

Stanley Access Technologies
Quick-Reference Guide



Delayed Egress System, Model DE-MC521

Installation Instructions

Quick-Reference Guide

204038

Rev. B 4/12/08

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Quick-Reference Guide

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1. PURPOSE

1.1 **Discussion**

This manual provides installation instructions for the Stanley Dura-Glide Delayed Egress system Model DE-MC521. The delayed egress system provides a controlled egress for openings which require panic or fire hardware for safe egress. This solution has been designed to aid in loss prevention at retail locations by denying egress for a set time period.

Setting the key function switch to the “CLOSED LOCKED” or “ONEWAY” or “REDUCED ONE WAY” position energizes the shear magnets and secures the door in the locked mode. Activation of the delayed egress system occurs when the panic bar is pushed and held for 1 second. (Accidentally pushing the panic bar or touching it for less than the nuisance delay time of 1 second will not sound the alarm. This nuisance delay time helps avoid inadvertent activation.) The alarm will sound when the panic bar is pressed, but the alarm sequence will not start unless the panic bar is held in for more than the nuisance delay time. An audible alarm sounds after pushing the panic bar for longer than the nuisance delay. This initiates an irreversible sequence for 15 or 30 seconds until the device releases. After the delay egress time of 15 or 30 seconds, the lock releases and the alarm continues to sound until it is reset with setting the key function switch to HOLD OPEN, AUTOMATIC, or REDUCED OPEN. The individual who pushes the panic bar is denied egress for 15 or 30 seconds.

1.2 **Applicability**

This manual is ONLY applicable to the Stanley Dura-Glide DE-MC521 Delayed Egress system. Standard MC521 slide installation manual is a pre-requisite for this installation manual. Instructions for installing Transom installation, optional accessories such as access control locks, access control consoles, key switches, door alarm contacts, push plates, and door position switches are provided in separate installation manuals. The Transom installation and optional accessories have not been evaluated by UL for use with the DE-MC521 Delayed Egress System.

1.2.1 The delayed egress system includes the following components and functions:

- The MC521 controller mounted in the header provides the logic for the egress, nuisance, and reset cycles
- The two UL FWAX2 Listed shear magnet locks provide locking for up to 1200 lbs of shear force. Each two-piece lock assembly includes a magnet mounted to the underside of the hanger and an armature mounted to the top of the panel rail.
- The UL Recognized audible alarm mounted in the header connects to the MC521 controller. The input range must be greater than 20.2 Vdc.
- The four-contact assembly mounted in the center of the header transfers power from the header to the hanger. The four-contact assembly is wired to a terminal block assembly for shear lock control and push bar switch monitoring.
- The two-contact assembly mounted to each hanger transfers signal from the push bar switch to the hanger when the doors are closed.
- The recessed panic bar mounted to each door panel activates the egress cycle when pushed.

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2. PREREQUISITES

2.1 **Special Items Required for Installation**

- 2.1.1 UL-listed 24-VDC power supply
- 2.1.2 Fail-secure solenoid lock
- 2.1.3 Small screwdriver
- 2.1.4 Severence tool (P/N: CK-3/4-45) for adding nuts to the nut track
- 2.1.5 Rotary/Key Switch Instruction Manual (Stanley Access Technologies Document No. 203926)
- 2.1.6 Power key switch assembly (P/N: 415119)

3. INSTALLATION INSTRUCTIONS

3.1 Installing the Door Panel Components

NOTE

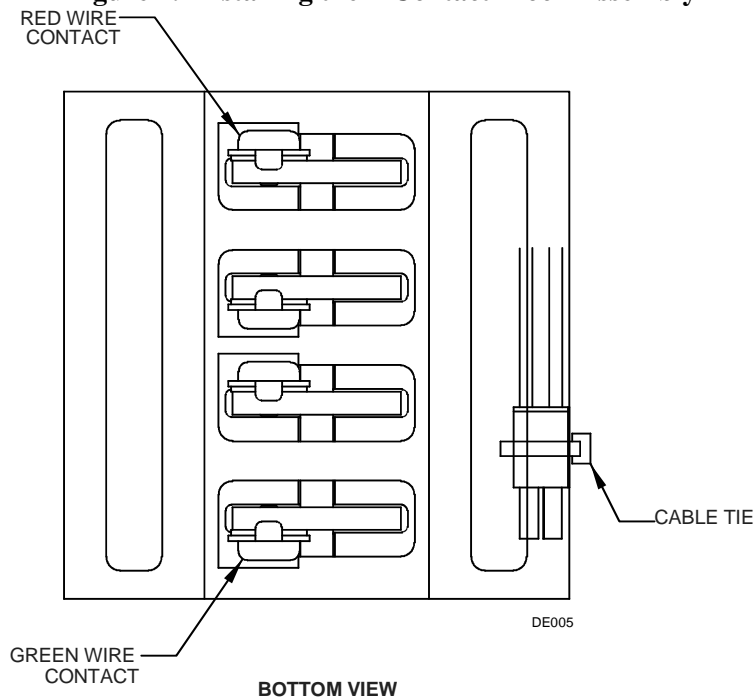
For new or retrofit installations, the door panel components shown in Table 3-1 are pre-assembled and wired in the factory.

Table 3-1. Door Panel Components

Part Name	Manufacturer	Part Number
2-Contact Block Assembly	Stanley Access Technologies	516909
2-Contact Plate Assembly	Stanley Access Technologies	516910
4-Contact Block Assembly	Stanley Access Technologies	516907
Recessed Panic Pushbar with Switch	Adams Rite	185060
Detent Block for Delayed Egress	Stanley Access Technologies	516906
Shear Magnet Locks	GEM	714082

- 3.1.1 Refer to Figure 1, and, with the red wire at the top of the assembly, POSITION the 4-contact block assembly at the lead edge of the hanger.
- 3.1.2 Using two #8-32 1/2" pan-head screws and #8 external tooth washers, INSTALL the 4-contact block assembly at the lead edge of the hanger.
- 3.1.3 Using a cable tie, SECURE the connector (and not the wires) to the tab.

Figure 1. Installing the 4-Contact Block Assembly



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3.2 Installing the Header Components

NOTE

Table 3-2 shows the list of header components.

