

ST02992CH

FAA Supplemental Type Certificate



Installation of Dual Electronic Flight Bag (EFB) System Provisions on Boeing 737 Series Aircraft (FAA STC ST02992CH)

OVERVIEW

- » FAA STC ST02992CH.
- » European Aviation Safety Agency (EASA) STC 10042532.

INTRODUCTION

The STCs govern the installation of dual Electronic Flight Bag (EFB) system provisions in accordance with Electronic Cable Specialists (ECS) Master Data List ECS-209329.

YOUR NEEDS

Provides modernized EFB system mounting provisions for Boeing 737 series aircraft.

YOUR BENEFITS

Incorporation of STC ST02992CH is required to support separate installation and operational approval of EFBs in the cockpit per FAA STC ST03006CH. Ultimately, the EFB system provides flight crews the ability to interact with electronic maps, charts, and manuals in lieu of accessing standard paper documentation. System installation will reduce materials costs and aircraft weight without compromising ergonomic concerns.

STC AIRCRAFT EFFECTIVITY

- » Boeing 737-600/-700/-700C/-800/-900/-900ER series aircraft

STC LIMITATIONS

- » Additional FAA approval is required for the installation of the EFB equipment, which must be evaluated to ensure satisfactory compliance with applicable airworthiness standards.
- » Configuration 1: None.

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STC CONFIGURATIONS

- » Configuration 1: Dual EFB system wiring provisions with EMSU and power converter mounting provisions.

PRODUCT DESCRIPTION

Configuration 1: Dual EFB System Wiring Provisions with EMSU and Power Converter Mounting Provisions.

The major components associated with the provisions installation are as follows:

- » Two circuit breakers (CAPT EFB and F/O EFB).
- » Remove existing captain's and first officer's ashtrays.
- » Captain's and first officer's sidewall disconnect panels installed in place of each ashtray.
- » Captain's and first officer's EFB power switch panel.
- » Relay bracket installed in the P18 circuit breaker panel.
- » Mounting provisions for captain's and first officer's ESMU and PC in the respective flight bag storage areas with enclosure.
- » Relocate captain's and first officer's utility lights.
- » Electrical wiring for power and lighting wires to each EFB power control panel.
- » Electrical wiring for power to each PC.
- » Electrical wiring for power and signals to each ESMU and EDU.
- » Electrical wiring for a data Loader located in the first officer's ESMU and PC enclosure

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MECHANICAL CHANGES

» An installation overview of the dual EFB system provisions is shown below.

