

# **CHAPTER**

# **21**

# **AIR CONDITIONING**

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AIR CONDITIONING

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PRESSURIZATION CONTROL AUTO CHANNEL INTERFACES	21-31-24		101		Jan 11/2006	YD001-YD007
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<b><u>CABIN PRESSURE INDICATION AND WARNING SYSTEM</u></b>						
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<b><u>FORWARD CARGO COMPARTMENT HEATING SYSTEM</u></b>						
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LEFT RAM MODULATION CONTROL	21-51-14		101	1	Jun 30/2009	ALL
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LEFT PACK PROTECTION	21-51-15		101		Jun 30/2009	ALL
RIGHT PACK VALVE CONTROL	21-51-21		101	1	May 09/2011	YD001-YD005
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AIR CONDITIONING TEMPERATURE INDICATION SIMPLIFIED	21-61-50		101		May 02/2008	ALL
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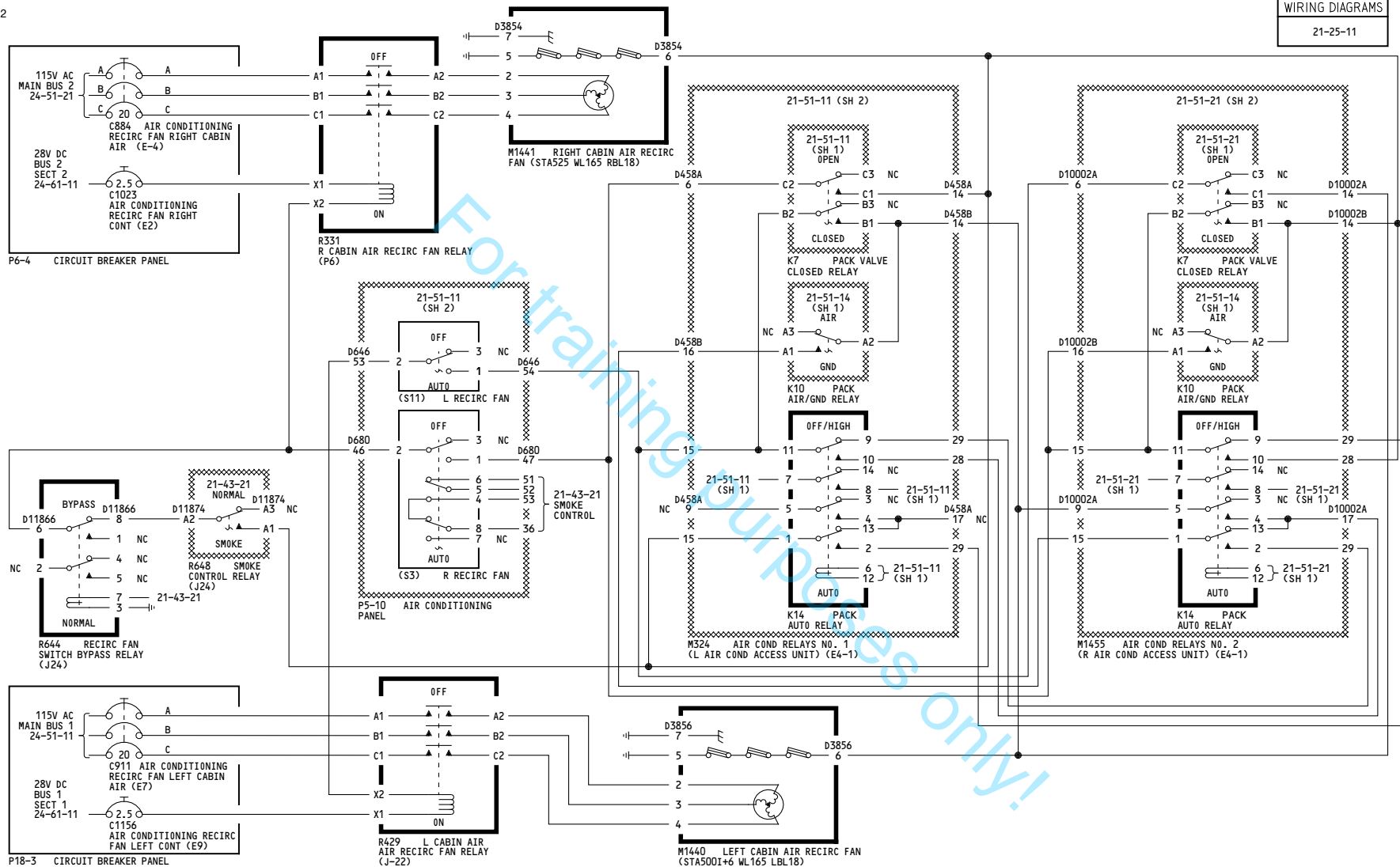
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YD001-YD007

**CABIN AIR  
RECIRCULATION SYSTEM**

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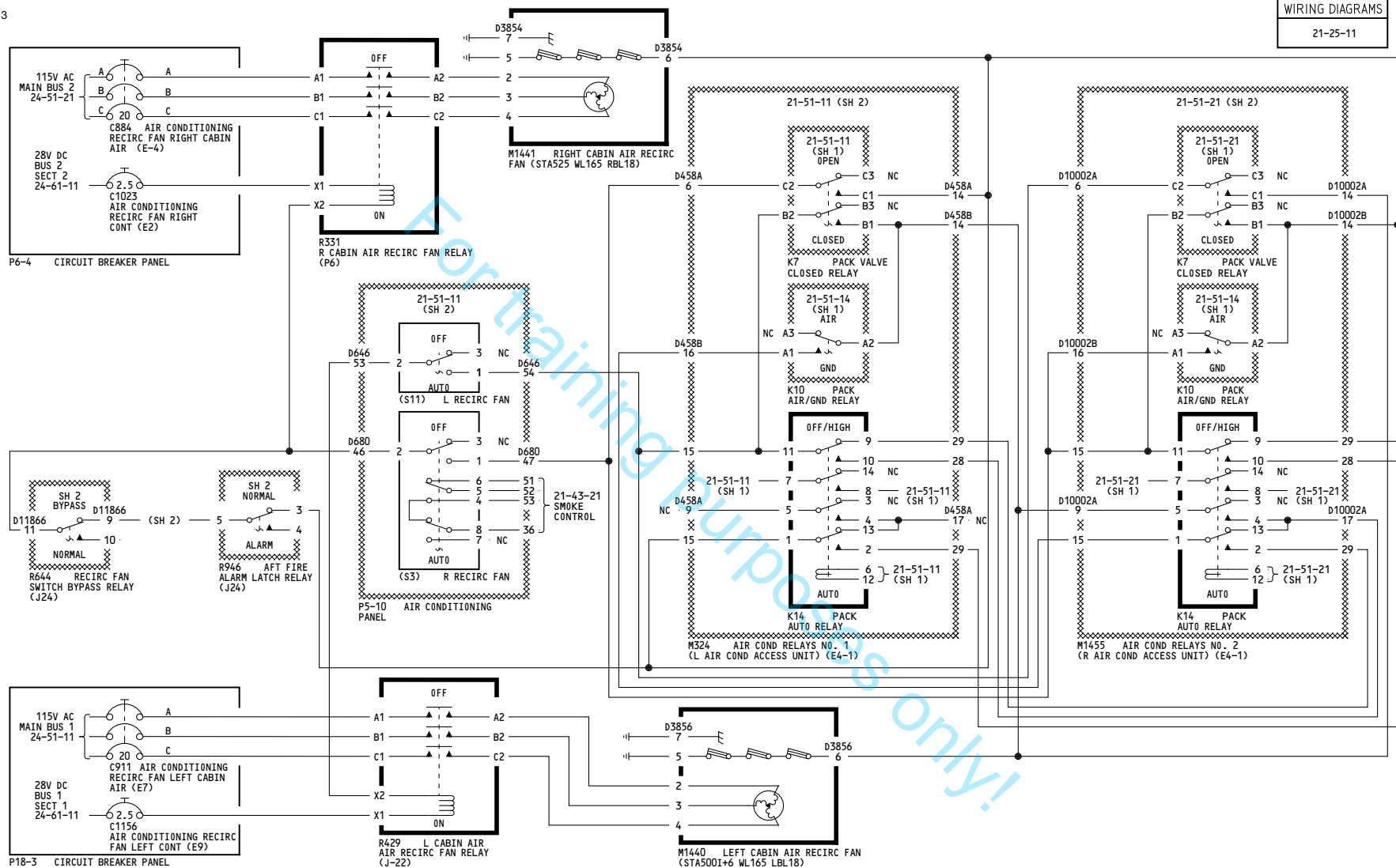
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YD001-YD007

## CABIN AIR RECIRCULATION SYSTEM

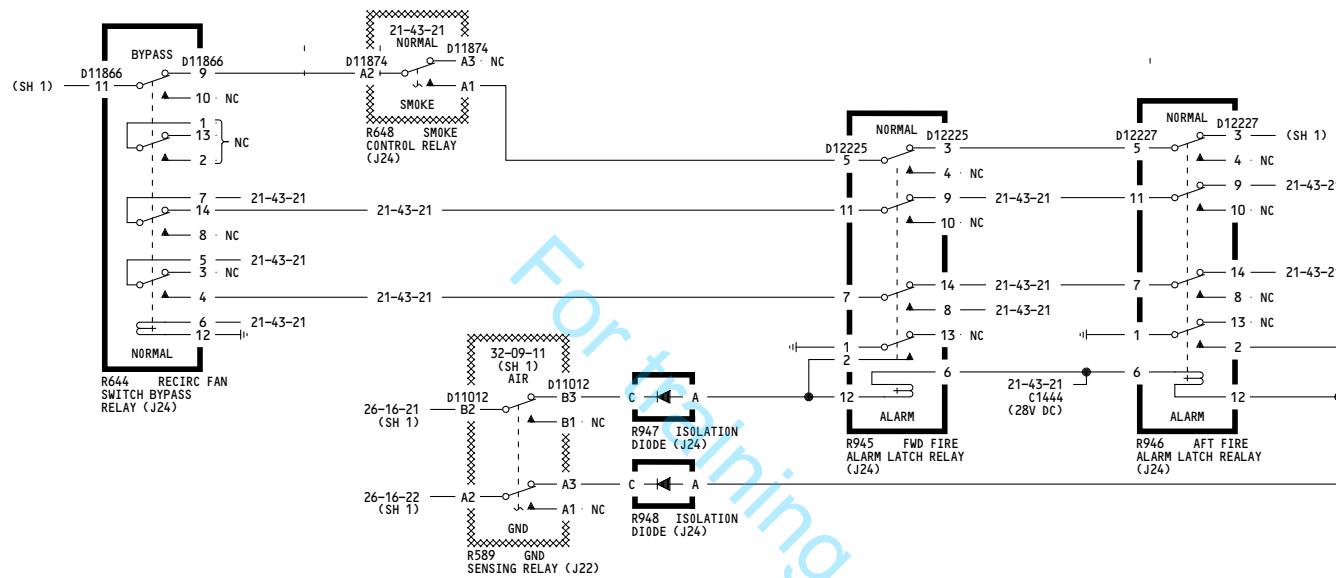
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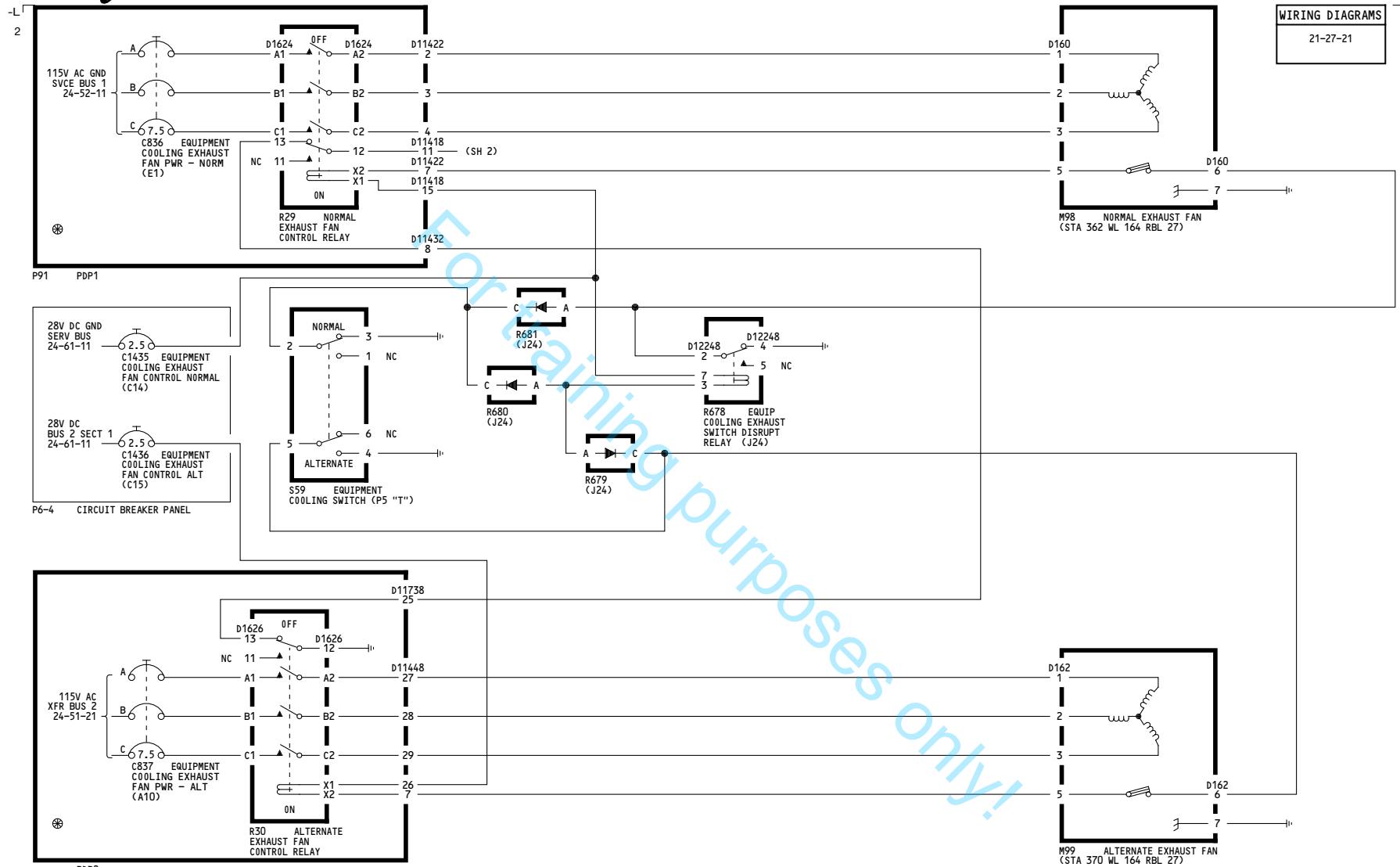
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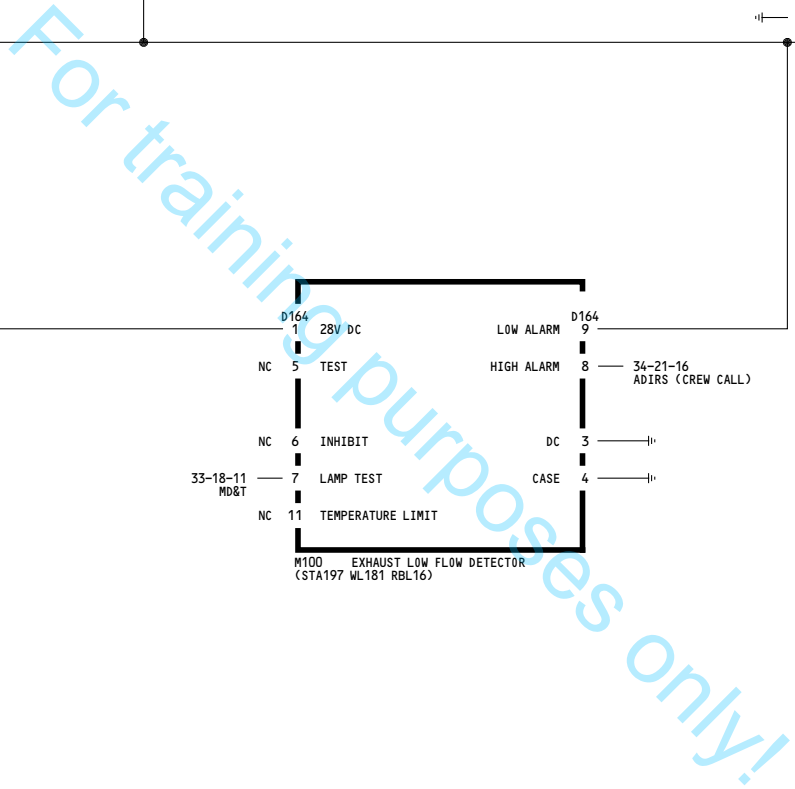
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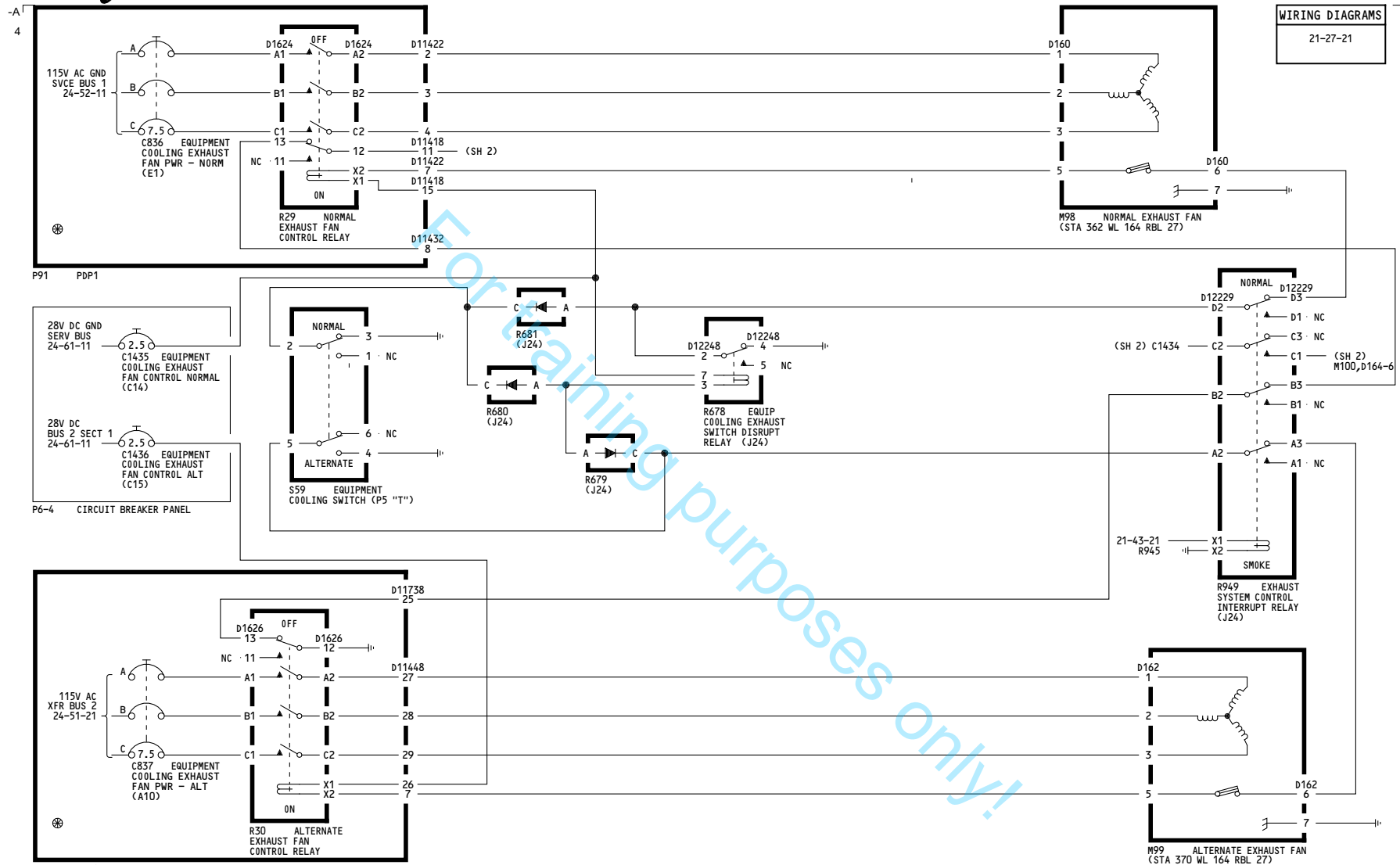
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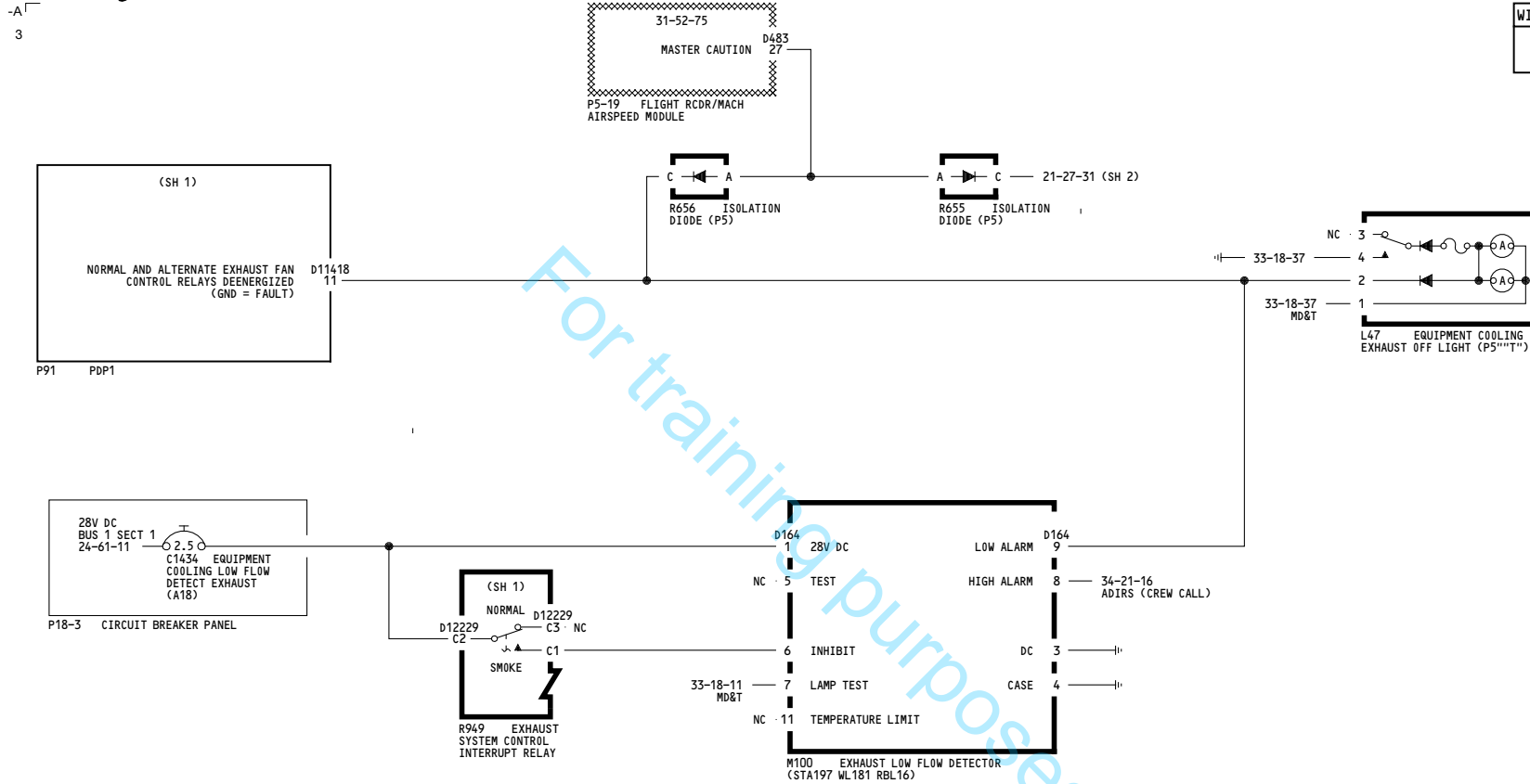
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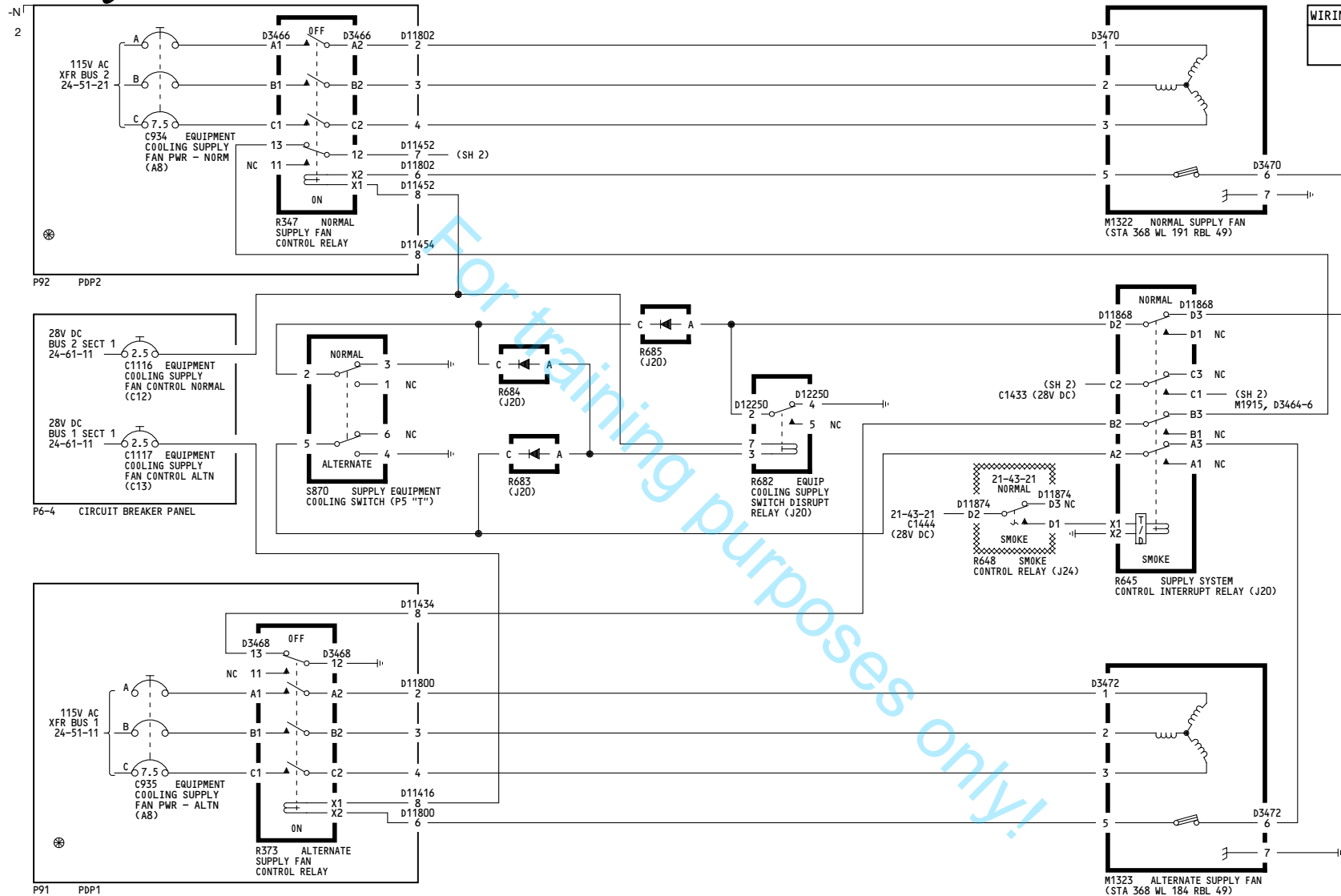
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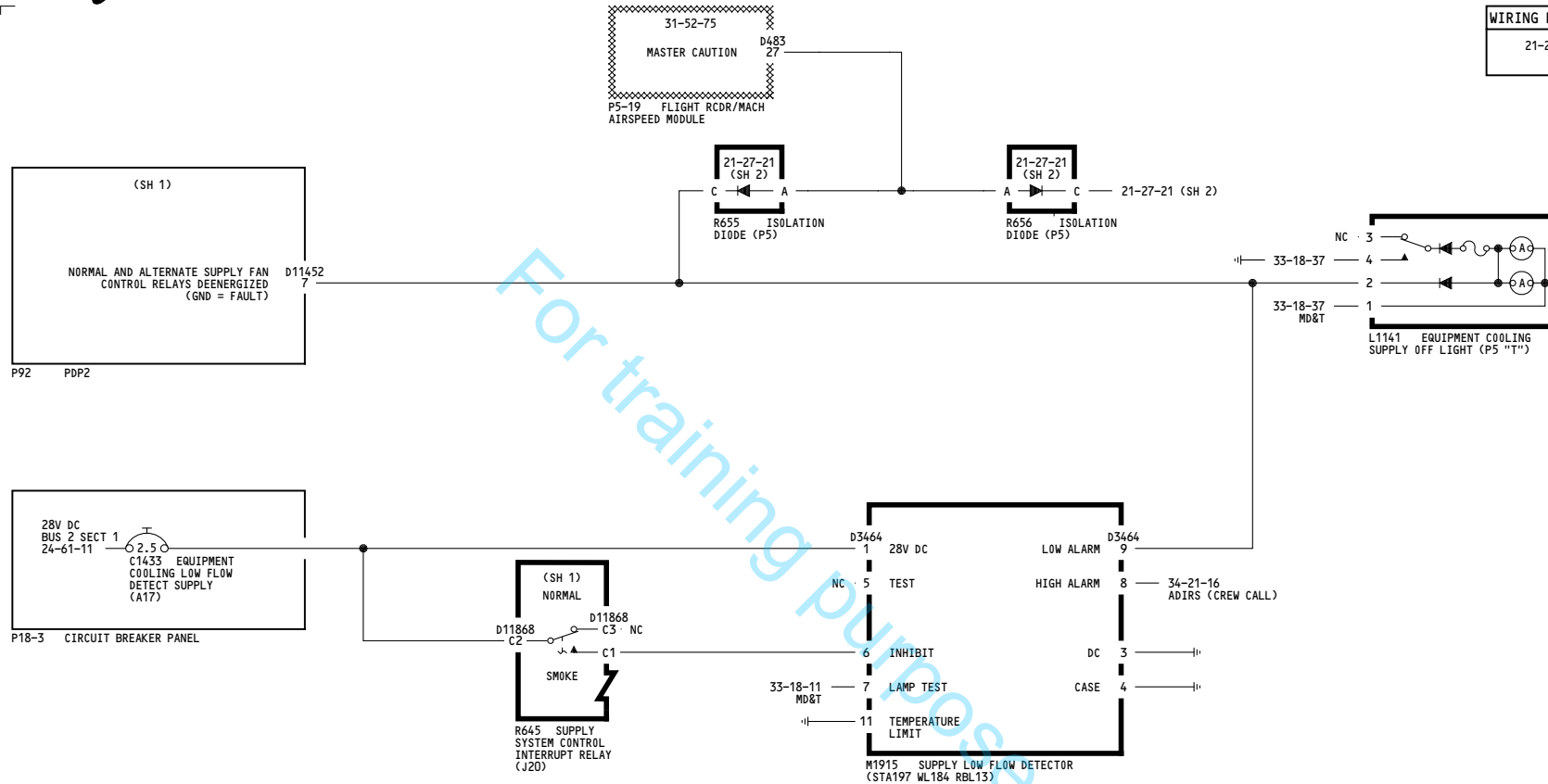