Table 3-2. Header Components

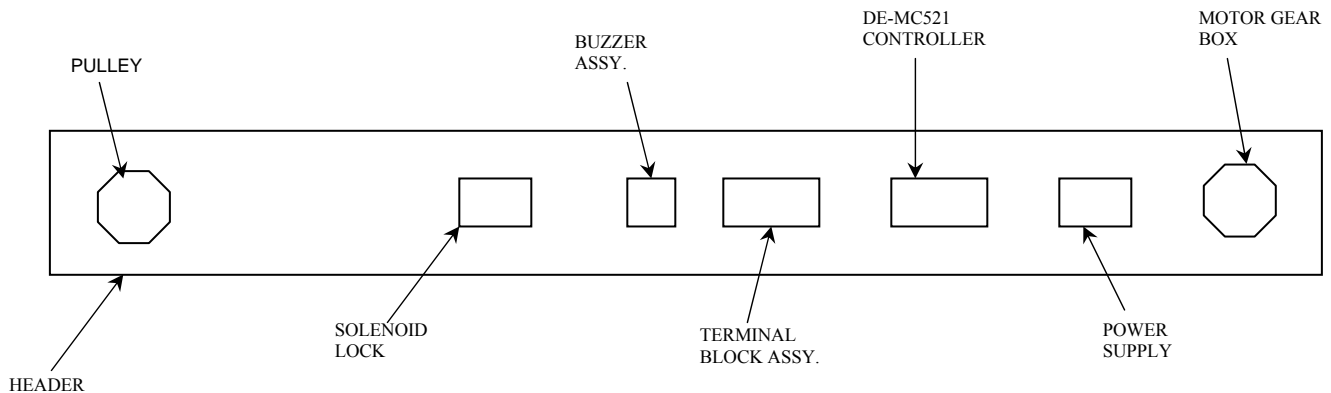
Part Name	Manufacturer	Part Number
Terminal Block Assembly	Stanley Access Technologies	516913
Buzzer and Bracket Assembly	Stanley Access Technologies	415109
4-Contact Plate Assembly	Stanley Access Technologies	516908
DE-MC521 Controller	Stanley Access Technologies	516928

3.2.1 Refer to Figure 2, and, using the nuts, clips, and screws provided, **INSTALL** the following (typical) components on the track inside the header:

- DE-MC521 Controller: Replace the existing MC521 with DE-MC521 (P/N 516928)
- Terminal block assembly
- Buzzer and bracket assembly

3.2.2 **SECURE** all wire harnesses with cable ties.

Figure 2. Typical Layout for Components in the Header



3.3 Installing the Components on the Header Cover or Jamb

3.3.1 **INSTALL** power key switch assembly as follows:

- If installation is a Dura-Glide 3000, Refer to 203926, “Rotary/Key Switch Instruction Manual,” for machining template and **MOUNT** power key switch assembly P/N 415119 to header cover.
- If installation is a Dura-Glide 2000, Refer to 203926, “Rotary/Key Switch Instruction Manual,” for machining template and **MOUNT** power key switch assembly P/N 415119 to header or jamb inside of building.

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3.3.2 INSTALL rotary key switch assembly as follows:

- If installation is a Dura-Glide 3000, Refer to 203926, “Rotary/Key Switch Instruction Manual,” for machining template and MOUNT rotary function key switch assembly to header cover.
- If installation is a Dura-Glide 2000, Refer to 203926, “Rotary/Key Switch Instruction Manual,” for machining template and MOUNT rotary key switch assembly to header or jamb inside of building.

3.4 Installing the 4-Contact Plate Assembly (P/N: 516908) for Biparting Doors

3.4.1 Refer to Figure 3, and INSTALL the 4-contact plate assembly as follows:

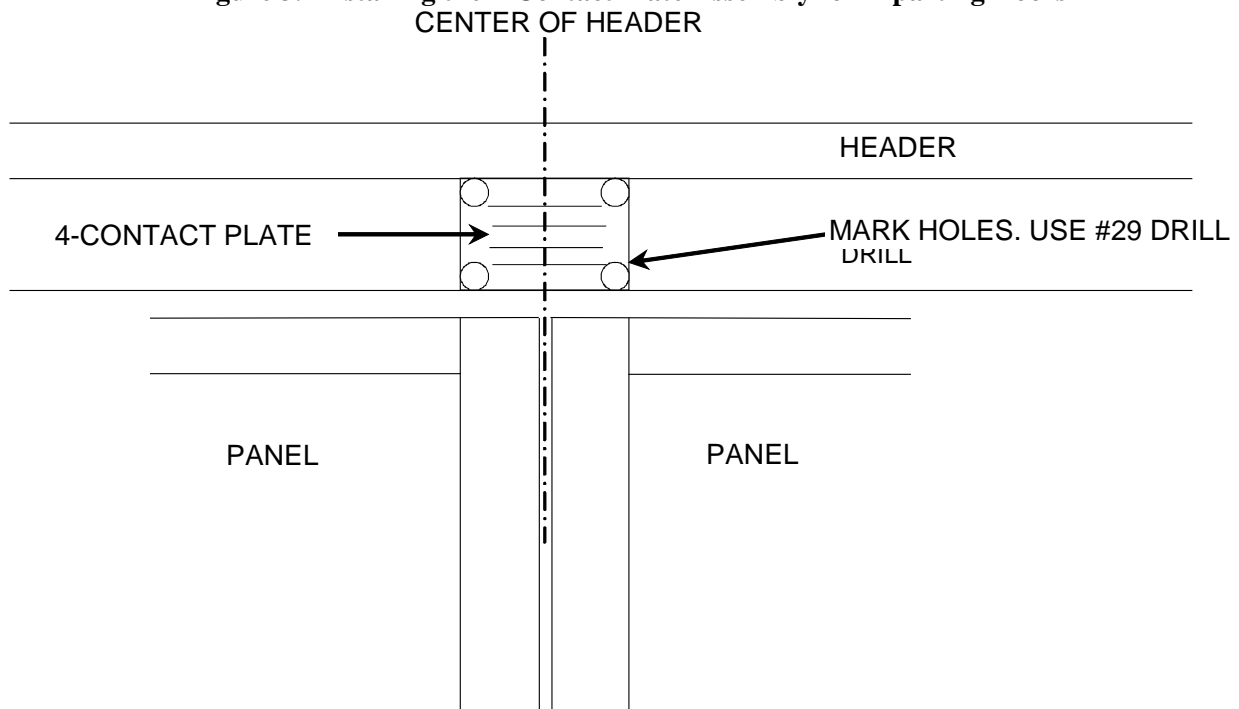
- a. CLOSE the two doors, and ENSURE that the doors close at the center of the header.
- b. MARK the center of the header onto the back of the header.
- c. POSITION the 4-contact plate onto the header, and MARK the location of the mounting holes.

