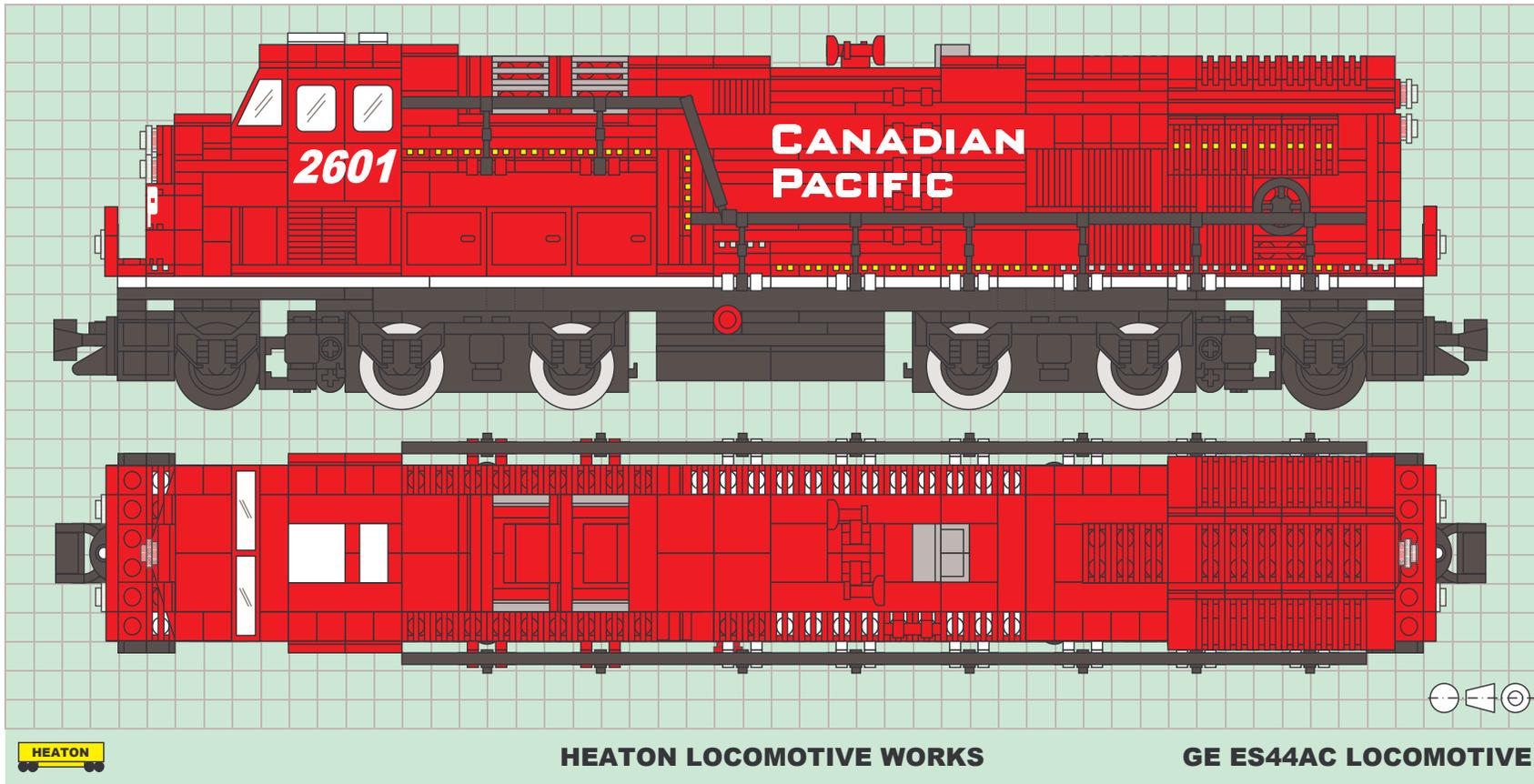




**GE ES44AC**  
by Chris van-Lottum



HEATON

HEATON LOCOMOTIVE WORKS

GE ES44AC LOCOMOTIVE

This Canadian Pacific, General Electric Evolution Series is a six-axle model is based around the three axle trucks which were developed to mimic the 9v motor side. The steps and coupling design is based on a the work of James Mathis, and the lower rear radiator grills are based on those of Tim Gould. In order to operate on LEGO® 9V system, this six-wide locomotive has been foreshortened to 50 studs with selective compression of the chassis where necessary. We have tried to include all the major design elements which make this locomotive unique whilst maintaining a suitable level of naivety which befits LEGO® trains.

The ES44AC has been ordered by all 'big-six' North American railroad operators and some others to boot, these include, BNSF, Canadian National, Canadian Pacific, CSX, Norfolk Southern, Union Pacific, Ferromex and KCS Mexico, so there are plenty of paint schemes to choose from!

This design is based on images found in TRAINS® Magazine Special Edition 1-2007 'Locomotive' and scale drawings by Michael Eby found on his web site trainix.net

We trust that you will find our GE ES44AC a pleasing addition to your locomotive roster.

Play Well

Chris van Lottum

Chief Engineer, Heaton Locomotive Works

March 2007

A design for modelling using LEGO® bricks from the Heaton Locomotive Works.

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30377	Arm Mechanical, Battle Droid	Black	16
578	Bar 4L Lightsaber Blade	Black	2
2436	Bracket 1 x 2 - 1 x 4	Yellow	2
44728	Bracket 1 x 2 - 2 x 2	Black	4
44728	Bracket 1 x 2 - 2 x 2	Red	5
44728	Bracket 1 x 2 - 2 x 2	Yellow	1
3956	Bracket 2 x 2 - 2 x 2	Red	1
3005	Brick 1 x 1	Red	5
3005	Brick 1 x 1	Yellow	2
6111	Brick 1 x 10	Red	2
3004	Brick 1 x 2	Black	4
3004	Brick 1 x 2	Red	4
3004	Brick 1 x 2	Yellow	1
3622	Brick 1 x 3	Black	2
3622	Brick 1 x 3	Red	7
3009	Brick 1 x 6	Red	1
3008	Brick 1 x 8	Red	3
3003	Brick 2 x 2	Red	2
2357	Brick 2 x 2 Corner	Red	3
2357	Brick 2 x 2 Corner	Yellow	1
3002	Brick 2 x 3	Red	3
3002	Brick 2 x 3	Yellow	1
3001	Brick 2 x 4	Black	2
3001	Brick 2 x 4	Red	5
3001	Brick 2 x 4	Yellow	2
2456	Brick 2 x 6	Red	1
2456	Brick 2 x 6	Yellow	1
3006	Brick 2 x 10	Red	1
4070	Brick, Modified 1 x 1 with Headlight	Black	3
4070	Brick, Modified 1 x 1 with Headlight	Red	12

4070	Brick, Modified 1 x 1 with Headlight	Yellow	13
2877	Brick, Modified 1 x 2 with Grill	Red	31
30414	Brick, Modified 1 x 4 with Studs on Side	Red	3
3062b	Brick, Round 1 x 1 Open Stud	Black	4
30663	Car, Steering Wheel Small, 2 studs wide	Black	1
4532	Container, Cupboard 2 x 3 x 2	Red	6
4533	Container, Cupboard 2 x 3 x 2 Door	Red	6
2871	Electric Train Motor 9V Decorative Side	Black	4
590	Electric Train Motor 9V Modern	Black	2
4862	Glass for Window 1 x 2 x 2 Plane	Trans	4
3937c01	Hinge Brick 1 x 2 Complete Assembly	Red	14
75	Hose, Rigid 3mm D.	Black	-
73092	Magnet Cylindrical	Black	2
554	Minifig Neck Bracket with Back Stud	Red	4
3626b	Minifig, Head (Plain) - Stud Hollow	Black	4
2420	Panel 1 x 1 x 1 Corner	Black	16
2420	Panel 1 x 1 x 1 Corner	LS Grey	2
4865	Panel 1 x 2 x 1	LS Grey	1
3024	Plate 1 x 1	Black	4
3024	Plate 1 x 1	Red	6
3024	Plate 1 x 1	Yellow	3
4477	Plate 1 x 10	Red	2
4477	Plate 1 x 10	White	4
3023	Plate 1 x 2	Red	18
3023	Plate 1 x 2	White	12
3023	Plate 1 x 2	Yellow	10
3623	Plate 1 x 3	Red	7
3623	Plate 1 x 3	Yellow	5
3710	Plate 1 x 4	Red	15
3710	Plate 1 x 4	White	1

3710	Plate 1 x 4	Yellow	4
3666	Plate 1 x 6	Black	4
3666	Plate 1 x 6	Red	8
3666	Plate 1 x 6	White	2
3666	Plate 1 x 6	Yellow	4
3460	Plate 1 x 8	Black	1
3460	Plate 1 x 8	Red	4
3822	Plate 2 x 10	Yellow	1
3022	Plate 2 x 2	Black	2
3022	Plate 2 x 2	Red	10
3022	Plate 2 x 2	Yellow	10
2420	Plate 2 x 2 Corner	Black	4
2420	Plate 2 x 2 Corner	Red	6
2420	Plate 2 x 2 Corner	Yellow	1
3021	Plate 2 x 3	Black	2
3021	Plate 2 x 3	Red	7
3021	Plate 2 x 3	Yellow	4
3020	Plate 2 x 4	Black	2
3020	Plate 2 x 4	Red	15
3020	Plate 2 x 4	White	1
3020	Plate 2 x 4	Yellow	6
3795	Plate 2 x 6	Black	2
3795	Plate 2 x 6	Red	3
3030	Plate 4 x 10	Yellow	2
3031	Plate 4 x 4	DS Grey	1
3031	Plate 4 x 4	Red	5
3032	Plate 4 x 6	Red	4
3032	Plate 4 x 6	Yellow	1
3035	Plate 4 x 8	Red	2
3035	Plate 4 x 8	Yellow	2

NOTE: Parts defined in these drawings as yellow are unseen and can be replaced by similar parts in any colour.