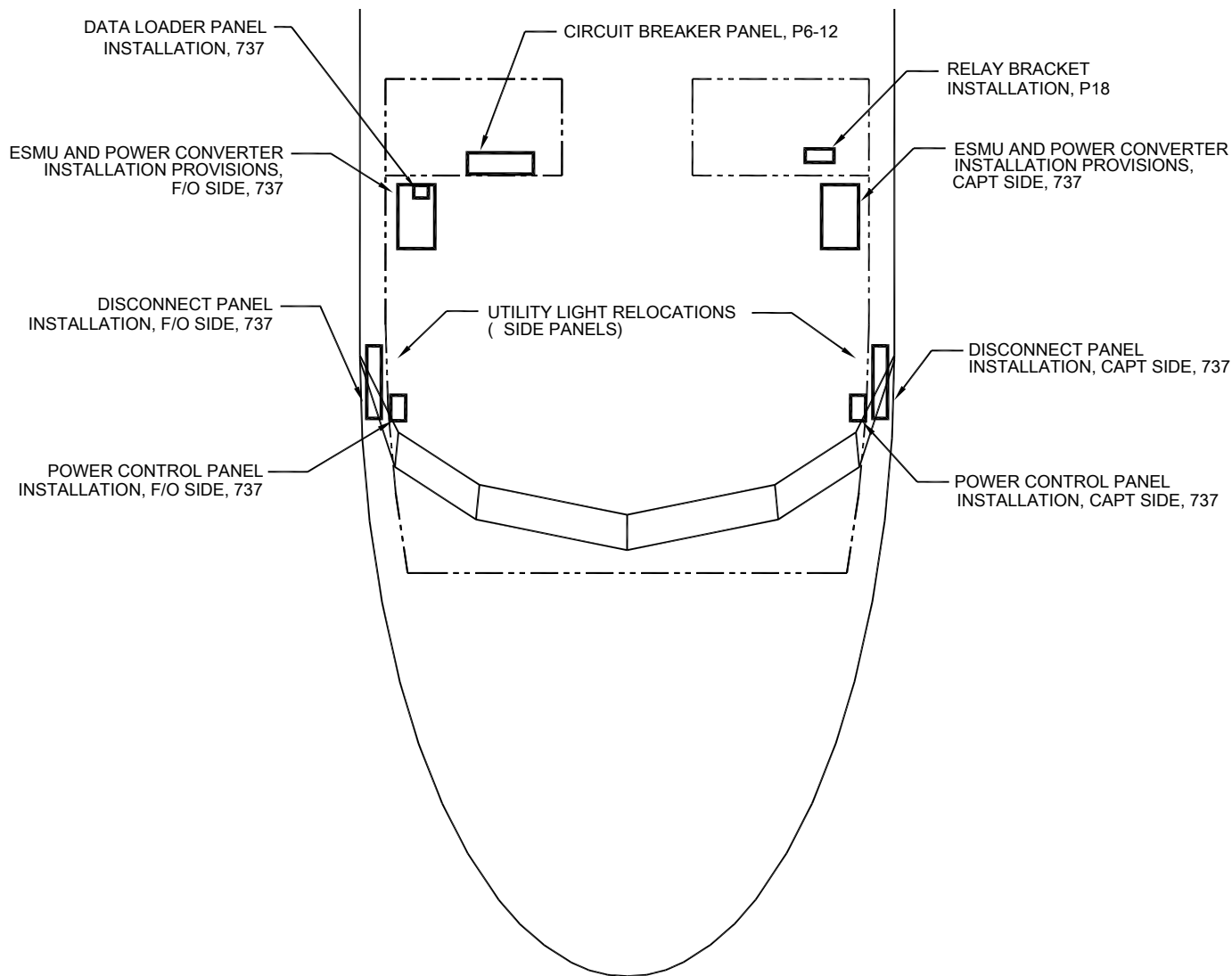


Figure 1 – Installation Overview

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- » The existing ash tray located on the captain's and first officer's sidewalls are removed and replaced with disconnect panels. This supports the installation of the EDU disconnect connector.

