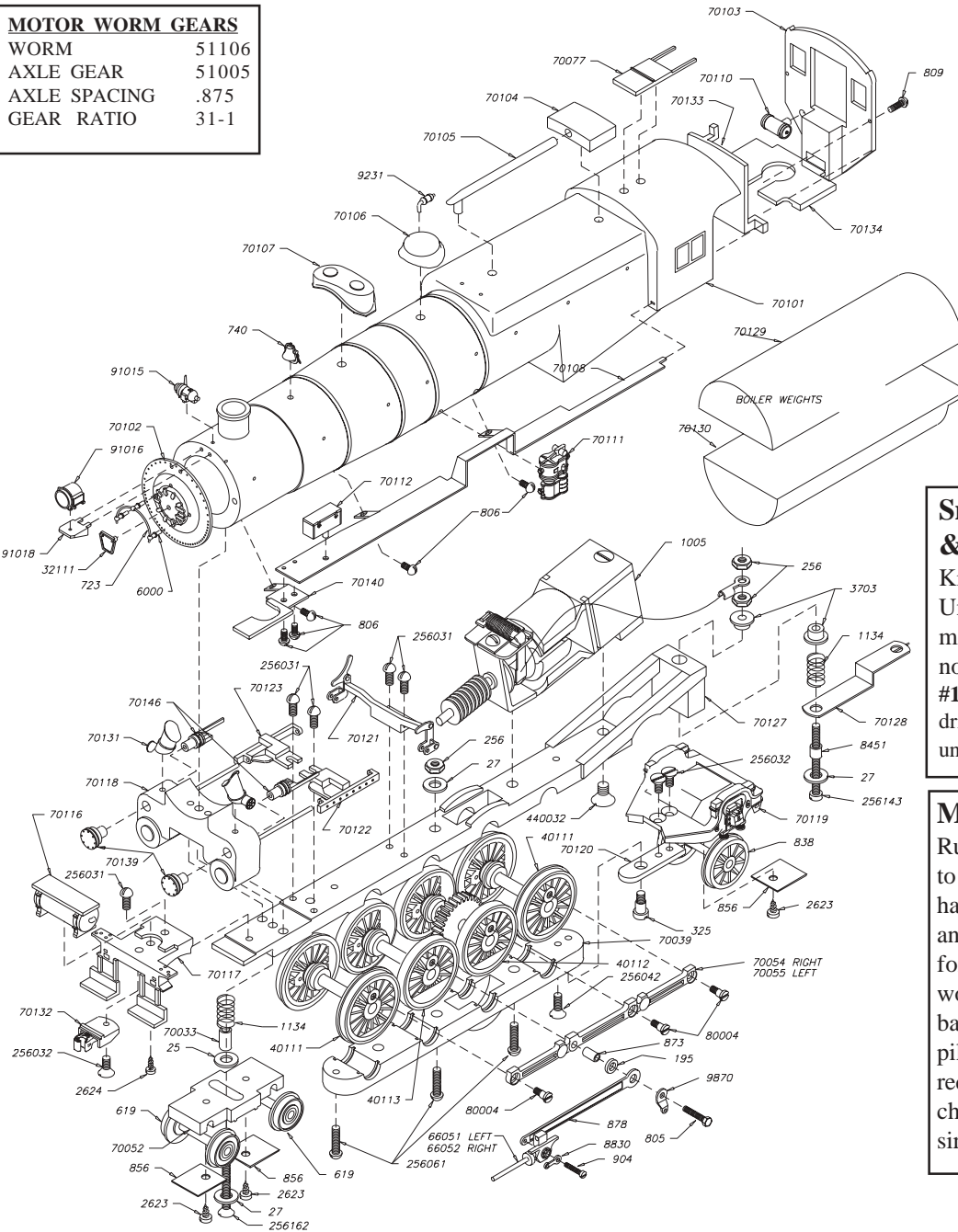
Assembled valve gear does not include
crossheads, crosshead guides or cylinder parts



PRR M-1 MOUNTAIN 4-8-2

MOTOR WORM GEARS

WORM	51106
AXLE GEAR	51005
AXLE SPACING	.875
GEAR RATIO	31-1



Flanged Drivers for M-1a #40114 & #40115. The flanges of the middle drivers will have to be filed down as they will touch the end driver's flanges.

Operating Headlight
Use a #91039 Grain of Rice bulb for headlight. Drill out headlight and drill a hole in front of generator to run wire to motor brushes. Solder one wire to each brush.

Smoke Unit Kit For Bowser & Penn Line Locos
Kits includes a Model Power Smoke Unit, Instructions and the necessary mounting hardware. Smoke fluid not included.
#100416 For PRR M-1a. Requires drilling smoke stack to accept the smoke unit.