#### HEATON LOCOMOTIVE WORKS

Chris van Lottum, Chief Engineer



## LOCOMOTIVE ASSEMBLY BILL OF MATERIALS - PART 1

## GE ES44AC LOCOMOTIVE

3036	Plate 6 x 8	Black	2
3036	Plate 6 x 8	Red	1
2540	Plate, Modified 1 x 2 with Handle - Type 1 (free ends)	Red	9
2540	Plate, Modified 1 x 2 with Handle - Type 1 (free ends)	White	12
3794	Plate, Modified 1 x 2 with 1 Stud	Red	8
6583	Plate, Modified 1 x 6 with Train Wagon End	Red	2
3176	Plate, Modified 3 x 2 with Hole	Black	2
4073	Plate, Round 1 x 1	Red	1
4073	Plate, Round 1 x 1	Trans	8
4079	Seat 2 x 2	White	1
50746	Slope 30 1 x 1 x 2 / 3	Red	40
3045	Slope 45 2 x 1	Red	2
3039pb41	Slope, Decorated 45 2 x 2 with Radar and Disk Slot Pattern	White	1
3039pb42	Slope, Decorated 45 2 x 2 with Windows in Computer Screen Pattern	White	1
30283	Slope, Inverted 45 4 x 6 Double with 4 x 4 Cutout	Black	2
4599	Tap 1 x 1	Red	2
32062	Technic, Axle 2 Notched	Black	4
3705	Technic, Axle 4	Black	2
32291	Technic, Axle Joiner Perpendicular Double	Black	2
6541	Technic, Brick 1 x 1 with Hole	Black	4
32000	Technic, Brick 1 x 2 with Holes	Black	4
32000	Technic, Brick 1 x 2 with Holes	Yellow	1
4247	Technic, Pin 1/2	Blue	2
41677	Technic, Liftarm 1 x 2 Thin	Black	4
32069	Technic, Steering Arm with Pins	Black	2

3069b	Tile 1 x 2 with Groove	Red	21
3069b	Tile 1 x 2 with Groove	White	1
3069b	Tile 1 x 2 with Groove	Yellow	1
2431	Tile 1 x 4	Black	14
2431	Tile 1 x 4	Red	11
6366	Tile 1 x 6	Red	6
4162	Tile 1 x 8	Red	2
3068b	Tile 2 x 2 with Groove	Black	6
3068b	Tile 2 x 2 with Groove	Red	22
3068b	Tile 2 x 2 with Groove	White	1
3068b	Tile 2 x 2 with Groove	Yellow	1
2555	Tile, Modified 1 x 1 with Clip	Red	2
2412b	Tile, Modified 1 x 2 Grill with Groove	Red	110
2412b	Tile, Modified 1 x 2 Grill with Groove	Silver	8
2432	Tile, Modified 1 x 2 with Hande	Black	2
4093a	Train Base 6 x 28 with 3 Round Holes Each End	Black	1
2090	Train Coupling New	Black	2
2878c01	Train Wheel 2, Complete Assembly	Black	2
6565	Wedge, Brick 3 x 2 Left	Red	2
6564	Wedge, Brick 3 x 2 Right	Red	2
43723	Wedge, Plate 3 x 2 Left	Red	1
43722	Wedge, Plate 3 x 2 Right	Red	1
2377	Window 1 x 2 x 2 Plane	Red	4
6567	Windscreen 2 x 6 x 2 Train with Glass	Red	1

Pieces 766  
Unique Pieces 139

NOTE: Parts defined in these drawings as yellow are unseen and can be replaced by similar parts in any colour.

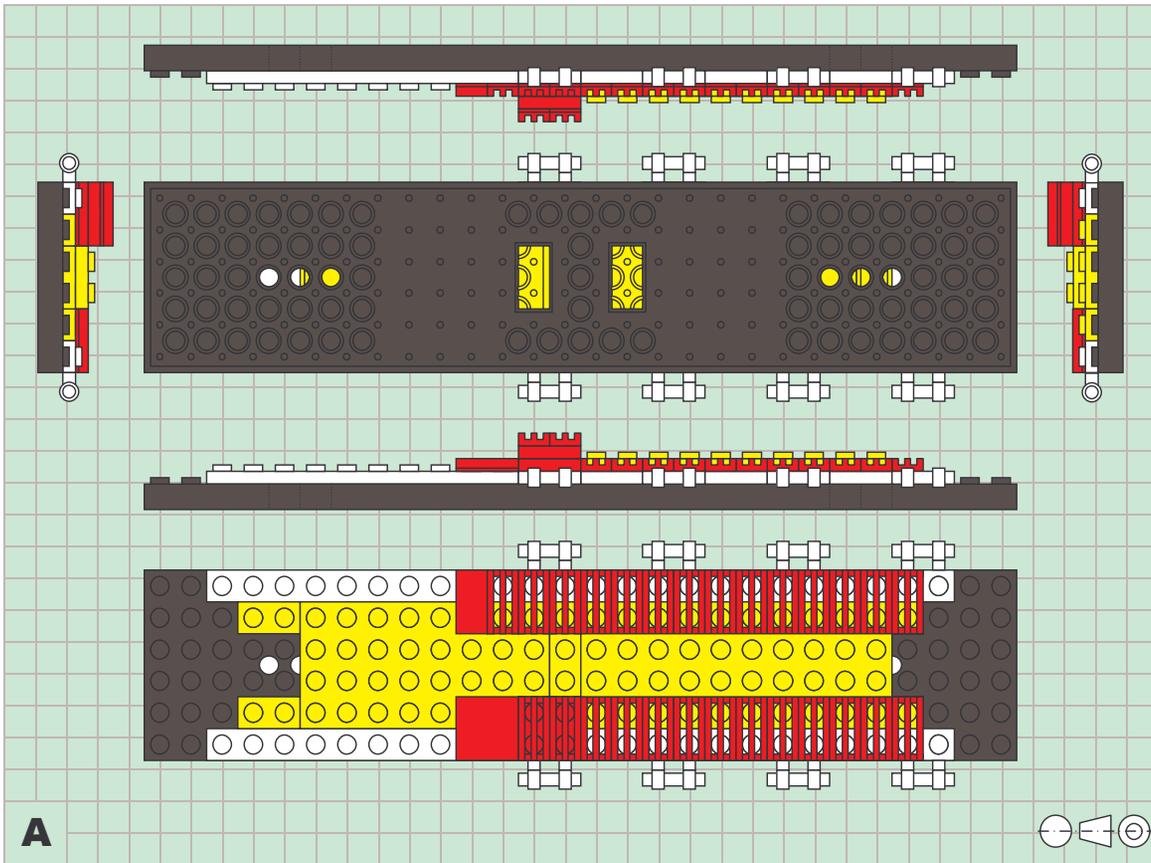
HEATON LOCOMOTIVE WORKS

Chris van Lottum, Chief Engineer

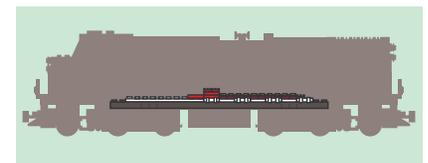


**LOCOMOTIVE ASSEMBLY  
BILL OF MATERIALS - PART 2**

**GE ES44AC LOCOMOTIVE**



3023	Plate 1 x 2	White	6
3023	Plate 1 x 2	Yellow	4
4477	Plate 1 x 10	White	2
3022	Plate 2 x 2	Red	2
3822	Plate 2 x 10	Yellow	1
3035	Plate 4 x 8	Yellow	1
3030	Plate 4 x 10	Yellow	1
2540	Plate, Modified 1 x 2 with Handle - Type 1 (free ends)	White	8
3069b	Tile 1 x 2 with Groove	Red	1
3068b	Tile 2 x 2 with Groove	Red	1
2412b	Tile, Modified 1 x 2 Grill with Groove	Red	27
4093a	Train Base 6 x 28 with 3 Round Holes Each End	Black	1