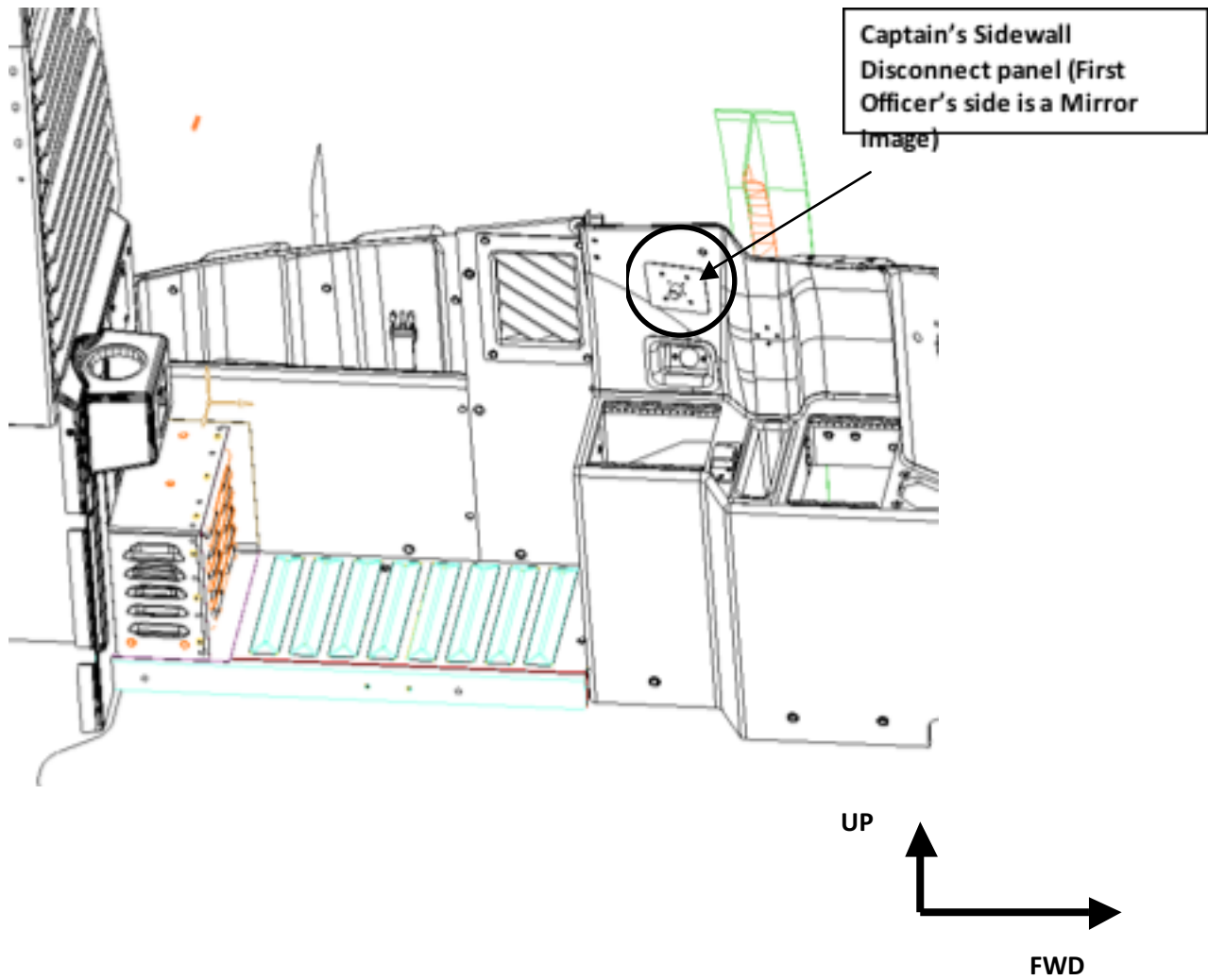


Figure 2 - Captain's Sidewall Disconnect

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- » EFB power control panel mounting provisions will be installed in the captain's and first officer's side consoles.

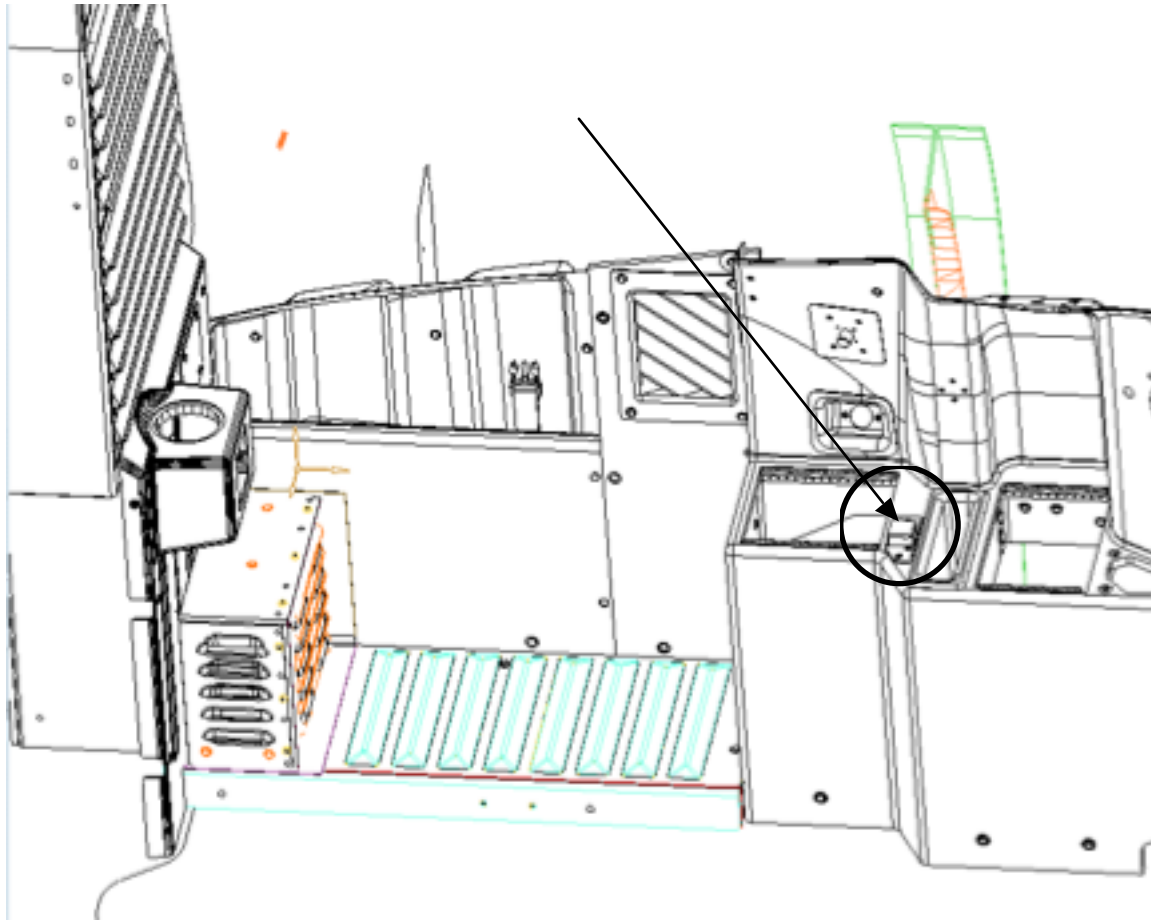


Figure 3 - Captain's Side Power Control Panel

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- » The captain's ESMU/PC mounting bracket and cover installations are located on the aft end of the captain's flight bag stowage area.

