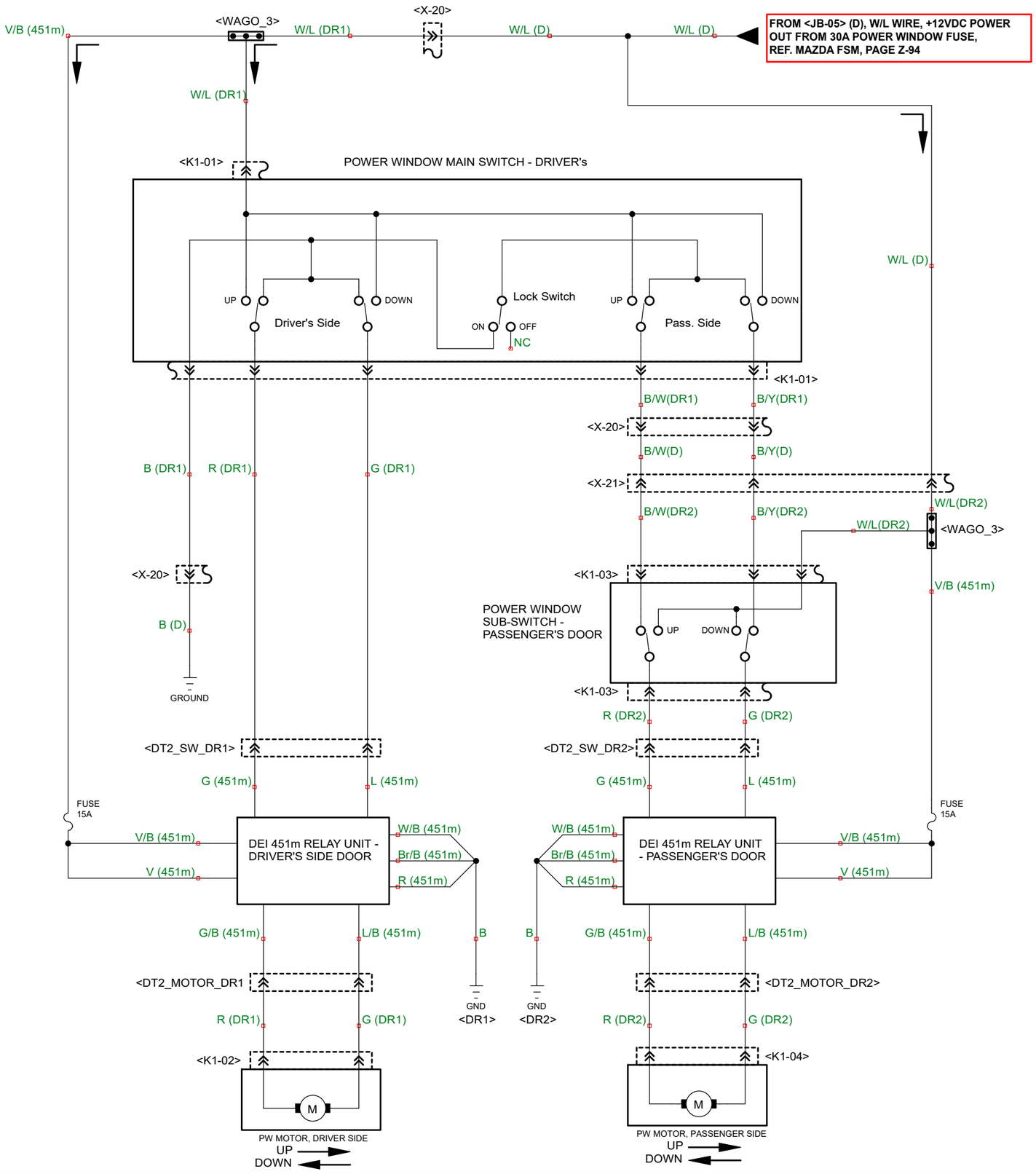

Notes:

1. This drawing documents the electrical schematic and wiring installation modifications made to the power window (PW) circuits in my 1993 Mazda RX7.

2. This drawing references the 1993 Mazda RX7 Factory Shop Manual (FSM), Section Z, Electrical Schematics and is intended to supplement the Mazda FSM, page Z-94.

3. All electrical schematic symbology conventions and wire color codes referenced in the Mazda FSM shall be utilized herein, unless otherwise noted.

4. The purpose of this wiring modification is to reduce the current flowing through the OEM PW switches, thereby extending their service life and improving PW operation. It accomplishes this by adding a DEI 451m unit to each door, which provides an alternate path for full PW motor current; each 451m unit contains a pair of DPDT 20A rated relays, in a pre-wired, small sealed package.

5. Wire color markers with the "(451m)" suffix denote the 451m unit's wire pigtail colors. New connectors labeled <DT2_SW_DR1> and <DT2_MOTOR_DR1> are installed in the Driver's side door with its respective 451m unit. Similarly, <DT2_SW_DR2> and <DT2_MOTOR_DR2> denote new connectors installed in the passenger side door.

6. The <WAGO_3> symbols represents a WAGO brand 3-wire lever nut / terminal strip, rated at 20A; WAGO Part # 221-413. This allows for a removable/replacable splice so each 451m can obtain +12VDC power from the W/L wire in each door harness, (DR1) and (DR2), respectively.

7. Ground Symbols marked with <DR1> and <DR2> denote grounding lugs screwed into the driver's side and passenger side door, respectively, for grounding that door's 451m unit wires as indicated.

8. Each 451m unit includes an inline 15A fuse as shown. In the event that only one of the car's 2x power windows fail to operate, check the 451m inline fuse first in the failed door.

9. For troubleshooting purposes, the 451m units can be completely isolated, and the PW circuit can be reverted back to OEM configuration as follows:

a. Unplug the <DT2_SW_DR1> and the <DT2_MOTOR_DR1> connectors in the driver's door. Do the same for <DT2_SW_DR2> and <DT2_MOTOR_DR2> on the passenger side door.

b. Connect the <DT2_SW_DR1> recepticle (female) side to <DT2_MOTOR_DR1> plug (male) side. Do the same with <DT2_SW_DR2> and <DT2_MOTOR_DR2> on the passenger side door.

c. Disconnect the 451m unit's power input (V/B wire) from the WAGO lever nut / terminal strip in each door.

Title Power Window Modification Schematic, 1993 Mazda RX7		
Author Peter W. Morel Subtitle: DEI 451m Installation Wiring Diagram		
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