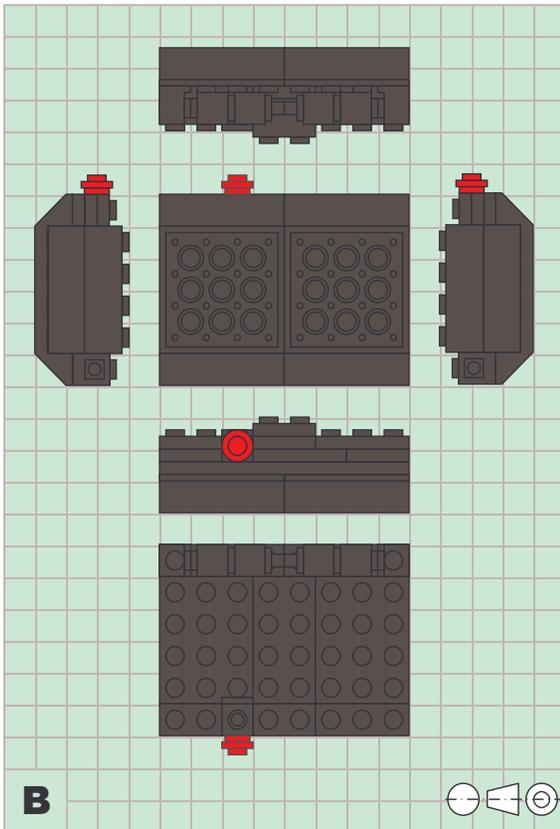


**HEATON LOCOMOTIVE WORKS** 

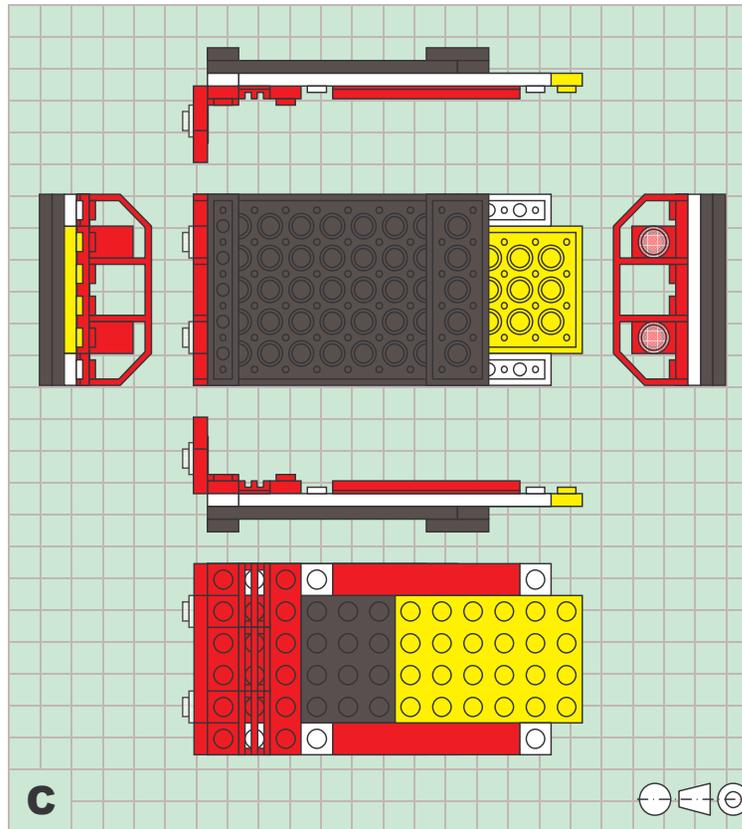
Chris van Lottum, Chief Engineer

**LOCOMOTIVE ASSEMBLY  
CENTRE FRAME**

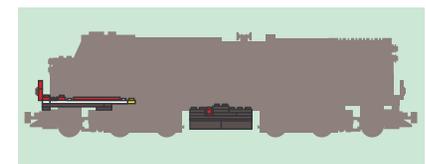
**GE ES44AC LOCOMOTIVE**



578	Bar 4L Lightsaber Blade	Black	2
3001	Brick 2 x 4	Black	2
3004	Brick 1 x 2	Black	4
3622	Brick 1 x 3	Black	2
4070	Brick, Modified 1 x 1 with Headlight	Black	3
3062b	Brick, Round 1 x 1 Open Stud	Black	4
3460	Plate 1 x 8	Black	1
4073	Plate, Round 1 x 1	Red	1
30283	Slope, Inverted 45 4 x 6 Double with 4 x 4 Cutout	Black	2



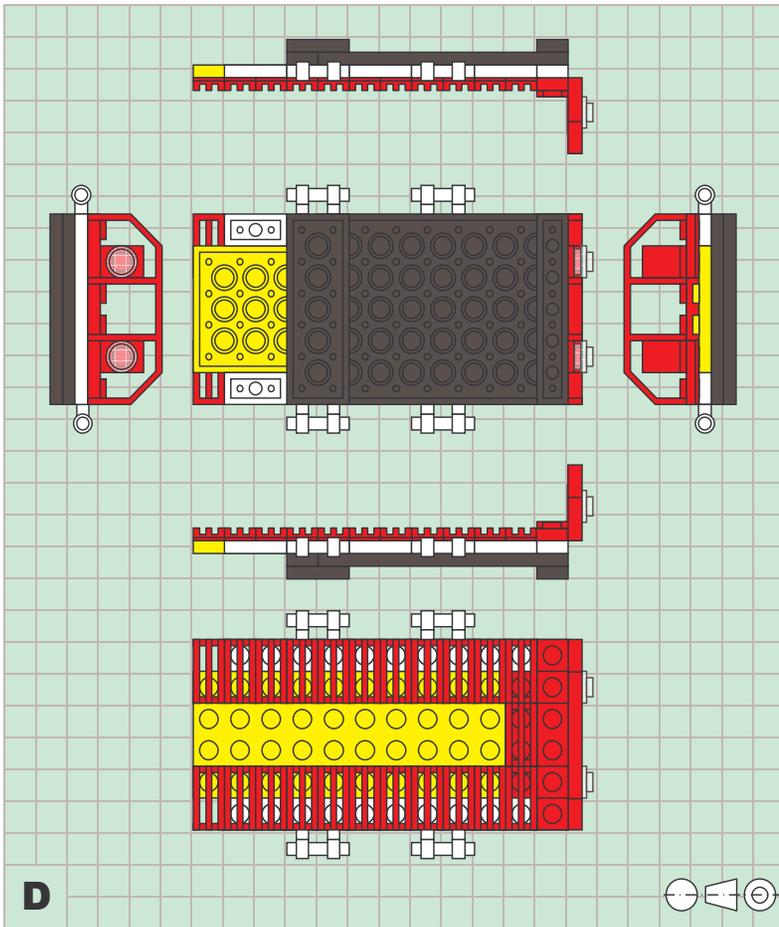
554	Minifig Neck Bracket with Back Stud	Red	2
3666	Plate 1 x 6	Black	2
3666	Plate 1 x 6	Red	1
3666	Plate 1 x 6	White	1
4477	Plate 1 x 10	White	2
3020	Plate 2 x 4	Red	1
3795	Plate 2 x 6	Black	1
3032	Plate 4 x 6	Yellow	1
3036	Plate 6 x 8	Black	1
6583	Plate, Modified 1 x 6 with Train Wagon End	Red	1
4073	Plate, Round 1 x 1	Trans	2
6366	Tile 1 x 6	Red	2
2412b	Tile, Modified 1 x 2 Grill with Groove	Red	3



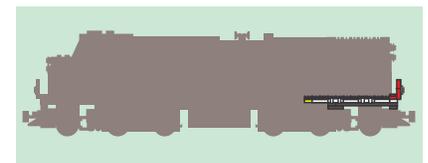
**HEATON LOCOMOTIVE WORKS**

Chris van Lottum, Chief Engineer

**LOCOMOTIVE ASSEMBLY**  
**FUEL TANK & FRONT FRAME**  
**GE ES44AC LOCOMOTIVE**



554	Minifig Neck Bracket with Back Stud	Red	2
3023	Plate 1 x 2	White	6
3710	Plate 1 x 4	Red	1
3666	Plate 1 x 6	Black	2
3666	Plate 1 x 6	White	1
3795	Plate 2 x 6	Black	1
3030	Plate 4 x 10	Yellow	1
3036	Plate 6 x 8	Black	1
2540	Plate, Modified 1 x 2 with Handle - Type 1 (free ends)	White	4
6583	Plate, Modified 1 x 6 with Train Wagon End	Red	1
4073	Plate, Round 1 x 1	Trans	2
2412b	Tile, Modified 1 x 2 Grill with Groove	Red	23



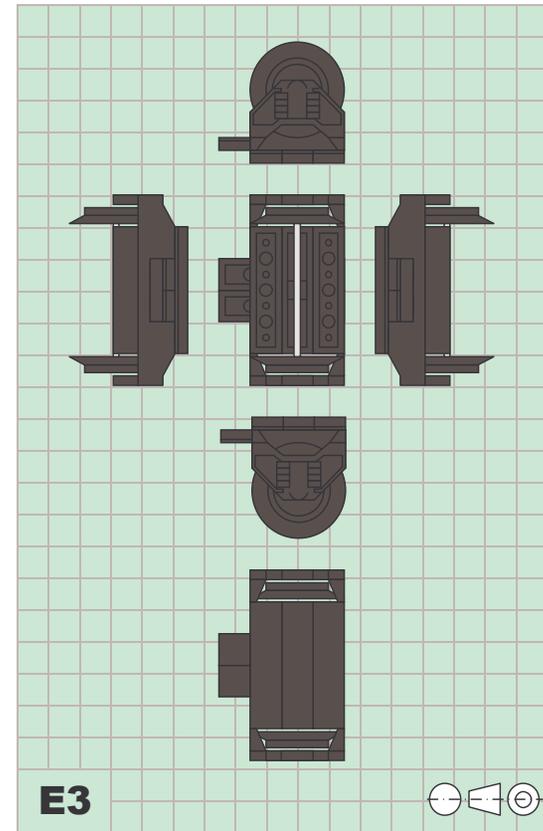
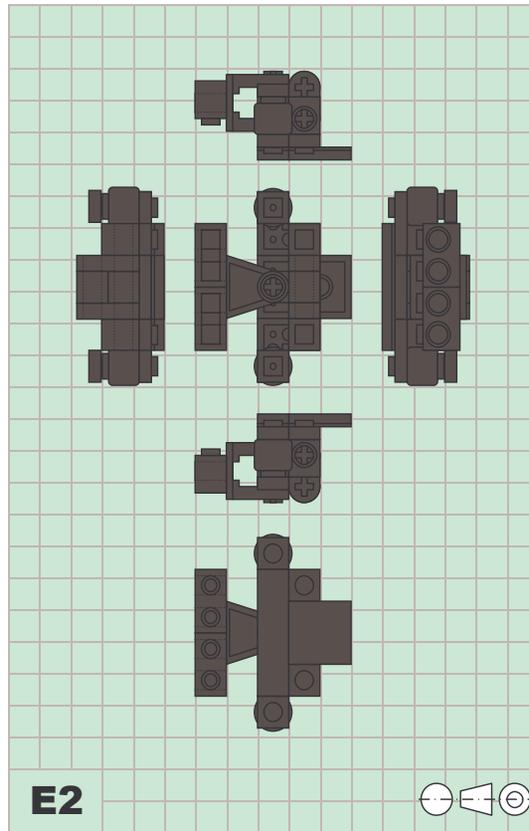
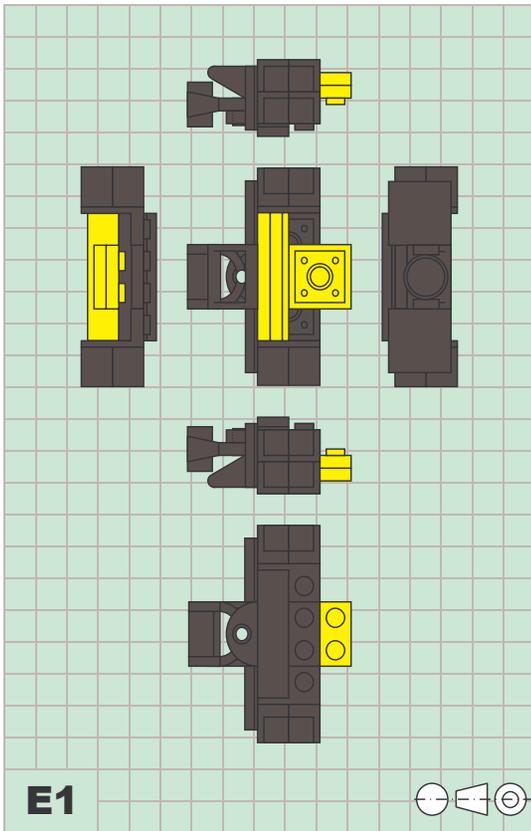
**HEATON LOCOMOTIVE WORKS**