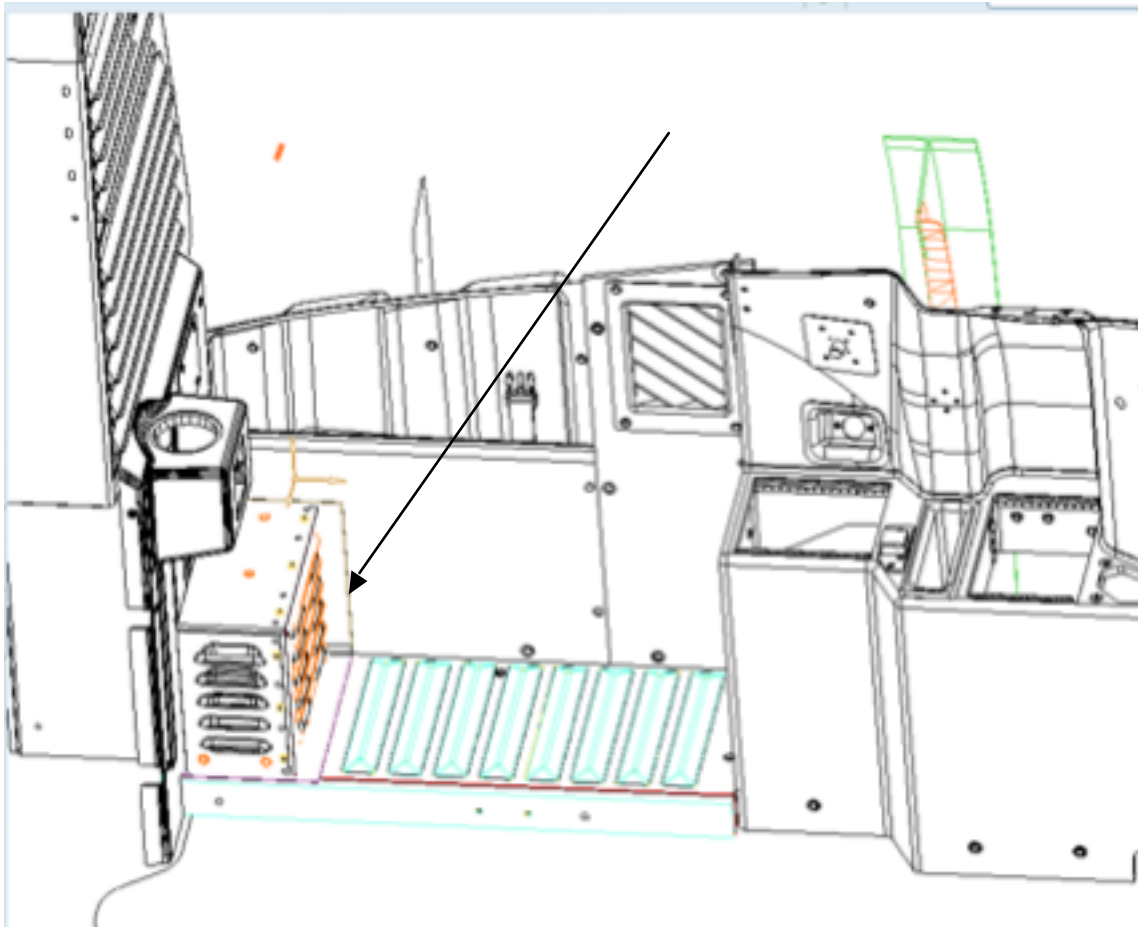


Figure 4 - Captain's Side ESMU/PC Cover and Bracket Location

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- » The first officer's ESMU/PC cover, complete with data load port installations, are located on the aft end of the first officer's flight bag stowage area.