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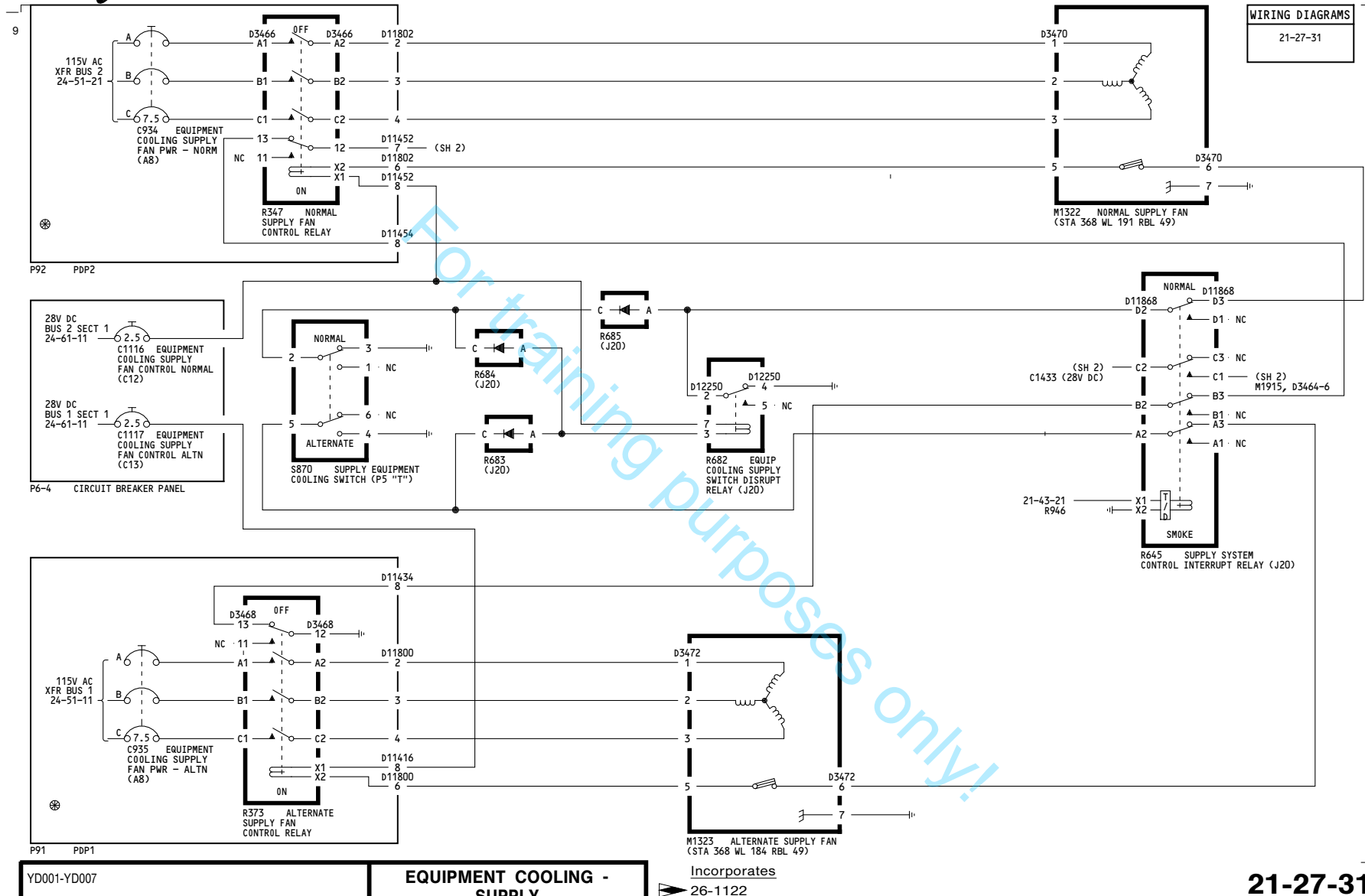
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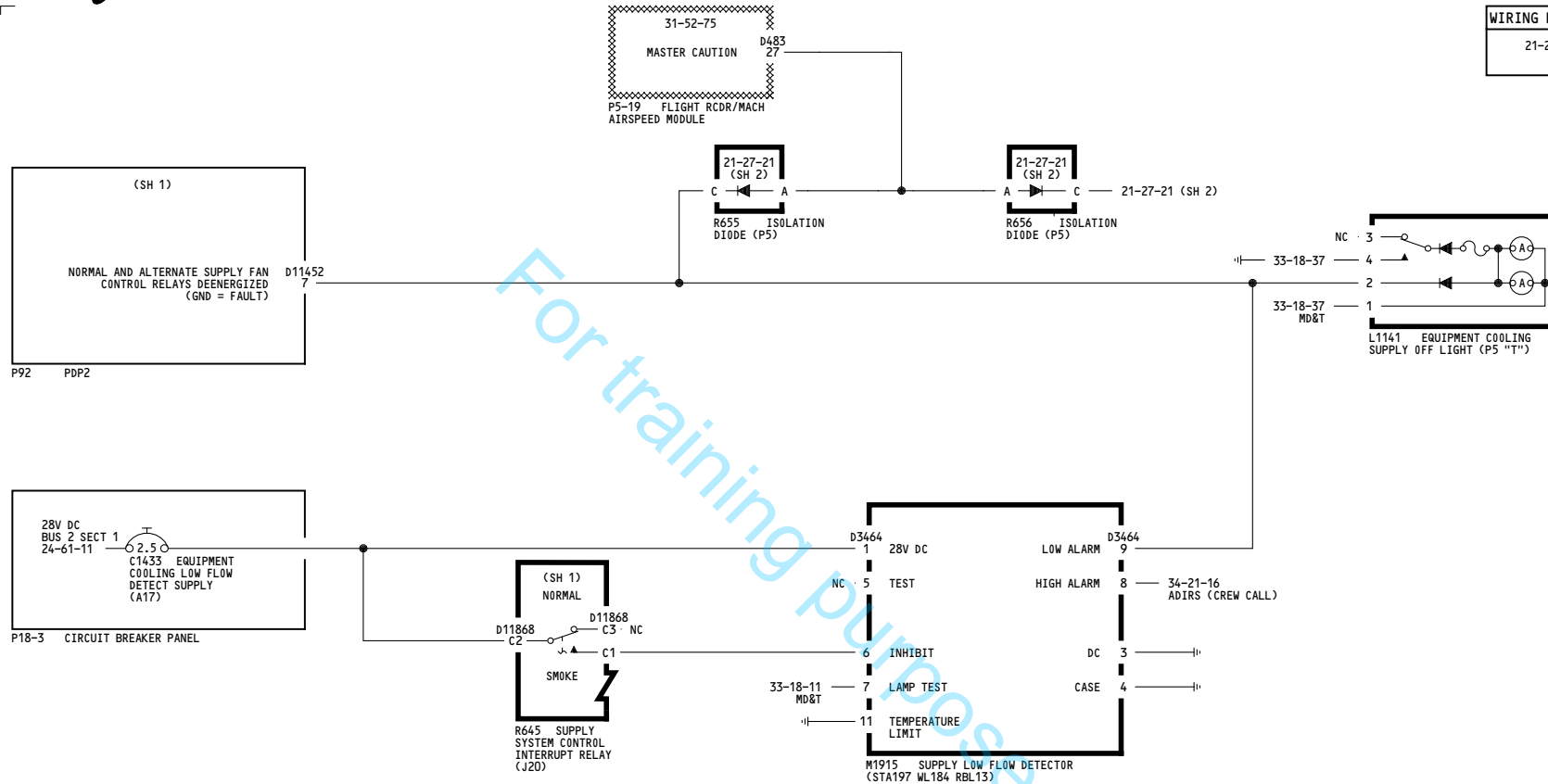
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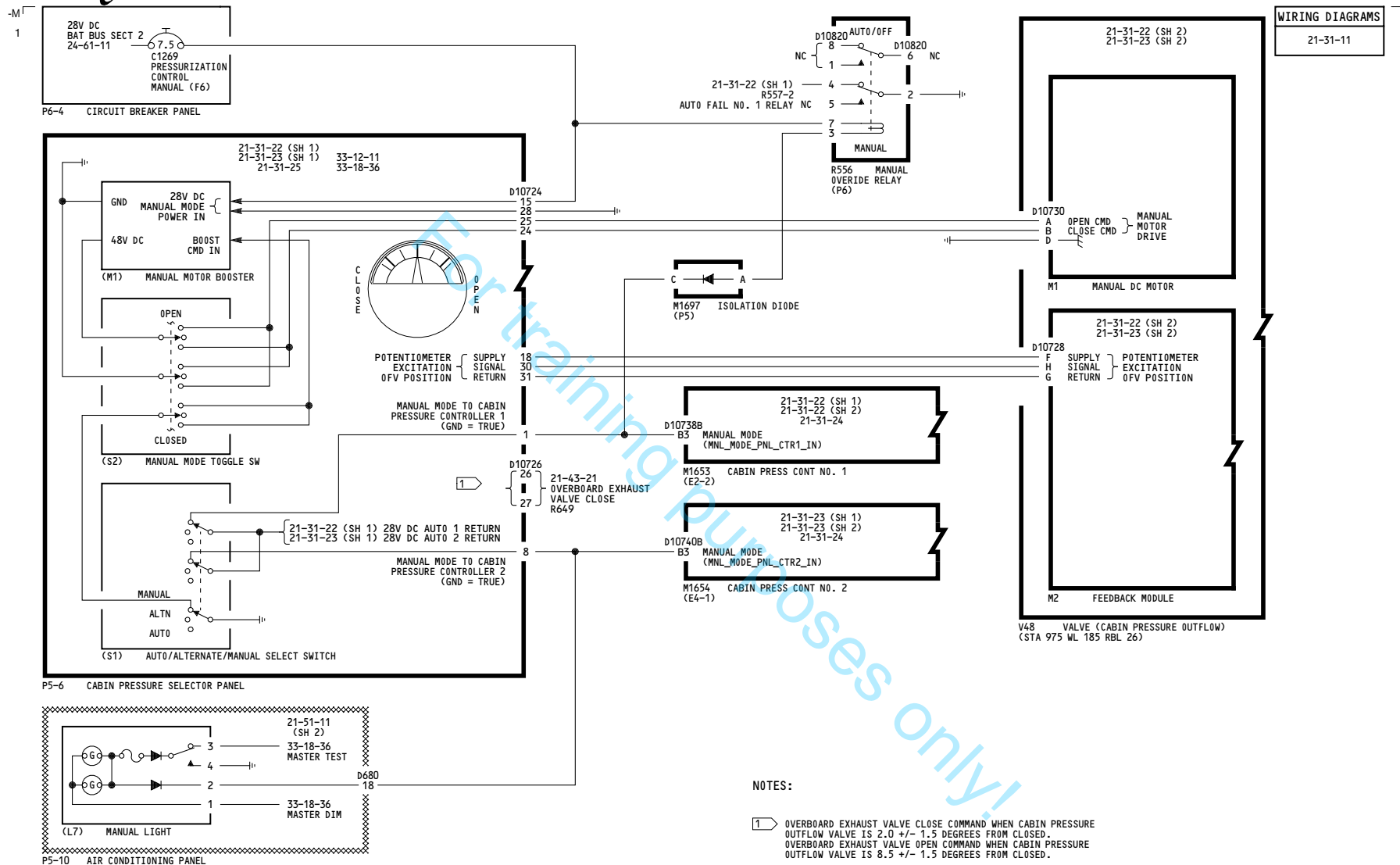
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## PRESSURIZATION CONTROL MANUAL MODE