Chris van Lottum, Chief Engineer



**LOCOMOTIVE ASSEMBLY  
REAR FRAME**

**GE ES44AC LOCOMOTIVE**



2436	Bracket 1 x 2 - 1 x 4	Yellow	1
44728	Bracket 1 x 2 - 2 x 2	Black	2
73092	Magnet Cylindrical	Black	1
2420	Panel 1 x 1 x 1 Corner	Black	8
3023	Plate 1 x 2	Yellow	1
3710	Plate 1 x 4	Yellow	2
3022	Plate 2 x 2	Yellow	1
3020	Plate 2 x 4	Black	1
3176	Plate, Modified 3 x 2 with Hole	Black	1
2431	Tile 1 x 4	Black	1
3068b	Tile 2 x 2 with Groove	Black	2
2432	Tile, Modified 1 x 2 with Handed	Black	1
2090	Train Coupling New	Black	1

3626b	Minifig, Head (Plain) - Stud Hollow	Black	2
3024	Plate 1 x 1	Black	2
3022	Plate 2 x 2	Black	1
2420	Plate 2 x 2 Corner	Black	2
32062	Technic, Axle 2 Notched	Black	2
3705	Technic, Axle 4	Black	1
32291	Technic, Axle Joiner Perpendicular Double	Black	1
6541	Technic, Brick 1 x 1 with Hole	Black	2
32000	Technic, Brick 1 x 2 with Holes	Black	2
41677	Technic, Liftarm 1 x 2 Thin	Black	2
32069	Technic, Steering Arm with Pins	Black	1
2431	Tile 1 x 4	Black	1
3068b	Tile 2 x 2 with Groove	Black	1

3021	Plate 2 x 3	Black	1
2431	Tile 1 x 4	Black	5
2878c01	Train Wheel 2, Complete Assembly	Black	1

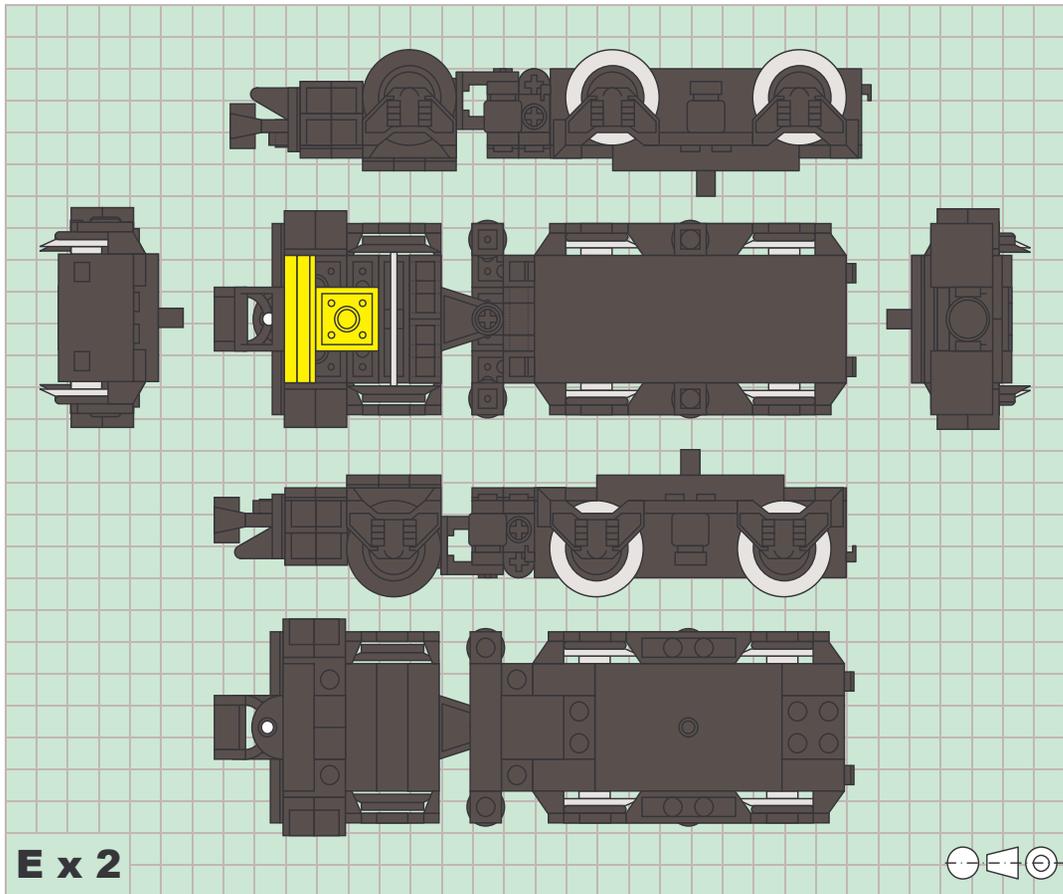
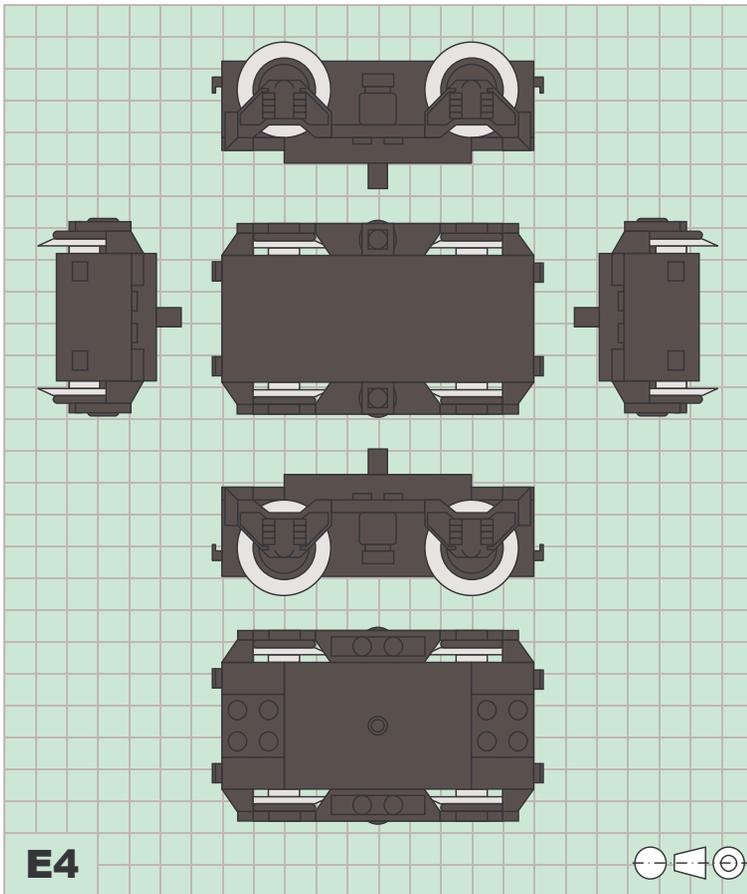
**HEATON LOCOMOTIVE WORKS**