CAUTION

The two top mounting holes for the 4-contact plate assembly are located above the track tube. When drilling these two holes, use caution to ensure that the drill bit does not nick the wires located in the header track.

- d. DRILL the four mounting holes for #8-18 self-tapping screws.
- e. ROUTE the 4-contact plate wire harness to the inside of the header.
- f. Using the four screws provided, FASTEN the 4-contact plate to the header.

Figure 3. Installing the 4-Contact Plate Assembly for Biparting Doors



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NOTE

The 4-contact plate assembly must align properly with the two 4-contact switch block assemblies on the hangers to ensure the transfer of electrical connections to the door panels. The position of the four-contact switch block assemblies can be adjusted for vertical alignment.

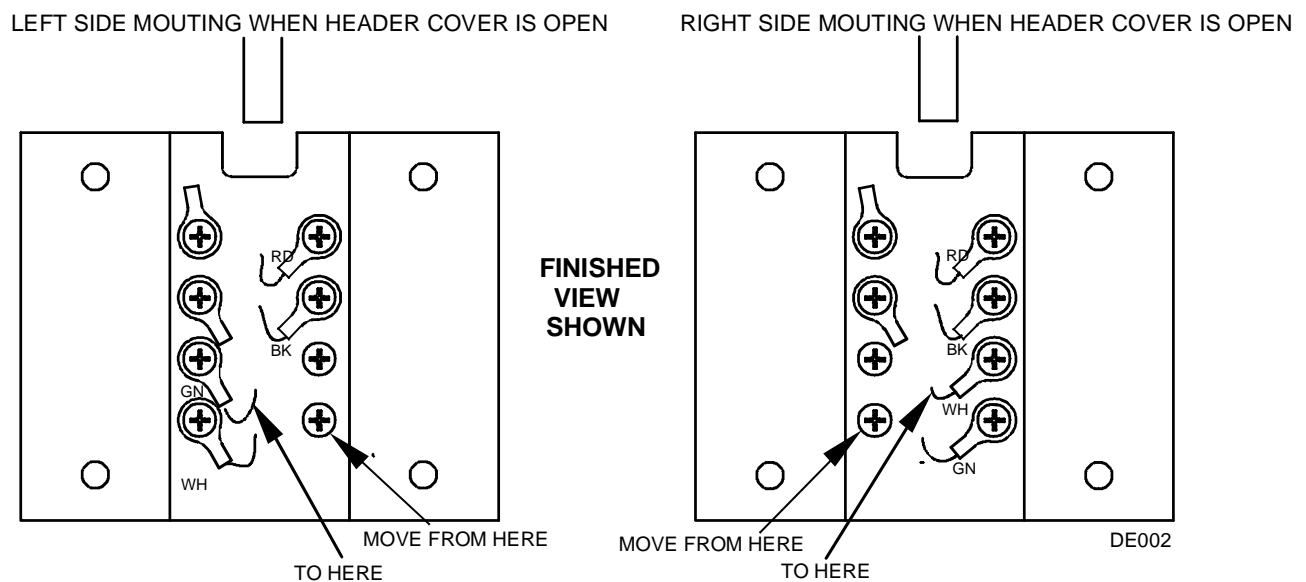
- 3.4.2 CYCLE the door several times, and ENSURE the four-contact switch block assemblies on the hanger leading edges mate properly with the center contact plate as the doors come together.

3.5 Installing the 4-Contact Plate Assembly (P/N: 516908) for Single-Slide Doors

- 3.5.1 CONFIGURE the 4-contact plate assembly for left side or right side mounting as follows:

- If *left side* mounting, refer to Figure 4, UNSCREW the green wire from the back of the plate, and ASSEMBLE it above the *white* wire.
- If *right side* mounting, refer to Figure 4, UNSCREW the WHITE wire from the back of the plate, and ASSEMBLE it above the *green* wire.

Figure 4. Configuring the 4-Contact Plate Assembly for Left Side or Right Side Mounting



- 3.5.2 Refer to Figure 5, and INSTALL the 4-contact plate assembly as follows:
- a. CLOSE the DOOR.
 - b. Using the plate as template to mark the holes, POSITION the 4-contact plate assembly on the header so that the dimension from the jamb to the center of the contact plate hole is 1.8".

CAUTION

The two top mounting holes for the 4-contact plate assembly are located above the track tube. When drilling these two holes, use caution to ensure that the drill bit does not nick the wires located in the header track.

