Introduction to DCC
Part 2
Installing DCC Decoders in DCC Ready Locomotives
with
Paul A. Wussow

Locomotives may be:

DC

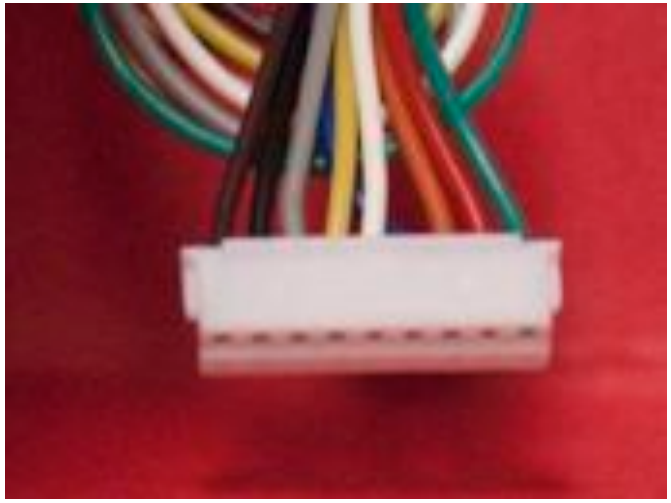
DCC Ready

DCC

DCS(MTH)

DCC Ready Locomotive

DCC socket may contain an 8 or 9 pin socket with a molded plug or metal punched jumpers to allow DC operations

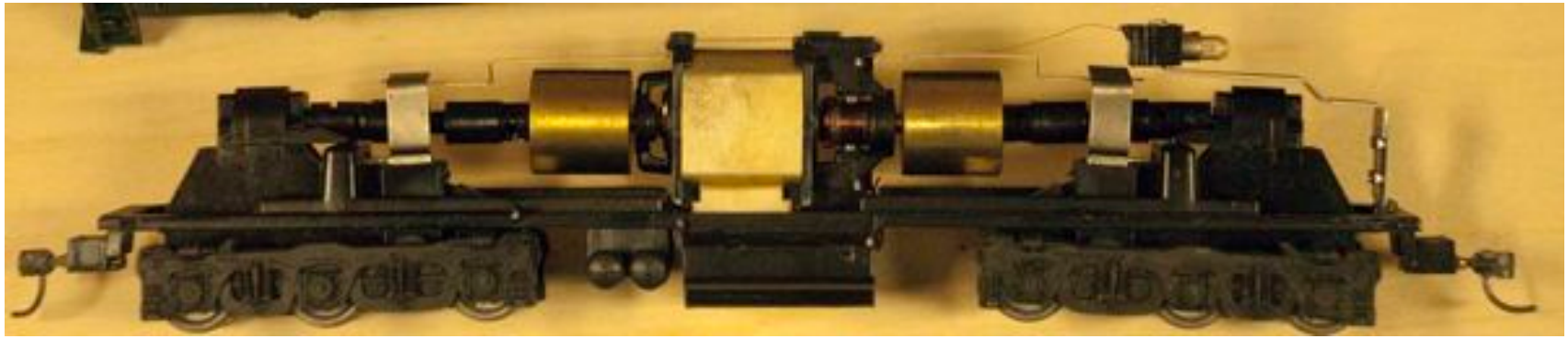


DC Locomotive

Positive potential voltage applied to the right hand rail shall produce forward motion (NMRA Std.)