Chris van Lottum, Chief Engineer

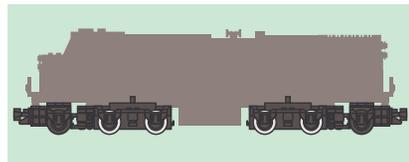


**TRUCK ASSEMBLY**  
**STEPS, ARTICULATION & LEAD AXLE**

**GE ES44AC LOCOMOTIVE**



2871	Electric Train Motor 9V Decorative Side	Black	2
590	Electric Train Motor 9V Modern	Black	1

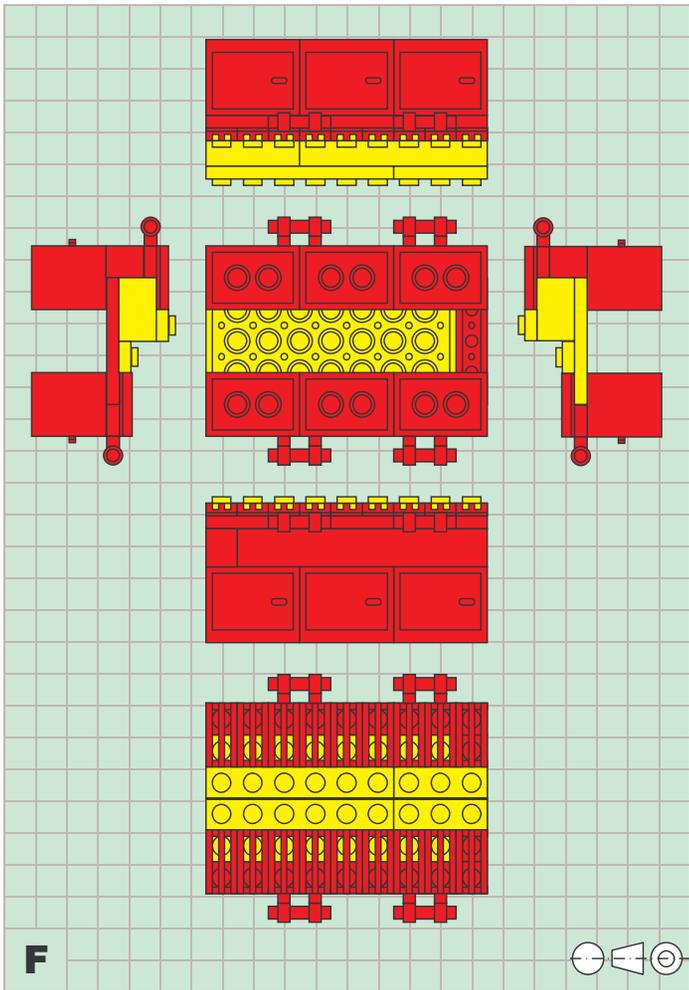


**HEATON LOCOMOTIVE WORKS**

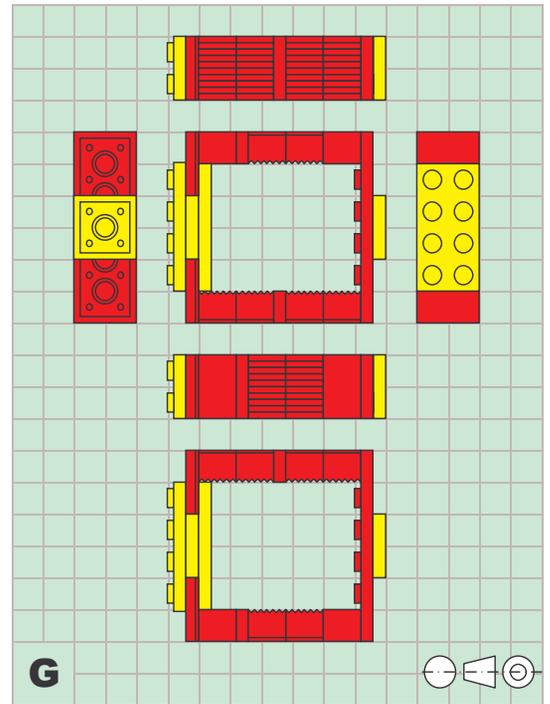
Chris van Lottum, Chief Engineer

**HEATON**

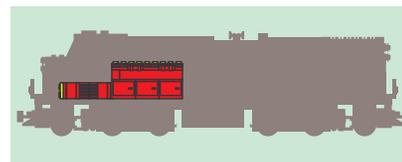
**TRUCK ASSEMBLY**  
**MOTOR & COMPLETED ASSEMBLY**  
**GE ES44AC LOCOMOTIVE**



3005	Brick 1 x 1	Red	1
3008	Brick 1 x 8	Red	1
3002	Brick 2 x 3	Yellow	1
2456	Brick 2 x 6	Yellow	1
4532	Container, Cupboard 2 x 3 x 2	Red	6
4533	Container, Cupboard 2 x 3 x 2 Door	Red	6
3024	Plate 1 x 1	Red	2
3023	Plate 1 x 2	Red	4
3623	Plate 1 x 3	Yellow	2
3710	Plate 1 x 4	Red	1
3666	Plate 1 x 6	Yellow	2
3035	Plate 4 x 8	Yellow	1
2540	Plate, Modified 1 x 2 with Handle - Type 1 (free ends)	Red	4
2412b	Tile, Modified 1 x 2 Grill with Groove	Red	18



3004	Brick 1 x 2	Red	2
2877	Brick, Modified 1 x 2 with Grill	Red	6
3023	Plate 1 x 2	Red	2
3022	Plate 2 x 2	Yellow	2
3020	Plate 2 x 4	Yellow	2
3795	Plate 2 x 6	Red	1
3068b	Tile 2 x 2 with Groove	Red	2



**HEATON LOCOMOTIVE WORKS**

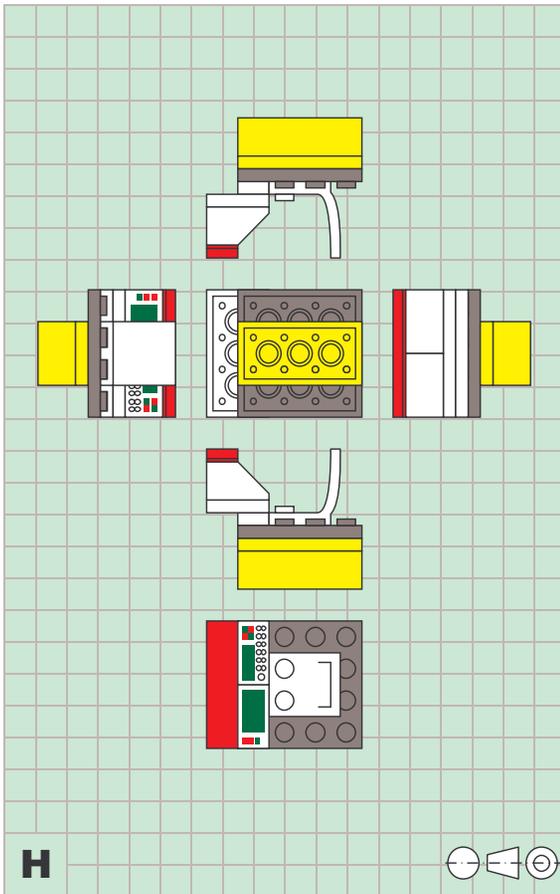
Chris van Lottum, Chief Engineer

**HEATON**

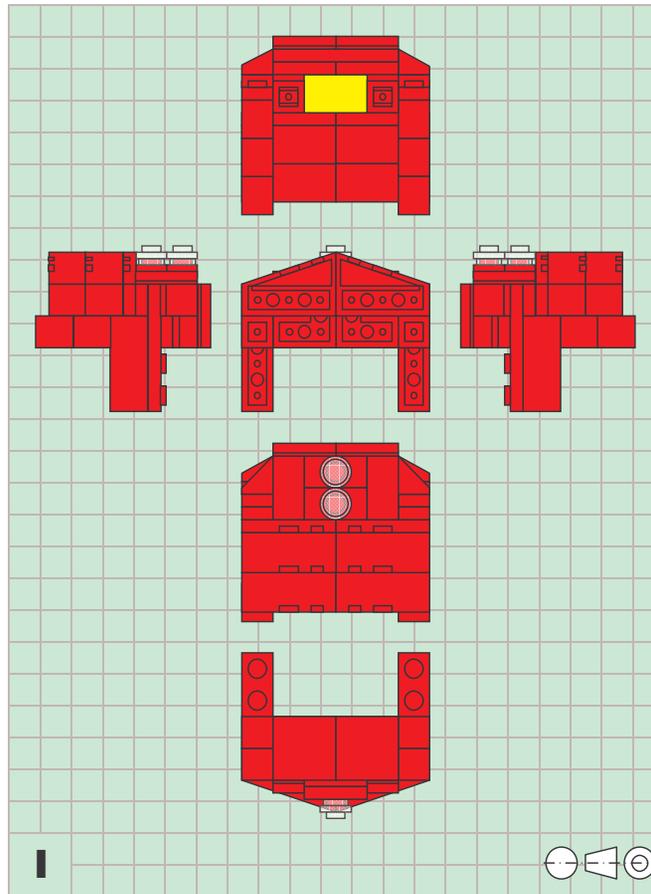
**LOCOMOTIVE ASSEMBLY**

**SIDE BOXES & CAB VENTS**

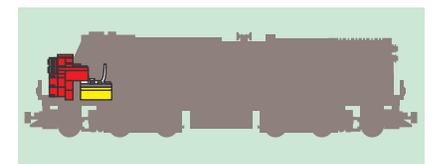
**GE ES44AC LOCOMOTIVE**



3001	Brick 2 x 4	Yellow	1
3710	Plate 1 x 4	White	1
3020	Plate 2 x 4	White	1
3020	Plate 2 x 4	Yellow	1
3031	Plate 4 x 4	DS Grey	1
4079	Seat 2 x 2	White	1
3039pb41	Slope, Decorated 45 2 x 2 with Radar and Disk Slot Pattern	White	1
3039pb42	Slope, Decorated 45 2 x 2 with Windows in Computer Screen Pattern	White	1
2431	Tile 1 x 4	Red	1



44728	Bracket 1 x 2 - 2 x 2	Red	1
3005	Brick 1 x 1	Red	4
3004	Brick 1 x 2	Yellow	1
3622	Brick 1 x 3	Red	2
4070	Brick, Modified 1 x 1 with Headlight	Red	2
3024	Plate 1 x 1	Red	4
3710	Plate 1 x 4	Red	3
2420	Plate 2 x 2 Corner	Red	2
3794	Plate, Modified 1 x 2 with 1 Stud	Red	2
4073	Plate, Round 1 x 1	Trans	2
50746	Slope 30 1 x 1 x 2 /3	Red	2
3045	Slope 45 2 x 1	Red	2
3069b	Tile 1 x 2 with Groove	Red	2
3068b	Tile 2 x 2 with Groove	Red	2
6564	Wedge, Brick 3 x 2 Right	Red	2
6565	Wedge, Brick 3 x 2 Left	Red	2
43722	Wedge, Plate 3 x 2 Right	Red	1
43723	Wedge, Plate 3 x 2 Left	Red	1