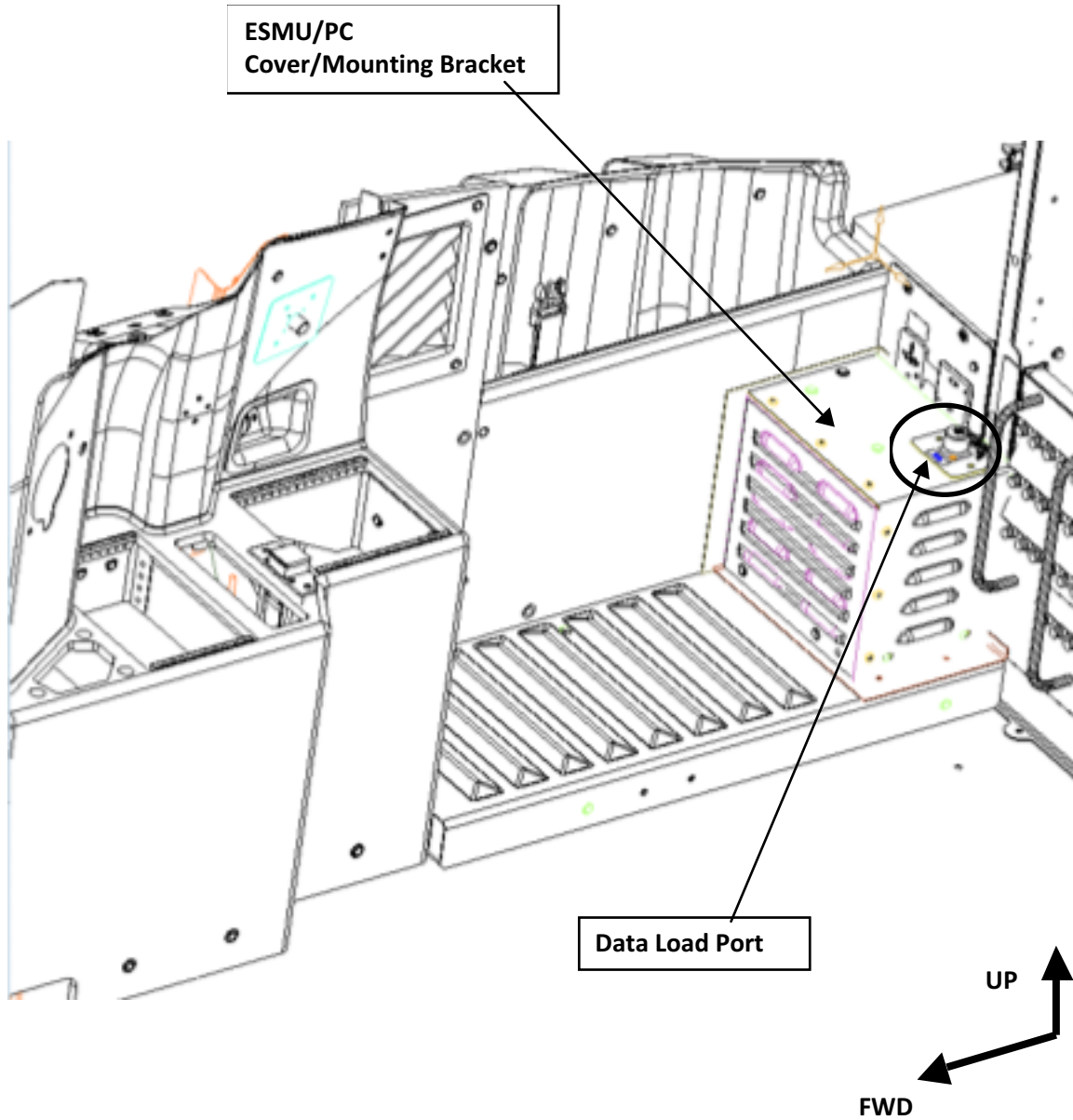


Figure 5 - First Officer's Side ESMU/PC Cover, Bracket, and Data Load Port Location

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- » The captain's and first officer's utility light will be relocated. "NO SMOKING" placards will be installed below the removed ash tray locations.