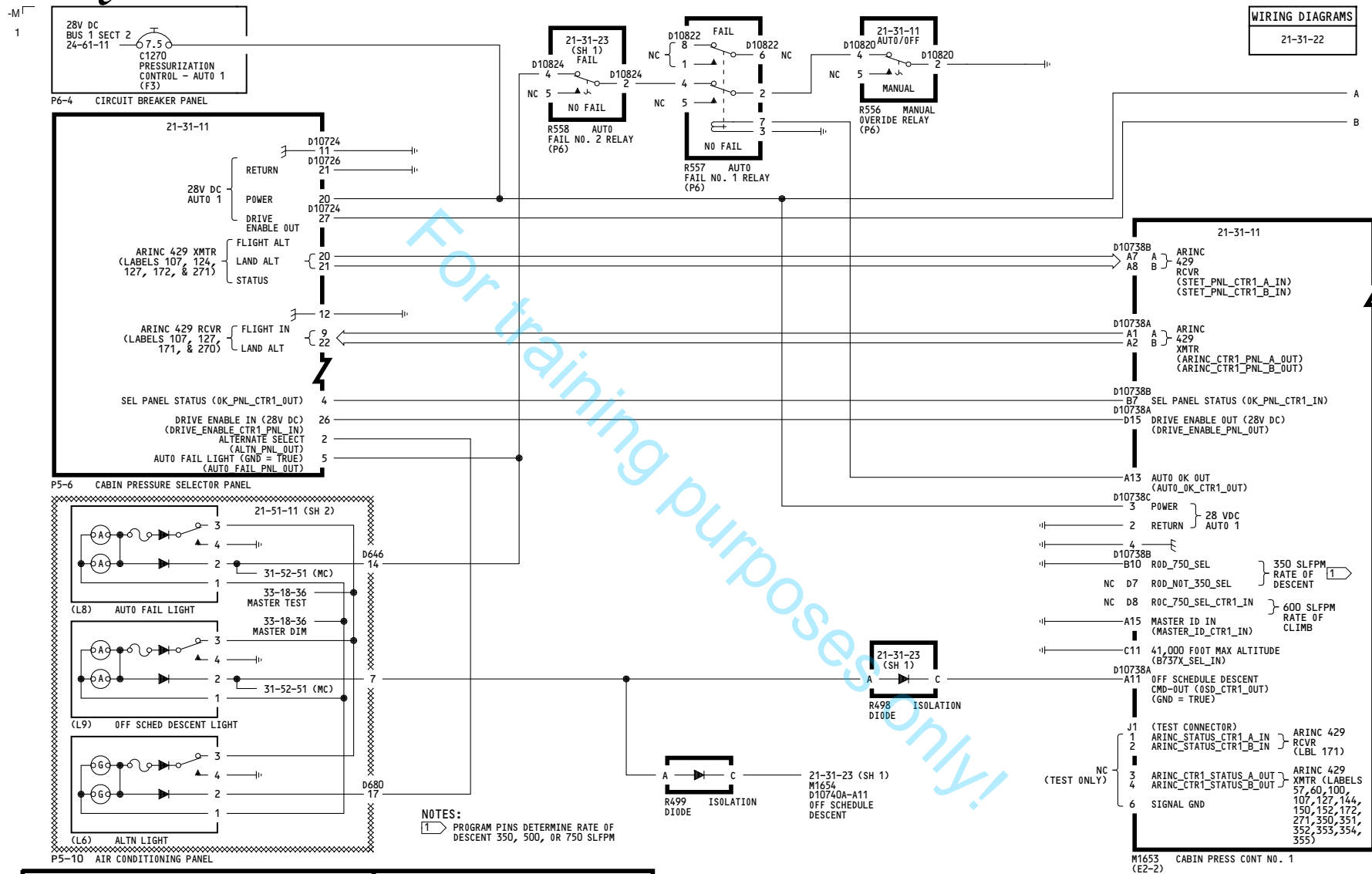
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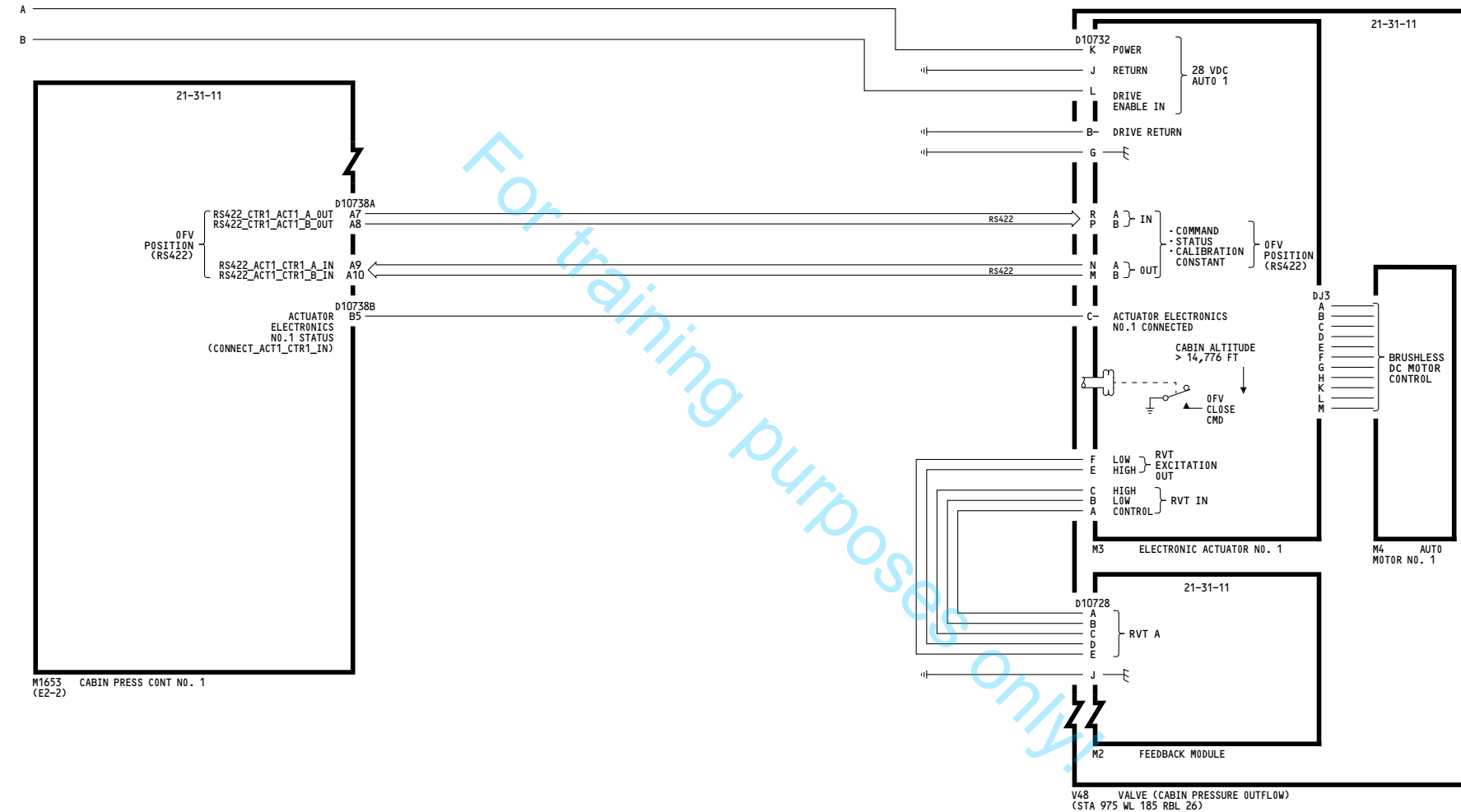
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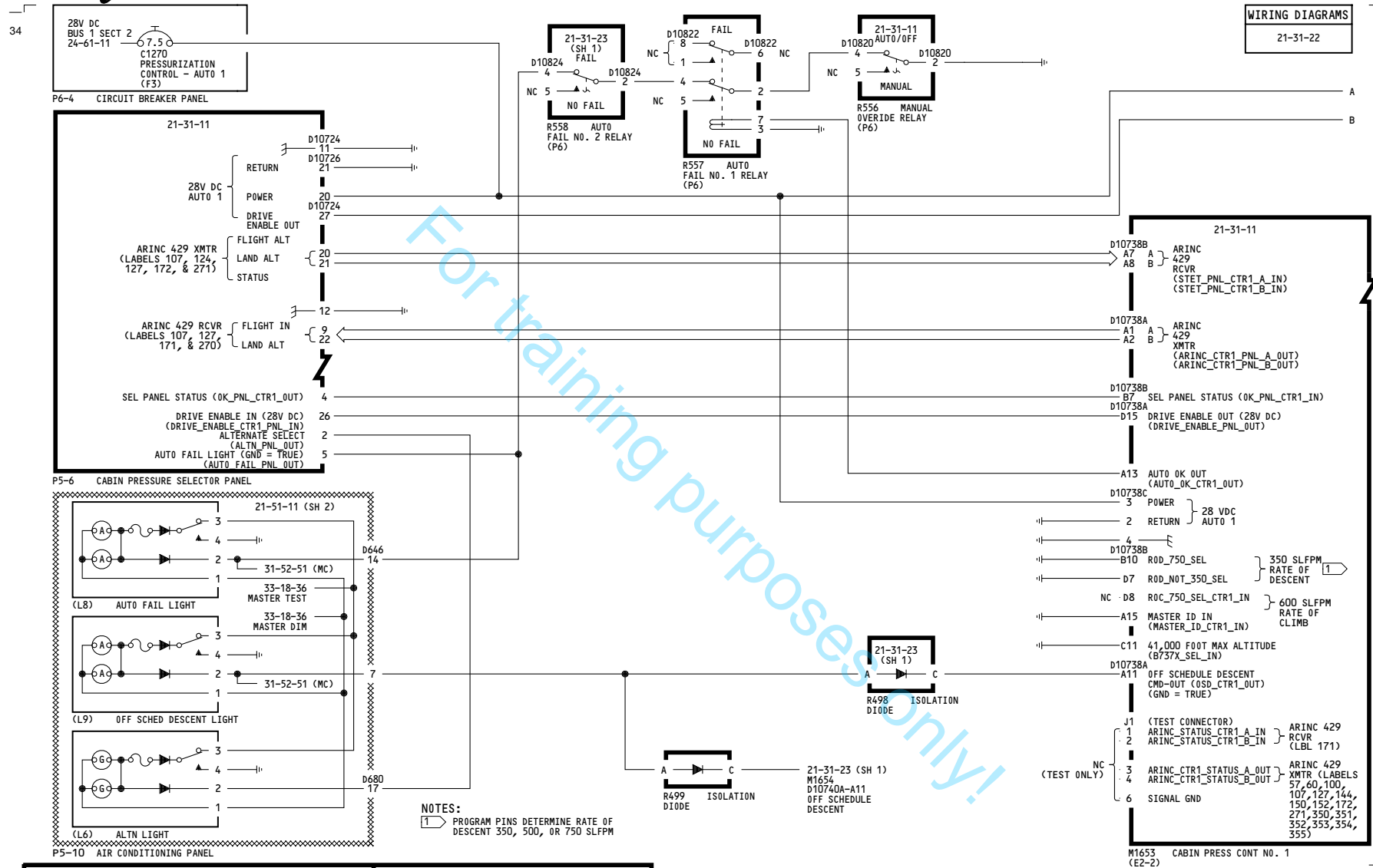
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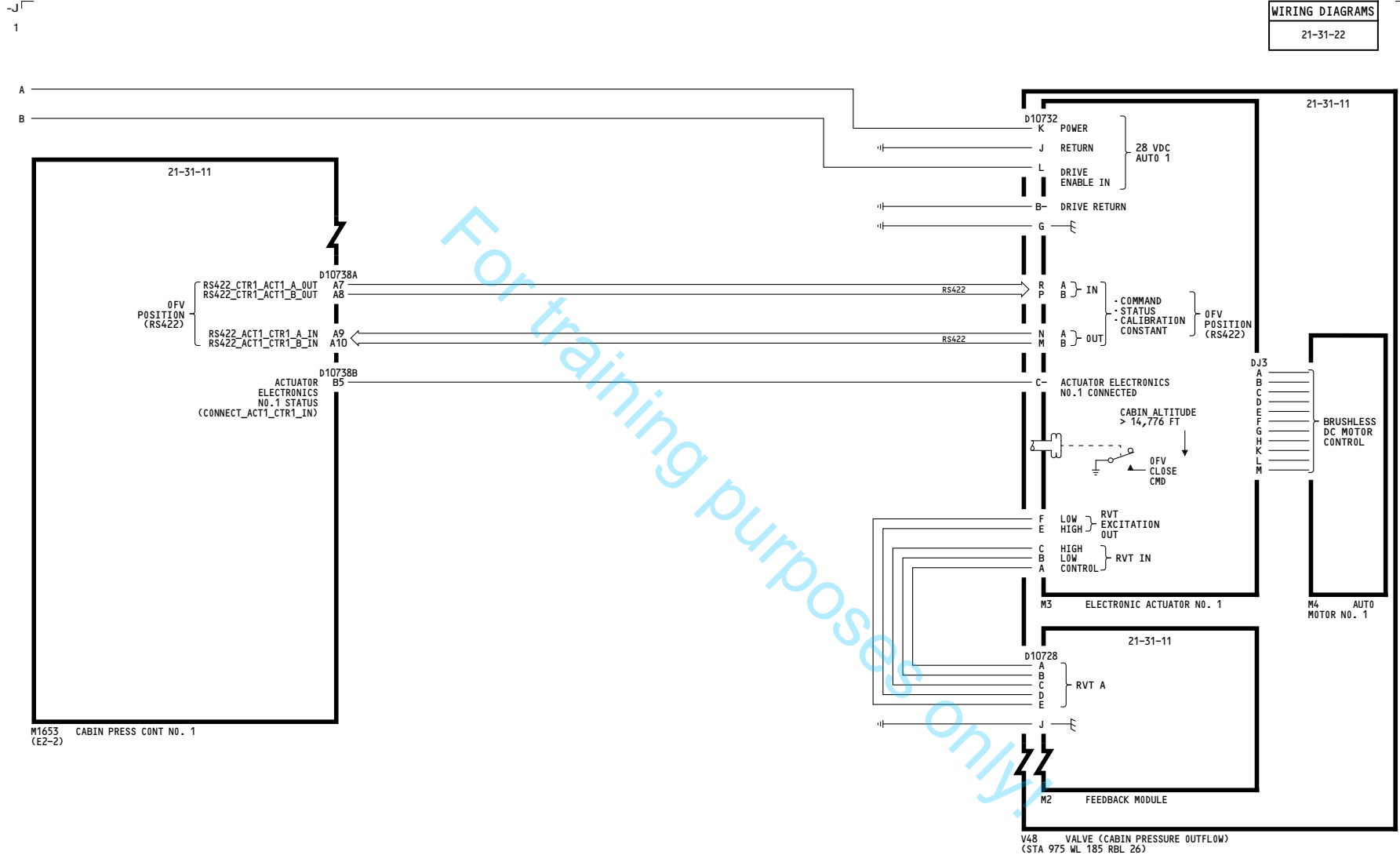
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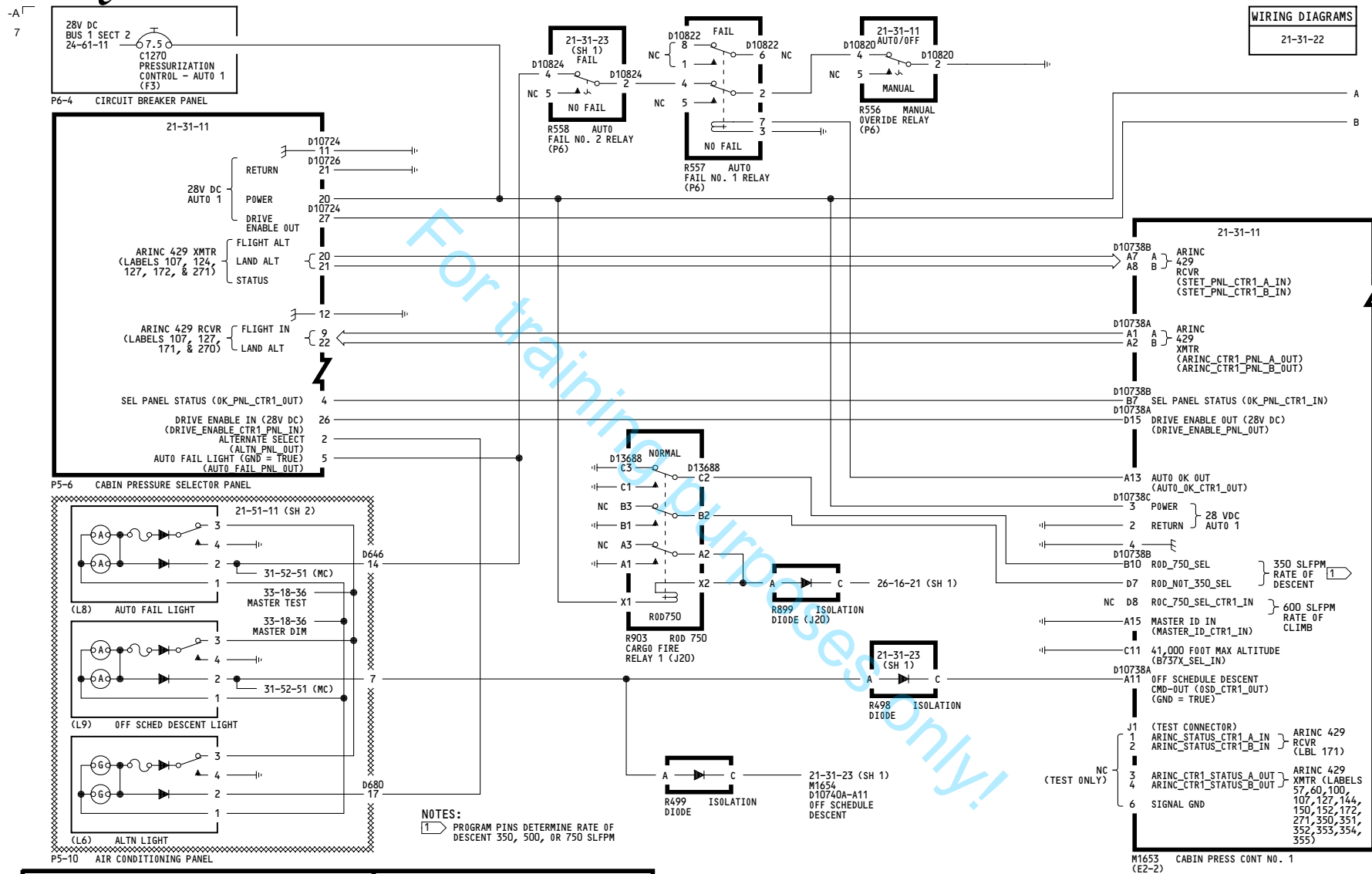
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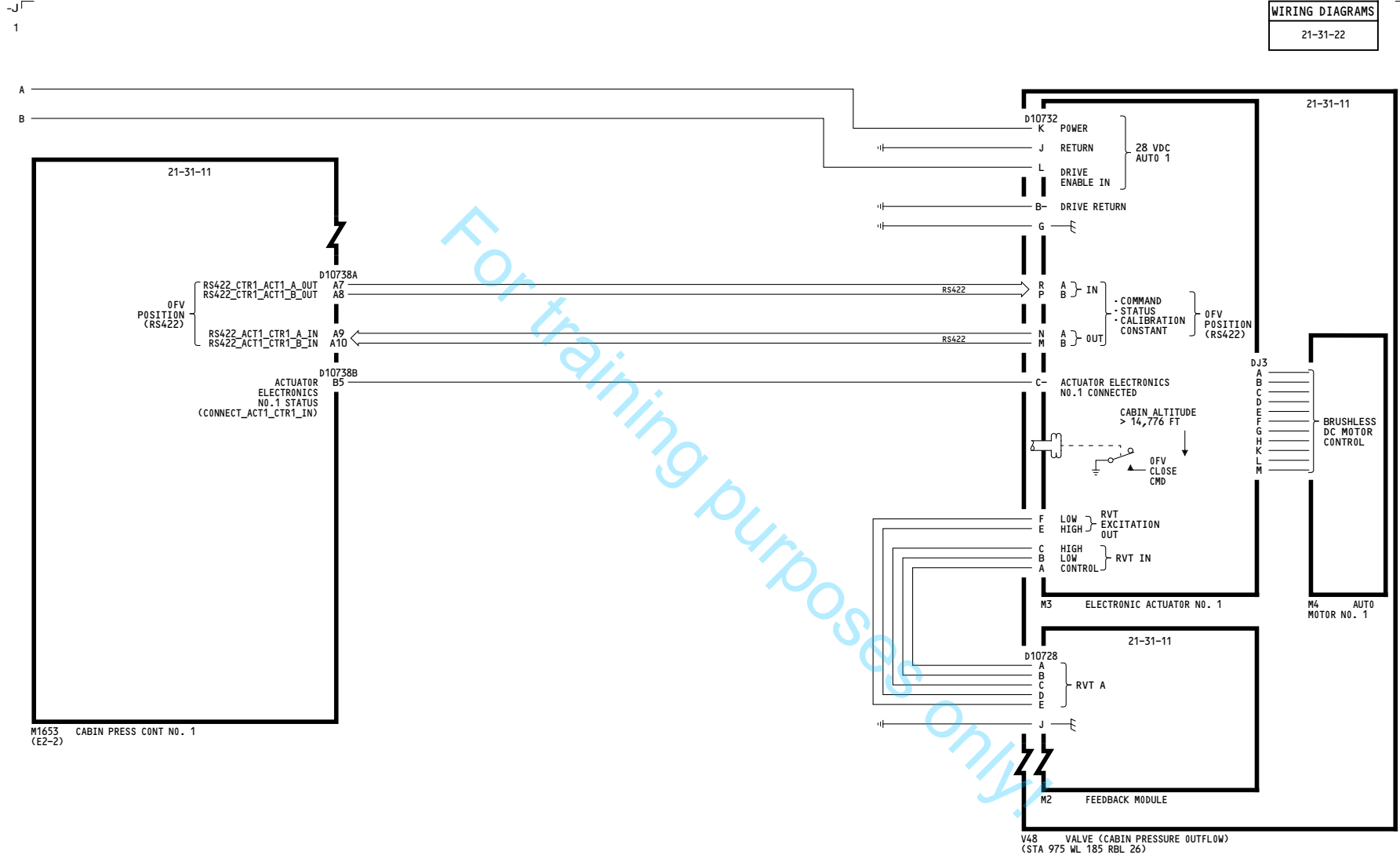
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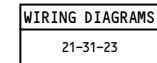
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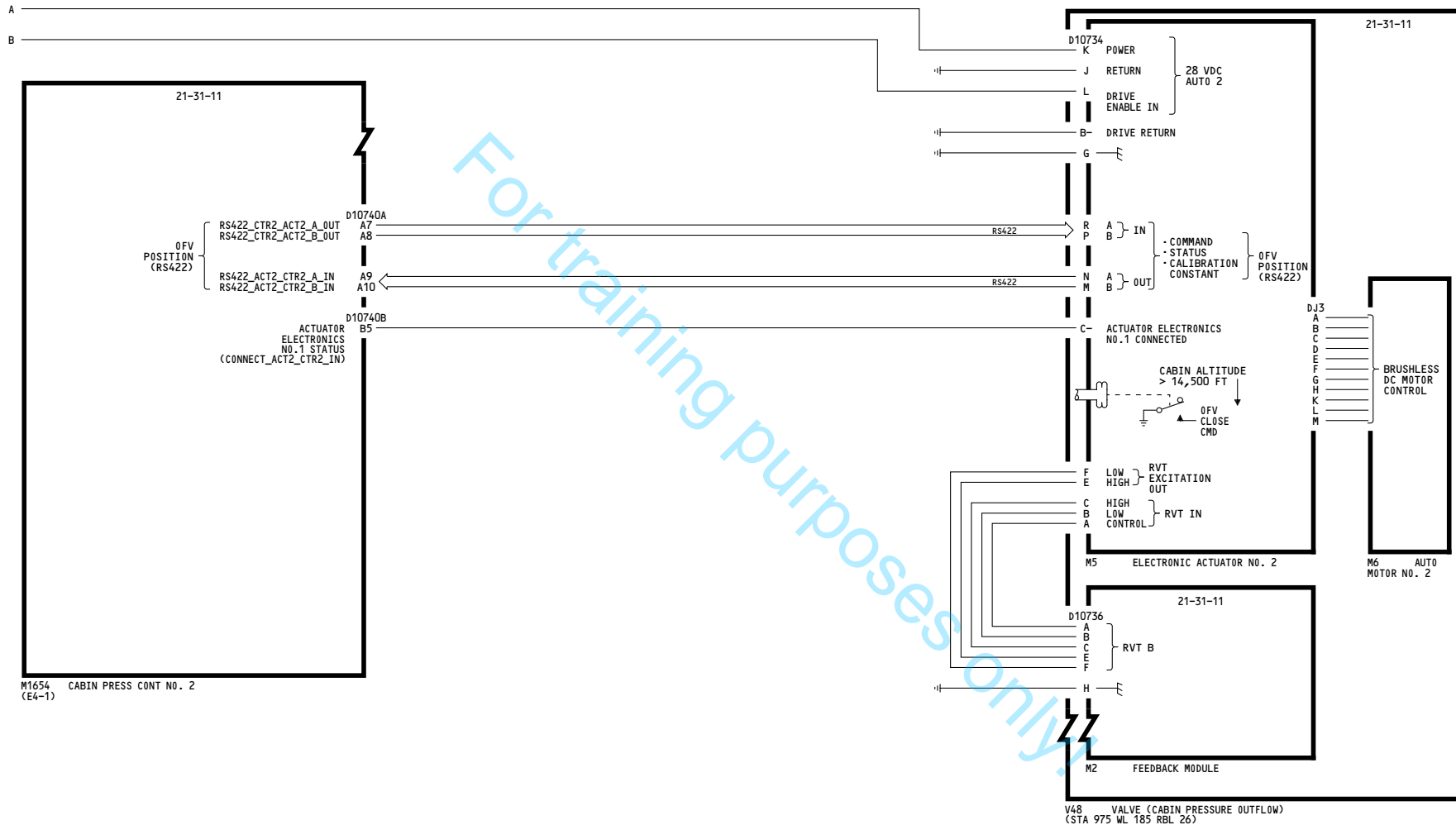
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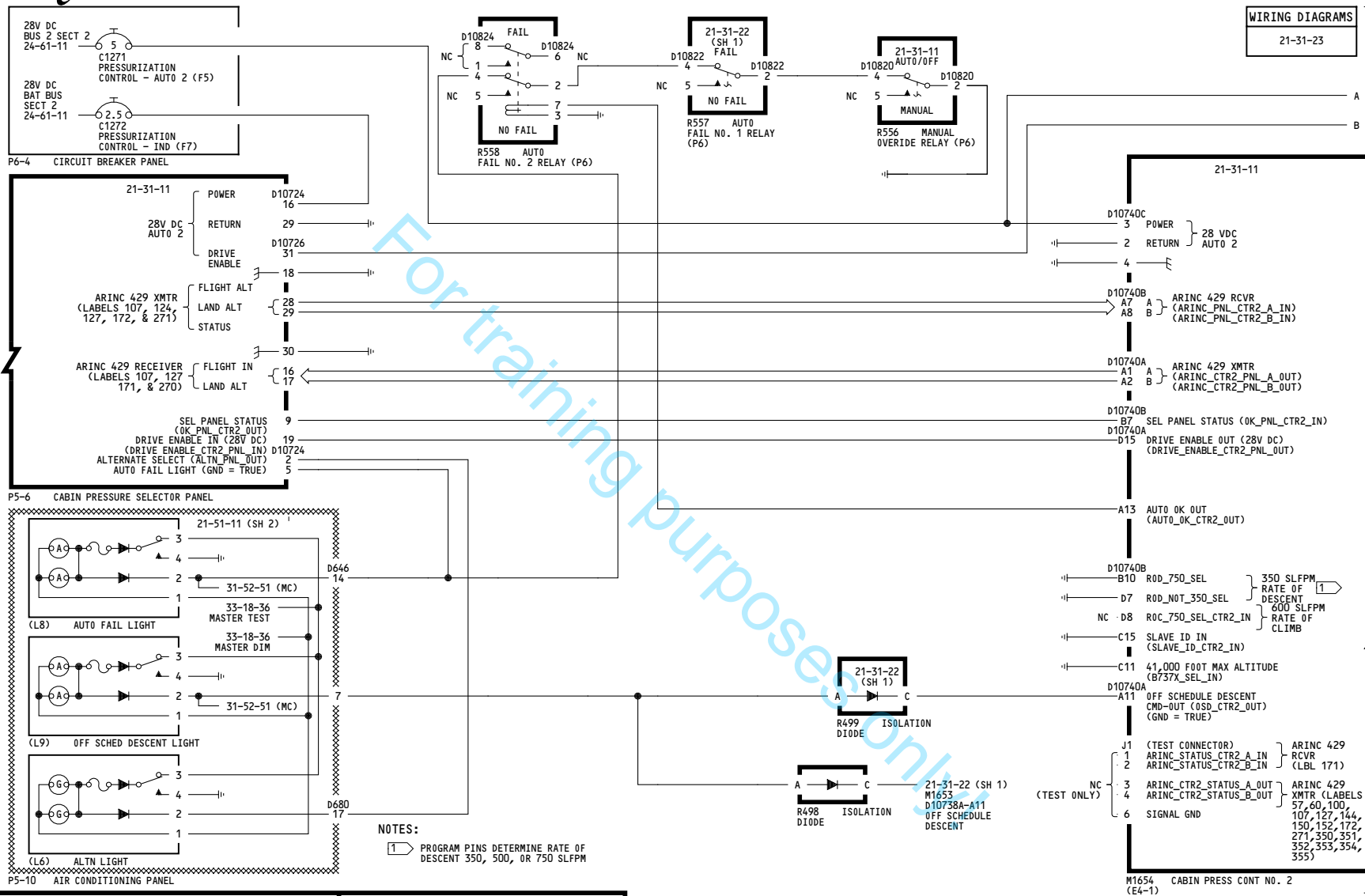
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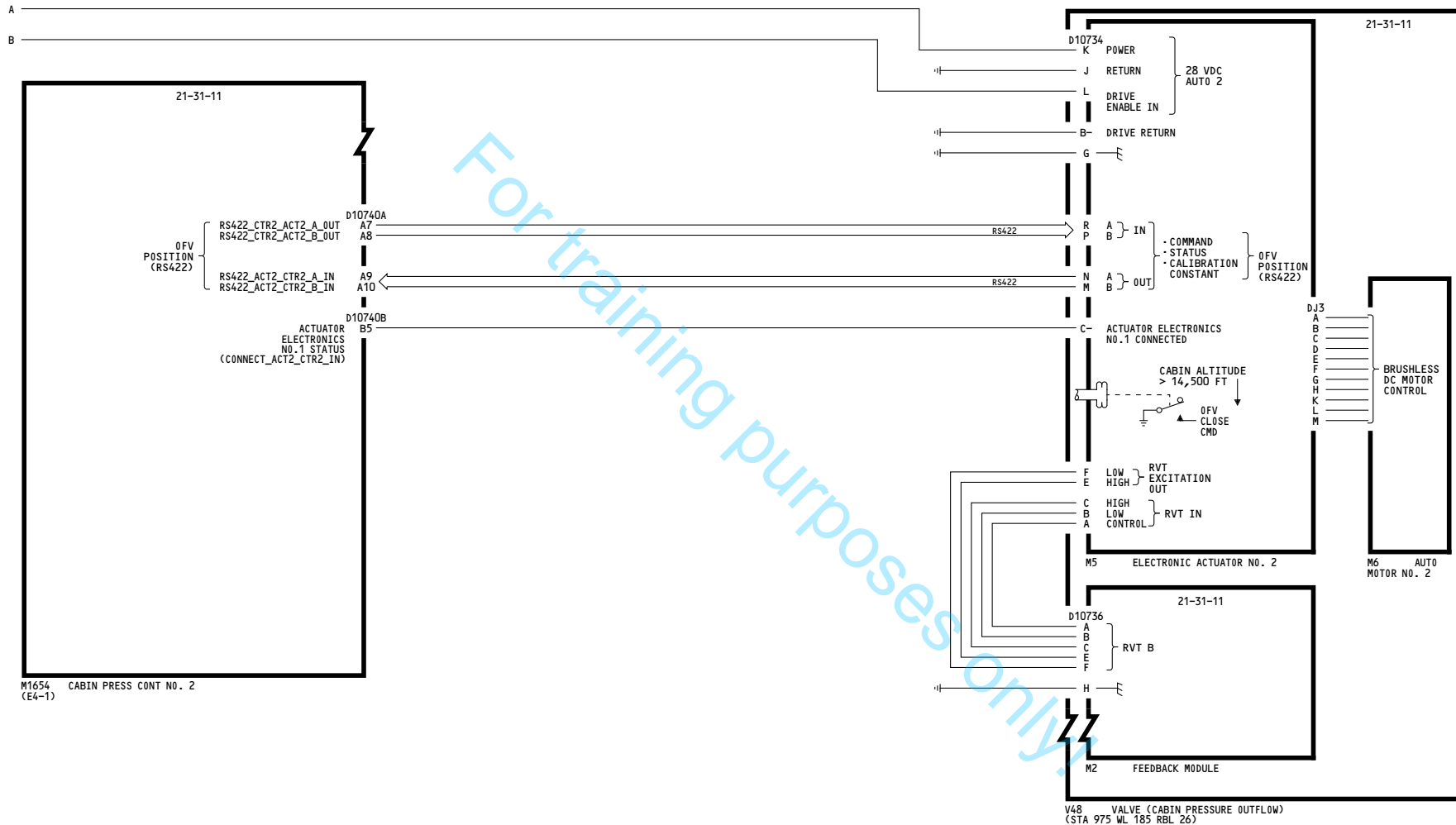
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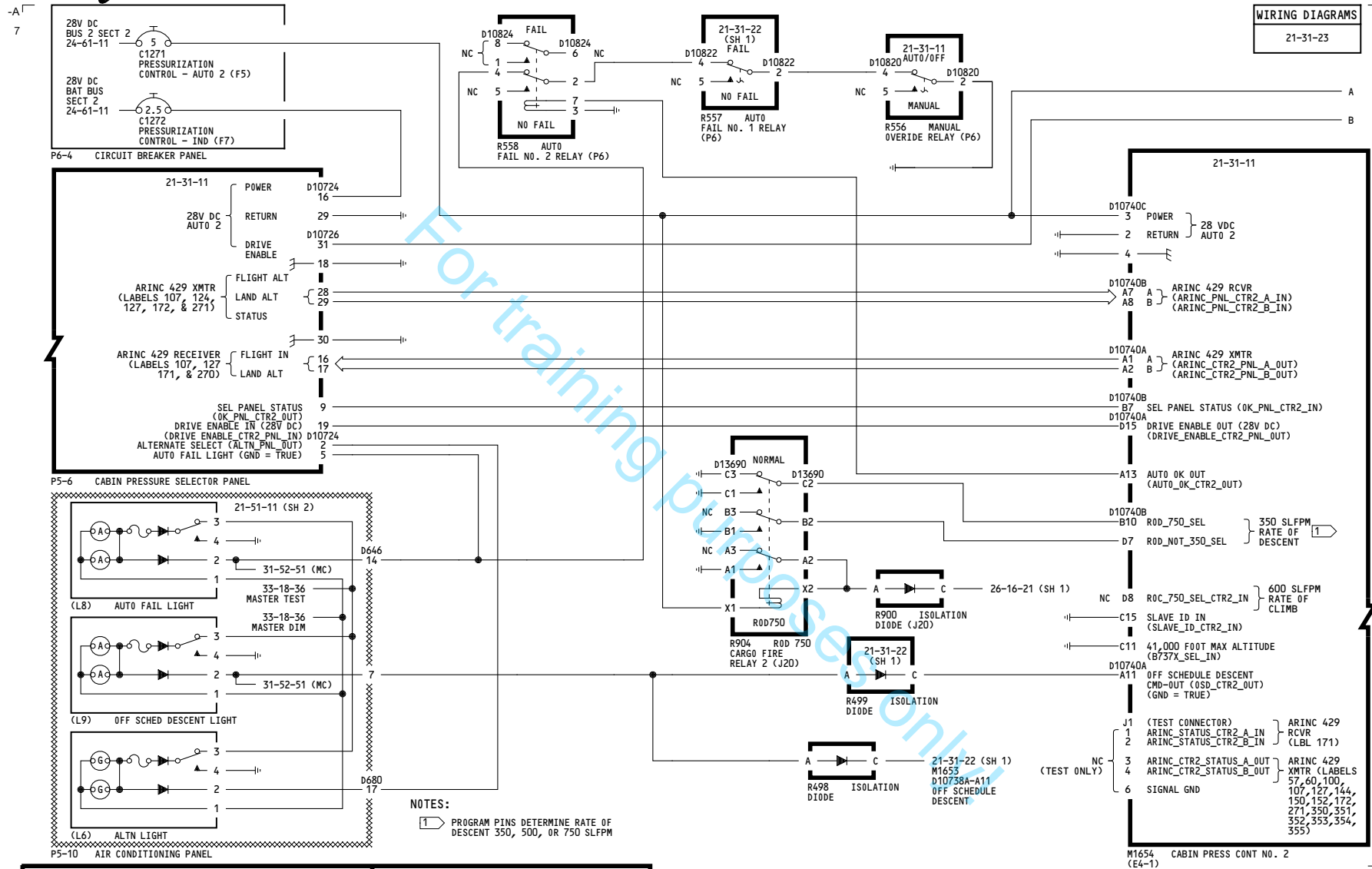
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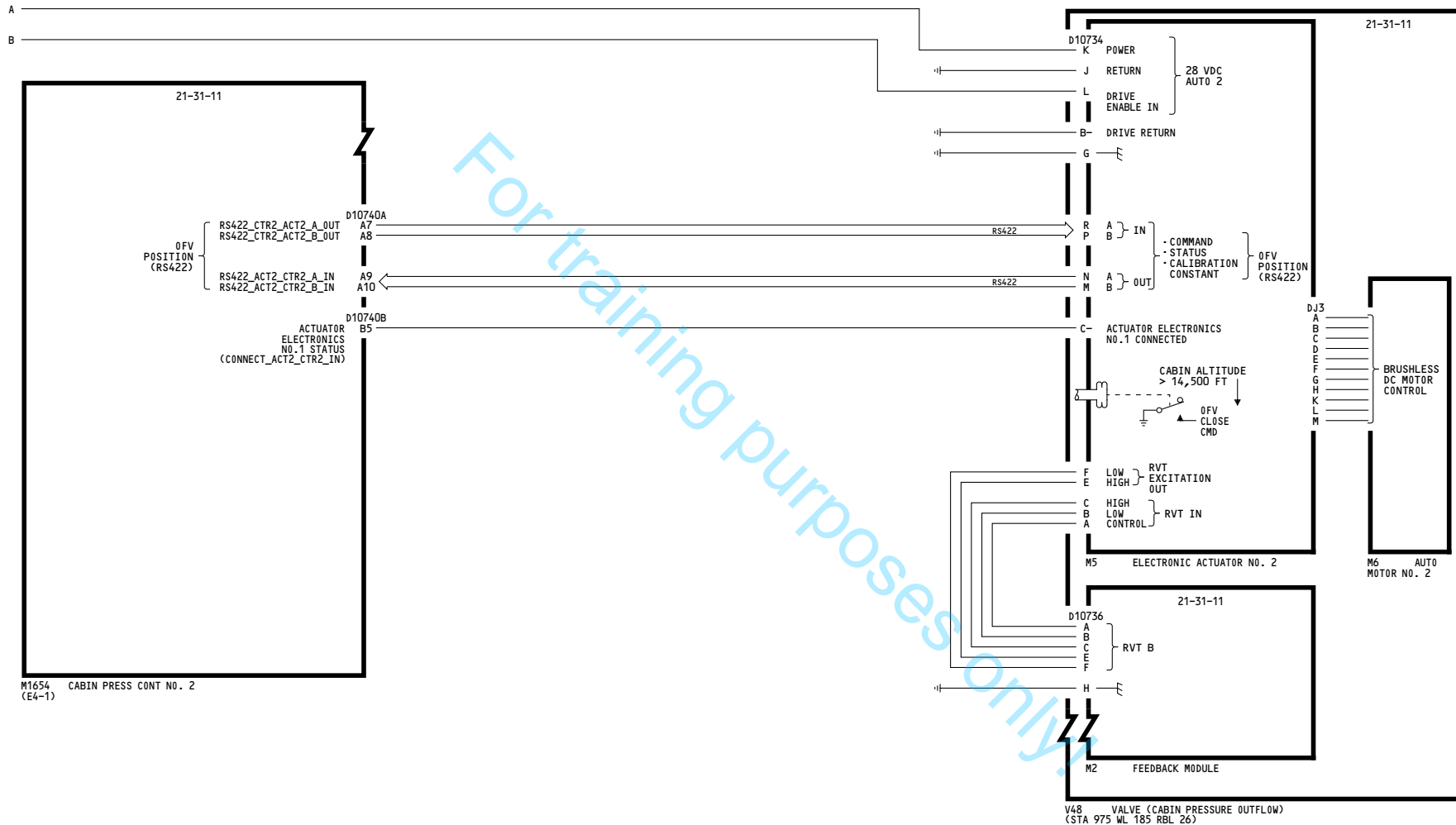
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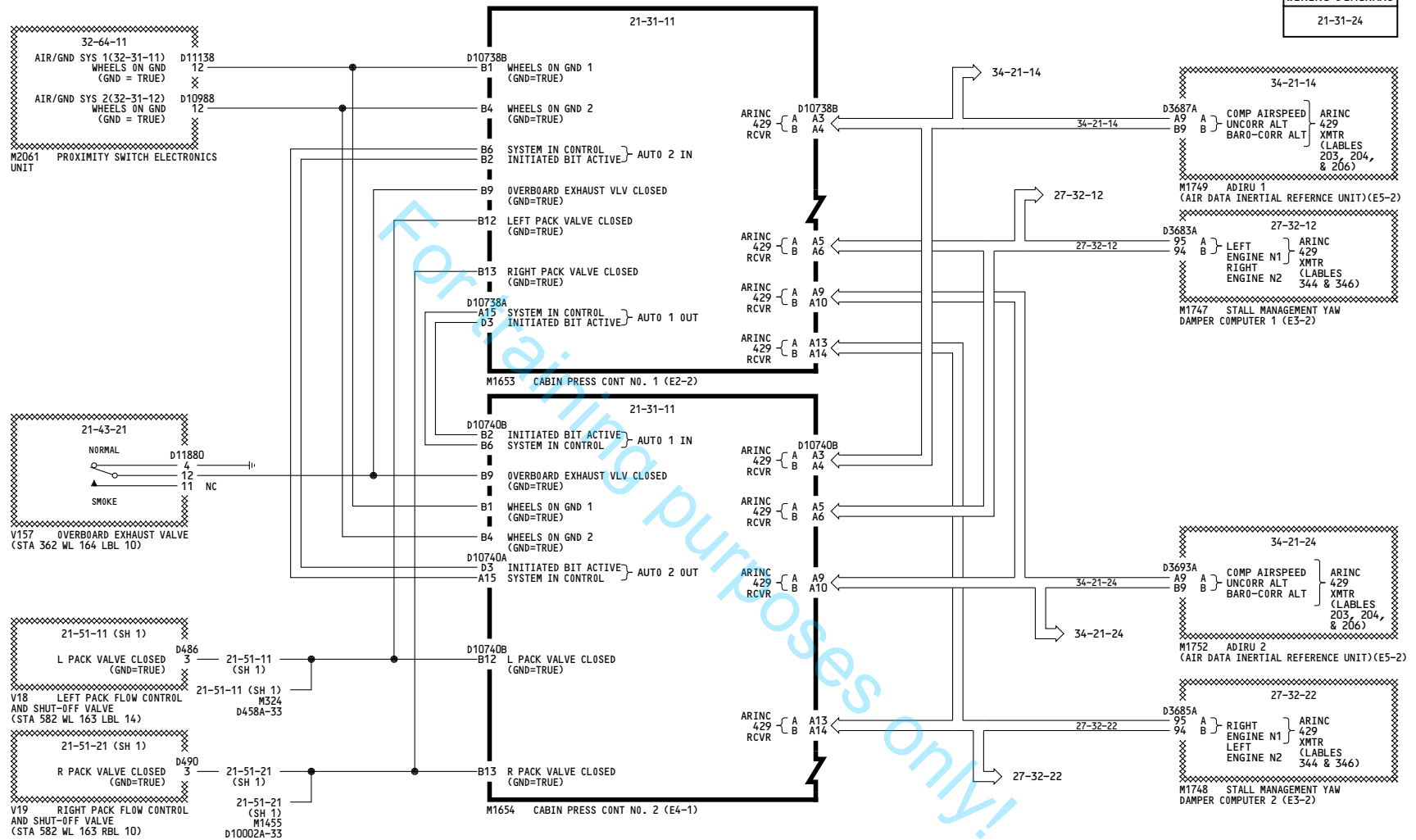
YD006-YD007

**PRESSURIZATION CONTROL  
AUTO 2**

D280A238

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YD001-YD007

## PRESSURIZATION CONTROL AUTO CHANNEL INTERFACES

D280A238

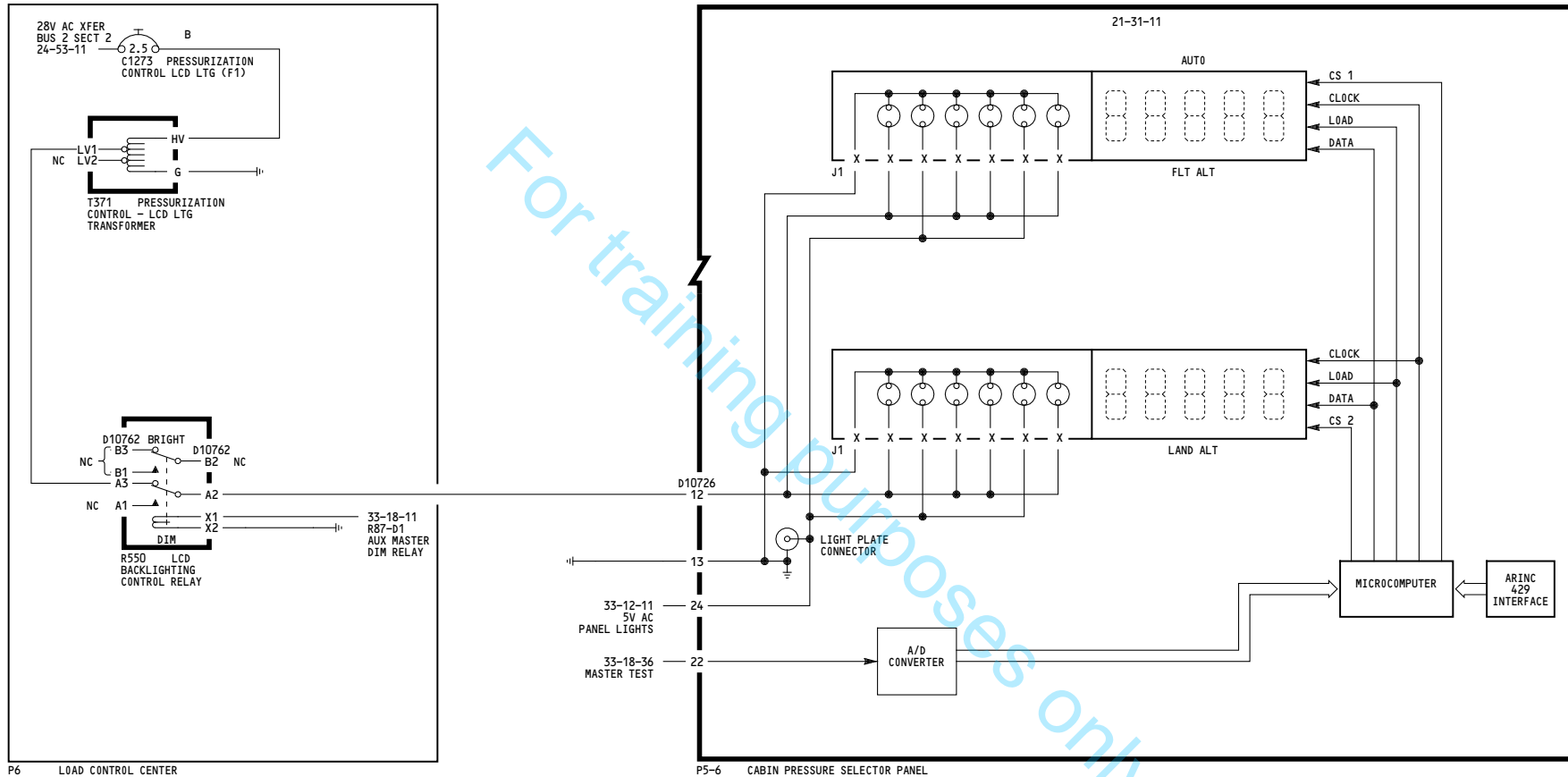
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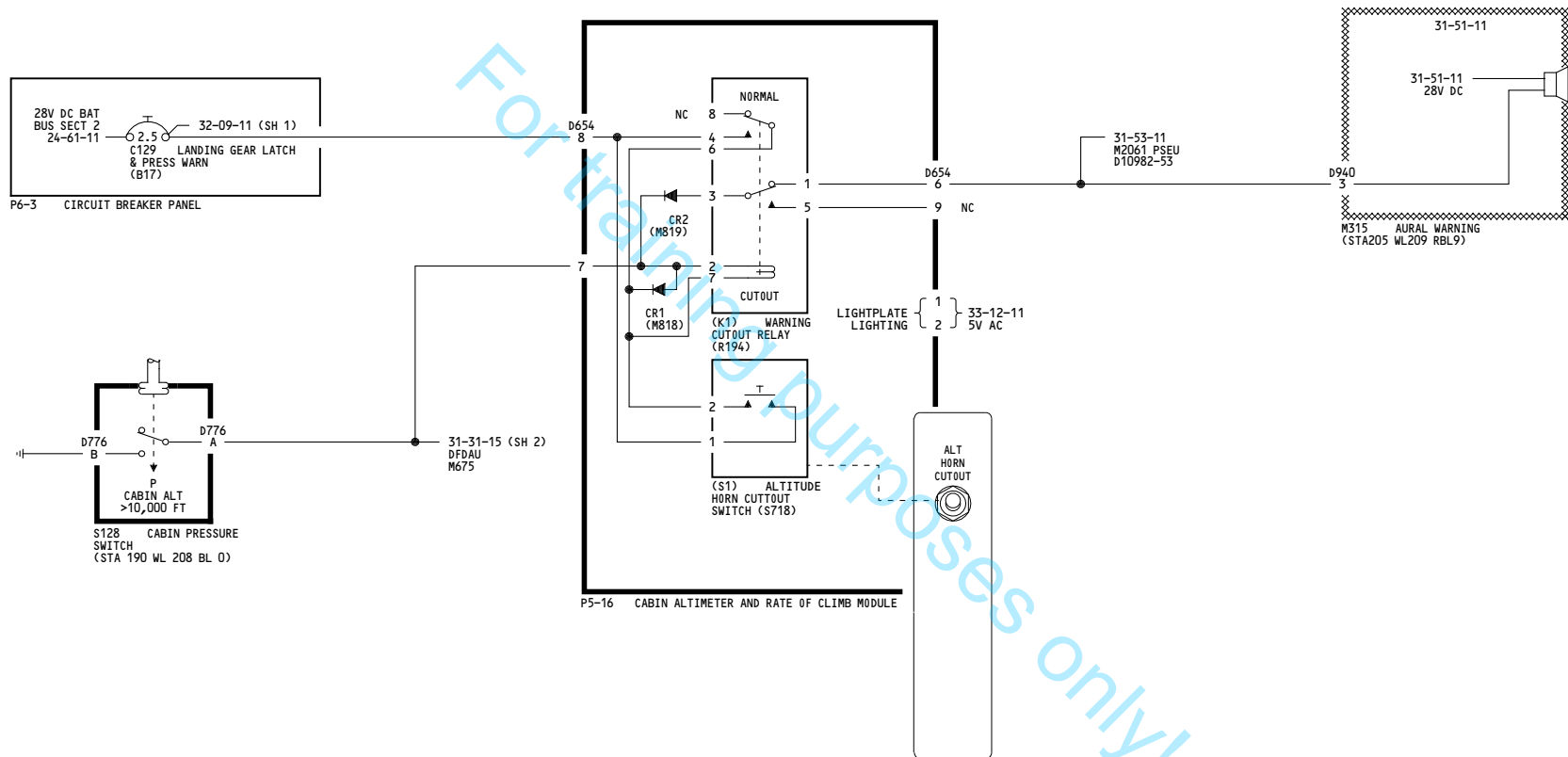
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LCD LIGHTING**