Marker Light Jewels:
Rule of thumb: Green to front, amber to side and red to rear. The Pennsy had amber to the side and red to front and rear. When the loco was traveling forward the tender marker lights would show red. When the loco was backing up the marker lights on the pilot or smoke box front would show red. Sometimes one of the crew would change the markers to the color desired.

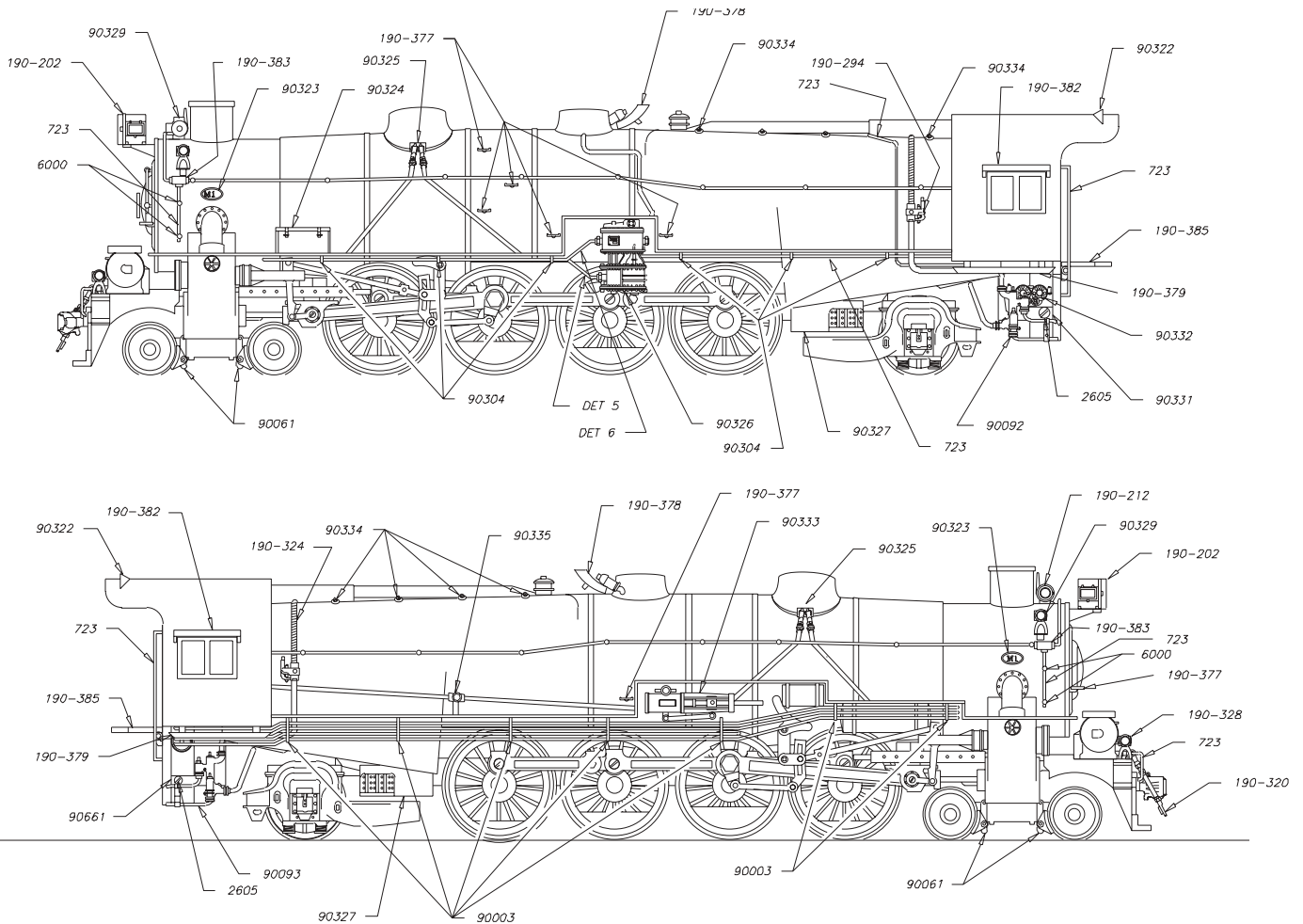
Assembled piping #100443

The piping is preformed and soldered together for you. Simply attach as follows: Using a razor saw position piping (starting at rear). Cut a slot in the walk for the bracket, press in place and go on to the next slots.
ALTERNATE METHOD: Bend bracket close to wire and glue to the underside of walk.

