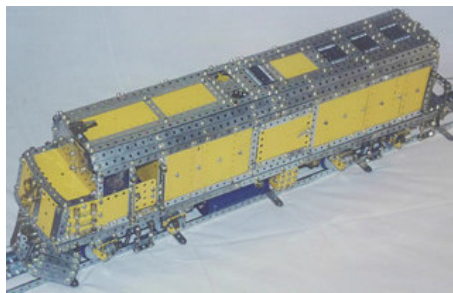


The **MECCANO**[®] Model Library

Diesel Locomotive

Designed and described by Chris Els
Head End Motor design by Chris Bourne
Photographs by Anthony Els



The finished Meccano model



For comparison, a model Amtrak locomotive

CONTENTS

CONTENTS.....	1
INTRODUCTION.....	2
PARTS LISTS.....	3
CONSTRUCTION: The Main Model.....	7
CONSTRUCTION: Optional Components.....	17
THE TRACK.....	22
COPYRIGHT NOTICE.....	22

INTRODUCTION

I decided to build this model because of my fascination with these huge and powerful machines. The model can be built in two ways:

- **The full model** - with the removable top to display the machinery inside.
- **The optional model** - the loco is the same except the inside machinery is not built.

Features

- This model has been based off pictures and information of the Amtrak Diesel locomotive.
- The model has a MO motor in each bogie that collects power through the track. The fan radiators on the roof are powered by a M.O. motor in the roof. The top comes off to show the components of a diesel locomotive inside.
- From the rear is the head end motor, main motor, generator, power distribution, drivers seats and even a toilet in the nose of the loco!!

Statistics

- The loco has a max speed of 177 kph, weighs 270,000-pounds (122,470 kg) and is 54 ft (16.2 m) long.
- The main motor is a HUGE two-stroke, turbocharged V-12, weighs over 30,000 pounds (13,608 kg) and can make 3,200 horsepower.
- The main generator weighs 17,700 pounds (8,029 kg) and could supply electricity to 1000 suburban homes! It supplies power to the electric motors in the bogies.
- The head-end power unit is a four-stroke, twin-turbocharged Caterpillar V-12. The engine itself is more powerful than the engine in almost any semi-truck. It powers a smaller generator to supply power to the carriages.
- The fuel tanks in the underbelly of the locomotive hold 2,200 gallons (8,328 L) of diesel fuel.
- The batteries operate on a nominal 64-volt electrical system. The locomotive has eight 8-volt batteries, each weighing over 300 pounds (136 kg). These batteries provide the power needed to start the engine.
- The bogies are the heaviest things on the train. Each one weighs 37,000 pounds (16,783 kg).

PARTS LISTS

There are two parts lists:

- **Full list** - all the parts needed to build the full model.
- **Partial list** - all the parts needed to build the loco, excluding the following components (see Figure 1): (a) Main motor, (b) Head end motor, (c) Main generator, (d) Head end generator, (e) Air compressors and (f) Power distribution board.

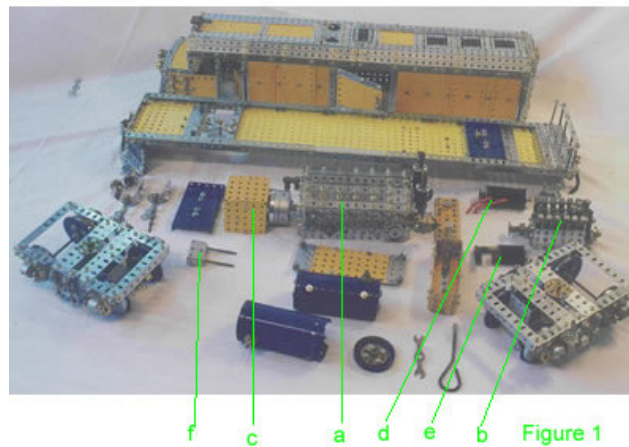


Figure 1: The model broken down into its component units

There are no parts listed for the track, you can pretty much do what you like for that.

The parts needed to build this model come mostly from a set 10.

Extra parts needed are wheel disks, wheel flanges, thin strips, fans and only a couple others.

I use washers on both sides of every part, whether they are painted, plastic or zinc.

Full Model Parts List

Part #	Qty	Part #	Qty	Part #	Qty	Part #	Qty	Part #	Qty
1	18	17	12	62b	2	111a	74	193a	2
1a	4	18a	9	63	15	111c	60	200	1
2	32	18b	11	63d	4	111d	23	212	2
2a	16	20	4	64	21	114	10	216	1
3	31	20a	1	69	2	115	7	235	6
4	30	20b	13	69a	99	115g	2	235d	1
5	63	22	4	70	3	125	2	235h	28
6	8	23a	5	72	5	126a	16	235g	45
6a	24	23b	8	73	4	133a	2	518	2
7	4	23c	7	74	10	136	4	806b	16
7a	4	24	7	77	3	137	13	Washers	2640
8b	4	24a	11	79a	2	147c	2	Screws	930
9	5	26	4	80a	6	157	4	Nuts	1300
9a	8	26c	2	80c	5	159	4	MO Motor	3
9b	1	27a	2	81	26	160g	2	3V battery pack	1
9c	2	27d	2	82	1	162a	2		
9d	4	32	2	89	1	162b	2		
9f	9	38a	120	94	1Meter	163	4		
9L	9	38b	6	96a	3	164	8		
10	67	38d	52	103c	4	173a	5		
11	2	43	7	103d	2	179	8		
12	66	51	6	103f	3	188	4		
12b	2	51a	2	103g	2	190	4		

The Meccano Model Library: Diesel Locomotive

12c	57	51c	1	103h	20	190a	9		
15a	2	52a	5	103i	4	191	22		
16a	1	59	74	109	8	192	7		
16b	4	62a	3	111	24	193	2		

Partial Model Parts List

Part #	Qty	Part #	Qty	Part #	Qty	Part #	Qty	Part #	Qty
1	18	12c	57	62a	3	109	8	190a	9
1a	4	15a	2	62b	2	111	16	191	22
2	11	17	12	63	10	111a	66	192	7
2a	16	18a	6	64	8	111c	37	193	2
3	22	18b	10	69	2	111d	8	193a	2
4	30	20a	1	69a	73	114	10	200	1
5	36	20b	10	70	2	115	2	235	6
6	8	22	4	73	4	125	2	235d	1
6a	8	23a	5	74	10	126a	16	235h	28
7	4	23b	8	77	2	133a	2	235g	37
7a	4	24	6	79a	2	137	12	518	2
8b	4	26	4	80a	6	147c	2	825g	8
9	5	26c	2	80c	4	157	4	806b	2
9a	8	27a	2	81	23	159	4	Washers	2160
9b	1	27d	2	82	1	160g	2	Screws	650
9c	2	32	2	89	1	162b	2	Nuts	960
9d	4	38a	87	94	1Meter	164	8	MO Motor	3
9f	1	43	5	103c	4	173a	2	3V battery pack	1
10	51	51	3	103f	1	179	8		
12	36	52a	5	103h	16	188	4		
12b	2	59	32	103i	2	190	4		