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YD001-YD007

**CABIN PRESSURE WARNING**

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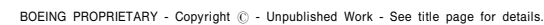


## YD001-YD005

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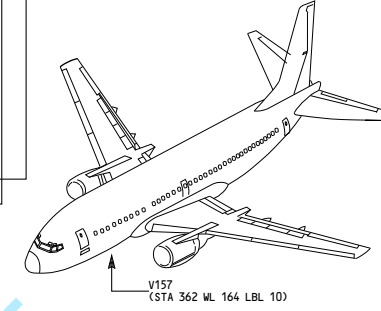
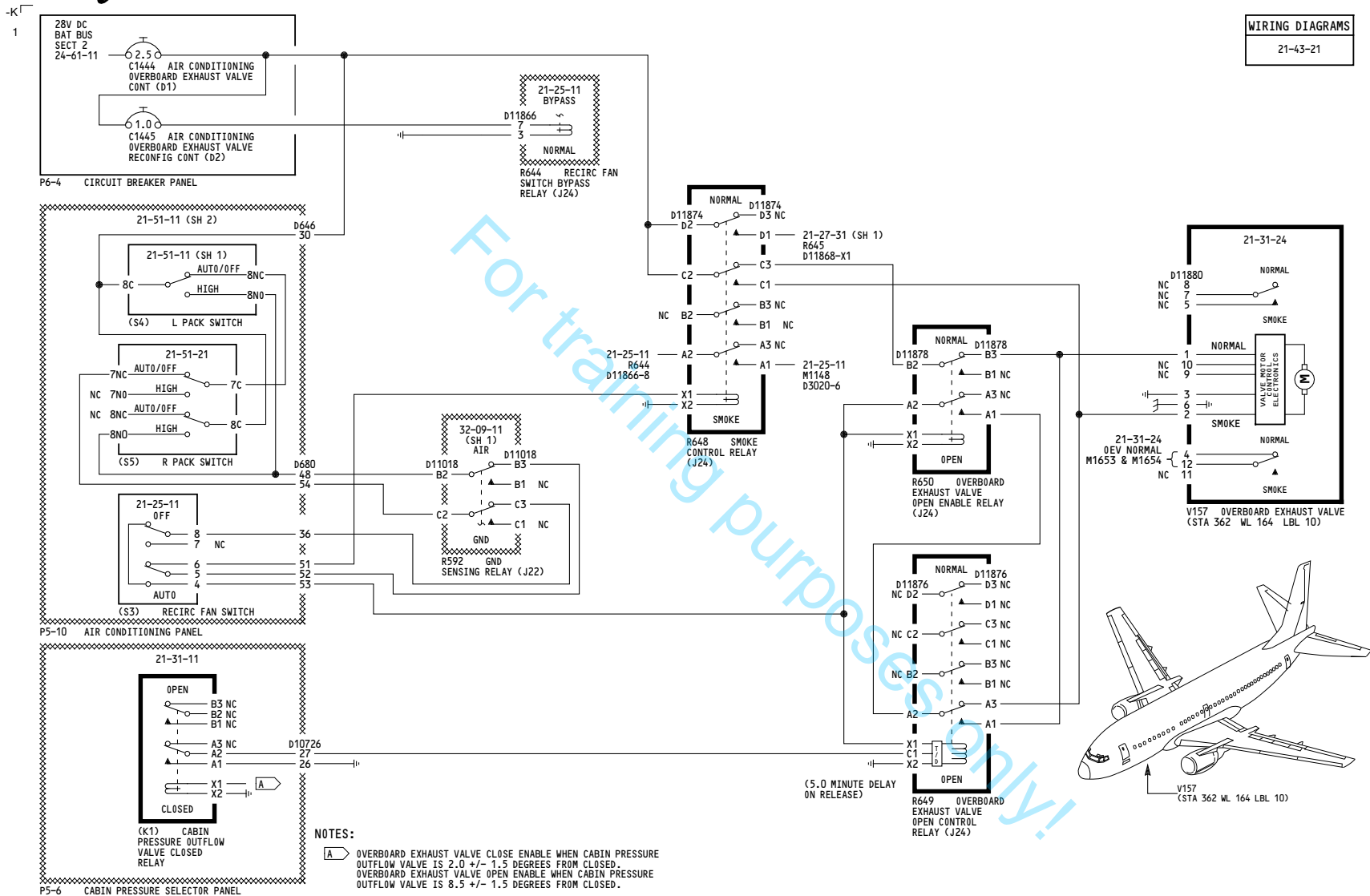
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## DOOR AREA HEATERS

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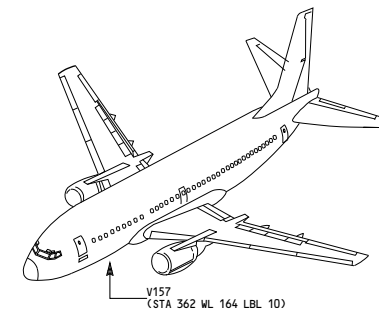
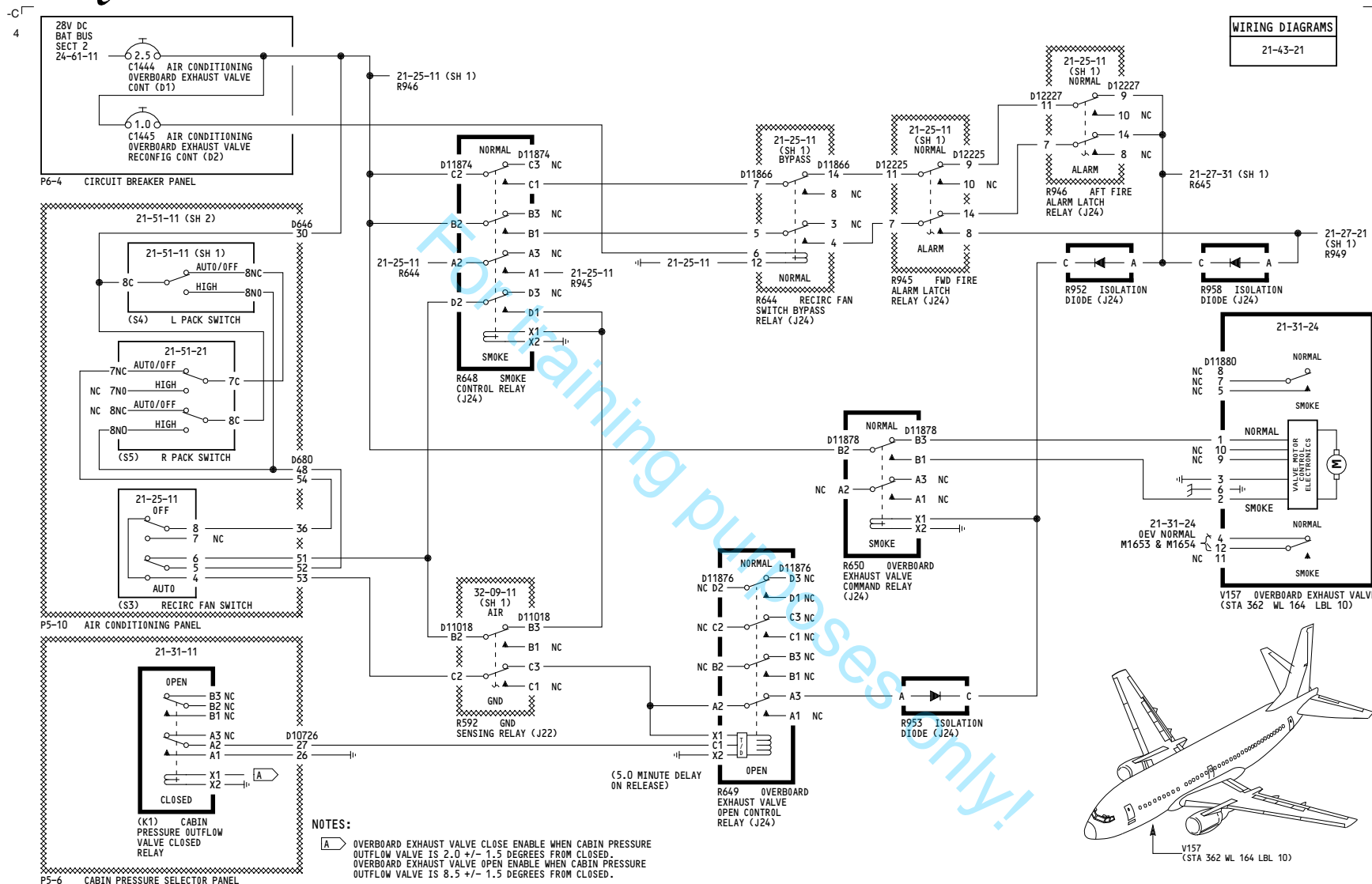
**OVERBOARD EXHAUST  
VALVE CONTROL**

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YD001-YD007

## OVERBOARD EXHAUST VALVE CONTROL

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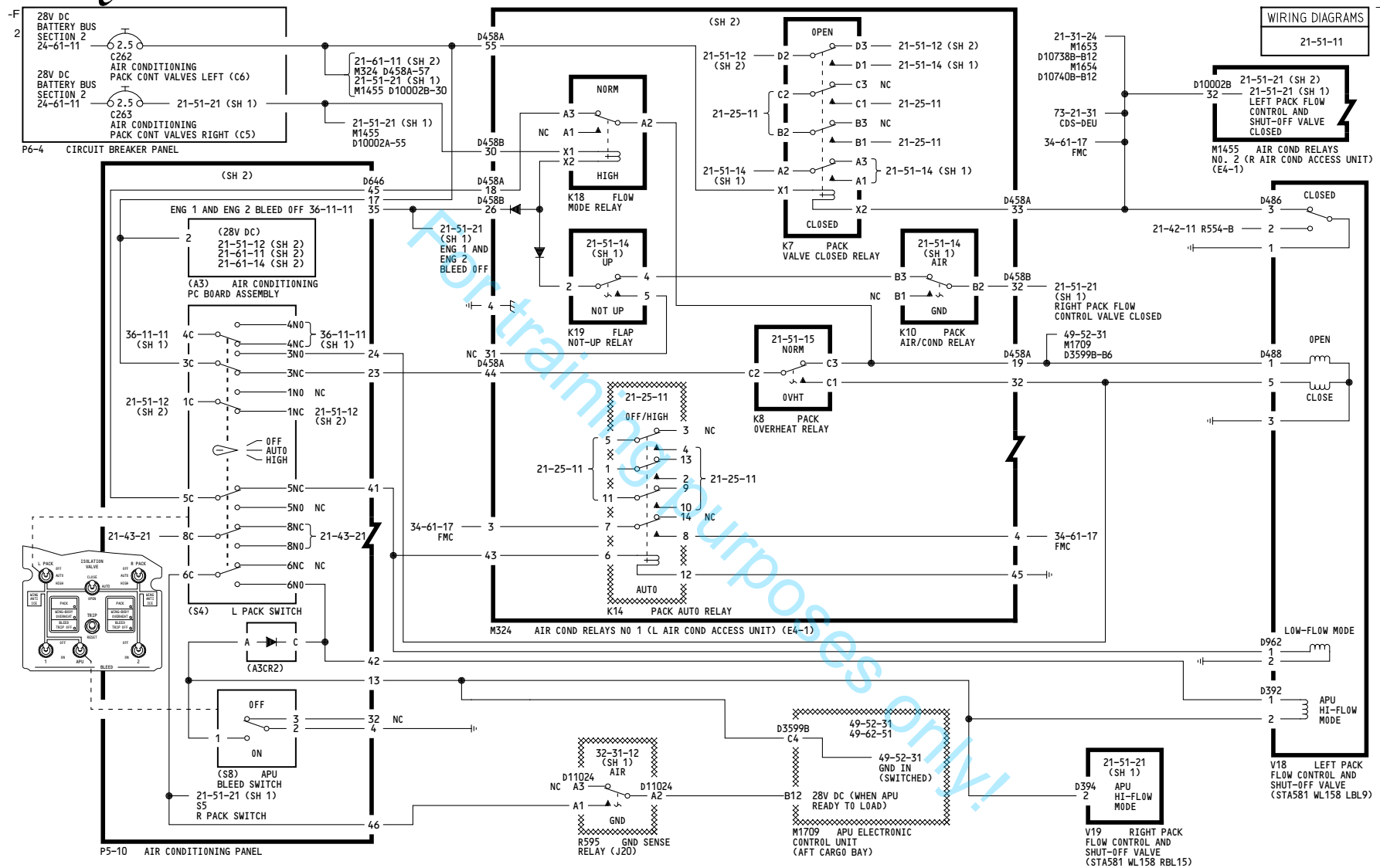
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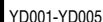
## LEFT PACK VALVE CONTROL

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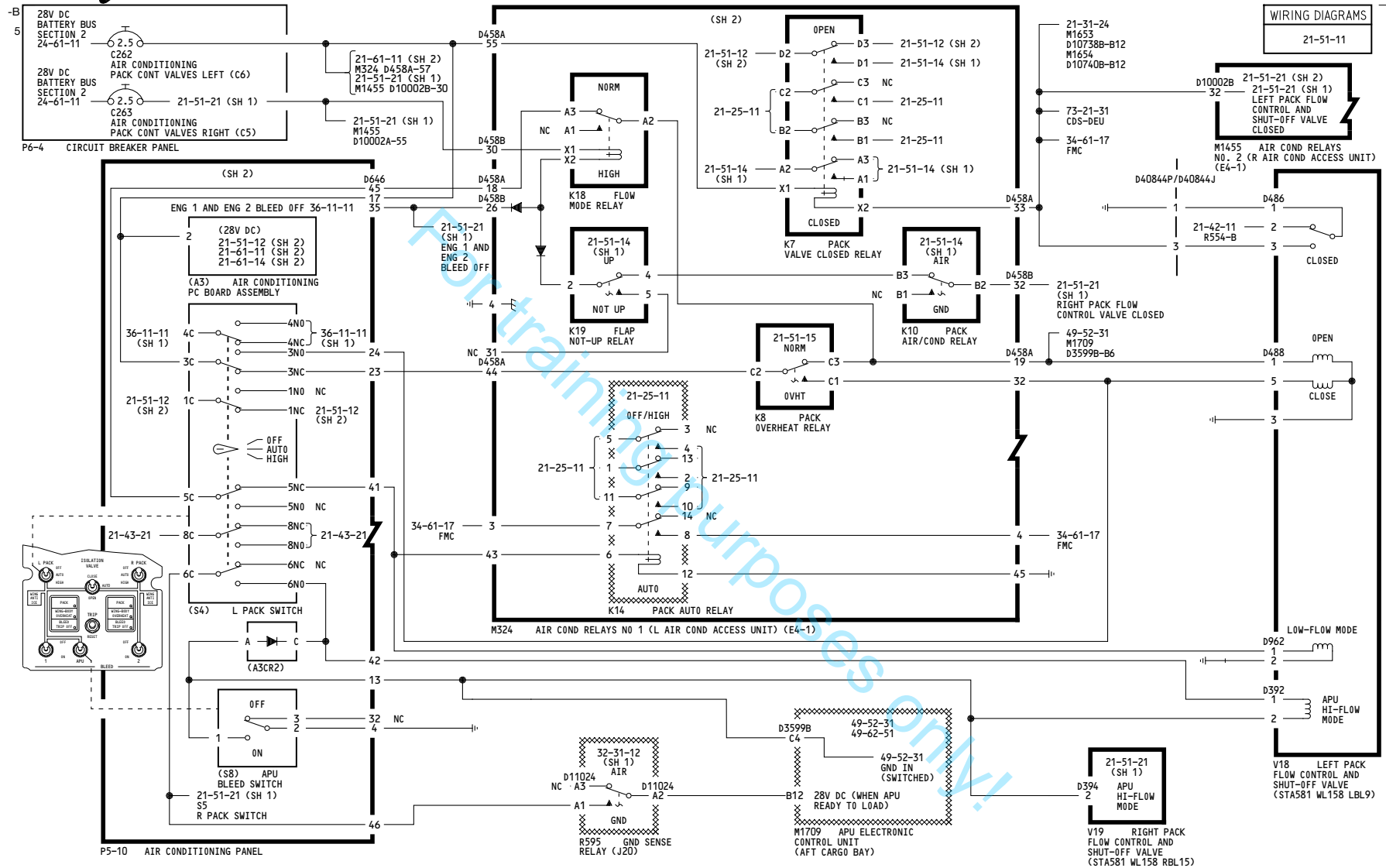


## LEFT PACK VALVE CONTROL

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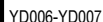
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## LEFT PACK VALVE CONTROL

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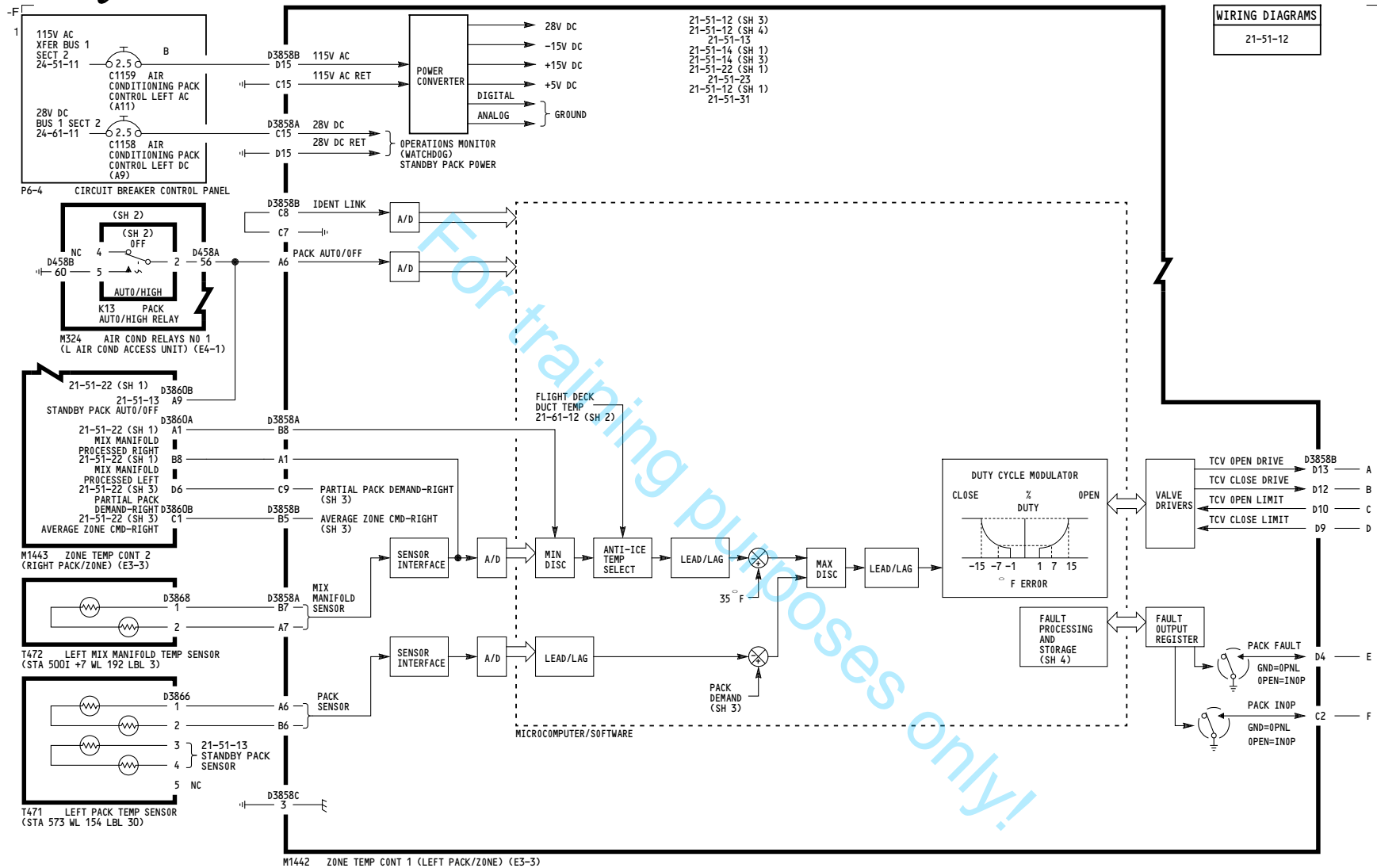
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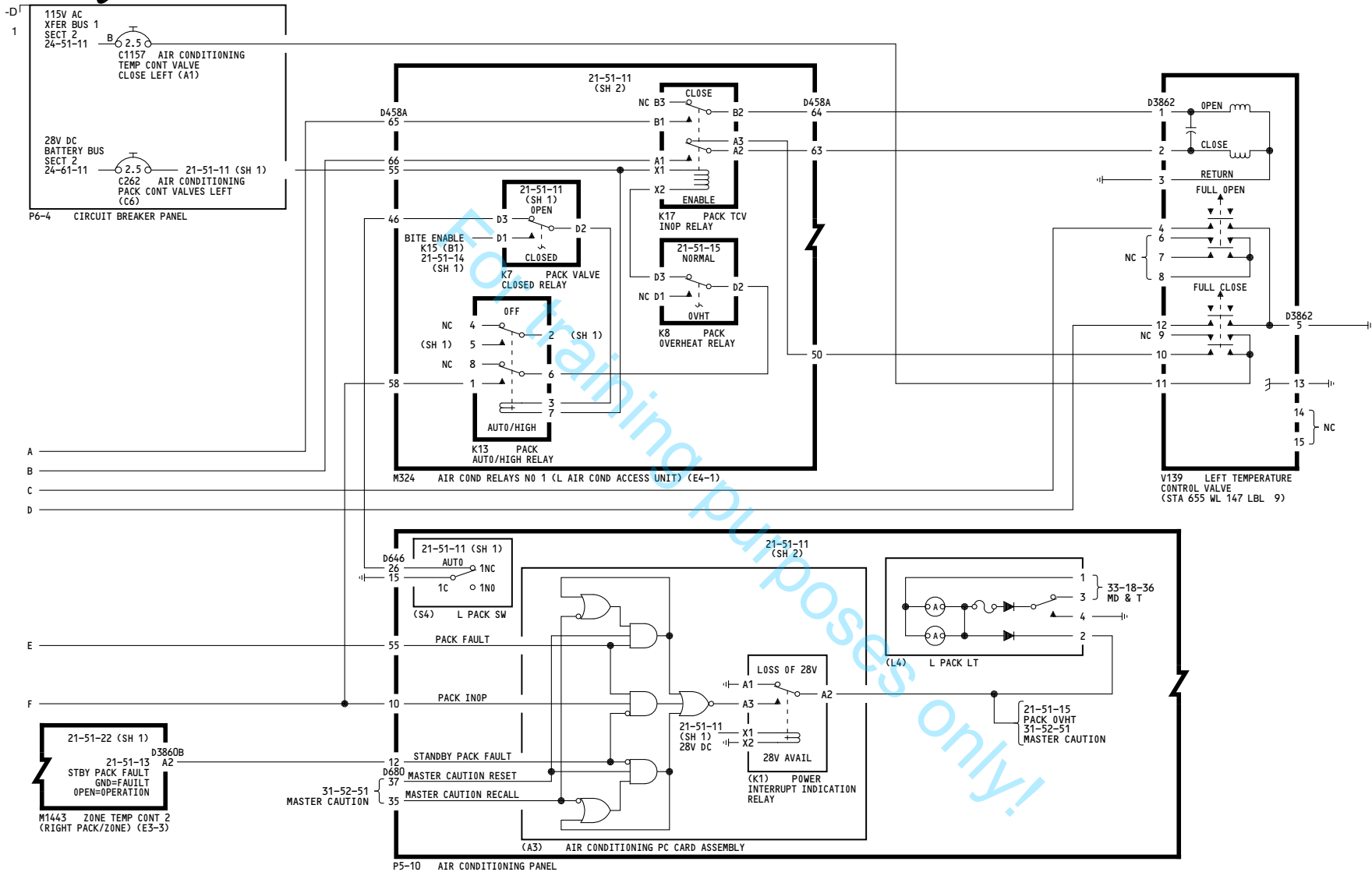
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**LEFT AIR CONDITIONING  
PACK CONTROL - AUTO**

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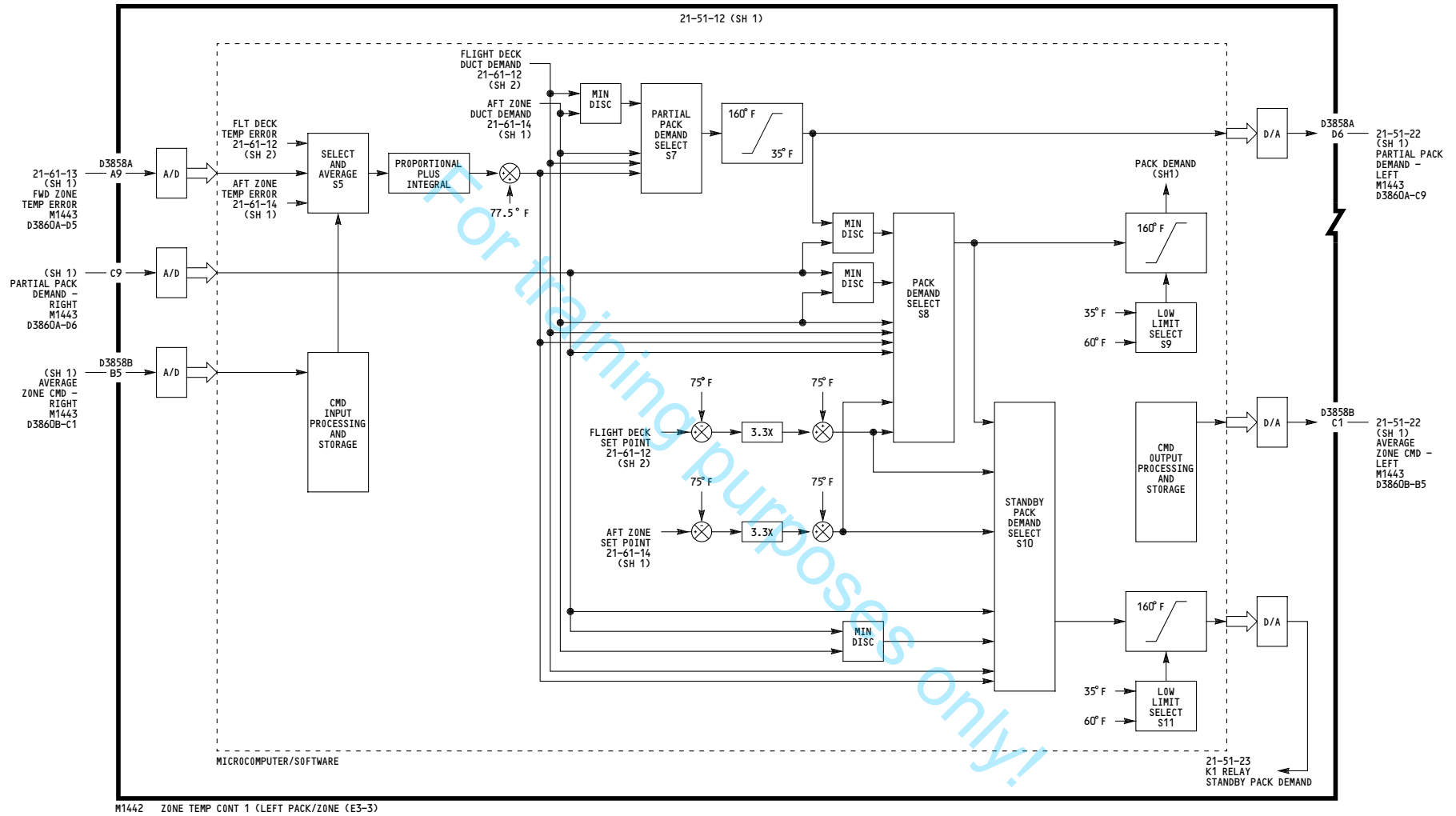
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YD001-YD005