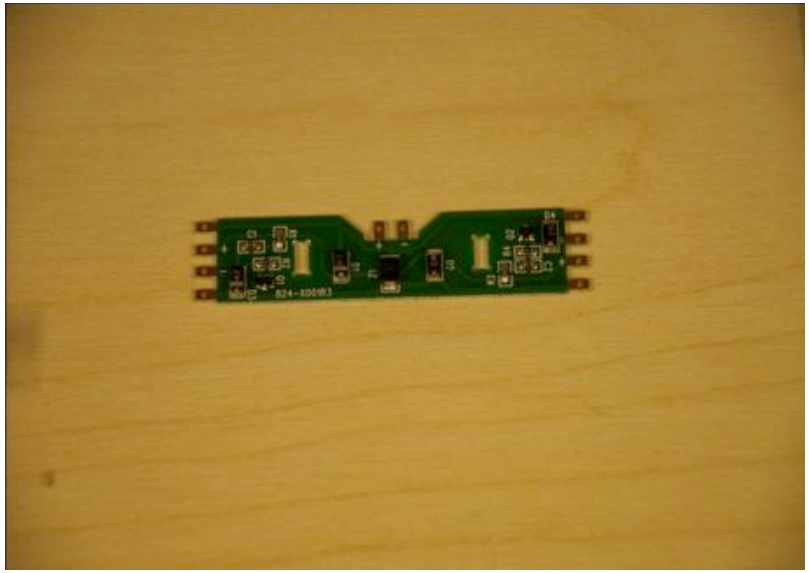
A Little Back Ground

In a simple DC locomotive the electric current picked up from the rails is passed directly to the motor and the electric head light



Sophisticated DC locomotives

Directional low voltage lighting may be installed on a circuit board to control the lighting by direction of DC operations

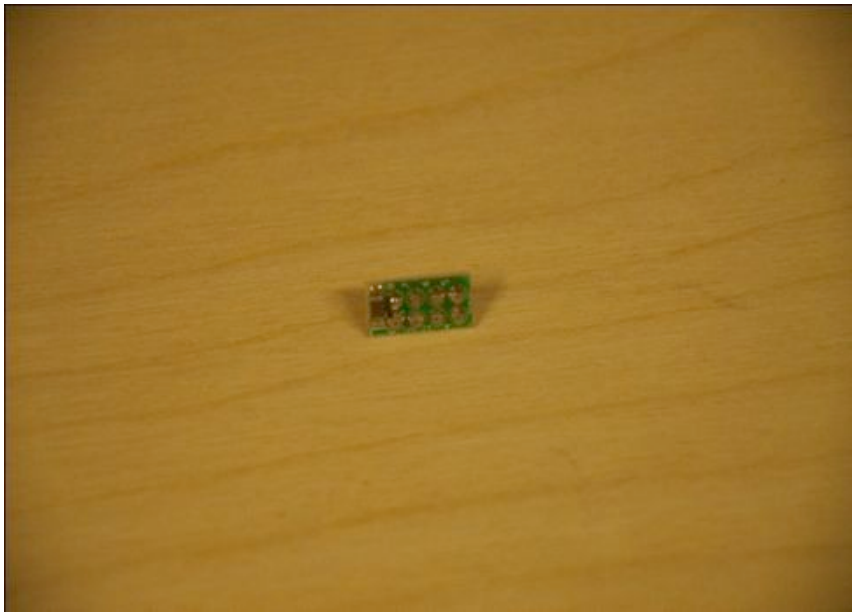


DCC Ready Locomotive
8 Pin Medium Interface

No.	Color	Use
1	Orange	Motor Right Orange
2	Yellow	Rear Headlight
3	NC	
4	Black	Left Rail
5	Gray	Motor Left
6	White	Front Headlight
7	Blue	Common (V+)
8	Red	Right Rail

NMRA NOTE: **There must be no electrical connection on the locomotive side of the interface between either of the motor leads and either of the track leads.**