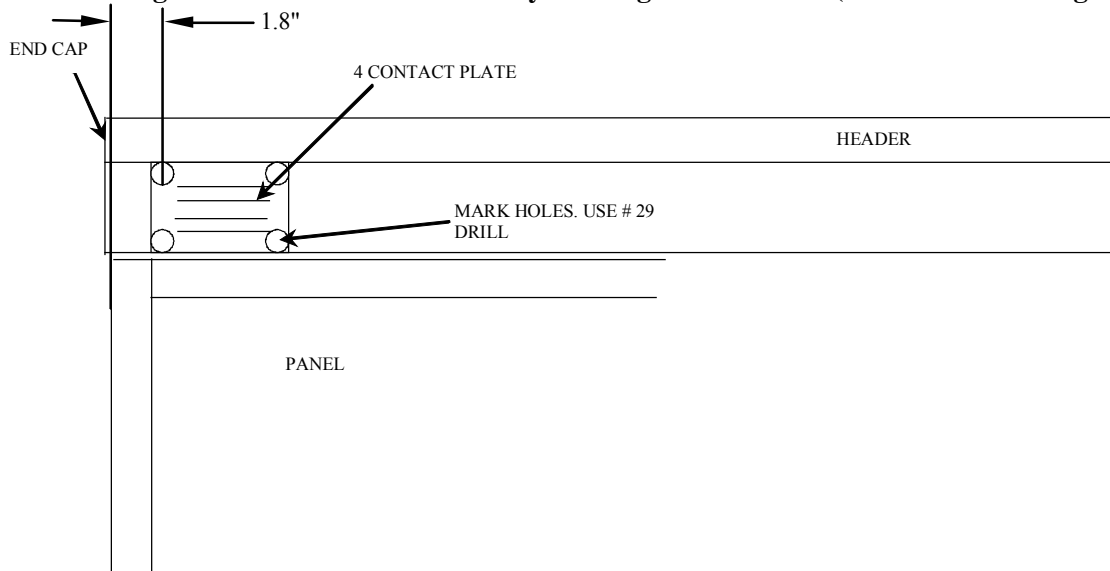
- c. Using a No. 29 drill, DRILL the four mounting holes for #8-18 self-tapping screws.
- d. ROUTE the 4-contact plate wire harness to the inside of the header.
- e. Using the four screws provided, FASTEN the 4-contact plate to the header.

NOTE

The 4-contact plate must align properly with the four-contact switch block assembly on the hanger to ensure the electrical connection to the door panel. The position of the four-contact switch block assembly can be adjusted for vertical alignment.

- 3.5.3 CYCLE the door several times, and ENSURE the 4-contact switch block assembly on the hanger leading edge mates properly with the center contact plate as the door closes.

Figure 5. Installing the 4-Contact Plate Assembly for Single-Slide Doors (Left Side Mounting Shown)



3.6 Installing the Label (P/N: 516905)

- 3.6.1 INSTALL the Delayed Egress label "PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 SECONDS" in the center of the push bar. (If a 30-second egress is required and approved by fire marshal, ATTACH the "30" sticker on top of the number "15" in the label.)

3.7 Wiring the Delayed Egress Assembly

WARNING

All connections to the DE-MC521 controller (Part No. 516928) as indicated on the Attachment 3 must be made by grounded, shielded cable.

Only the connections shown on the schematic in Attachment 2 have been evaluated by UL.

NOTE

The input power electrical rating for this assembly is 120-VAC, 60-Hz, and 5A. The output power electrical rating is 14.7 ~ 20.2 VDC.

Power-limited Class 2 wiring must maintain $\frac{1}{4}$ " separation from non-power-limited Class 1 wiring.

3.7.1 Refer to Attachments 2 and 3 for the delayed egress schematic, and CONNECT system wiring as shown.

3.8 Operational Checkout of the Delayed Egress System

3.8.1 Refer to 204003, "MC521 Installation and Operation Manual." Perform FIS. Then SET the door for delayed egress as follows:

NOTE

The door can be set for delayed egress using either the pushbuttons or the Palm. The following steps describe setting delayed egress using the pushbuttons.

- INDEX 18. Value 00 is OFF (not evaluated by UL).
- INDEX 18. Value 01 is 15 sec.
- INDEX 18. Value 02 is 30 sec.

3.8.2 CYCLE the doors several times and ENSURE the following features function properly:

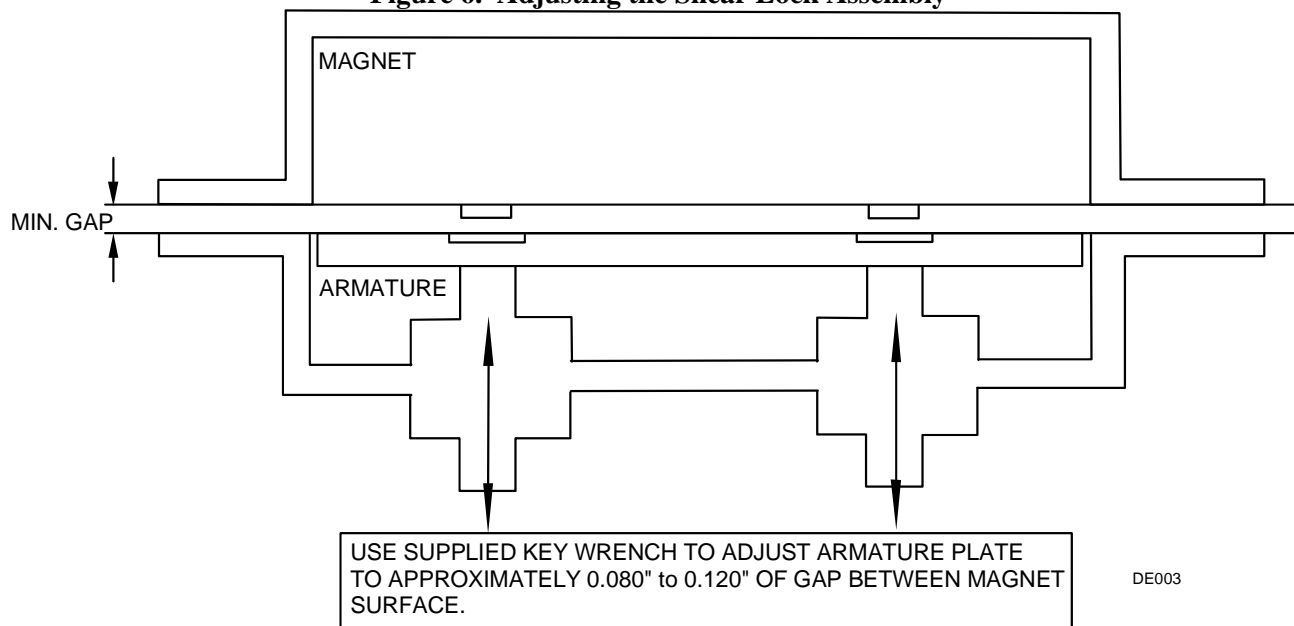
- The 1-second nuisance delay functions properly.
- The buzzer alarm sounds.
- The 15- or 30-second delay-of-egress period functions properly.

NOTE

The typical gap required between the magnet and the armature is 0.120".