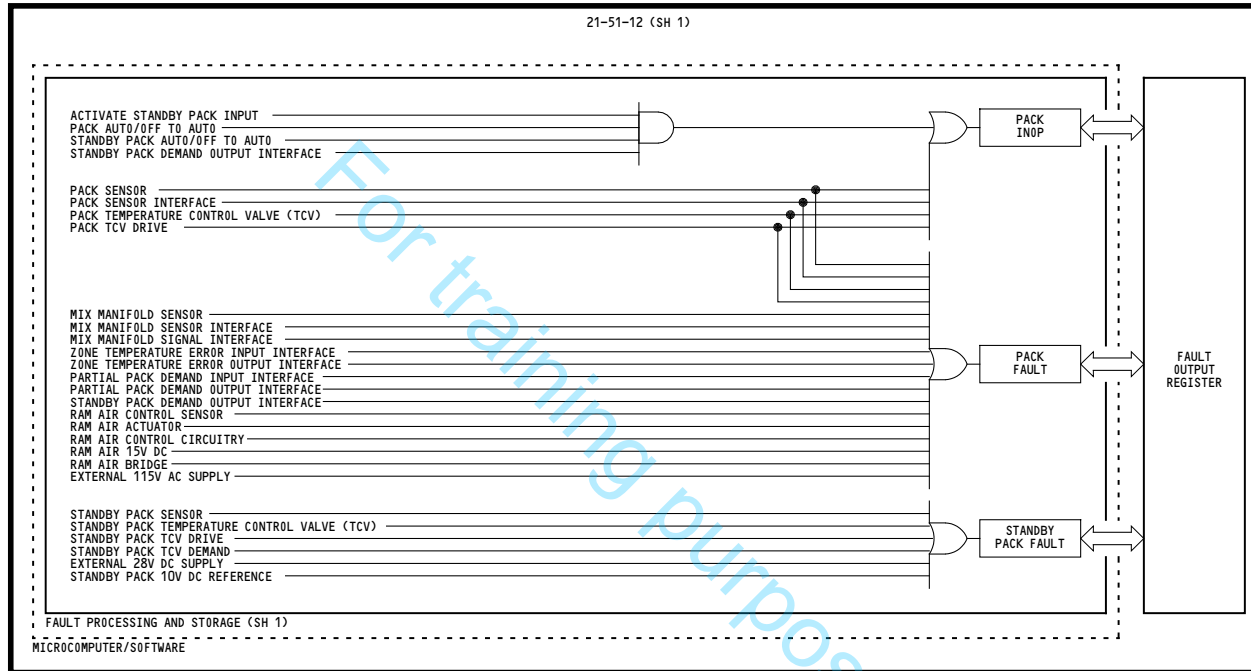
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21-51-12

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M1442 ZONE TEMP CONT 1 (LEFT PACK/ZONE) (E3-3)

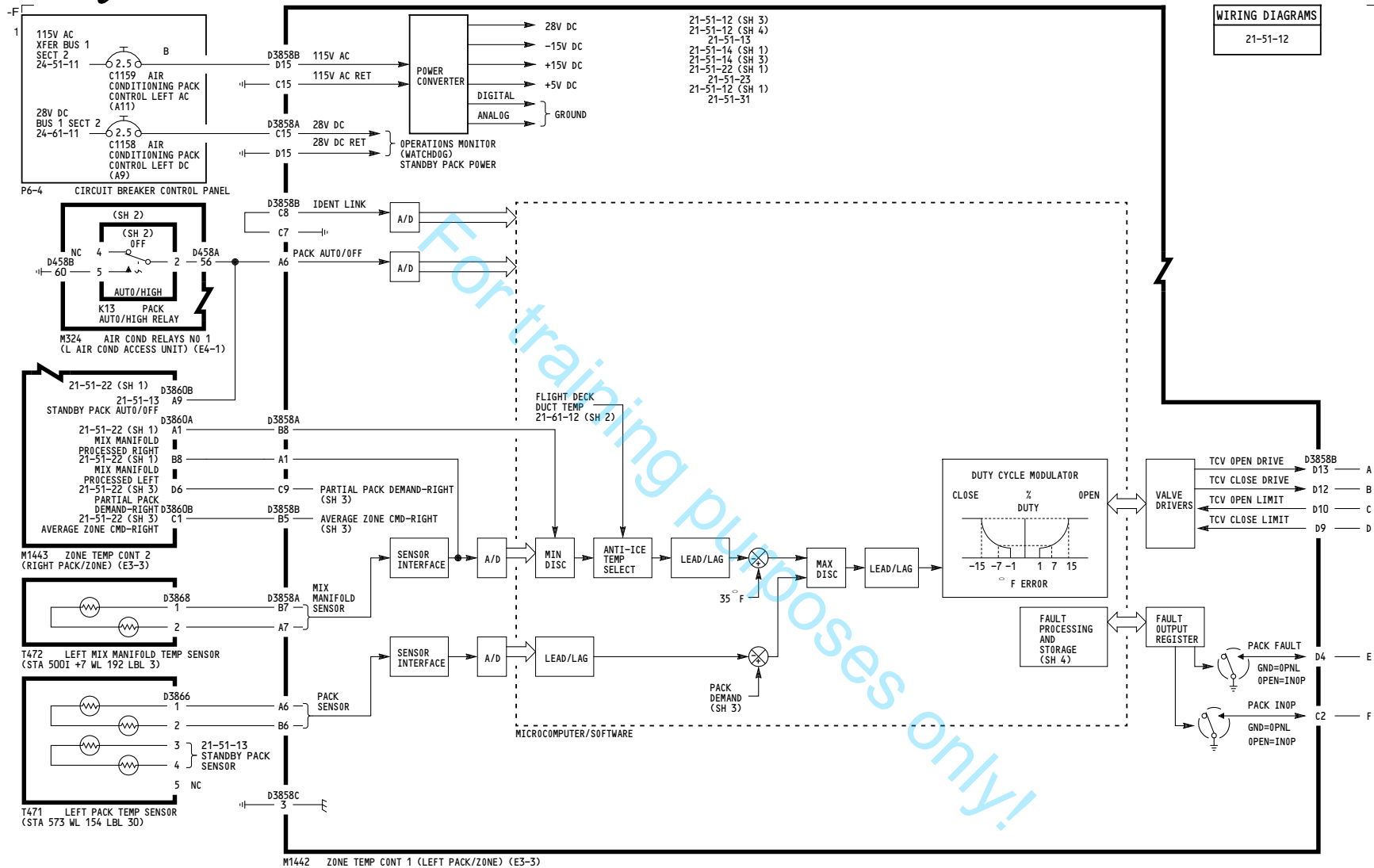
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**LEFT AIR CONDITIONING  
PACK CONTROL - AUTO**

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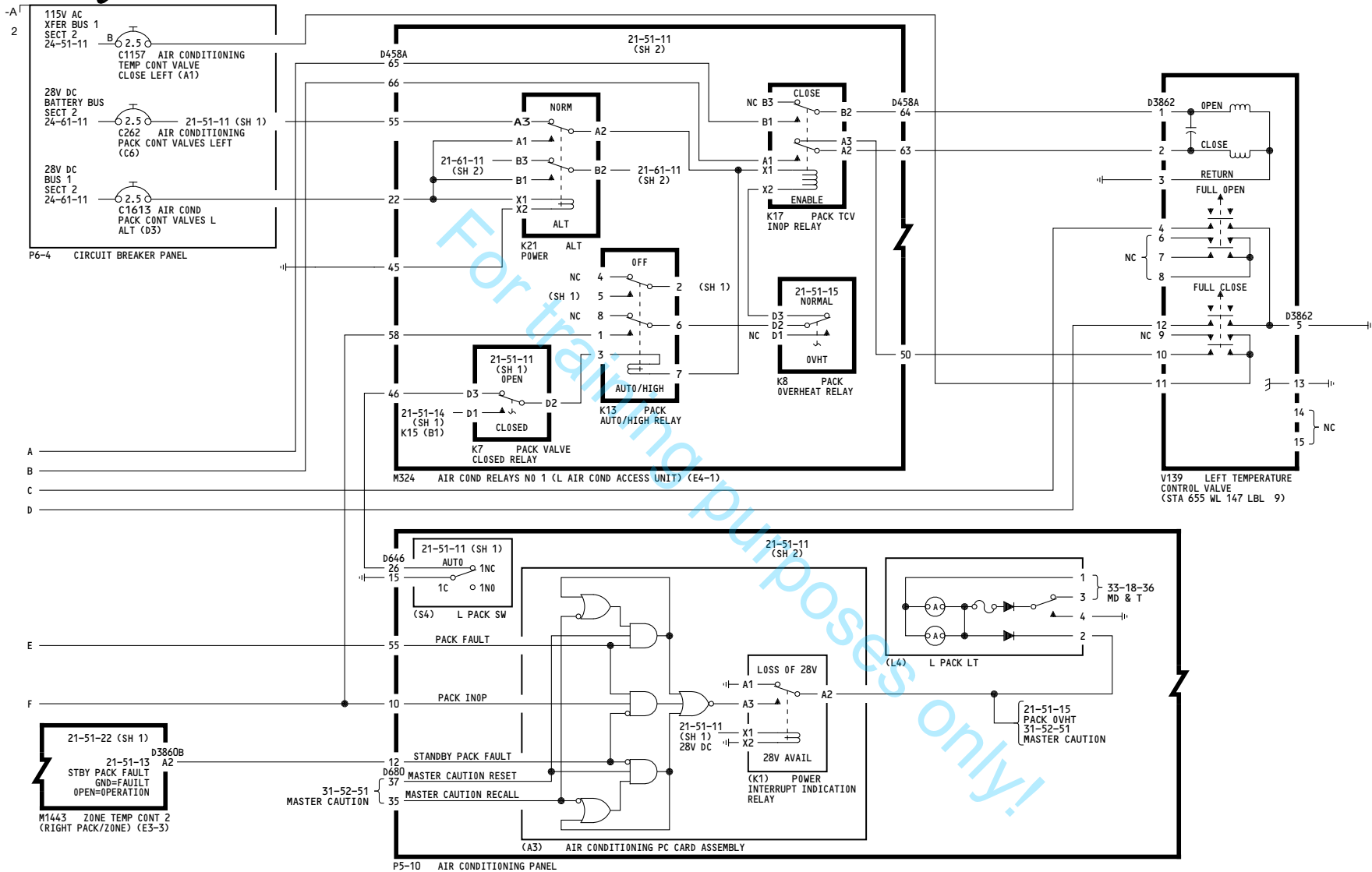
**LEFT AIR CONDITIONING  
PACK CONTROL - AUTO**

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YD006-YD020

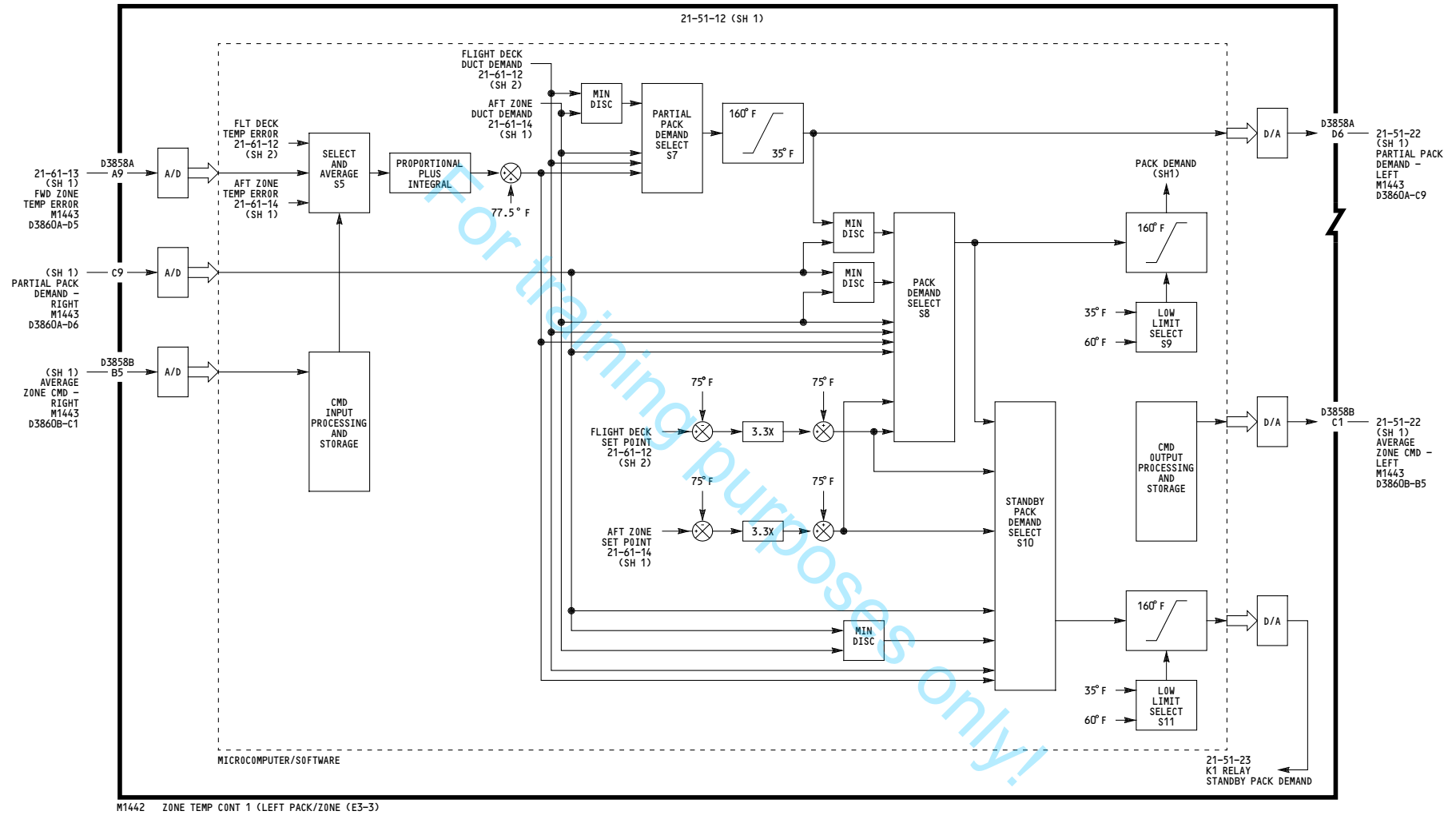
**LEFT AIR CONDITIONING  
PACK CONTROL - AUTO**

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YD006-YD020

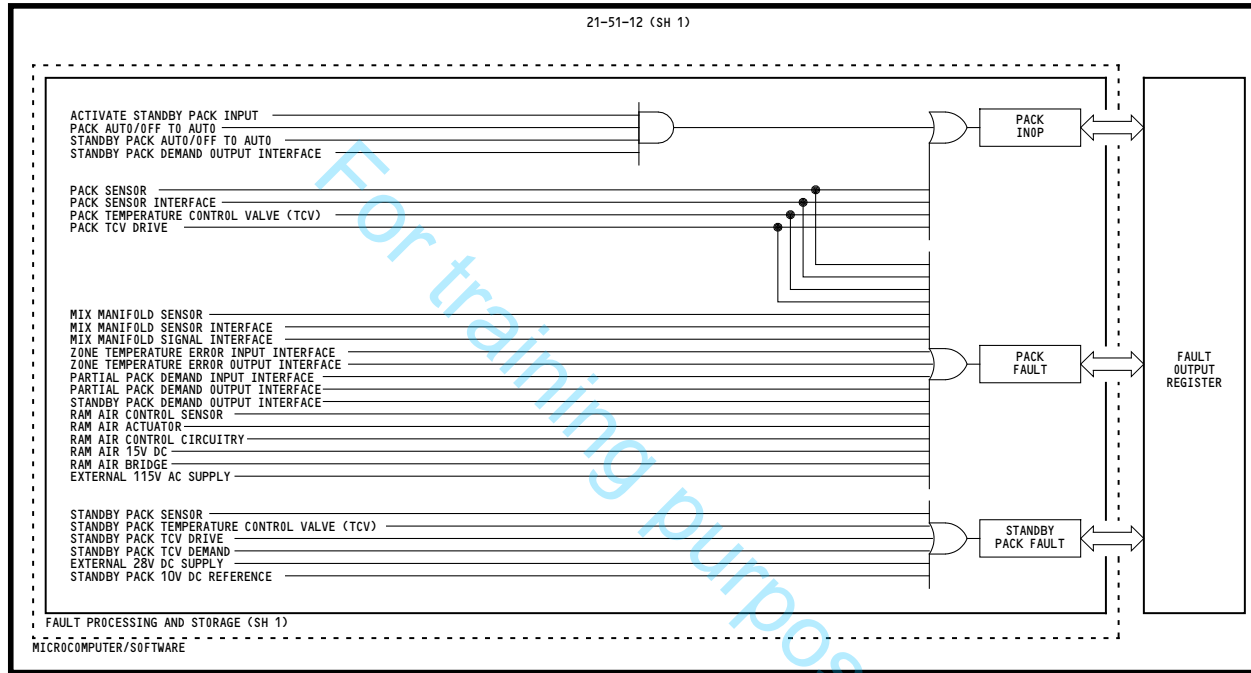
### LEFT AIR CONDITIONING PACK CONTROL - AUTO

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M1442 ZONE TEMP CONT 1 (LEFT PACK/ZONE) (E3-3)

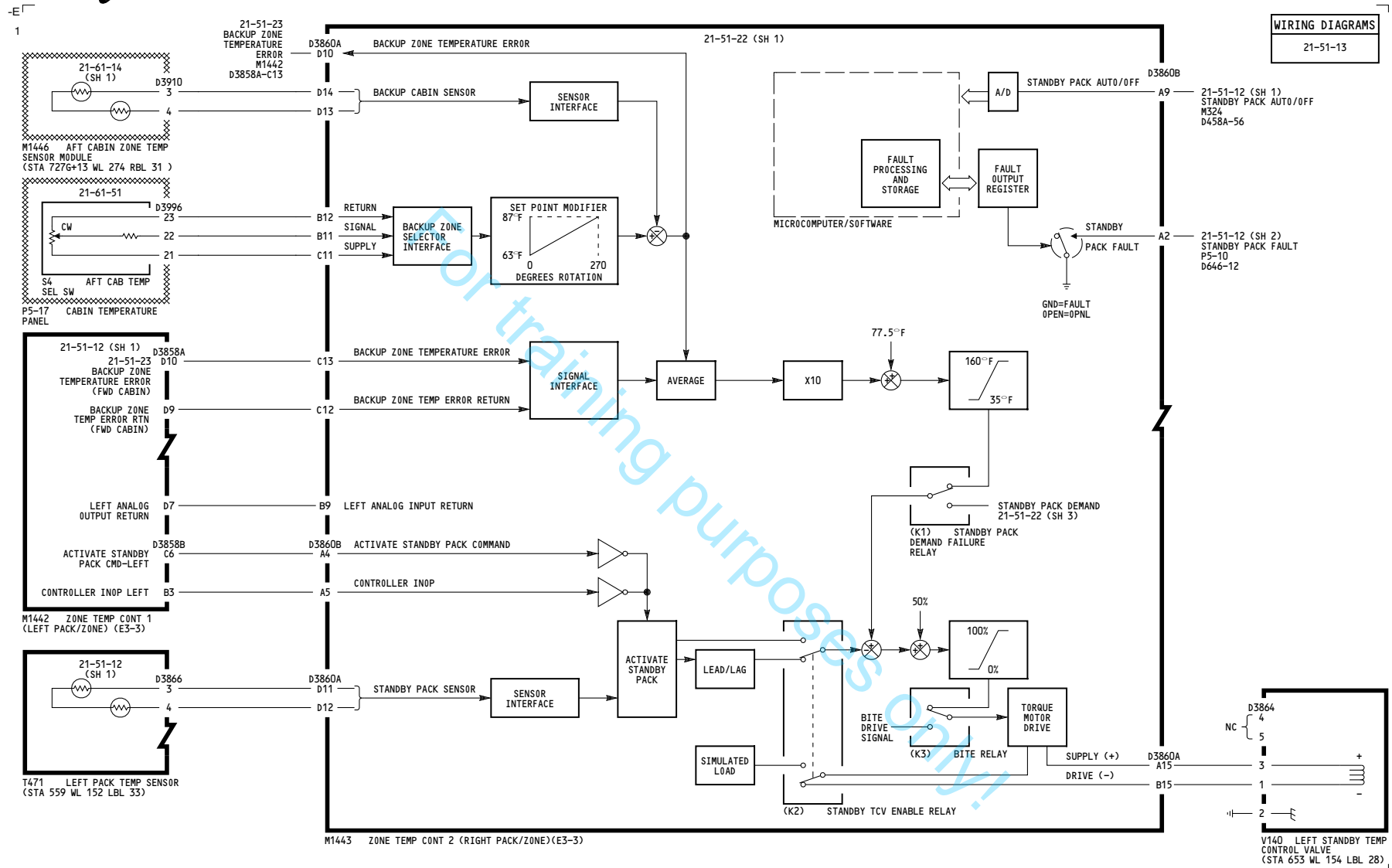
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**LEFT AIR CONDITIONING  
PACK CONTROL - AUTO**

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**LEFT AIR CONDITIONING  
PACK CONTROL STANDBY**

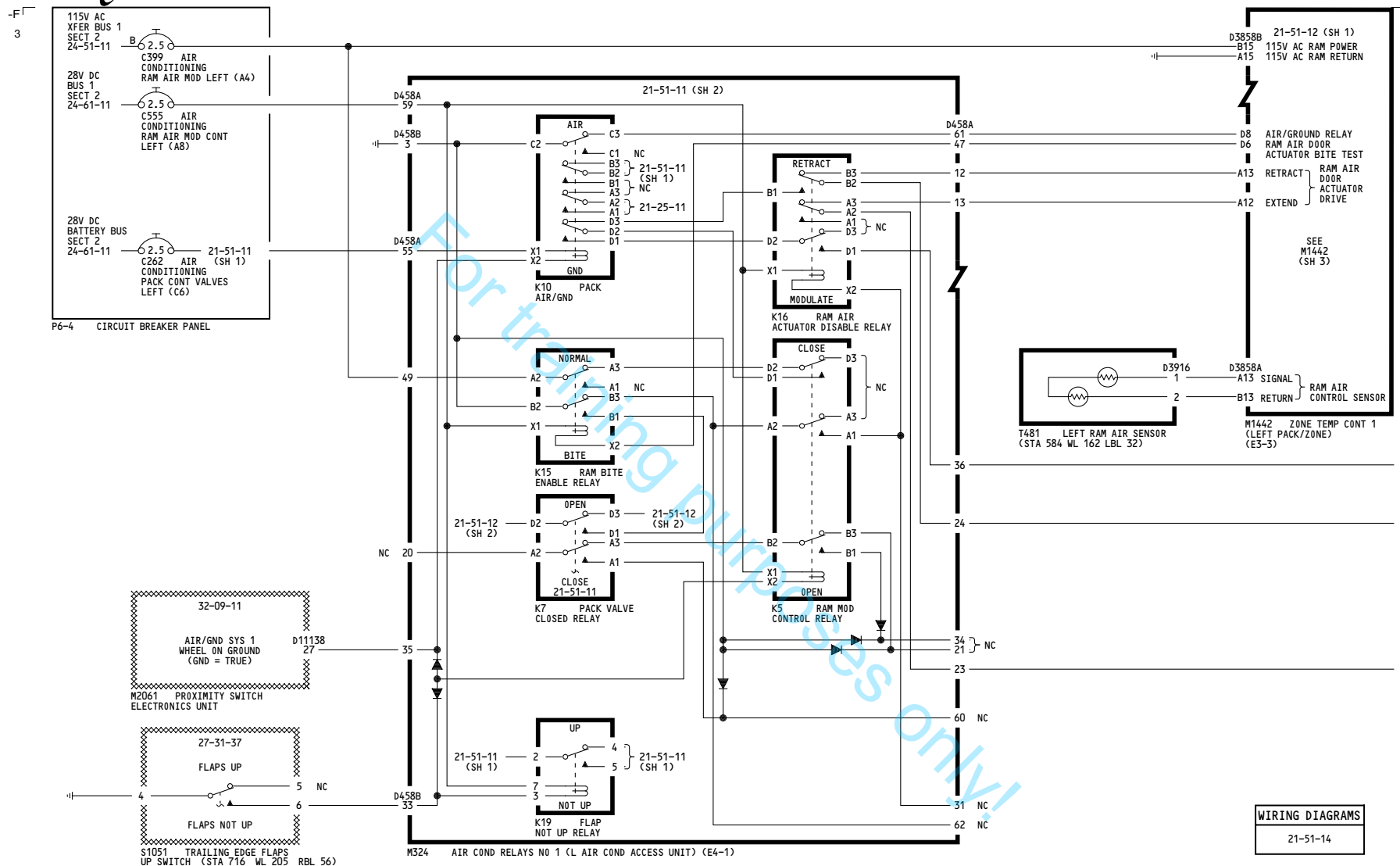
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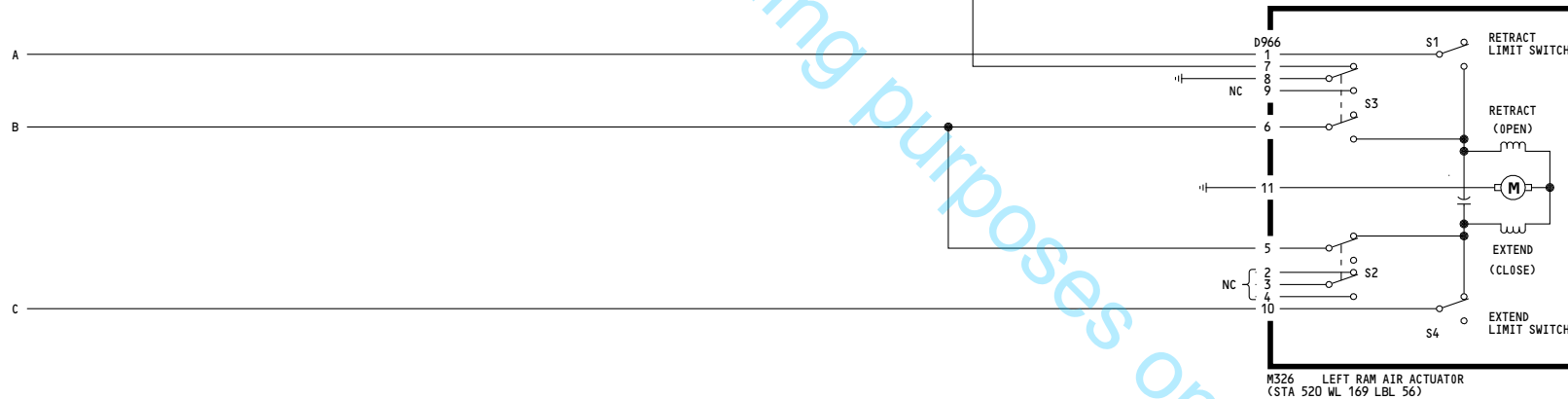
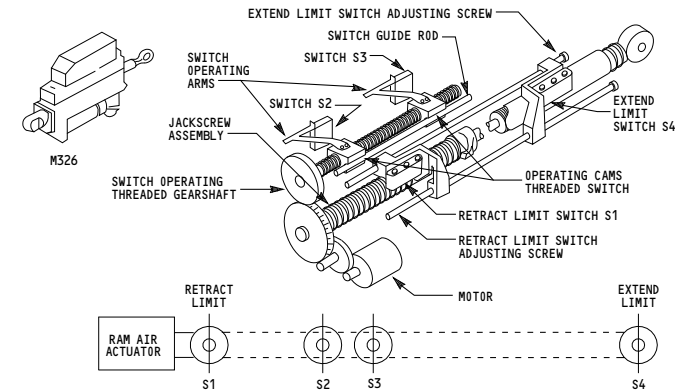
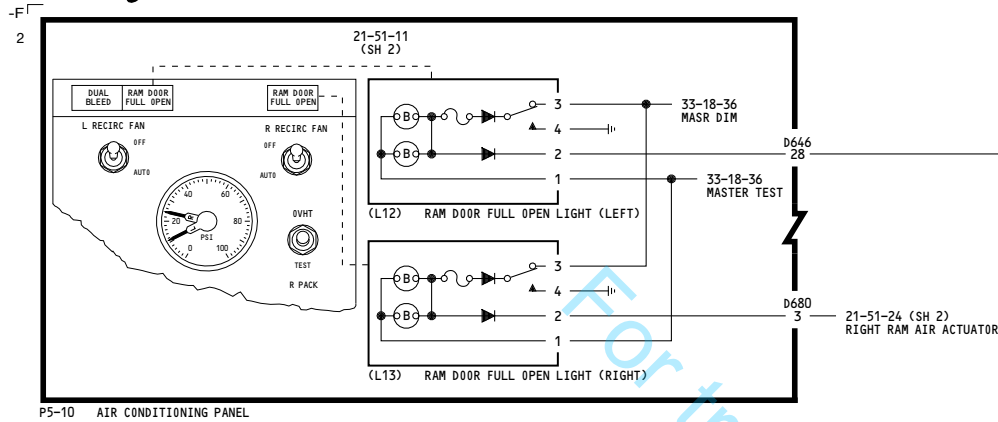
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WIRING DIAGRAMS  
21-51-14

## 21-51-14



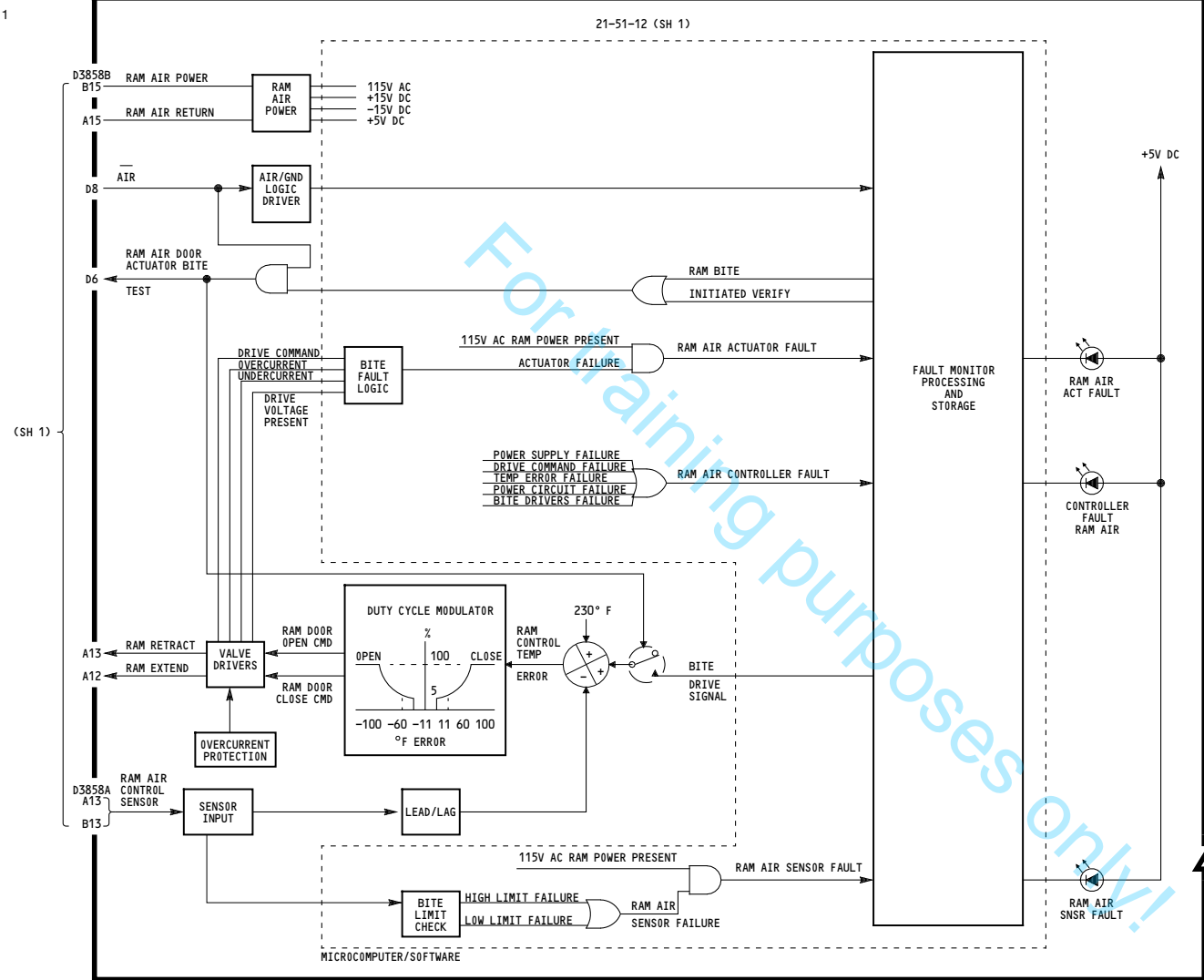
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**LEFT RAM MODULATION  
CONTROL**