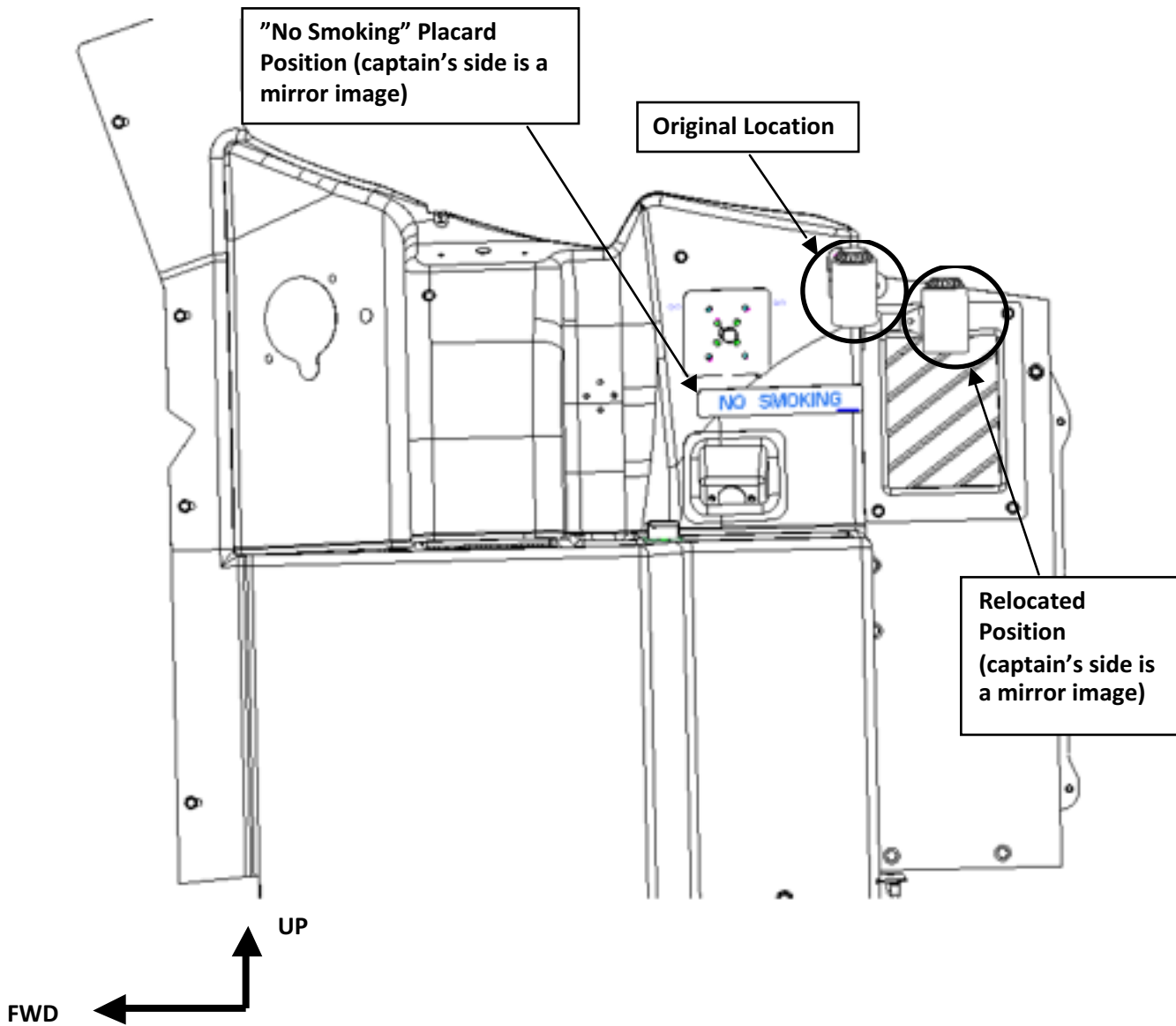


Figure 6 - First Officer's Side Utility Light Relocation and "No Smoking" Placard

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- » Installation of the relay bracket and three (3) relays into the P18 circuit panel.