3.8.3 If shear locks do not engage, refer to Figure 6 and, using the key wrench supplied with the lock kit, ADJUST the shear lock assembly. After adjusting the armature, remove the armature and tighten nuts at the bottom. Reassemble.

Figure 6. Adjusting the Shear Lock Assembly



3.8.4 If necessary, ADJUST the 4-contact switch block assemblies and ENSURE proper alignment with the center contact plate.

3.9 Troubleshooting the Delayed Egress System

3.9.1 Refer to Table 3-3 for a listing of symptoms and remedies.

NOTE

The following two conditions describe proper system operation:

1. Door is in CLOSED/LOCKED. The buzzer is OFF. The shear locks are energized. K1 LED is OFF. K2 LED is ON.
2. Door is in AUTOMATIC. The buzzer is OFF. The shear locks are de-energized. K1 LED is ON. K2 LED is OFF.

Table 3-3. Symptoms and Remedy

Symptom	Remedy
Door set for CLOSED/LOCKED and door gets to closed position. Delayed egress starts without pressing push bar. The dE indication is displayed on MC521. The buzzer turns ON. K2 LED is OFF. K1 LED is ON. And shear locks de-energize after 15/30 seconds.	Check connections from push bar switches to two-contact transfer contacts to quad transfer contacts to K2 coil.
Door set for CLOSED/LOCKED in closed position. Shear locks energize, but door panel can break out.	Adjustment is required on armature. Set gap to between 0.080" and 0.120".

- 3.9.2 CHECK for correct DC voltage measurements on terminal block assembly as follows:
- SET the door to CLOSED/LOCKED.
 - CONNECT the negative (-) lead of the multimeter to TB2-10 of the DE-MC521 controller.
 - Refer to Table 3-4, and CHECK each terminal number of the terminal block and relay assembly for the voltage shown.

Table 3-4. TB2-10 Voltage Checks

DE-MC521 TB2	Terminal Block and Relay Assy Terminal No.	Voltage	Possible Fault if Voltage is Incorrect
TB2-10	0	24 VDC	The bridge on terminal blocks 0-1 or 2-3 is loose. Fire alarm input is open or missing. The 24 VDC power supply disconnected.
TB2-10	1	24 VDC	The bridge on terminal block 2-3 is loose. Fire alarm input open or missing. The 24 VDC power supply disconnected.
TB2-10	2	24 VDC	The bridge on terminal block 2-3 is loose. Check 24 VDC power supply.
TB2-10	3	24 VDC	The 24 VDC power supply is disconnected.
TB2-10	4	24 VDC	MC521 is selected for Fail Safe. Door position switch is not closed TB1-7.
TB2-10	5	24 VDC	The bridge on terminal block 0-1 or 2-3 is loose. Fire alarm input open or missing. The 24 VDC power supply is disconnected. K1 is defective.
TB2-10	6	24 VDC	The bridge on terminal block 5-6 is loose.
TB2-10	7	0 VDC	Wire connection open from TB5-10. Check if MC521 is configured for delayed egress.
TB2-10	8	24 VDC	Push bar switch is open. Dual transfer contact is not making connection. Quad Contact is not making connection.
TB2-10	9	0VDC	K2 is off.
TB2-10	10	0VDC	Wire disconnected from TB5-4.
TB2-10	11	0VDC	Wire disconnected from TB5-10.

3.10 Replacement Parts

- 3.10.1 Refer to Attachment 1 for a listing of replacement parts.

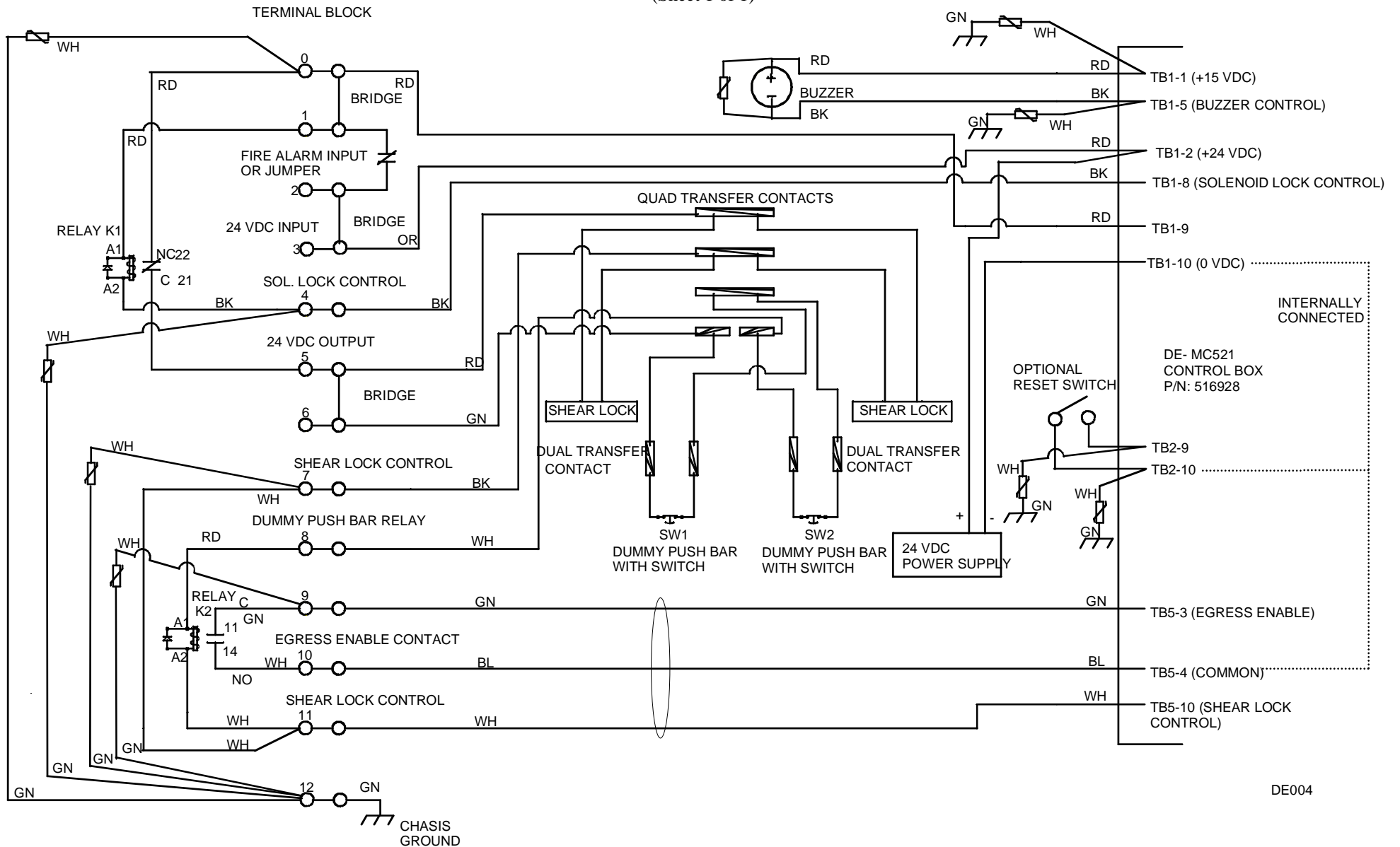
Attachment 1
Replacement Parts
(Sheet 1 of 1)