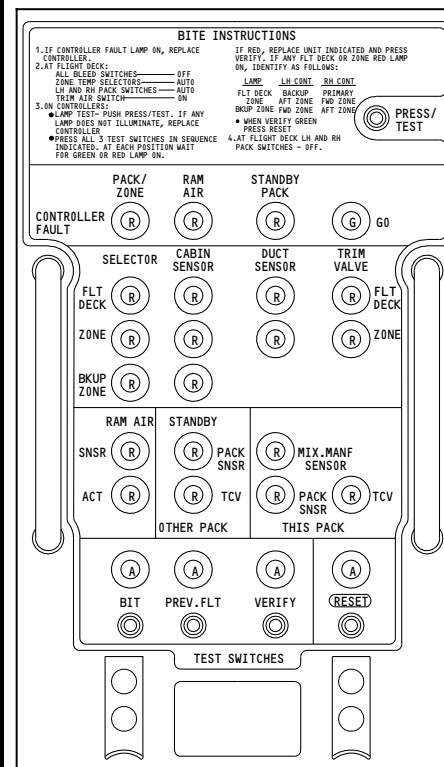
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M1442 ZONE TEMP CONT 1 (LEFT PACK/ZONE) (E3-3)



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**LEFT RAM MODULATION  
CONTROL**

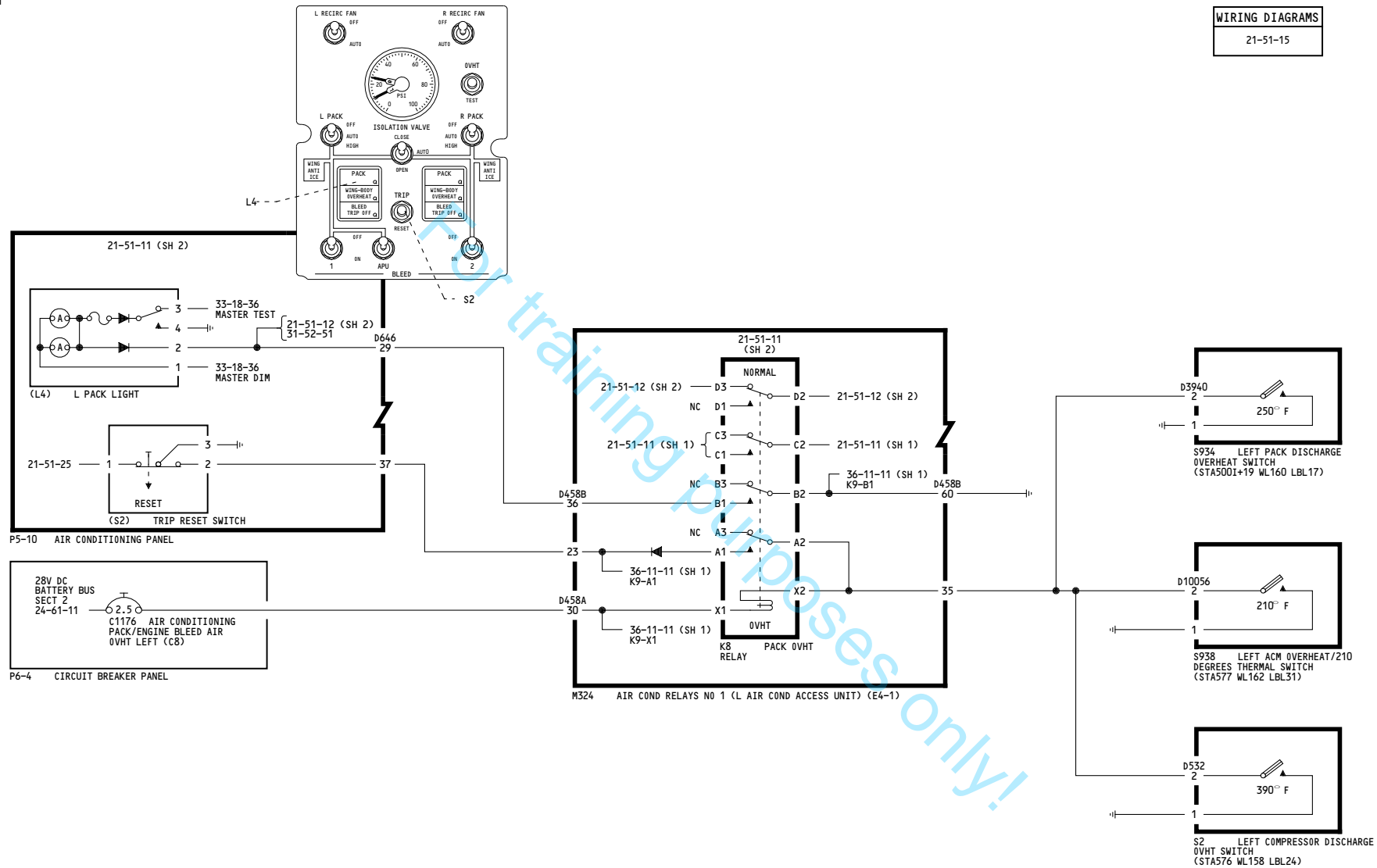
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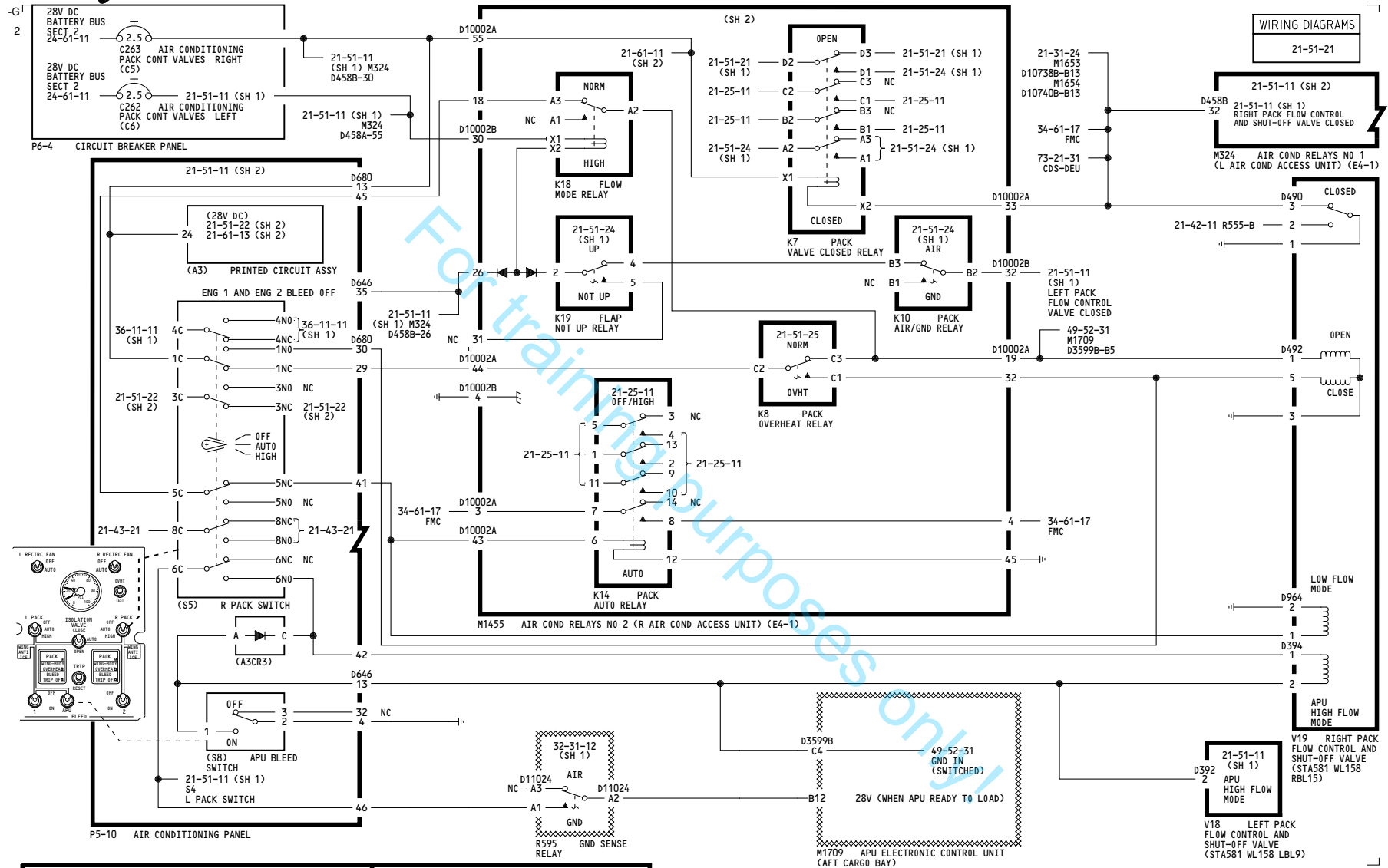


ALL	LEFT PACK PROTECTION
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YD001-YD005

## RIGHT PACK VALVE CONTROL

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D10002A		21-25-11		D10002B	
36-11-11 (SH 2)	1	ENG 2 BLEED VALVE CLOSE CMD	21-51-11 (SH 1)	1	NC
34-61-17	2	ENG 2 BLEED VALVE OPEN CMD	21-51-21 (SH 1)	2	NC
36-11-11 (SH 2)	3	R PACK AUTO	21-51-22 (SH 2)	3	21-51-24 (SH 1)
21-25-11	4	R PACK AUTO	21-51-24 (SH 1)	4	21-51-21 (SH 1)
NC	5	ENG 2 START	21-51-25	5	NC
36-11-11 (SH 2)	6	L RECIRC FAN ENABLE	21-61-11 (SH 2)	6	NC
21-25-11	7	ENG 2 BLEED VALVE DRIVE CMD	21-61-12 (SH 1)	7	NC
NC	8	L RECIRC FAN ENABLE	21-61-13 (SH 2)	8	NC
21-61-13 (SH 2)	9	PRIMARY FWD ZONE FAULT	36-11-11 (SH 2)	9	NC
21-51-24 (SH 1)	10	R RAM AIR ACTUATOR RETRACT CMD (IN)	34-61-17	10	NC
21-25-11	11	R RAM AIR ACTUATOR EXTEND CMD (IN)		11	NC
21-61-12 (SH 1)	12	L RECIRC FAN ENABLE		12	NC
21-25-11	13	L RECIRC FAN ENABLE		13	NC
21-61-12 (SH 1)	14	BACKUP FLIGHT DECK FAULT		14	R RECIRC FAN ENABLE
21-25-11	15	L RECIRC FAN ENABLE		15	R RECIRC FAN ENABLE
21-51-21 (SH 1)	16	28V DC OUT IN AUTO		16	R RECIRC FAN ENABLE
NC	17	R PACK VALVE OPEN CMD		17	NC
NC	18	R TURBOFAN VALVE PWR (28V DC)		18	NC
NC	19	R RAM AIR ACTUATOR MODE SW INPUT		19	NC
NC	20	R RAM AIR ACTUATOR EXTEND CMD (OUT)		20	FWD ZONE OVHT PWR (28V DC)
21-51-24 (SH 1)	21	R RAM AIR ACTUATOR DRIVE CMD		21	NC
21-61-12 (SH 1)	22	FLT DK TRIM VALVE OPEN DRIVE CMD (IN)		22	NC
21-61-11 (SH 2)	23	FLT DK TRIM VALVE OPEN DRIVE CMD (OUT)		23	BLEEN TRIP RESET IN
NC	24	FLT DK TRIM VALVE CLOSE DRIVE CMD (OUT)		24	ENG 2 BLEED VALVE OPEN
21-25-11	25	L RECIRC FAN ENABLE		25	NC
21-51-25	26	28V DC BLEED AIR OVHT PWR		26	BOTH ENG BLEEDS OFF (IN) GND
NC	27	R TURBO FAN VALVE LIMIT SW		27	NC
21-51-21 (SH 1)	28	R PACK VALVE CLOSE CMD		28	R RECIRC FAN ENABLE
NC	29	R PACK VALVE CLOSED		29	R RECIRC FAN ENABLE
21-51-24 (SH 1)	30	R RAM AIR ACTUATOR MODE SW INPUT		30	L PACK VALVES PWR (28V DC)
21-61-12 (SH 1)	31	GND WHEN AIR/GND TO GND		31	NC
NC	32	R RAM AIR ACTUATOR RETRACT CMD (OUT)		32	L PACK VALVE CLOSED
NC	33	FLT DK TRIM VALVE CLOSE DRIVE CMD (IN)		33	GND WHEN FLAPS NOT UP
NC	34	28V DC IN AUTO		34	FWD ZONE TRIM DISABLE
21-51-21 (SH 1)	35	28V DC IN (AUTO OR HIGH)		35	R PACK OVHT (IN)
NC	36	DC GROUND		36	R PACK LIGHT
21-51-24 (SH 1)	37	GND IN (AUTO OR HIGH)		37	NC
NC	38	R RAM AIR ACTUATOR BITE ENABLE		38	NC
NC	39	R RAM MOD PWR (115V AC)		39	NC
NC	40	R PACK TCV CLOSE DRIVE CMD (IN)		40	NC
NC	41	FWD ZONE TRIM VALVE CLOSE DRIVE CMD (OUT)		41	FLT DK TRIM VALVE CLOSE DRIVE CMD (IN)
NC	42	FWD ZONE TRIM VALVE OPEN DRIVE CMD (OUT)		42	NC
21-51-21 (SH 1)	43	FWD ZONE TRIM VALVE CLOSE DRIVE CMD (IN)		43	NC
21-51-22 (SH 2)	44	FWD ZONE TRIM VALVE OPEN DRIVE CMD (IN)		44	NC
21-51-24 (SH 1)	45	R PACK VALVES PWR (28V DC)		45	R BLEED TRIP OFF LIGHT
NC	46	GND IN (AUTO OR HIGH)		46	NC
21-51-24 (SH 1)	47	R PACK INOP (IN)		47	NC
21-51-22 (SH 2)	48	R RAM MOD CONTROL PWR (28V DC)		48	FWD ZONE OVHT (IN)
21-51-22 (SH 2)	49	R TURBOFAN VALVE CLOSE CMD		49	FWD ZONE OVHT (OUT)
21-61-13 (SH 2)	50	GND OUT (AIR/GND = GND)		50	NC
21-51-21 (SH 1)	51	R TURBOFAN VALVE LIMIT SW		51	NC
21-51-22 (SH 1)	52	R PACK TCV CLOSE DRIVE CMD (OUT)		52	NC
NC	53	R PACK TCV OPEN DRIVE CMD (OUT)		53	NC
21-51-22 (SH 2)	54	R PACK TCV OPEN DRIVE CMD (IN)		54	NC
21-61-13 (SH 2)	55	R PACK TCV CLOSE DRIVE CMD (IN)		55	NC
NC	56	FWD ZONE TRIM VALVE CLOSE DRIVE CMD (IN)		56	NC
21-51-22 (SH 2)	57			57	NC
21-51-24 (SH 1)	58			58	NC
NC	59			59	NC
21-51-22 (SH 2)	60			60	DC GROUND
21-61-13 (SH 2)	61			61	NC
	62			62	NC
	63			63	NC
	64			64	NC
	65			65	NC
	66			66	NC
	67			67	NC

M1455 AIR COND RELAYS NO. 2 (R AIR COND ACCESS UNIT) (E4-1)

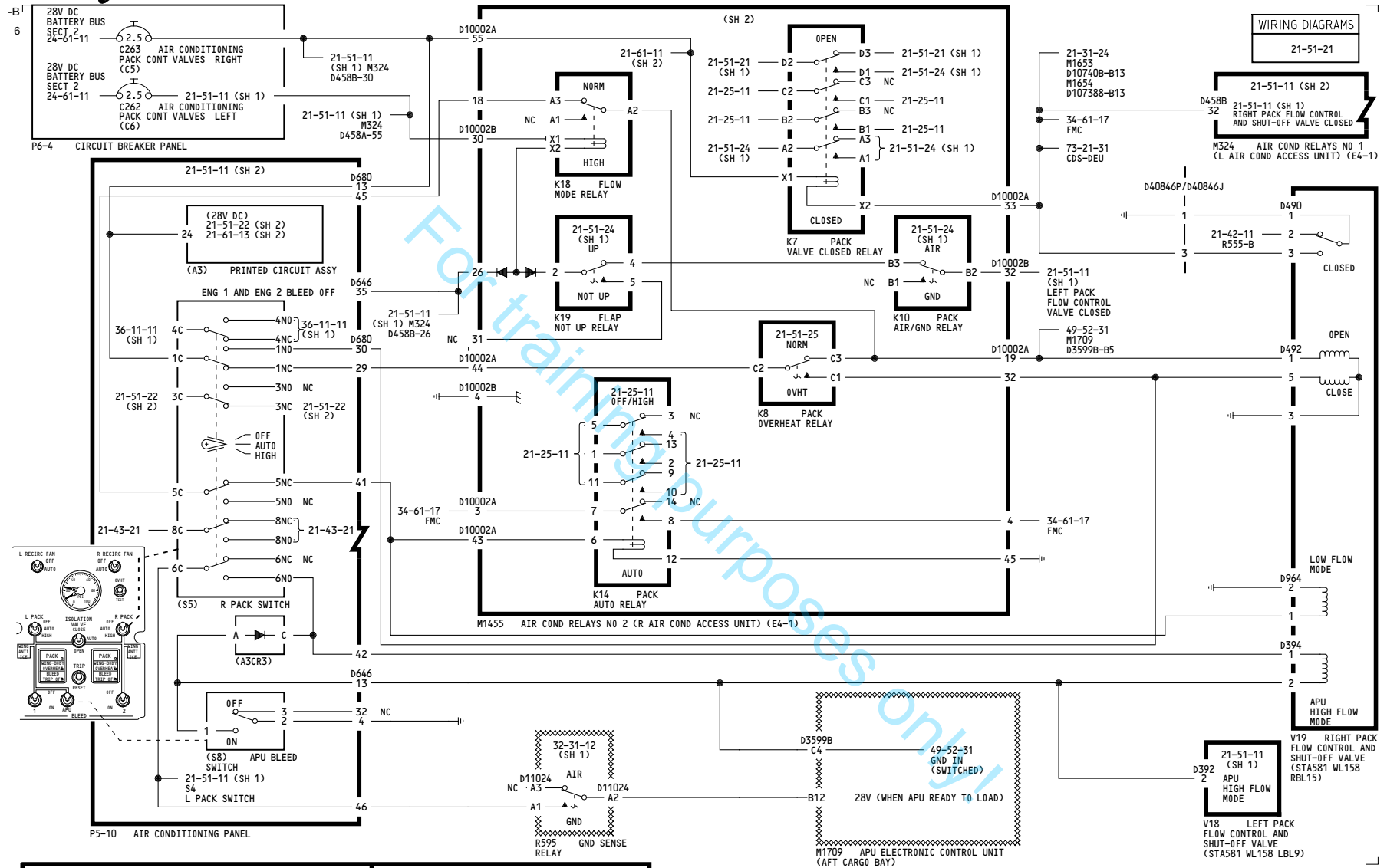
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RIGHT PACK VALVE CONTROL

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RIGHT PACK VALVE CONTROL

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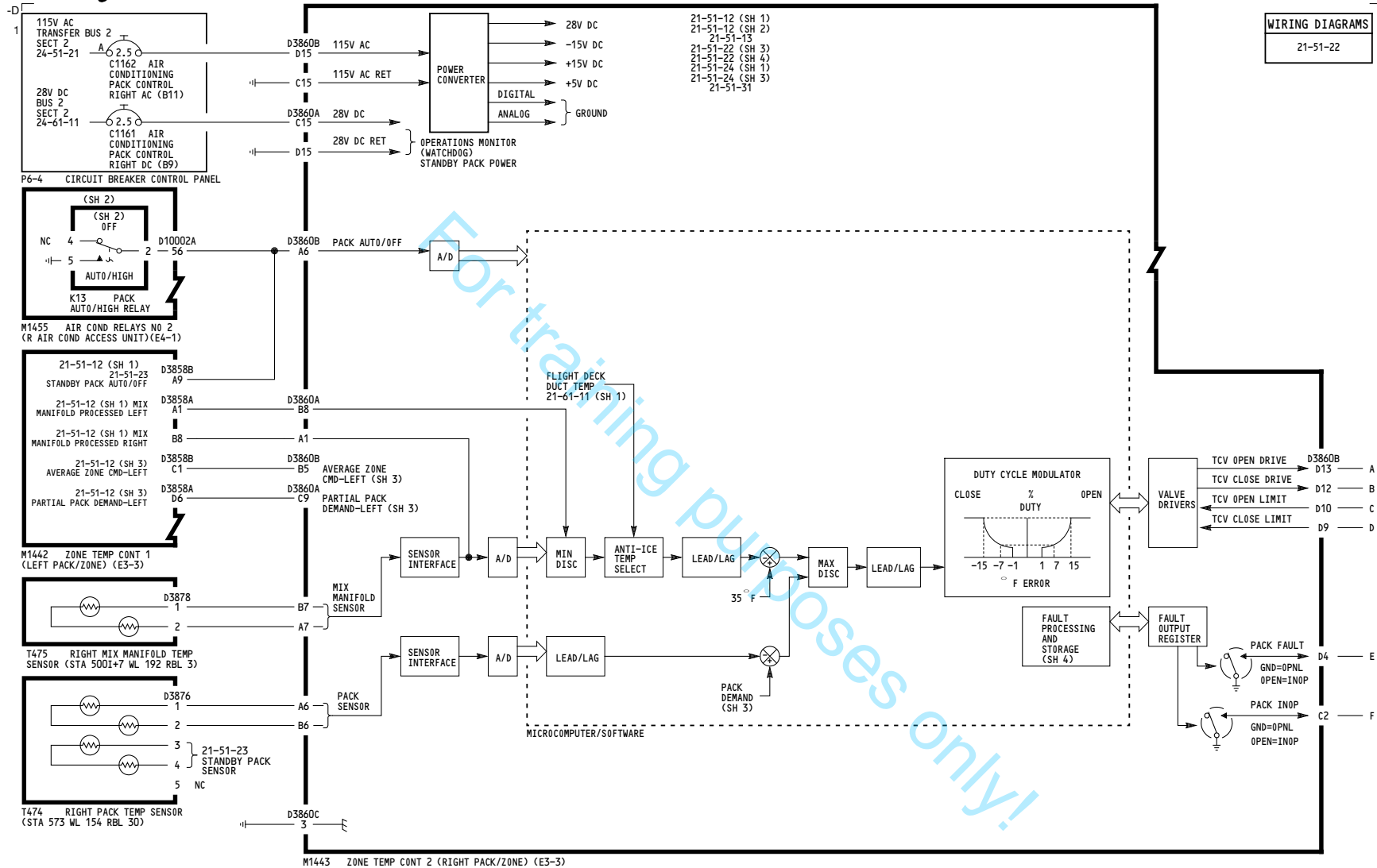
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RIGHT PACK VALVE CONTROL

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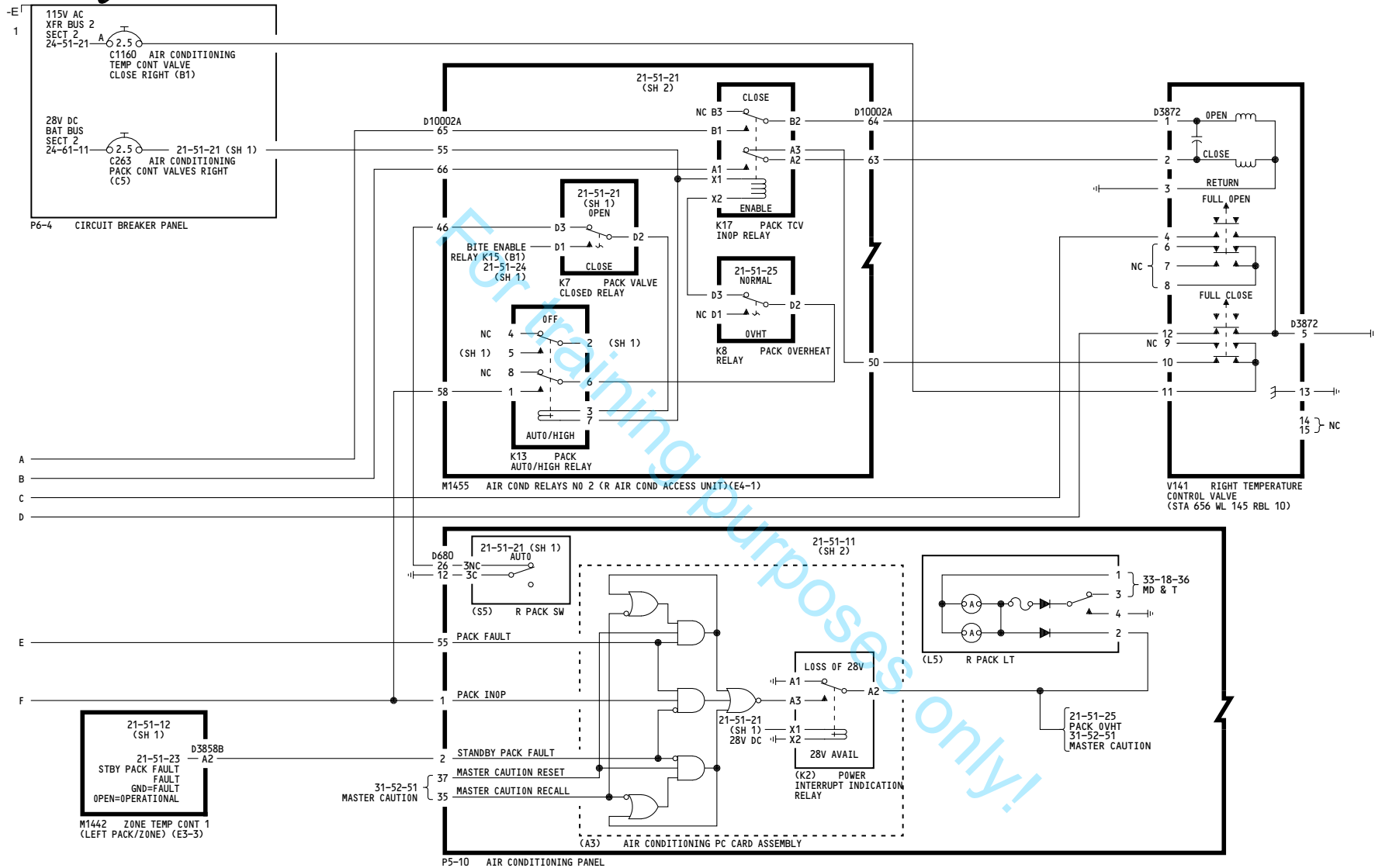
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**RIGHT AIR CONDITIONING  
PACK CONTROL - AUTO**

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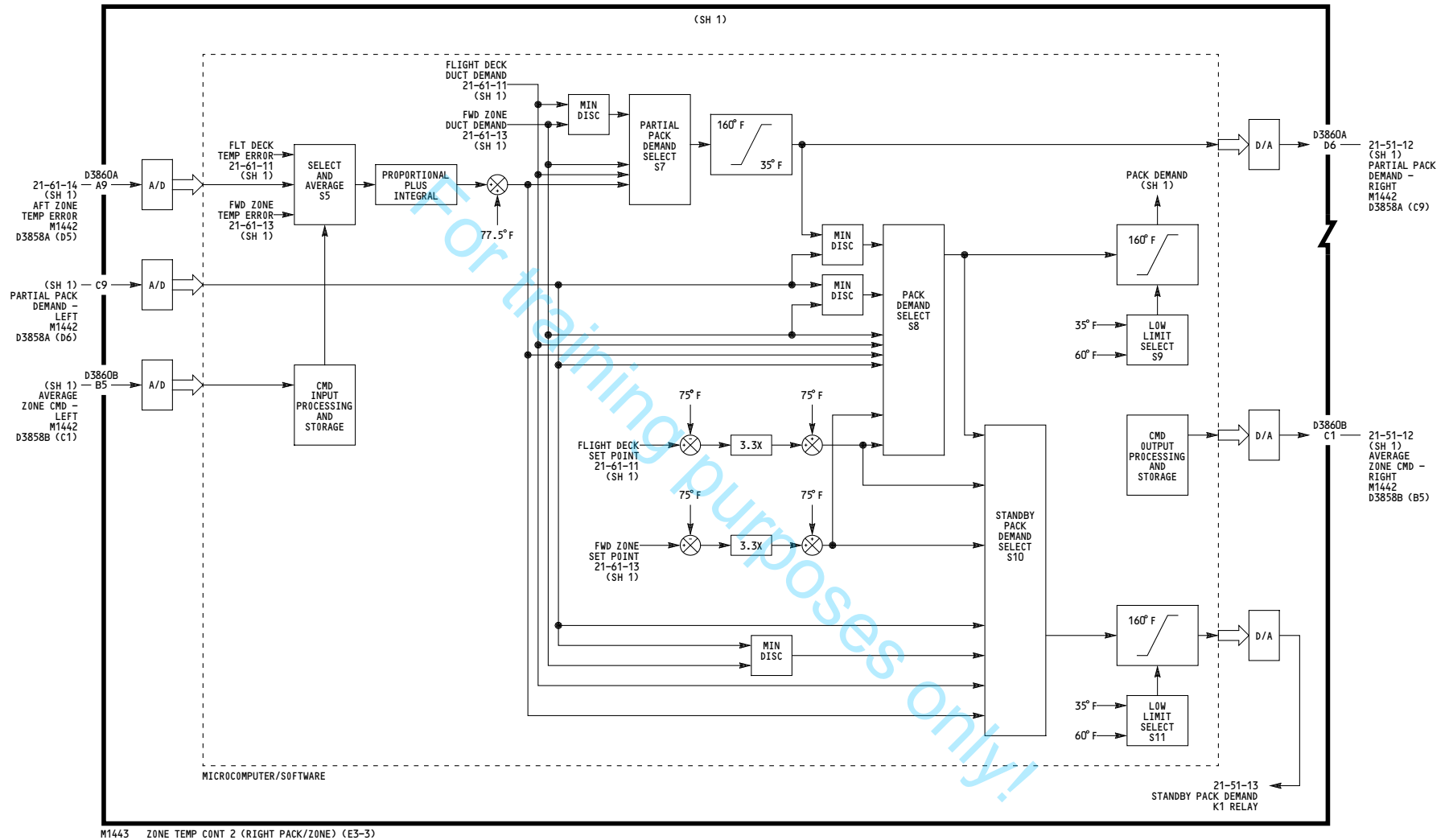
**RIGHT AIR CONDITIONING  
PACK CONTROL - AUTO**