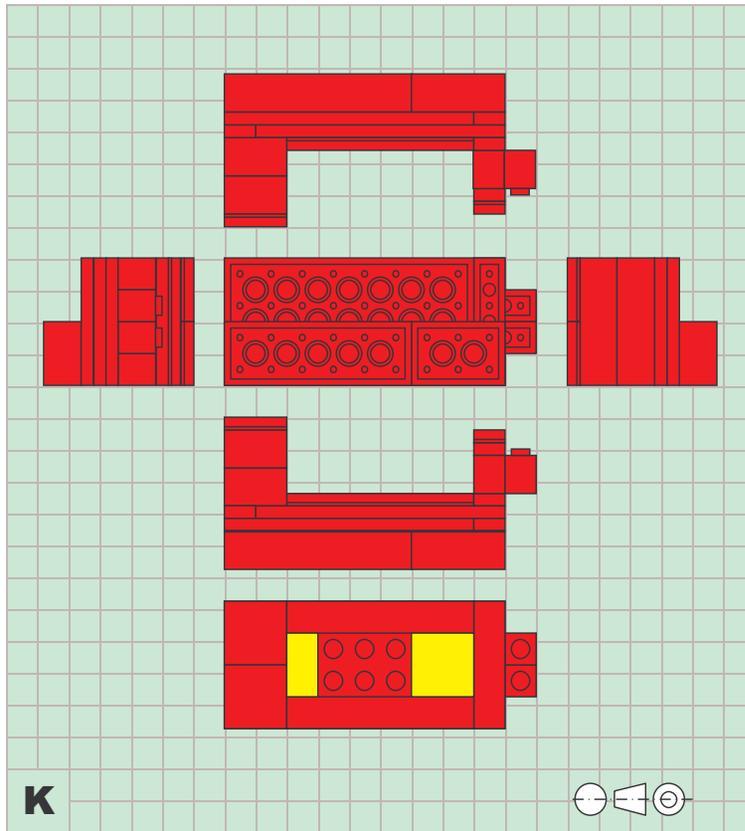
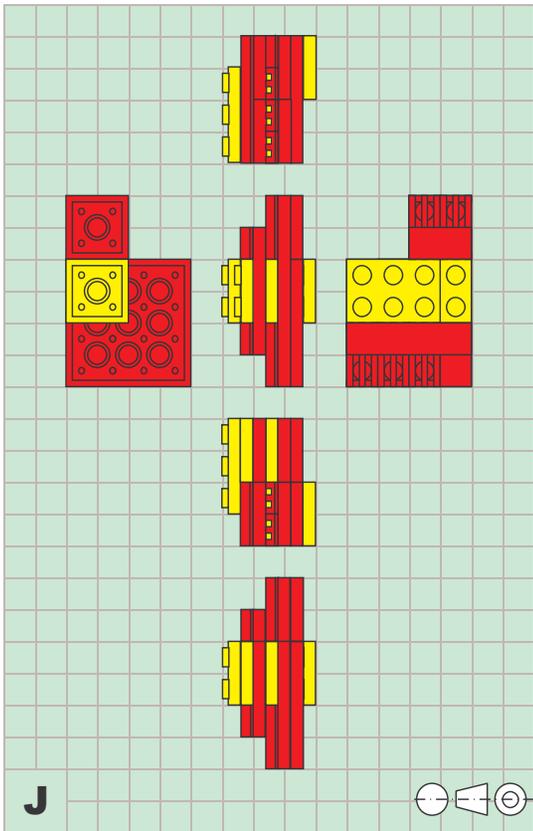
**HEATON LOCOMOTIVE WORKS**

Chris van Lottum, Chief Engineer

**ASSEMBLY DRAWINGS**  
**CAB INTERIOR & SHORT HOOD**

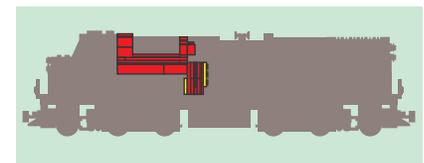
**GE ES44AC LOCOMOTIVE**





3022	Plate 2 x 2	Red	1
3022	Plate 2 x 2	Yellow	1
3021	Plate 2 x 3	Red	1
3021	Plate 2 x 3	Yellow	1
3020	Plate 2 x 4	Red	2
3020	Plate 2 x 4	Yellow	2
3795	Plate 2 x 6	Red	1
3031	Plate 4 x 4	Red	1
3069b	Tile 1 x 2 with Groove	Red	2
2431	Tile 1 x 4	Red	1
2412b	Tile, Modified 1 x 2 Grill with Groove	Red	5

2357	Brick 2 x 2 Corner	Red	2
3002	Brick 2 x 3	Red	1
3001	Brick 2 x 4	Red	2
2456	Brick 2 x 6	Red	1
3710	Plate 1 x 4	Red	4
3035	Plate 4 x 8	Red	2
3069b	Tile 1 x 2 with Groove	Yellow	1
2431	Tile 1 x 4	Red	1
6636	Tile 1 x 6	Red	2
3068b	Tile 2 x 2 with Groove	Red	2
3068b	Tile 2 x 2 with Groove	Yellow	1

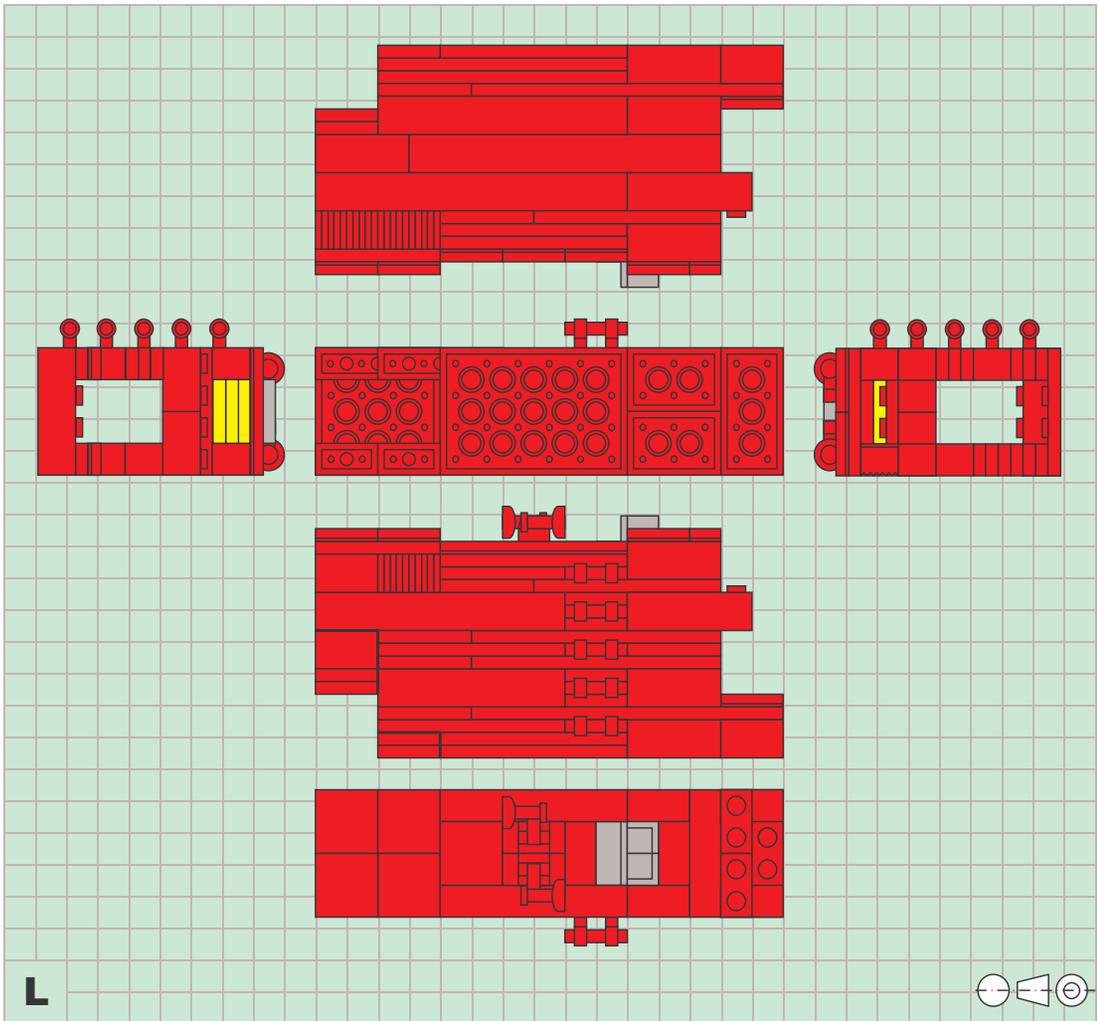


**HEATON LOCOMOTIVE WORKS**

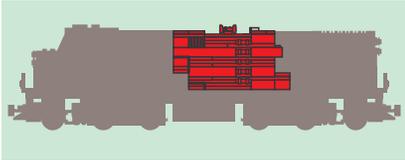
Chris van Lottum, Chief Engineer

**HEATON**

**ASSEMBLY DRAWINGS**  
**LONG HOOD FRONT & SIDE STEPS**  
**GE ES44AC LOCOMOTIVE**



3004	Brick 1 x 2	Red	1
3622	Brick 1 x 3	Red	5
3009	Brick 1 x 6	Red	1
3008	Brick 1 x 8	Red	2
6111	Brick 1 x 10	Red	2
3002	Brick 2 x 3	Red	2
3001	Brick 2 x 4	Red	3
2877	Brick, Modified 1 x 2 with Grill	Red	3
2420	Panel 1 x 1 x 1 Corner	LS Grey	2
4865	Panel 1 x 2 x 1	LS Grey	1
3023	Plate 1 x 2	Red	7
3623	Plate 1 x 3	Red	7
3710	Plate 1 x 4	Red	1
3666	Plate 1 x 6	Red	4
3460	Plate 1 x 8	Red	4
4477	Plate 1 x 10	Red	2
3022	Plate 2 x 2	Yellow	1
3021	Plate 2 x 3	Yellow	2
3031	Plate 4 x 4	Red	1
3032	Plate 4 x 6	Red	3
3794	Plate, Modified 1 x 2 with 1 Stud	Red	2
2540	Plate, Modified 1 x 2 with Handle - Type 1 (free ends)	Red	5
4599	Tap 1 x 1	Red	2
3069b	Tile 1 x 2 with Groove	Red	6
2431	Tile 1 x 4	Red	1
6636	Tile 1 x 6	Red	2
3068b	Tile 2 x 2 with Groove	Red	5
2555	Tile, Modified 1 x 1 with Clip	Red	2