Description	Part Number	Manufacturer
Terminal Block and Relay Assembly	516913	Stanley Access Technologies
Buzzer and Bracket Assembly	415109	Stanley Access Technologies
Power Key Switch Assembly	415119	Stanley Access Technologies
4-Contact Block Assembly	516907	Stanley Access Technologies
4-Contact Plate Assembly	516908	Stanley Access Technologies
2-Contact Block Assembly	516909	Stanley Access Technologies
2-Contact Plate Assembly	516910	Stanley Access Technologies
Shear Magnet Locks	714082	GEM
Reset Switch	413584	Stanley Access Technologies
Push Bar Cartridge with Switch	185060	Adams Rite Mfg. Co.
DE-MC521 Controller Replacement Kit	314063	Stanley Access Technologies

Attachment 2

Delayed Egress Schematic Diagram (P/N 185063)

(Sheet 1 of 1)



DE004

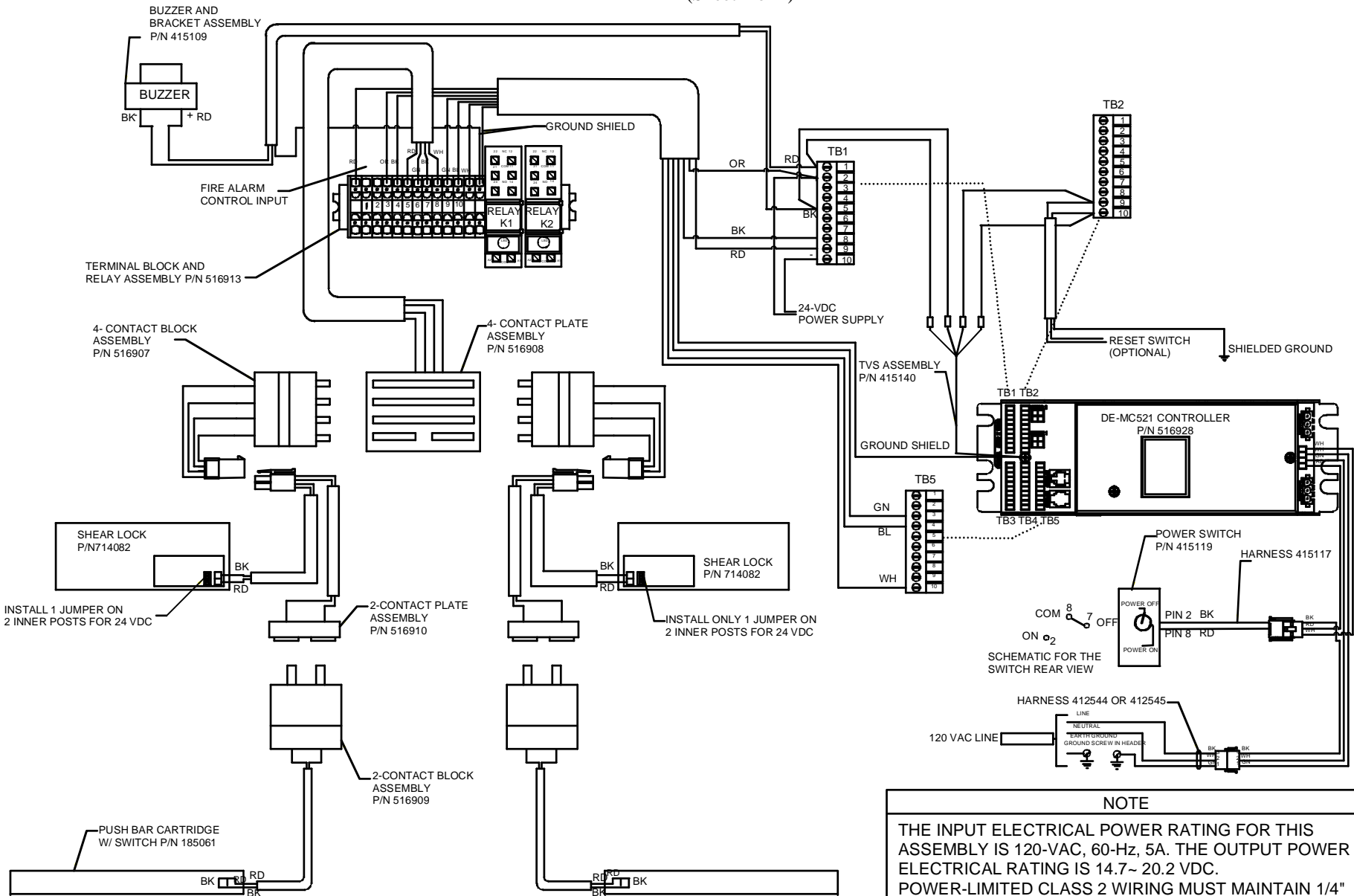
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Attachment 3 Delayed Egress Wiring Diagram (P/N 185071) (Sheet 1 of 4)



NOTE

THE INPUT ELECTRICAL POWER RATING FOR THIS ASSEMBLY IS 120-VAC, 60-Hz, 5A. THE OUTPUT POWER ELECTRICAL RATING IS 14.7~ 20.2 VDC. POWER-LIMITED CLASS 2 WIRING MUST MAINTAIN 1/4" SEPARATION FROM NON-POWER-LIMITED CLASS 1 WIRING.