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YD001-YD005

## RIGHT AIR CONDITIONING PACK CONTROL - AUTO

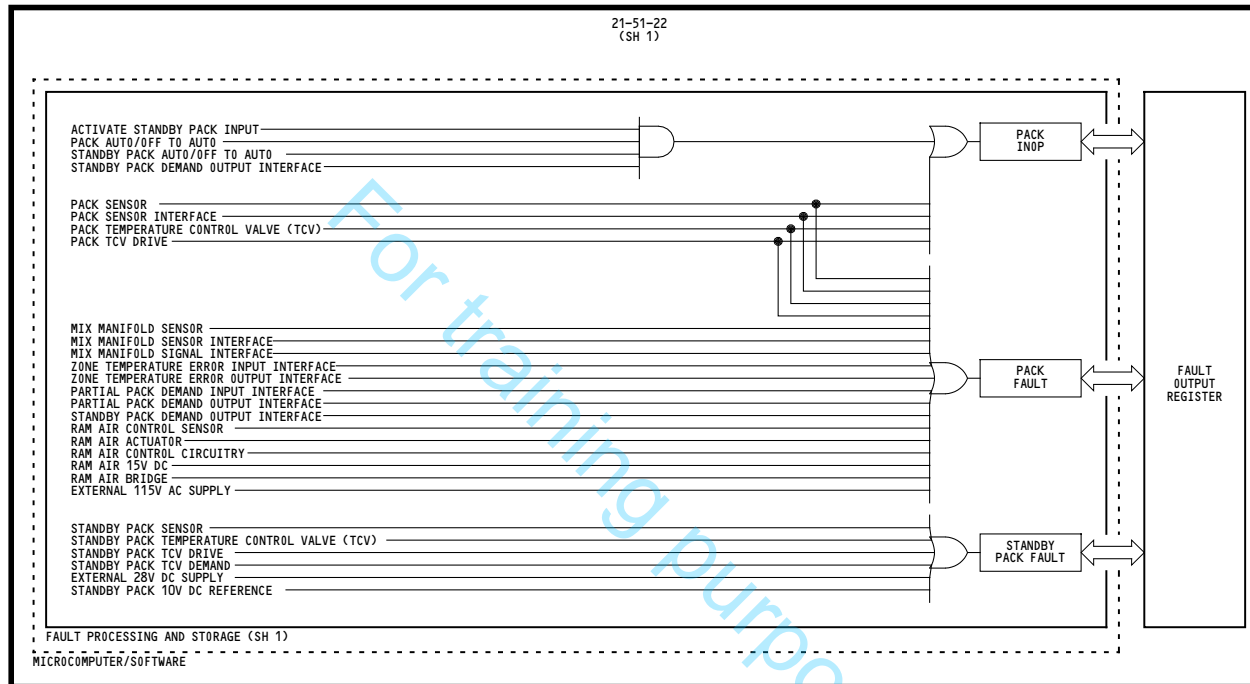
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M1443 ZONE TEMPERATURE CONTROL 2 (RIGHT PACK/ZONE) (E3-3)

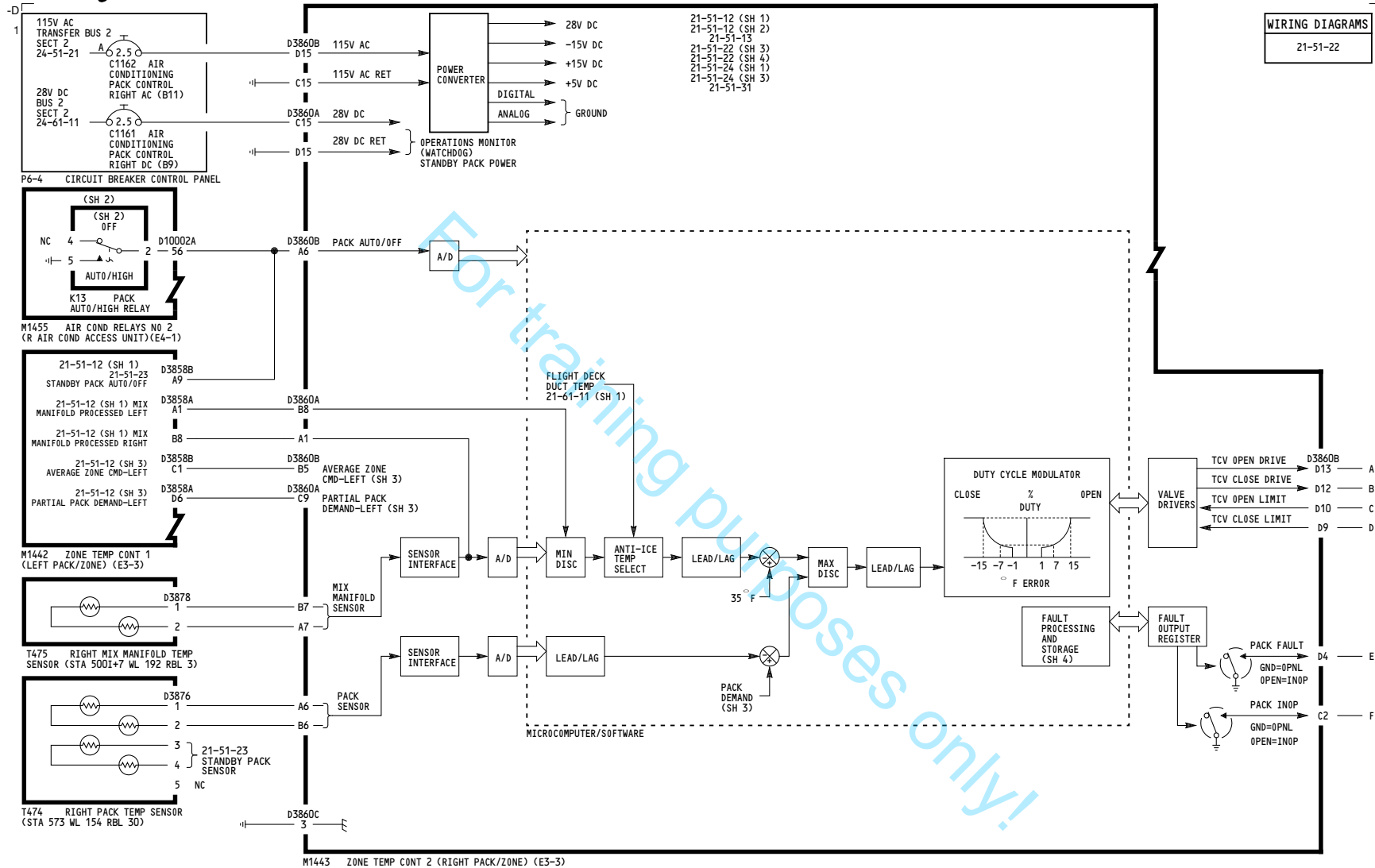
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PACK CONTROL - AUTO**

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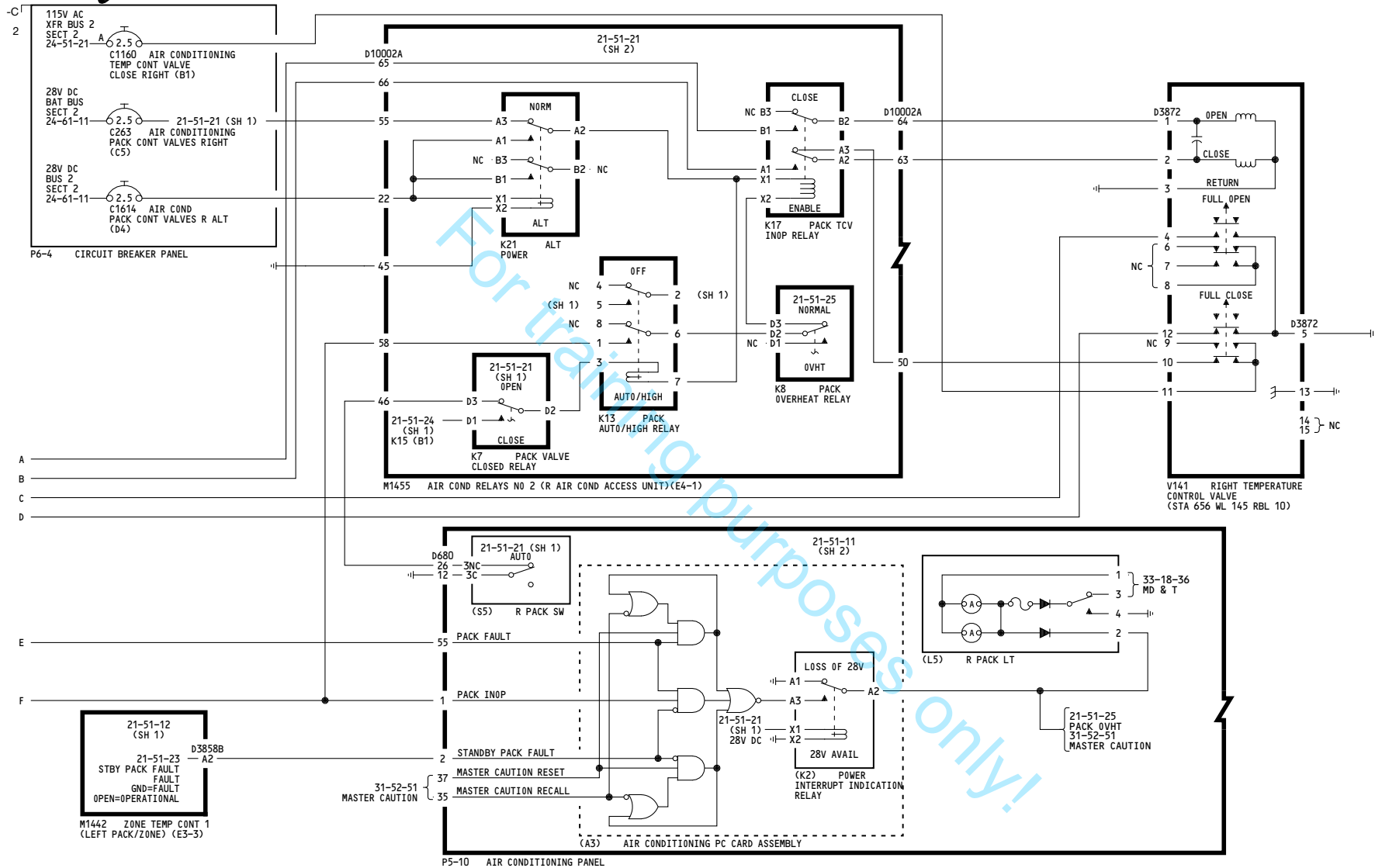
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**RIGHT AIR CONDITIONING  
PACK CONTROL - AUTO**

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YD006-YD020

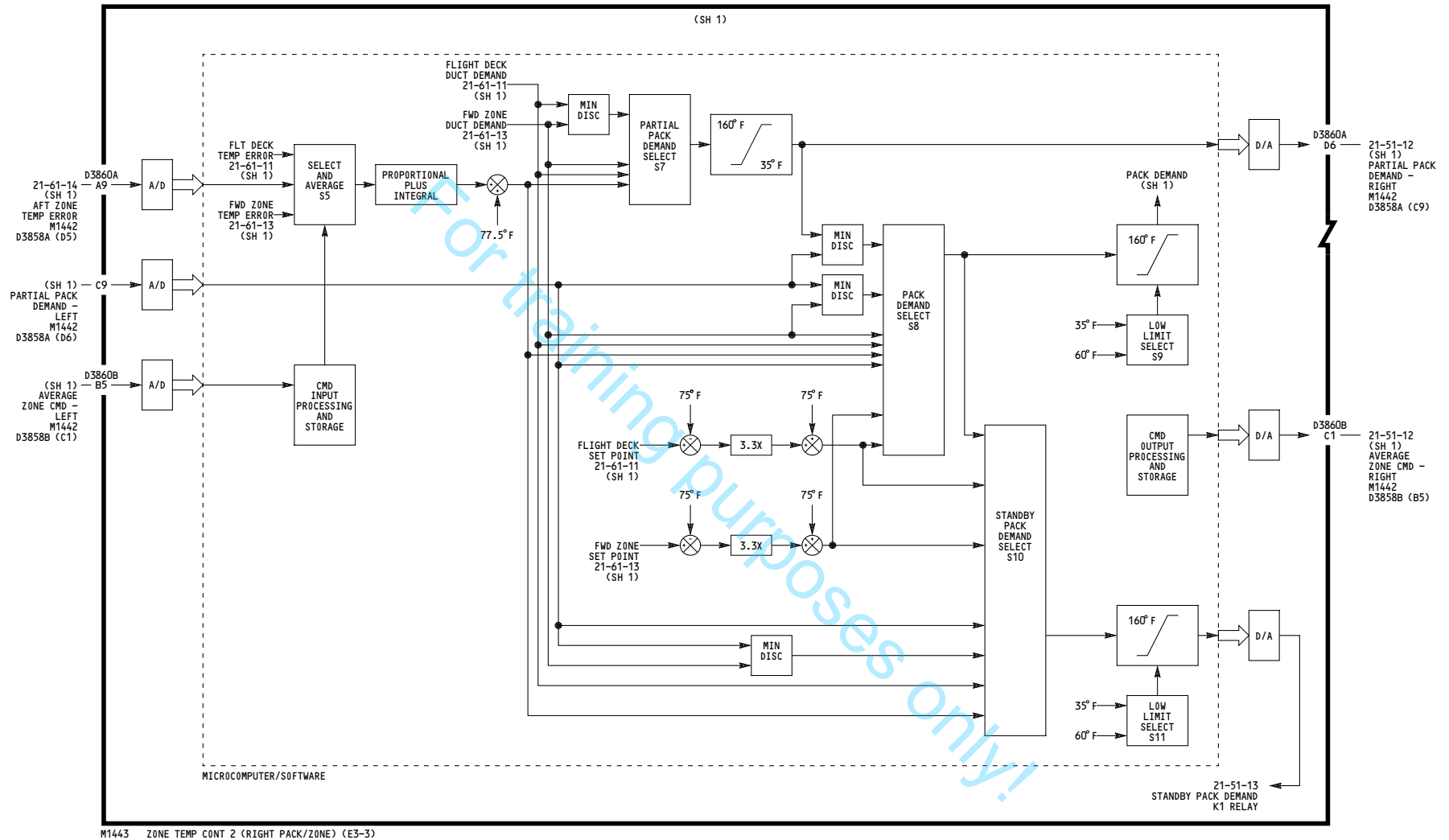
**RIGHT AIR CONDITIONING  
PACK CONTROL - AUTO**

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M1443 ZONE TEMP CONT 2 (RIGHT PACK/ZONE) (E3-3)

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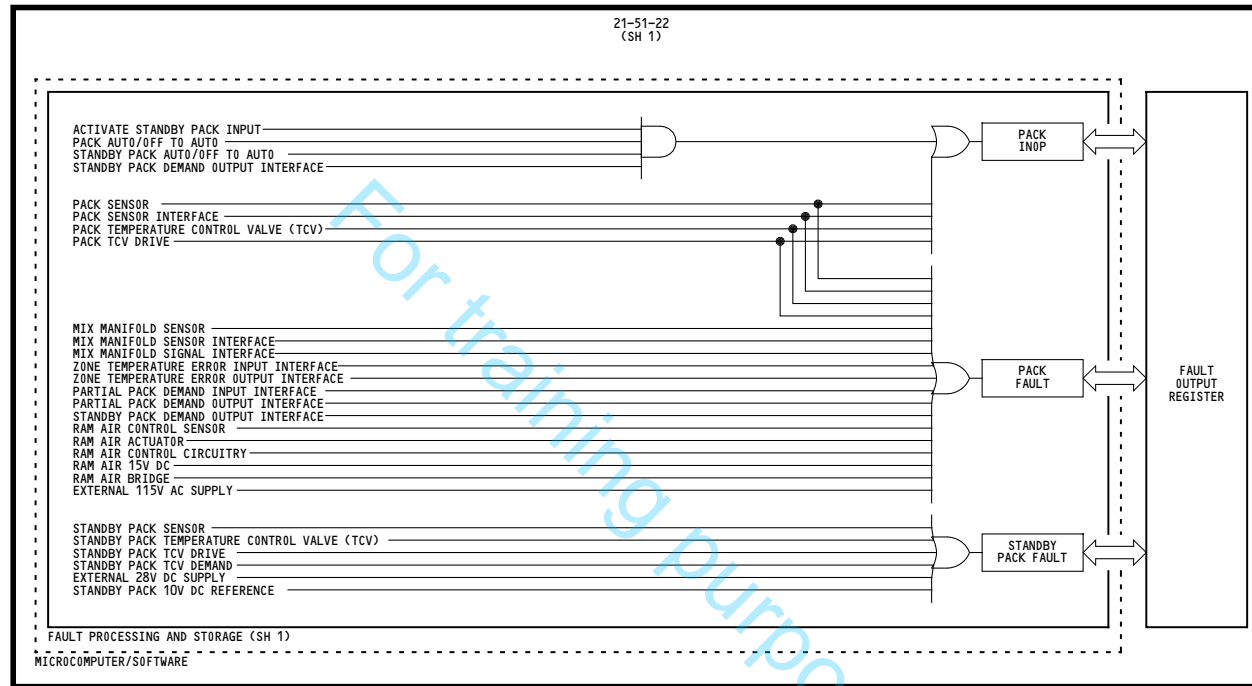
### RIGHT AIR CONDITIONING PACK CONTROL - AUTO

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M1443 ZONE TEMPERATURE CONTROL 2 (RIGHT PACK/ZONE) (E3-3)

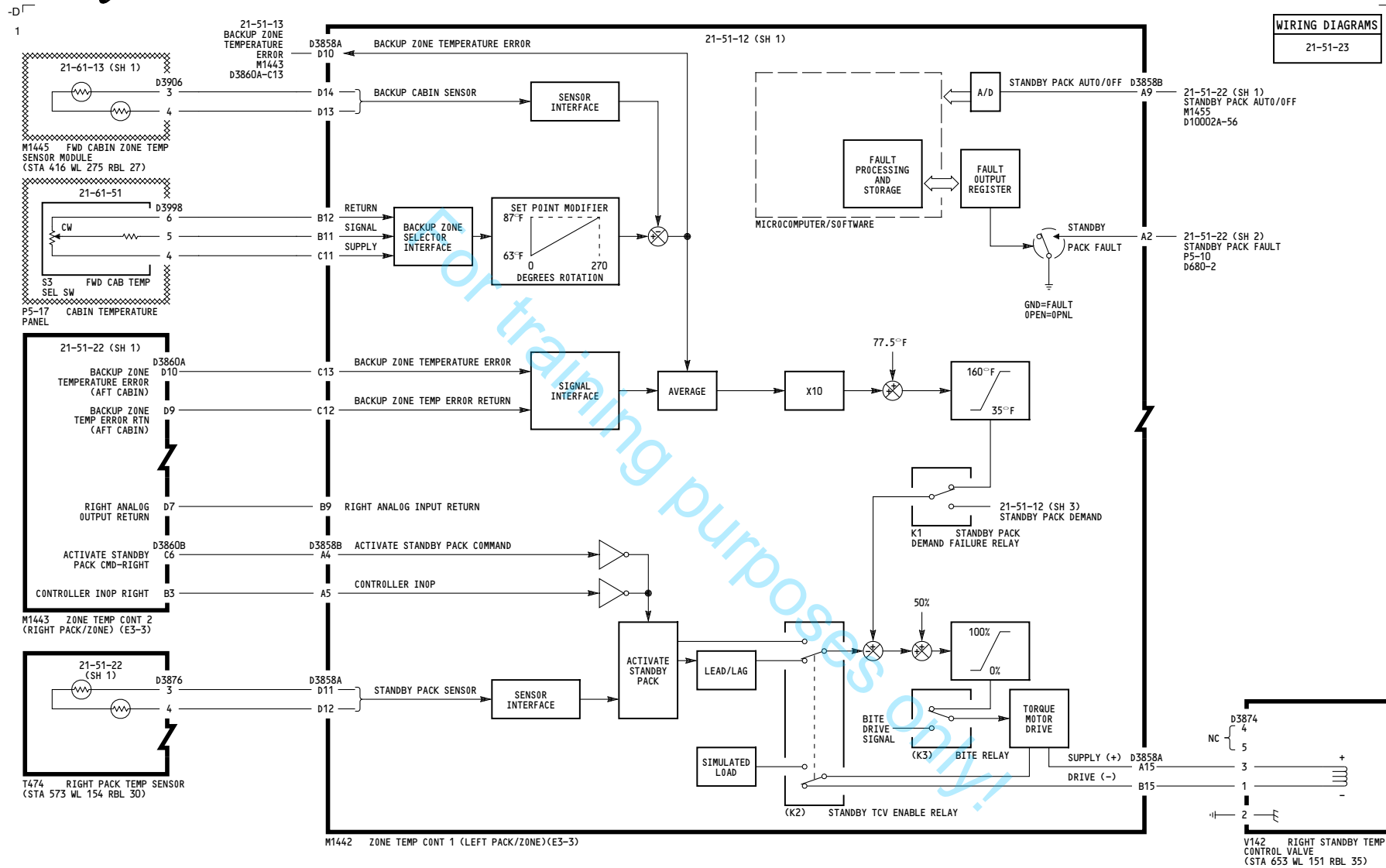
YD006-YD020

**RIGHT AIR CONDITIONING  
PACK CONTROL - AUTO**

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RIGHT AIR CONDITIONING  
PACK CONTROL STANDBY

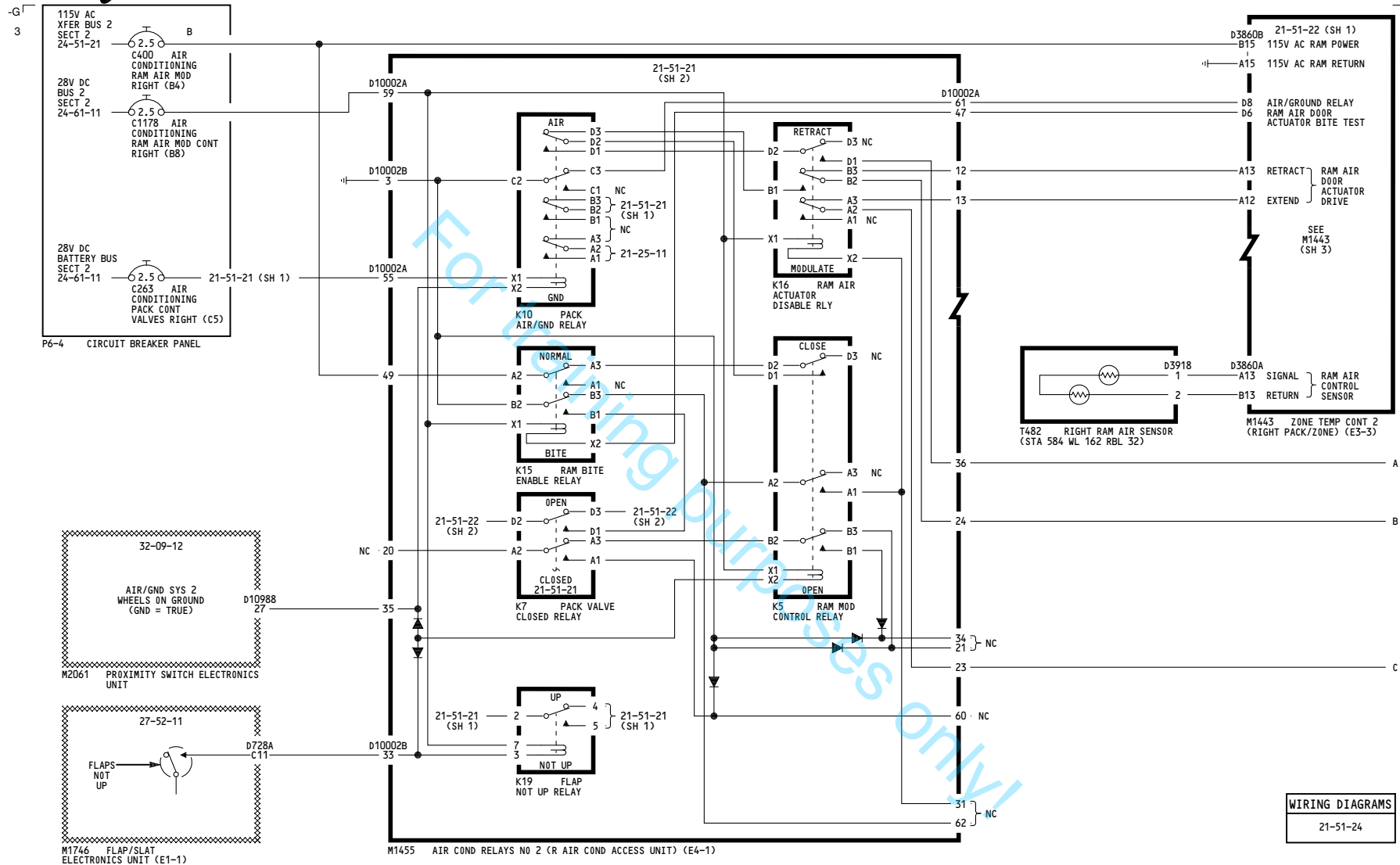
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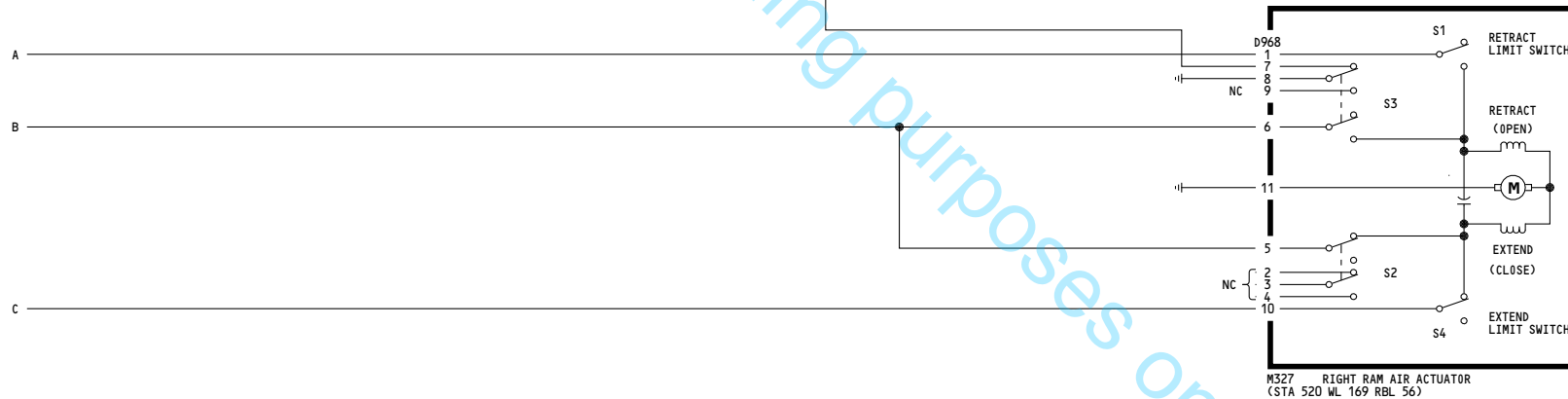
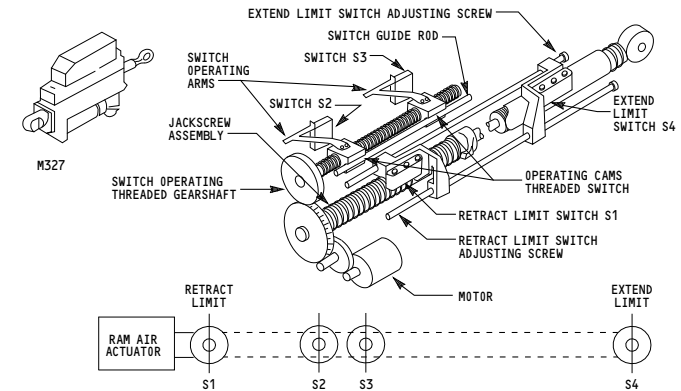
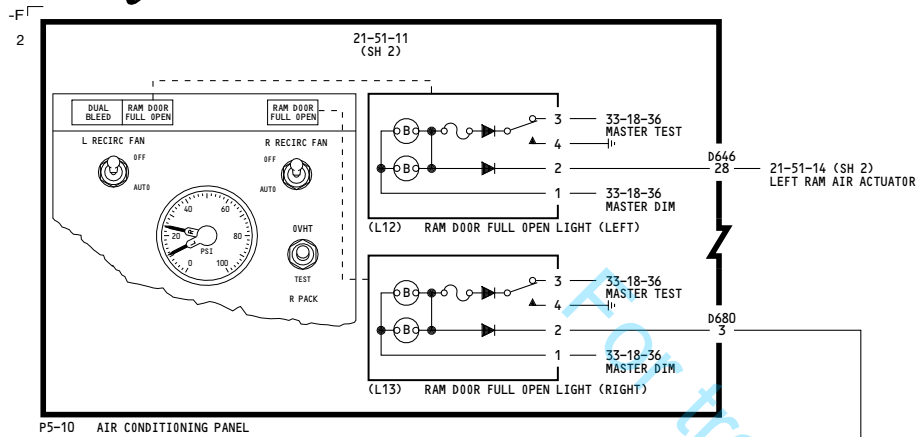
**RIGHT RAM MODULATION  
CONTROL**