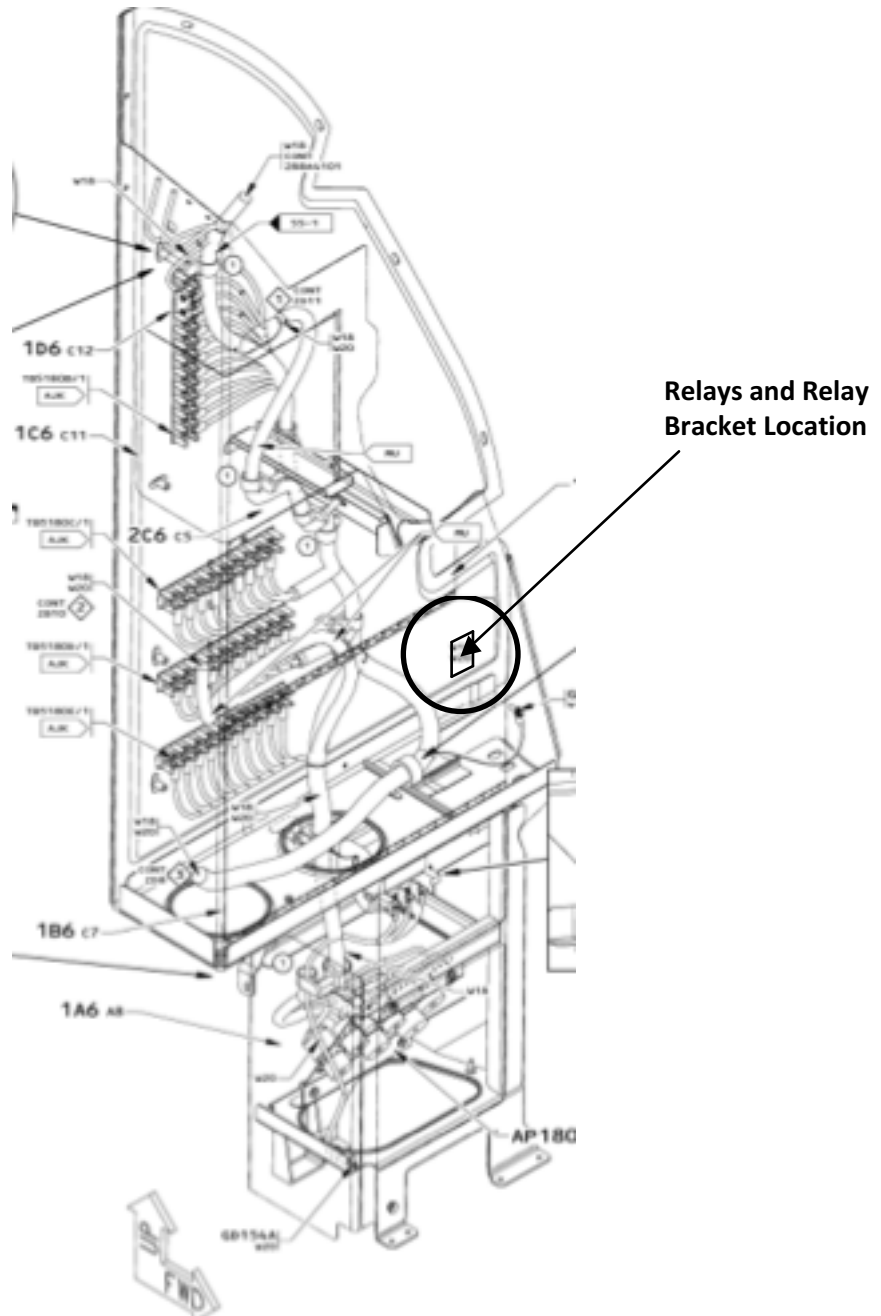


Figure 7 - P18 Circuit Breaker panel

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ELECTRICAL CHANGES

The following electrical changes are made for Configuration 1. See block diagram Figure 8.

- » Captain's and first officer's EFB 5 amp circuit breakers will be installed in the P6-12 circuit breaker panel and will have wires capped and stowed by the 115 VAC Transfer bus 1 and 2. The 115 VAC power wiring is then routed to the EFB power relay.
- » The captain's and first officer's EFB power control panel wiring provisions each will be capped and stowed at each panel and then routed to the EFB control relays in the P18 circuit breaker panel.
- » The captain's and first officer's PC 115 VAC input power wire provisions will be routed from the EFB power relay to the captain's and first officer's PC location. The captain's and first officer's PC input power connector will be coiled and stowed in the respective side consoles.
- » The captain's PC provides 28 VDC output wiring provisions from the PC and then routed to the adjacent ESMU. The ESMU and PC power connectors will be coiled and stowed.
- » The first officer's PC provides 28 VDC output wiring provisions from the PC and then routed to the adjacent ESMU. The ESMU and PC power connectors will be coiled and stowed.
- » The captain's and first officer's EFB power control panel disconnects are coiled and stowed at the sidewall panel provisions.
- » The bright/dim/test lighting DC power will be coiled and stowed at the captain's and first officer's EFB power control panel provisions.
- » The ESMU output to the EDU sidewall disconnect wiring consist of 18VDC power, ground, and USB wires. The wires will be routed from the respective ESMUs to the left and right sidewall disconnects. The ESMU connectors will be coiled and stowed.
- » Captain's ESMU 429 data bus inputs will be routed to and capped and stowed at existing equipment that will provide interfaces to multi-mode receiver (MMR)-1, flight management computer (FMC)-1, FMC-2, air data inertial reference unit (ADIRU)-1, display electronics unit (DEU) 1, printer and aircraft communication addressing and reporting system (ACARS), and communications management unit (CMU). The captain's ESMU 429 data bus output wiring provisions to the ACARS CMU and printer will be routed and capped and stowed in the area of the existing equipment provisions.
- » Captain's ESMU air/ground discrete wiring connection will be completed by wiring from the captain's ESMU to the air/ground relay system.
- » Captain's ESMU discrettes for EDU left/right position, parity and aircraft model will be connected to aircraft ground. Discrettes not shown in Figure 8.
- » First officer's ESMU 429 data bus inputs will be routed to and capped and stowed at existing equipment that will provide interfaces to MMR-2, FMC-1, FMC-2, ADIRU-2, DEU 2, printer and ACARS CMU. The first officer's ESMU 429 data bus output wiring provisions to the ACARS CMU and printer will be routed and capped and stowed in the area of the existing equipment provisions.
- » An air/ground discrete wiring connection will be completed by wiring from the first officer's ESMU to the air/ground relay system.
- » First officer's ESMU discrettes for EDU left/right position, parity and aircraft model will be connected to aircraft ground. Discrettes not shown in Figure 8.
- » An Ethernet cable will be routed from the captain's ESMU to the first officer's ESMU and coiled and stowed.
- » An Ethernet cable will be routed from the first officer's ESMU to the new data load port located on the right enclosure for the right ESMU and coiled and stowed.
- » Ethernet wiring provisions for future flight deck video surveillance system (FDEVSS) interface will be routed from the captain's and first officer's ESMUs then routed to a location under the flight deck floor where the wires will be coiled and stowed.
- » The following items will have "INOP" placards installed; captain's and first officer's EFB circuit breakers, captain's and first officer's EFB Power Control panels, captain's and first officer's side wall disconnects, and the Data Load Port.