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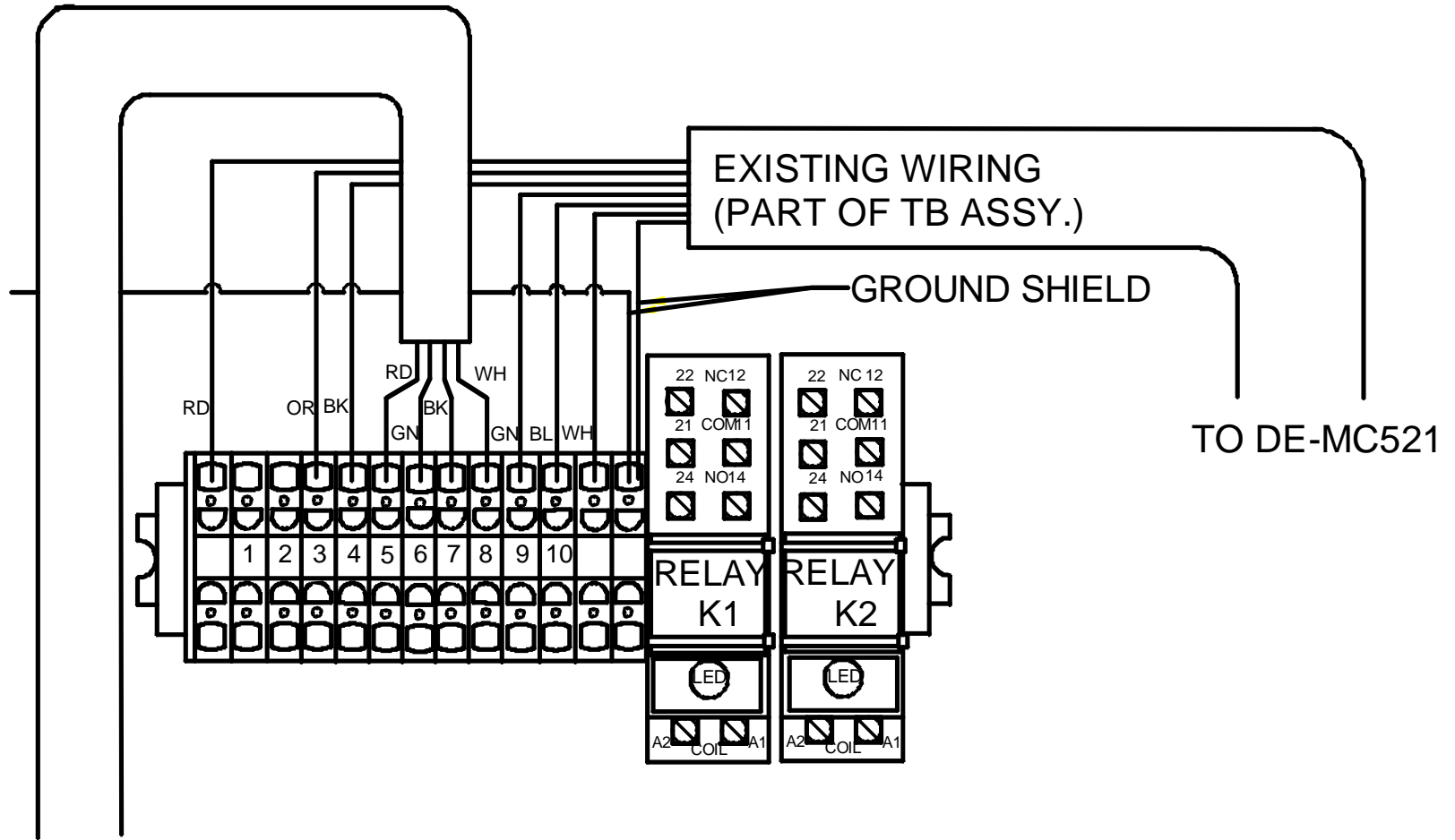
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DE001_1

Attachment 3
Delayed Egress Wiring Diagram (P/N 185071)
(Sheet 2 of 4)