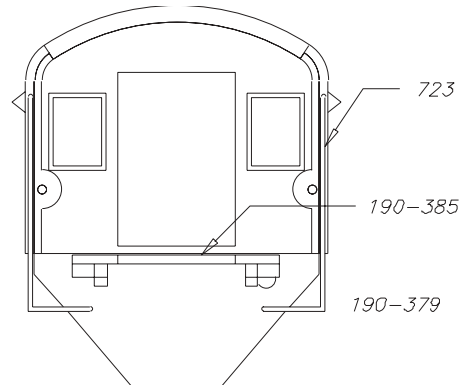
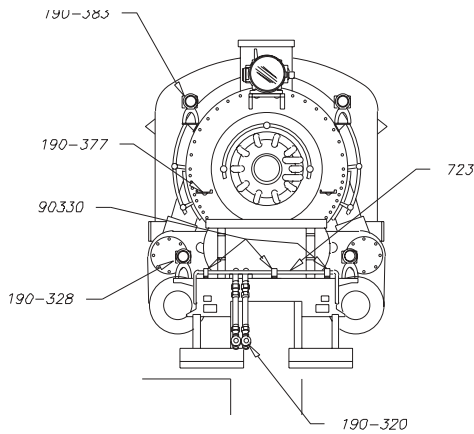


PRR M-1 MOUNTAIN 4-8-2

SUPER DETAIL KIT # 100440



PART #	QTY	DESCRIPTION	PART #	QTY	DESCRIPTION
723	8	.020 Brass wire	190-202	1	Headlight
744	4	.032 Brass wire	190-212	1	Generator
2605	2	0 x 5/32 Self tap screw	190-294	1	Starter valves, pr.
6000	4	Handrail stanchions	190-320	1	Air & signal hoses
7510	4	Marker lite jewels, Red	190-377	4	Boiler step, pr.
7520	10	Marker lite jewels, Amber	190-378	1	Whistle shield
7530	6	Marker lite jewels, Green	190-379	1	Cab walk, pr.
7550	6	Marker lite jewels, Clear	190-382	1	Window shades, pr.
30104	1	Headlight jewel	190-383	1	3 way junction box (2)
90003	8	Piping brackets	190-385	1	Cab deck plate w/ hinges
90018	1	Air & signal hose			
90019	1	Steam hose			
90053	2	Pilot brace and steps			
90061	2	Brake shoes, pr.			
90078	1	ash pan			
90079	1	ash pan			
90092	1	Injector			
90093	1	Injector			
90304	6	Small piping brackets			
90321	1	Bell			
90322	1	Wind deflector			
90323	2	M-1 builders plate			
90324	1	Train control box			
90325	2	Sander valves w/ pipes			
90326	1	Air compressor			
90327	1	Trailing truck plates, pr.			
90328	4	Marker lights straight			
90329	2	Marker lights angled			
90330	6	Coupler lift bar stanchion			
90331	2	Injector brackets			
90332	1	Stoker motor			
90333	1	Power reverse			
90334	8	Wash out plugs			
90335	1	Reverse rod pivot & support			



PRR M-1 MOUNTAIN 4-8-2



Long Haul Tender Kit w/ six-wheel
Buckeye trucks #150650

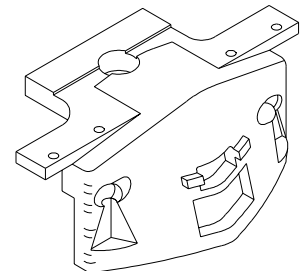


Eight Wheel PRR Tender Truck #7006
(will fasten to Bowser long Haul tender with #325 shouldered screw)

Long Haul Tender Kit w/ eight-wheel
Roller Bearing trucks #150660

NOTE: PRR decal (#8000) not included in either tender kit.

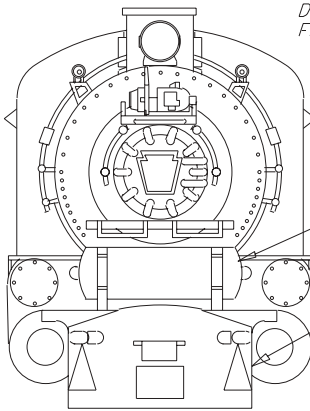
Smoke box front Drilled for
Modern Front End #70144



Solid pilot w/ drop
coupler #190-387



Modern Front End Detailing for
PRR Engines, Kit # 190-2001.
Kit includes headlight, class
lights, keystone, generator and
deck

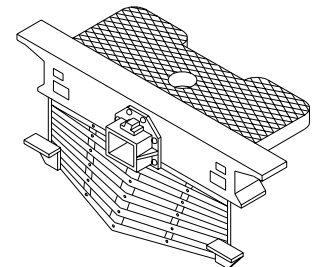


SMOKE BOX FRONT
DRILLED FOR MODERN
FRONT END 70144

70145

70171
WHITE METAL
190-387
BRASS

DRAWING OF M1 FRONT WITH
CAL-SCALE MODERN FRONT END,
DETAIL, SOLID PILOT & TANK



PRR Slatted Pilot w/
coupler #190-388