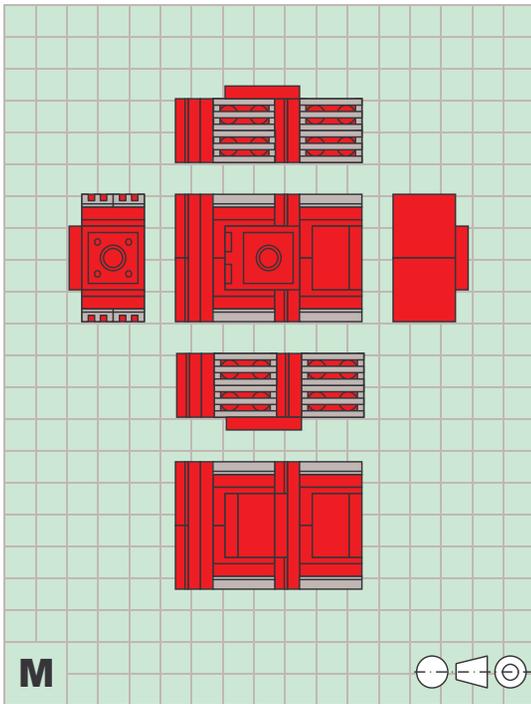
**HEATON LOCOMOTIVE WORKS**



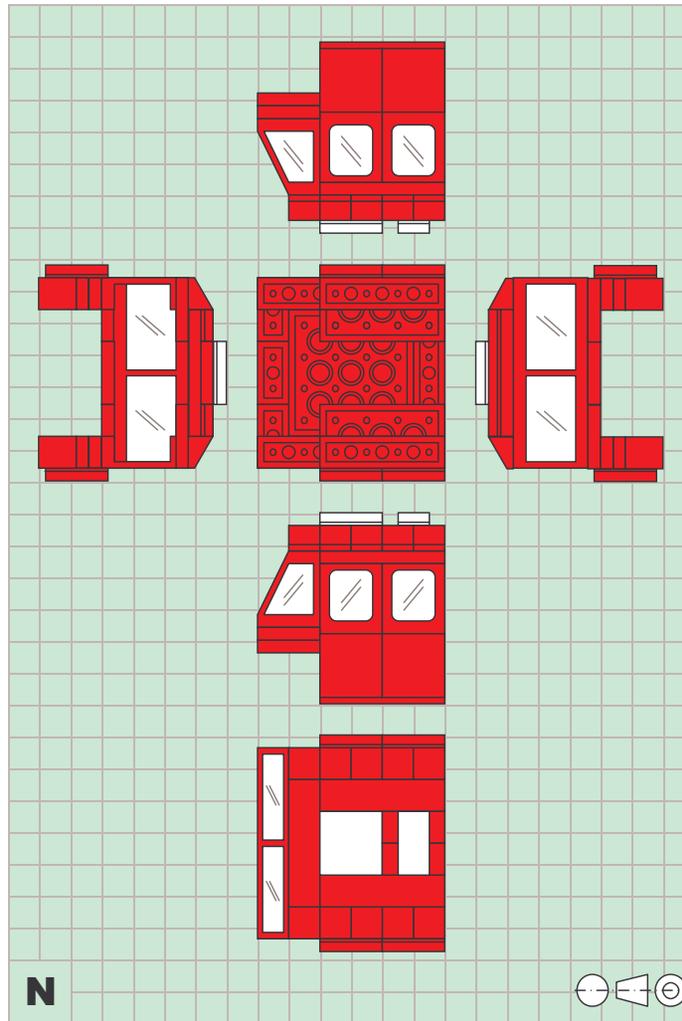
Chris van Lottum, Chief Engineer

**ASSEMBLY DRAWINGS  
LONG HOOD POWER PLANT**

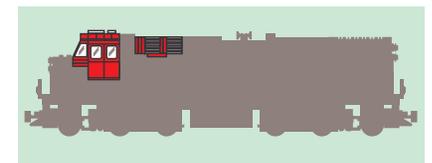
**GE ES44AC LOCOMOTIVE**



44728	Bracket 1 x 2 - 2 x 2	Red	4
3956	Bracket 2 x 2 - 2 x 2	Red	1
3003	Brick 2 x 2	Red	2
3022	Plate 2 x 2	Red	6
3020	Plate 2 x 4	Red	3
3069b	Tile 1 x 2 with Groove	Red	2
3068b	Tile 2 x 2 with Groove	Red	2
2412b	Tile, Modified 1 x 2 Grill with Groove	Silver	8



30414	Brick, Modified 1 x 4 with Studs on Side	Red	2
4862	Glass for Window 1 x 2 x 2 Plane	Trans	4
3023	Plate 1 x 2	Red	1
3710	Plate 1 x 4	Red	3
3666	Plate 1 x 6	Red	2
3022	Plate 2 x 2	Red	1
2420	Plate 2 x 2 Corner	Red	2
3020	Plate 2 x 4	Red	2
3031	Plate 4 x 4	Red	1
3794	Plate, Modified 1 x 2 with 1 Stud	Red	2
50746	Slope 30 1 x 1 x 2 / 3	Red	10
3069b	Tile 1 x 2 with Groove	White	1
2431	Tile 1 x 4	Red	3
3068b	Tile 2 x 2 with Groove	Red	4
3068b	Tile 2 x 2 with Groove	White	1
2377	Window 1 x 2 x 2 Plane	Red	4
6567	Windscreen 2 x 6 x 2 Train with Glass	Red	1



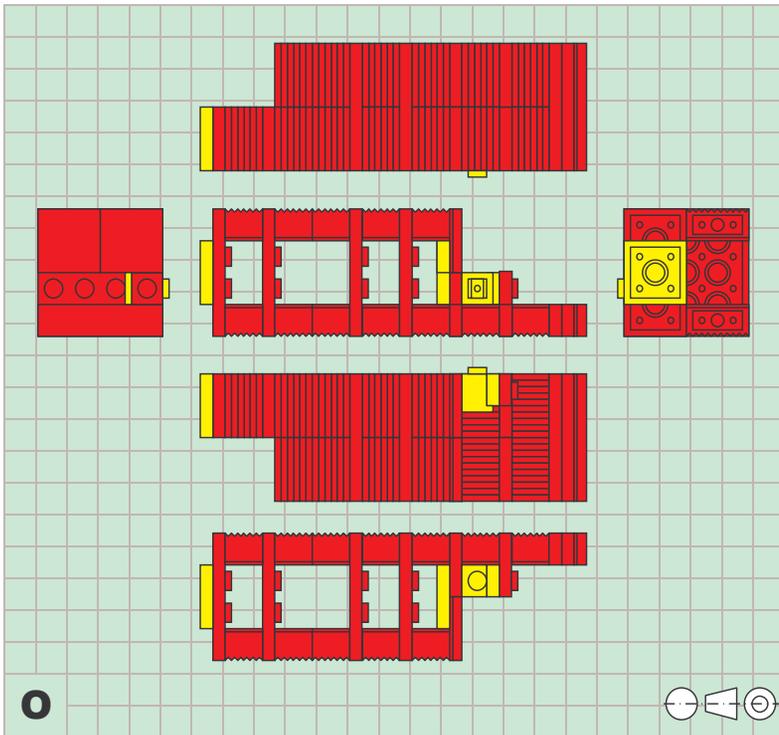
**HEATON LOCOMOTIVE WORKS**

Chris van Lottum, Chief Engineer

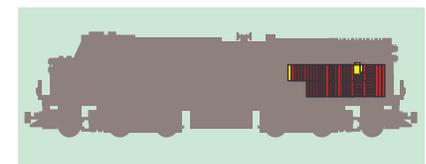
**HEATON**

**ASSEMBLY DRAWINGS**  
**CAB & LONG HOOD INTAKES**

**GE ES44AC LOCOMOTIVE**



4070	Brick, Modified 1 x 1 with Headlight	Yellow	1
2877	Brick, Modified 1 x 2 with Grill	Red	22
3024	Plate 1 x 1	Yellow	1
3023	Plate 1 x 2	Red	2
3023	Plate 1 x 2	Yellow	2
3710	Plate 1 x 4	Red	2
3022	Plate 2 x 2	Yellow	1
2420	Plate 2 x 2 Corner	Red	2
3020	Plate 2 x 4	Red	2
3031	Plate 4 x 4	Red	2
2431	Tile 1 x 4	Red	1
3068b	Tile 2 x 2 with Groove	Red	2