8 Pin Medium Interface



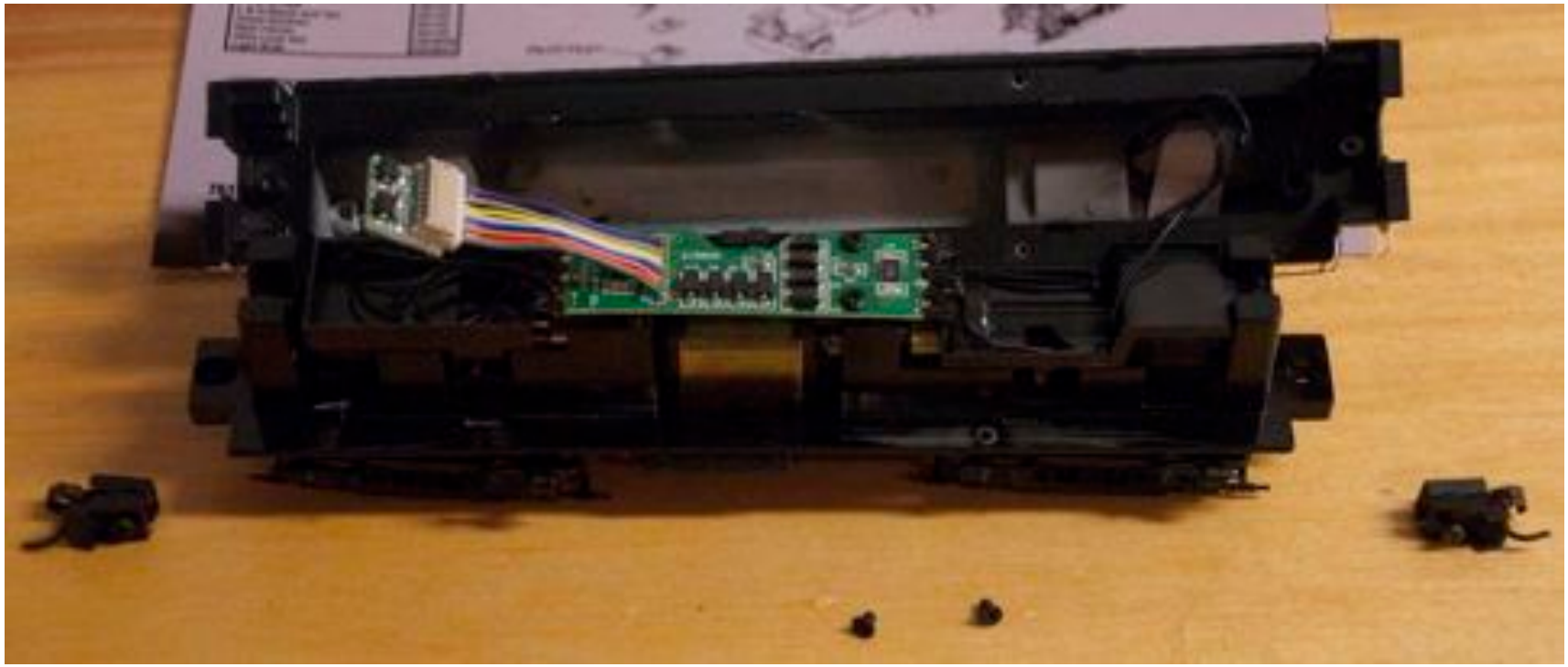
DCC Ready Locomotive 9 Pin Electromechanical controller socket

Color	Use	Pin Number
Violet or Brown	Output 4	1
Black	Track – Left Rail	2
Gray	Motor (-)	3
Yellow	Output 2 (Rear Headlight)	4
White	Output 1 (Front Headlight)	5
Blue	+V	6
Orange	Motor (+)	7
Red	Track – Right Rail	8
Green	Output 3	9

9 Pin Electromechanical controller socket With DC jumper plug

Three Lakes Turn

9 Pin Electromechanical controller socket In DCC ready Locomotive



NMRA DCC Standard Connection and Color Code

RED from right-hand rail
ORANGE to motor brush (+) connected to right-hand rail*
BLACK from left-hand rail
GRAY to motor brush (-) connected to left-hand rail *
WHITE front headlight(s) power sink
YELLOW rear headlight(s) power sink
BLUE common (+) headlight(s)/function(s) power source

Installing a decoder