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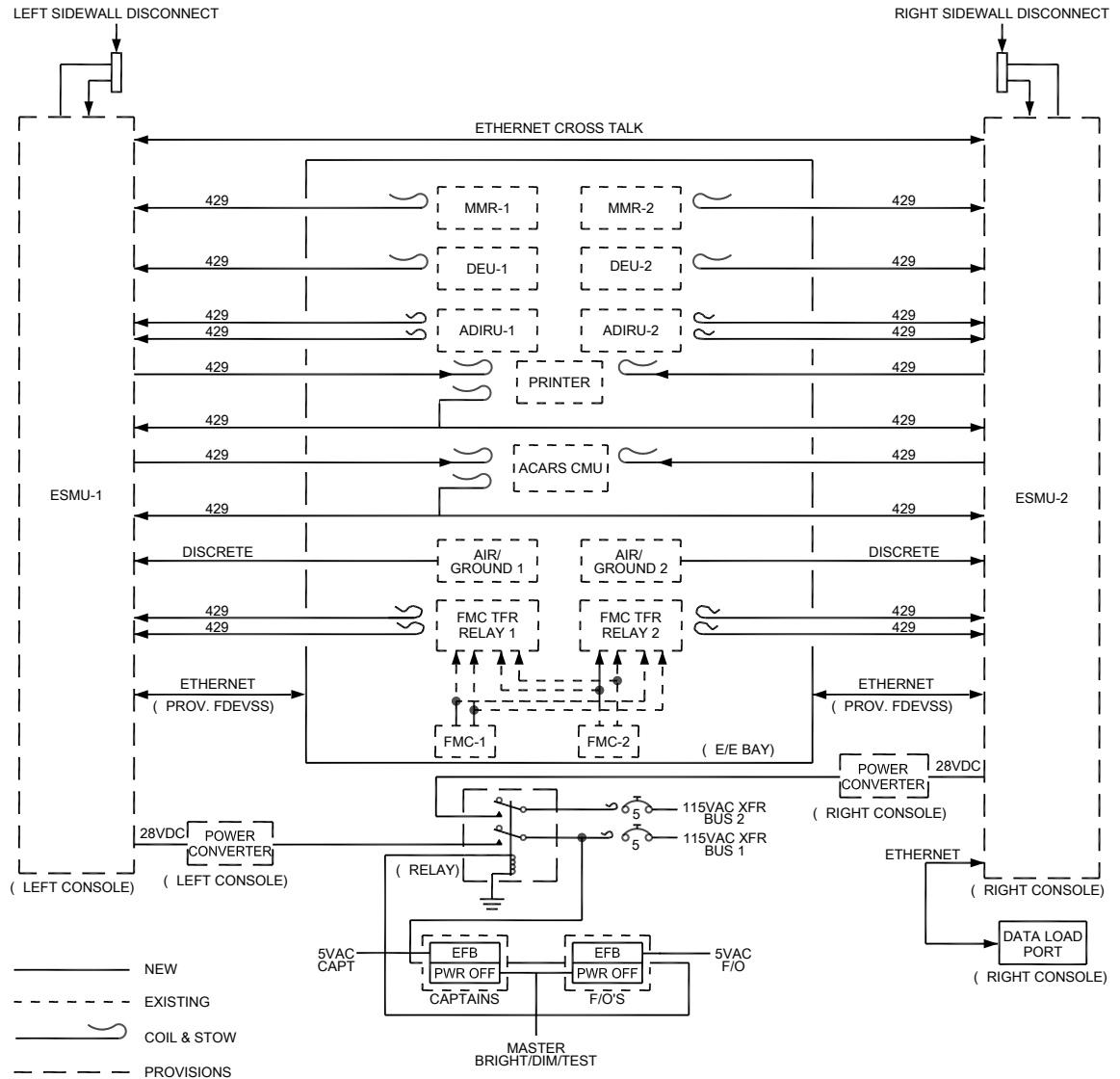


Figure 8 - EFB System Block Diagram

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