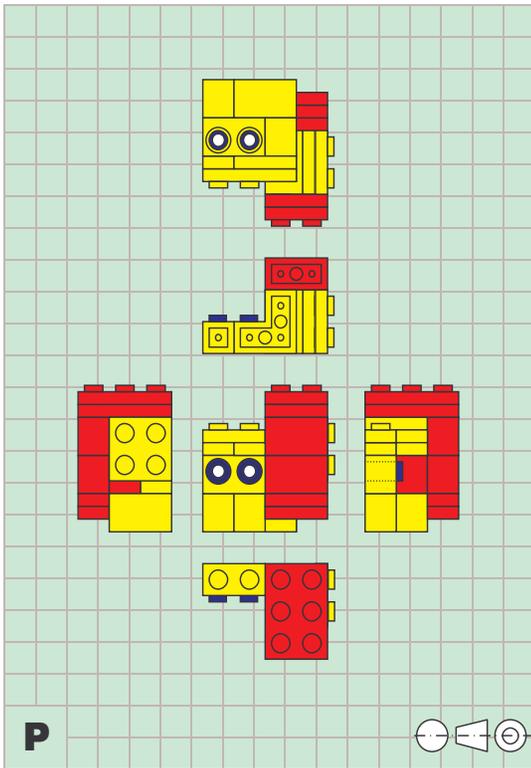


**HEATON LOCOMOTIVE WORKS**

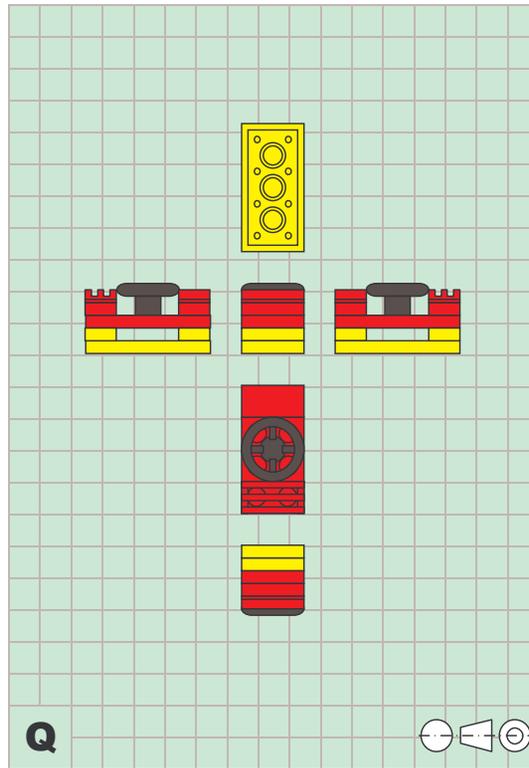
Chris van Lottum, Chief Engineer



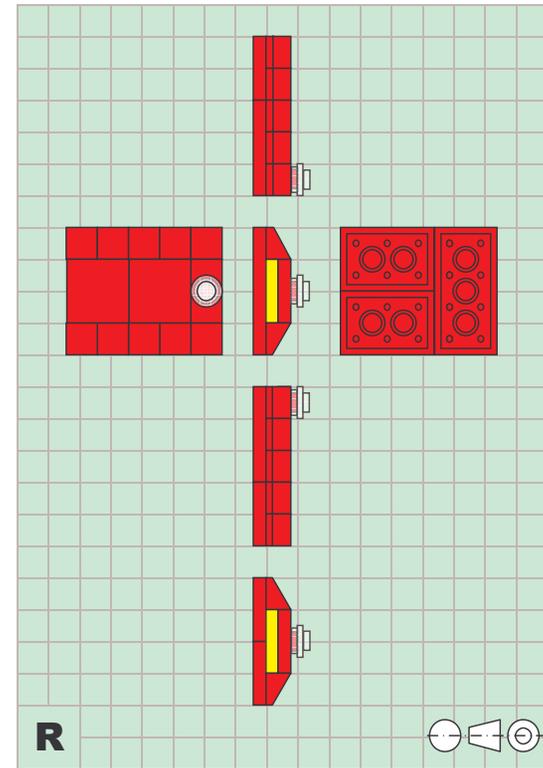
**ASSEMBLY DRAWINGS**  
**LONG HOOD RADIATOR CABINET**  
**GE ES44AC LOCOMOTIVE**



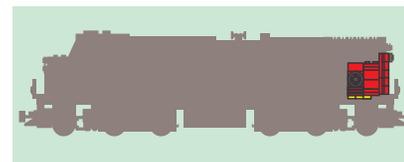
44728	Bracket 1 x 2 - 2 x 2	Yellow	1
3005	Brick 1 x 1	Yellow	2
3004	Brick 1 x 2	Red	1
2357	Brick 2 x 2 Corner	Red	1
2357	Brick 2 x 2 Corner	Yellow	1
3024	Plate 1 x 1	Yellow	2
3023	Plate 1 x 2	Red	2
3623	Plate 1 x 3	Yellow	1
3022	Plate 2 x 2	Yellow	2
2420	Plate 2 x 2 Corner	Yellow	1
3021	Plate 2 x 3	Red	2
32000	Technic, Brick 1 x 2 with Holes	Yellow	1
4274	Technic, Pin 1/2	Blue	2



30663	Car, Steering Wheel Small, 2 studs wide	Red	1
3023	Plate 1 x 2	Red	2
3023	Plate 1 x 2	Yellow	2
3020	Plate 2 x 4	Red	1
3020	Plate 2 x 4	Yellow	1
3069b	Tile 1 x 2 with Groove	Red	1
2412b	Tile, Modified 1 x 2 Grill with Groove	Red	1



3022	Plate 2 x 2	Yellow	1
3021	Plate 2 x 3	Red	2
3021	Plate 2 x 3	Yellow	1
3020	Plate 2 x 4	Red	1
3794	Plate, Modified 1 x 2 with 1 Stud	Red	1
4073	Plate, Round 1 x 1	Trans	1
50746	Slope 30 1 x 1 x 2 / 3	Red	10
3068b	Tile 2 x 2 with Groove	Red	2

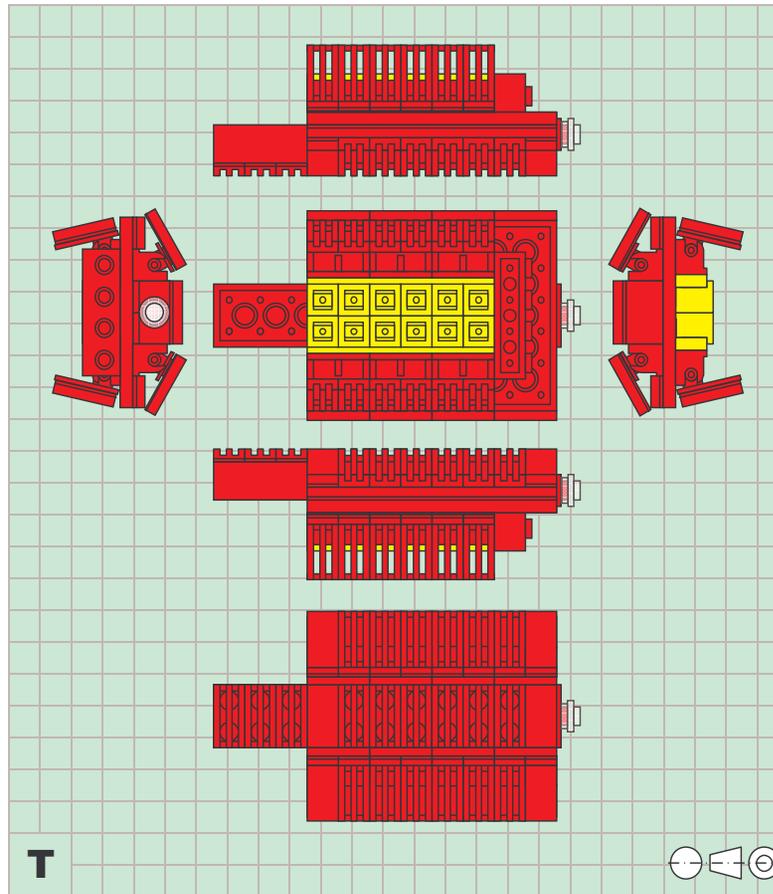
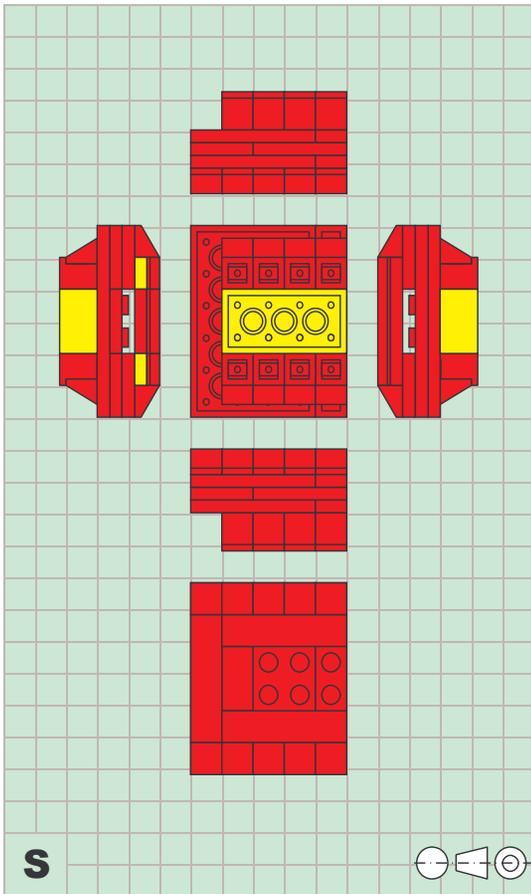


**HEATON LOCOMOTIVE WORKS**

Chris van Lottum, Chief Engineer

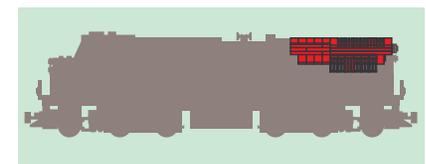
**ASSEMBLY DRAWINGS**  
**BRAKE WHEEL & REAR COWL**  
**GE ES44AC LOCOMOTIVE**





3001	Brick 2 x 4	Yellow	1
4070	Brick, Modified 1 x 1 with Headlight	Red	8
3023	Plate 1 x 2	Red	2
3623	Plate 1 x 3	Yellow	2
3666	Plate 1 x 6	Red	1
3021	Plate 2 x 3	Red	2
3020	Plate 2 x 4	Red	3
3795	Plate 2 x 6	Red	1
3032	Plate 4 x 6	Red	1
50746	Slope 30 1 x 1 x 2 / 3	Red	18
3069b	Tile 1 x 2 with Groove	Red	1
2431	Tile 1 x 4	Red	3

3006	Brick 2 x 10	Red	1
4070	Brick, Modified 1 x 1 with Headlight	Red	2
4070	Brick, Modified 1 x 1 with Headlight	Yellow	12
30414	Brick, Modified 1 x 4 with Studs on Side	Red	1
3937c01	Hinge Brick 1 x 2 Complete Assembly	Red	14
3666	Plate 1 x 6	Yellow	2
3036	Plate 6 x 8	Red	1
3794	Plate, Modified 1 x 2 with 1 Stud	Red	1
4073	Plate, Round 1 x 1	Trans	1
3069b	Tile 1 x 2 with Groove	Red	6
4162	Tile 1 x 8	Red	2
2412b	Tile, Modified 1 x 2 Grill with Groove	Red	33



**HEATON LOCOMOTIVE WORKS**

Chris van Lottum, Chief Engineer

**HEATON**

**ASSEMBLY DRAWINGS**

**RADIATOR CABINET VENTS**

**GE ES44AC LOCOMOTIVE**