FIELD TERMINAL BLOCK WIRING



TO 4-CONTACT PLATE
ASSEMBLY P/N 516908

DE001_2

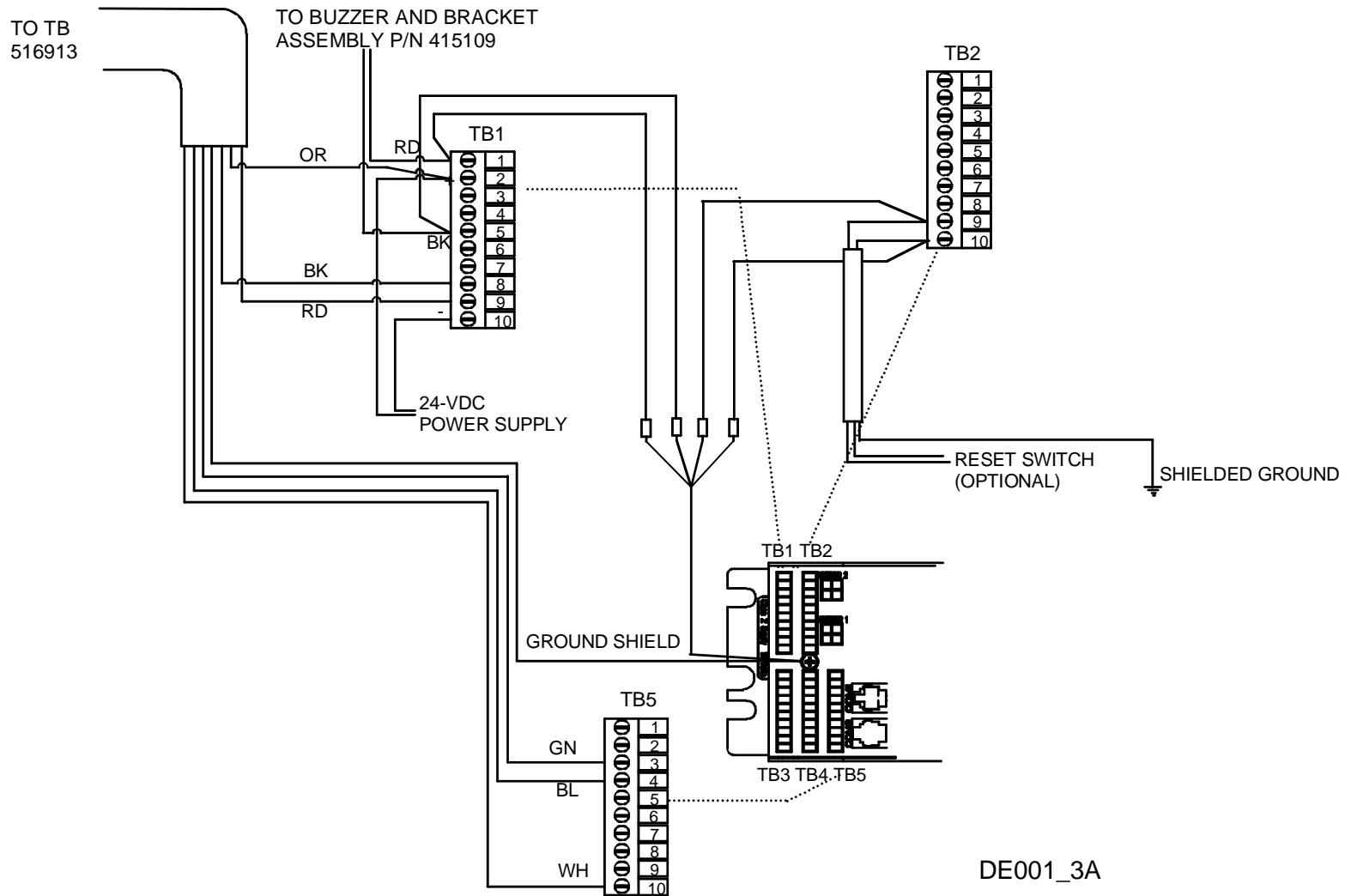
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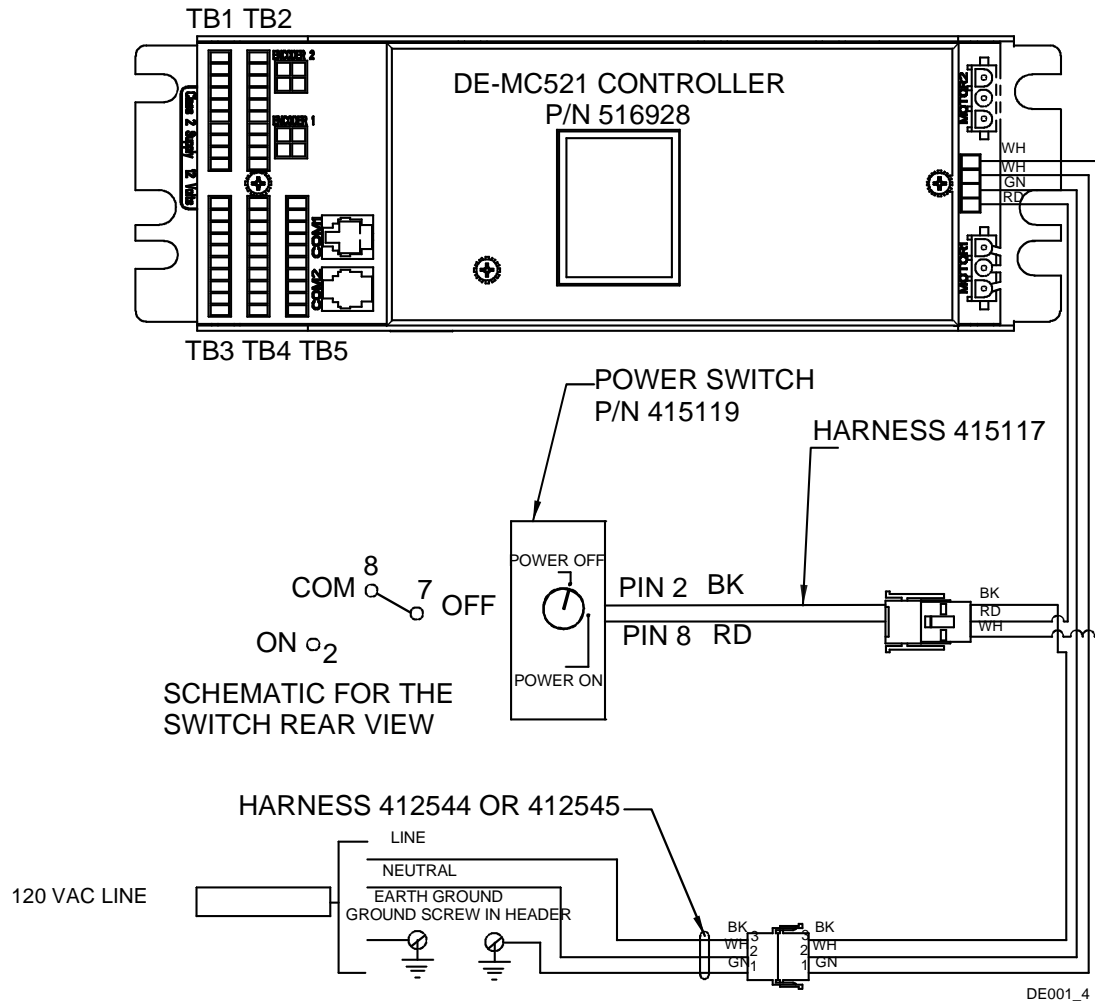
Attachment 3
Delayed Egress Wiring Diagram (P/N 185071)
 (Sheet 3 of 4)
FIELD DE-MC521 CONTROLLER WIRING



DE001_3A

Attachment 3
Delayed Egress Wiring Diagram (P/N 185071)
 (Sheet 4 of 4)

FIELD POWER SWITCH WIRING



DE001_4