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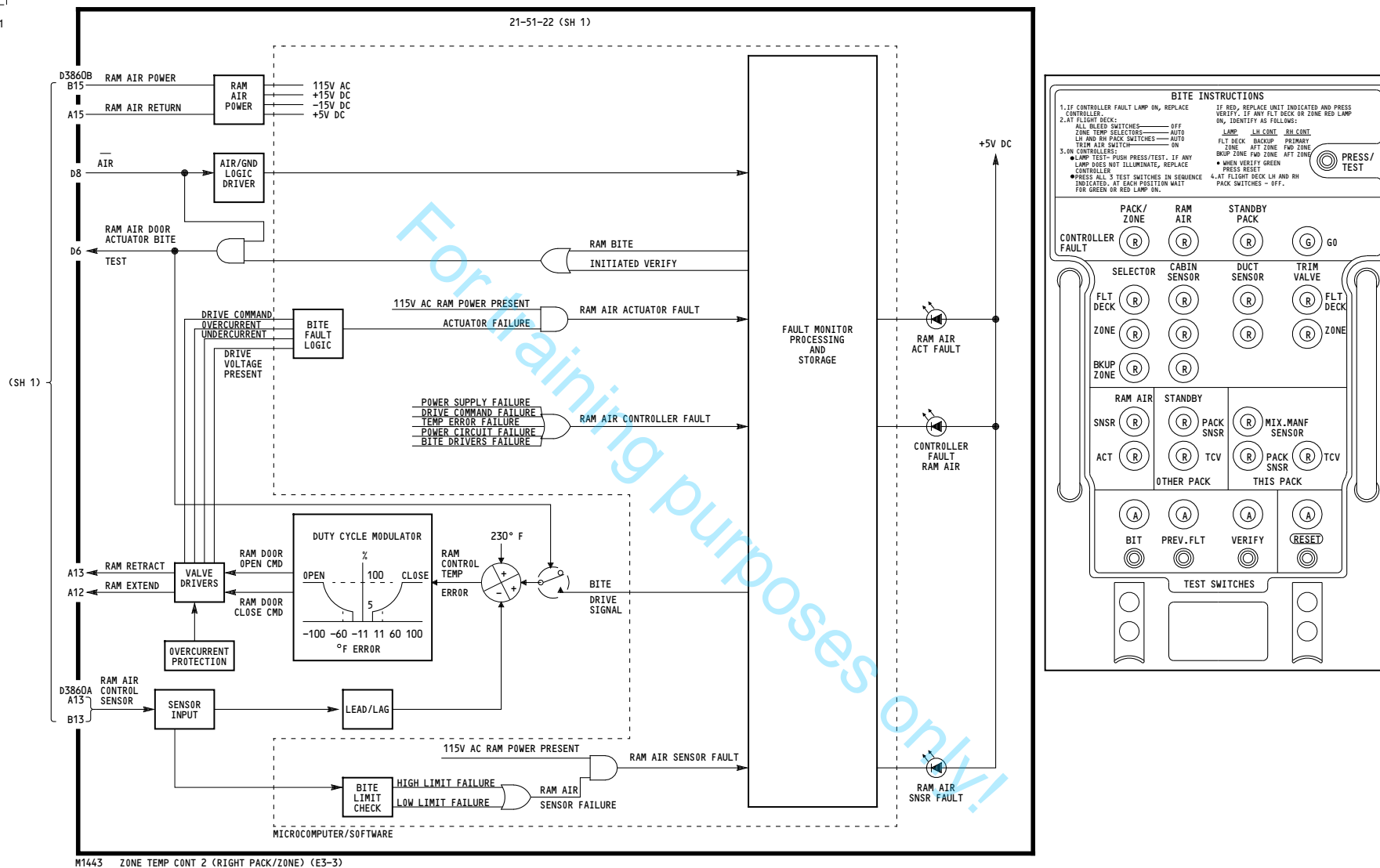
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**RIGHT RAM MODULATION  
CONTROL**

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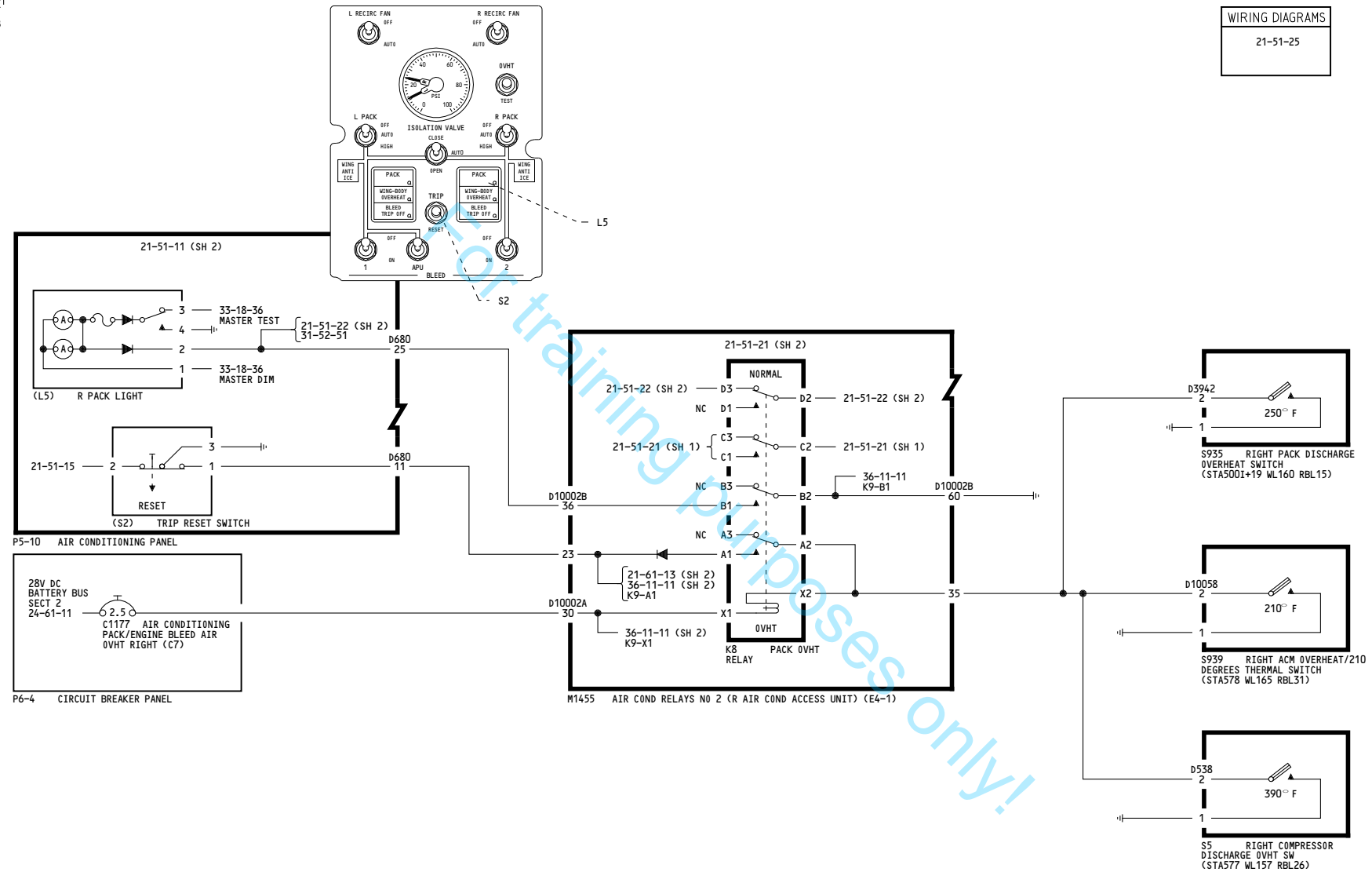
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## RIGHT RAM MODULATION CONTROL

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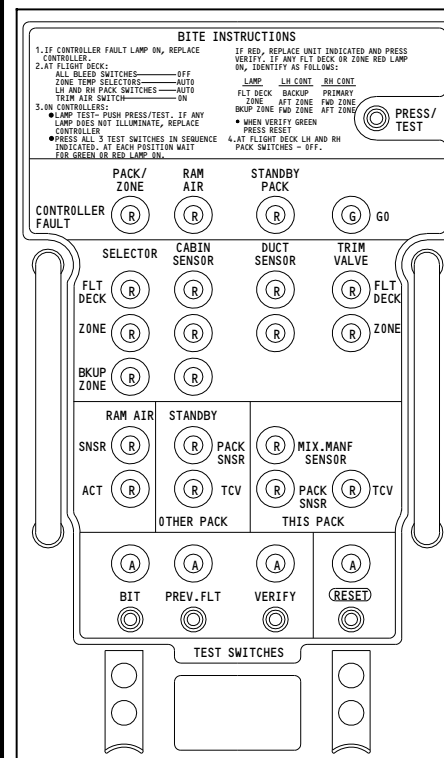
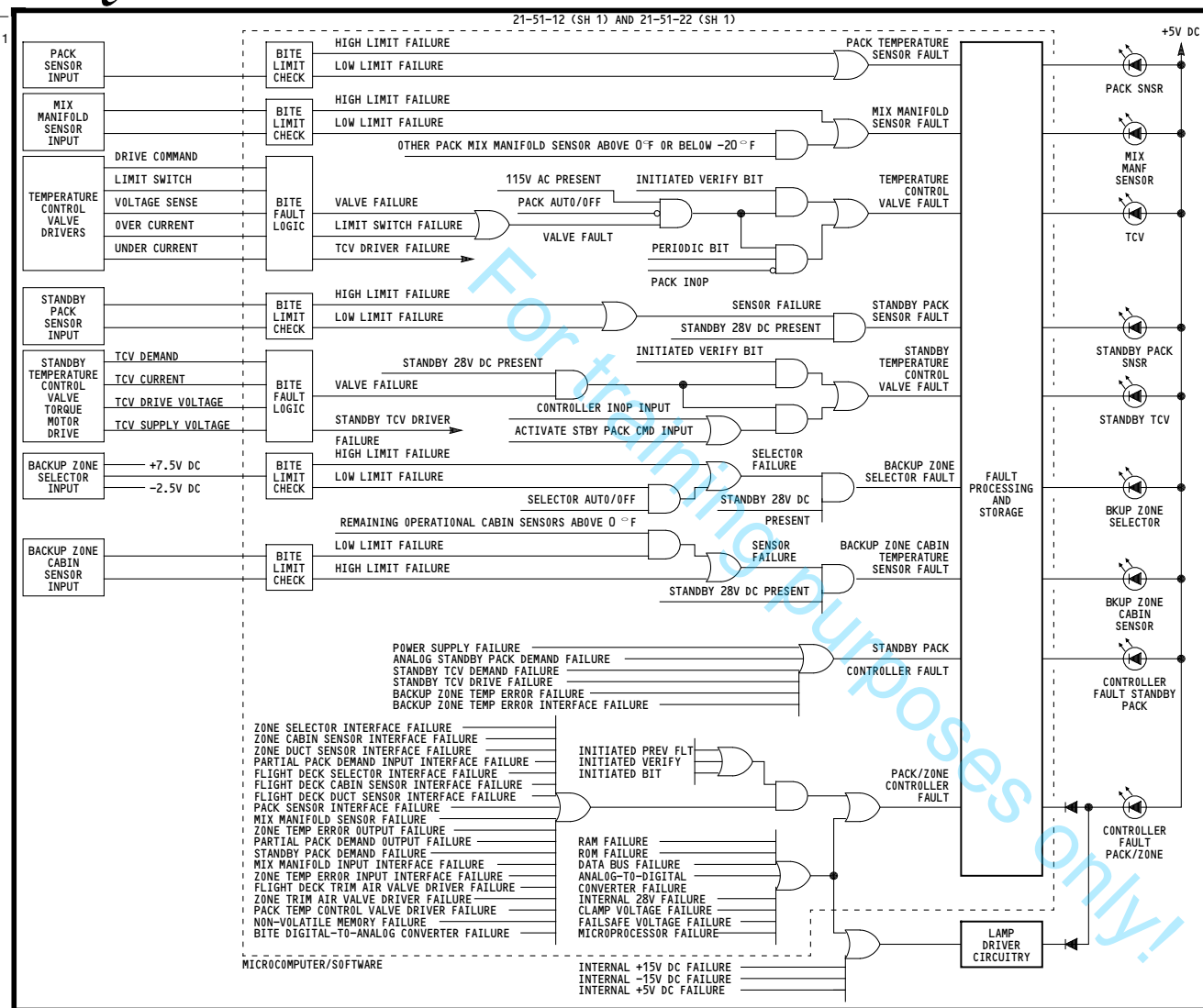
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M1442 AND M1443 ZONE TEMP CONT 1 & 2 (TYPICAL) (E3-3)

ALL

**AIR CONDITIONING  
PACK CONTROL BITE**

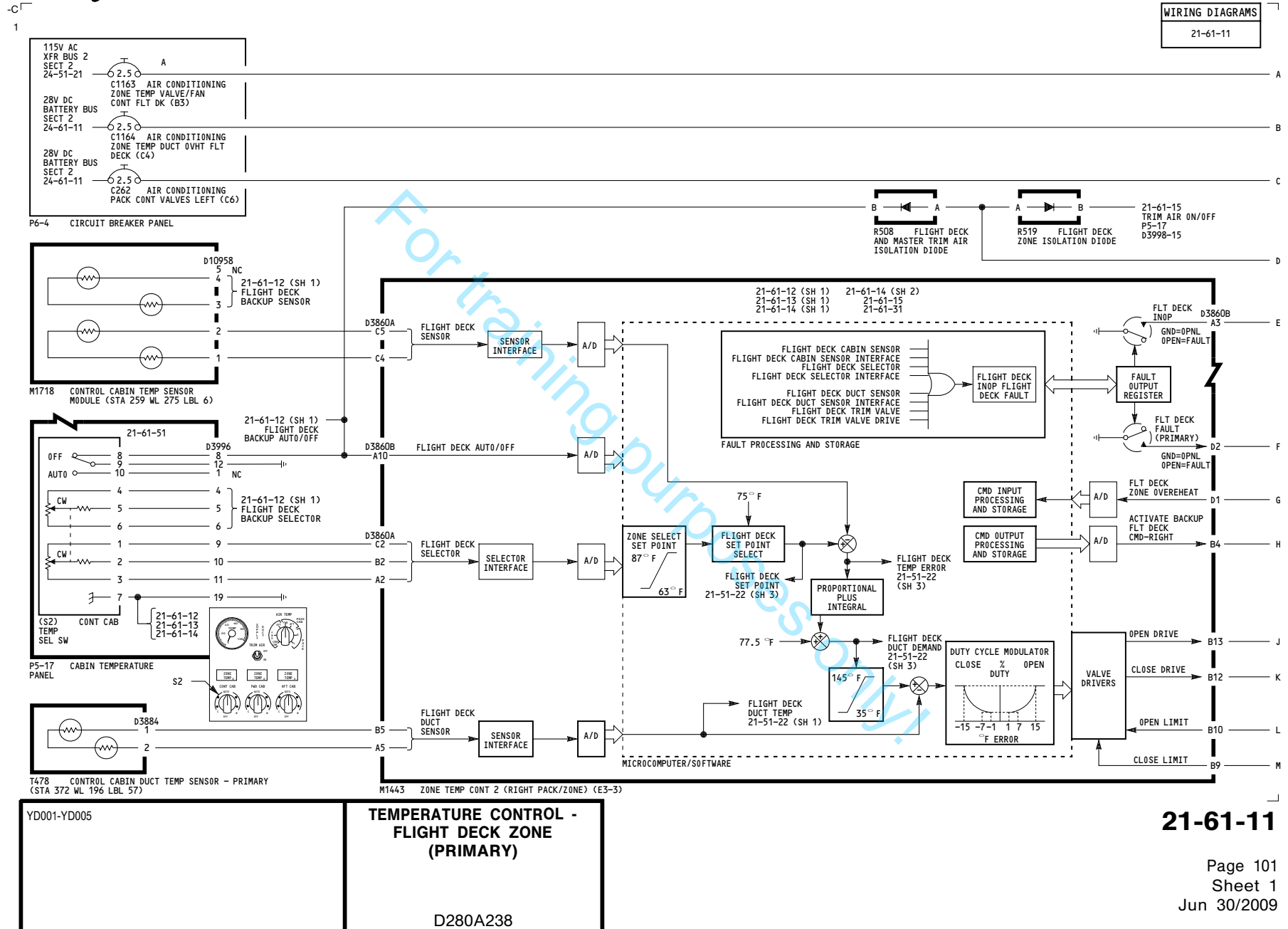
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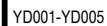
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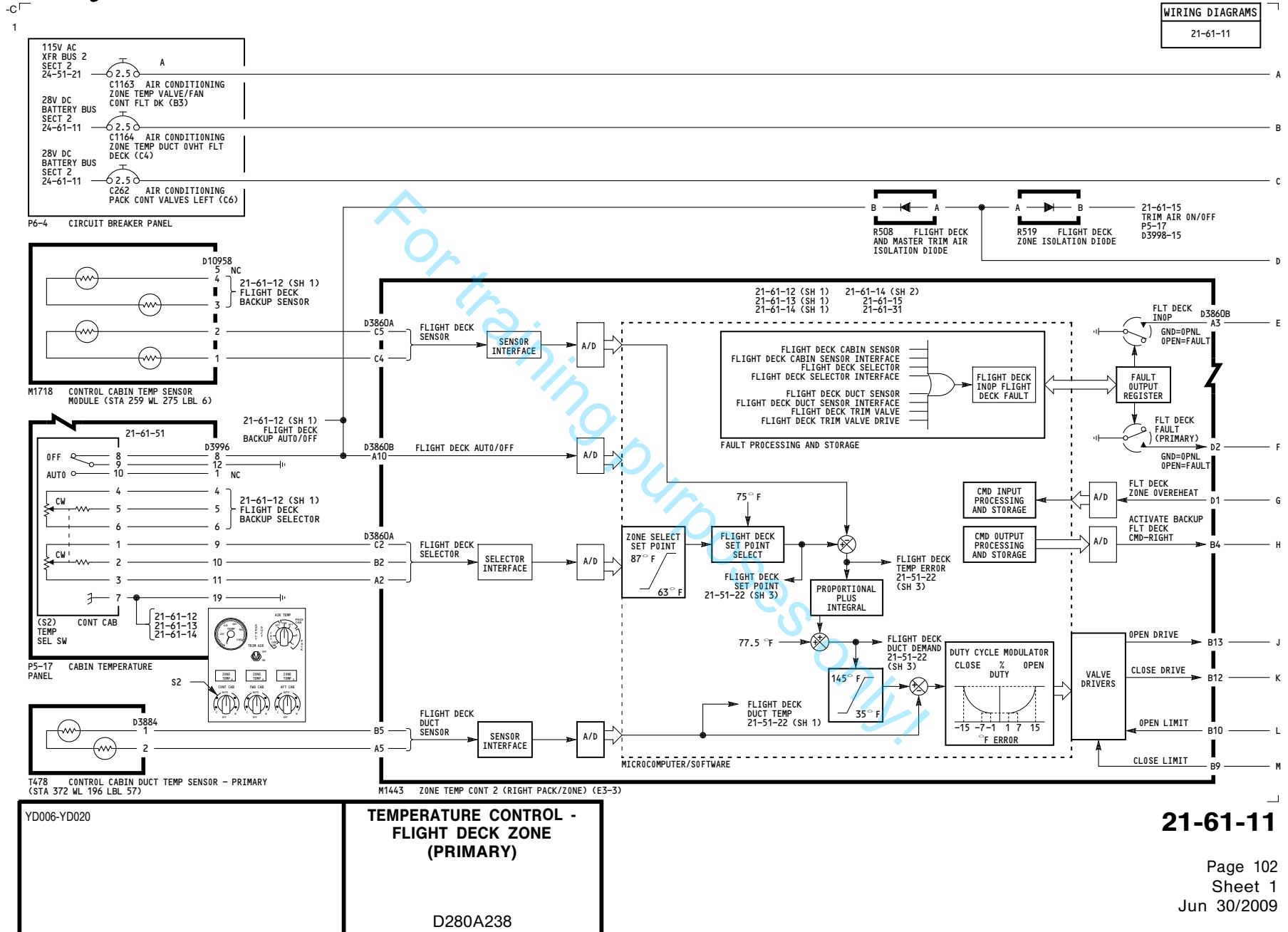


21-61-11

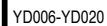


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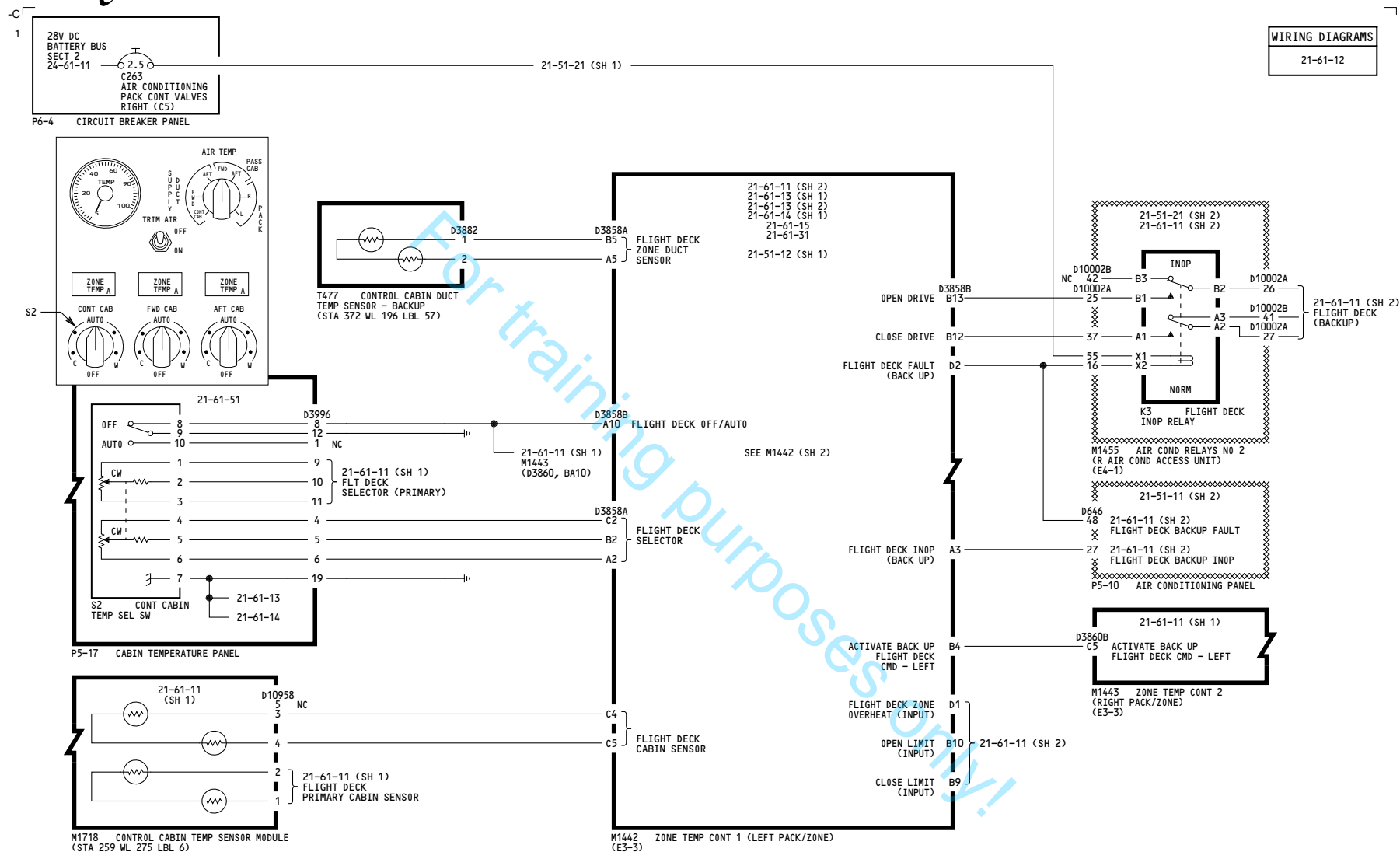


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**WIRING DIAGRAMS**

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YD001-YD005

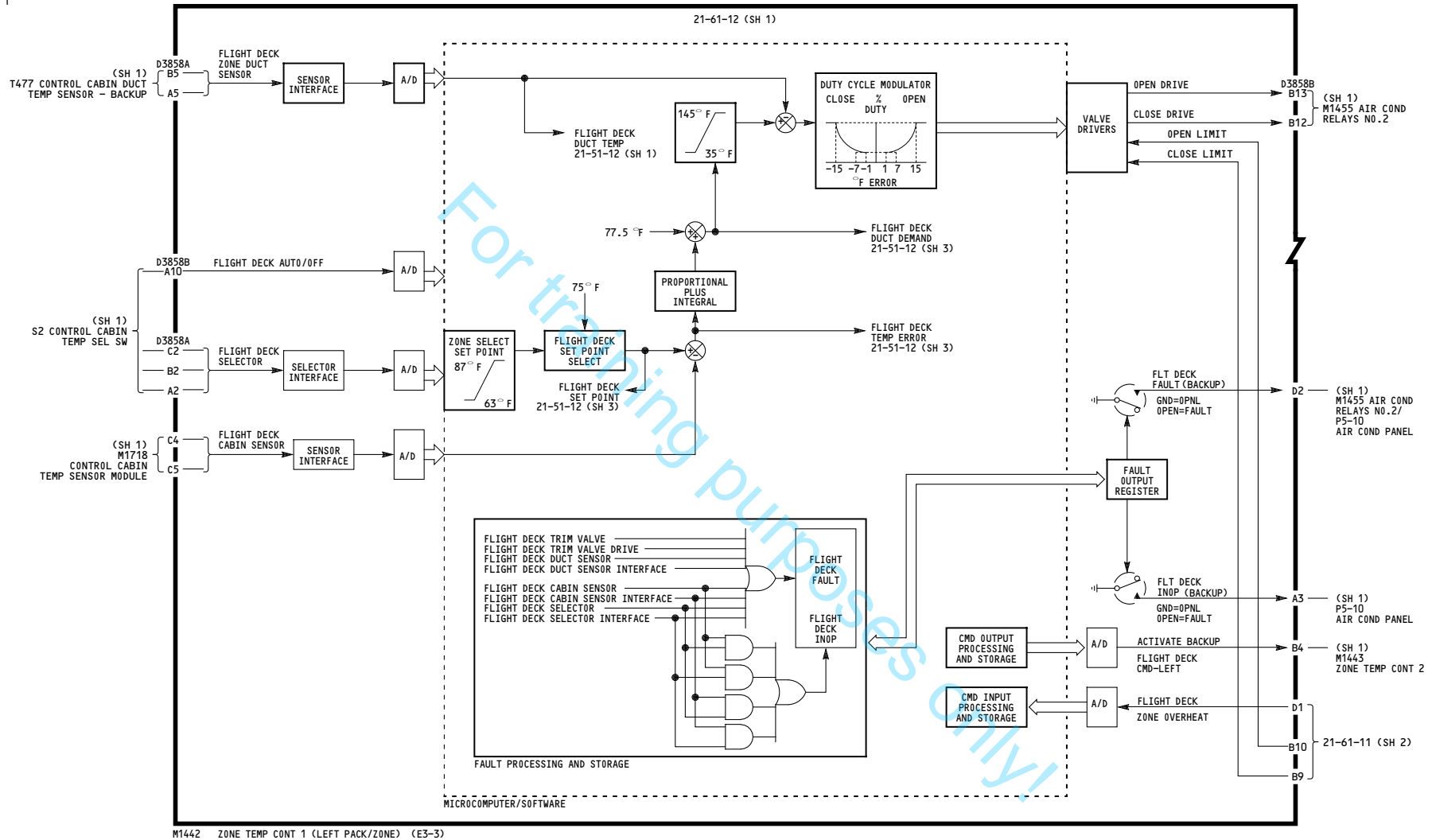
**TEMPERATURE CONTROL -  
FLIGHT DECK ZONE  
(BACKUP)**

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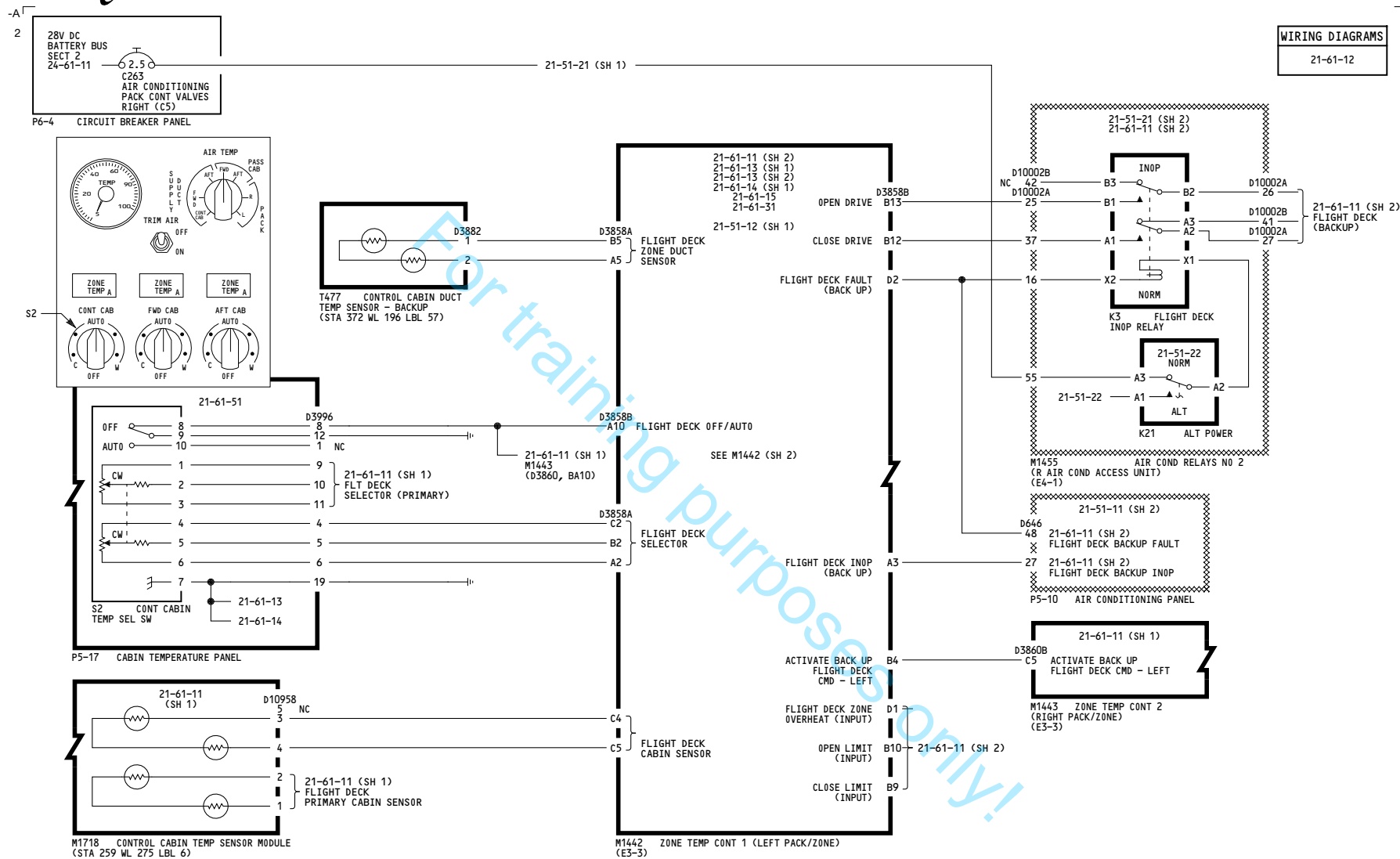
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**TEMPERATURE CONTROL -  
FLIGHT DECK ZONE  
(BACKUP)**

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YD006-YD020

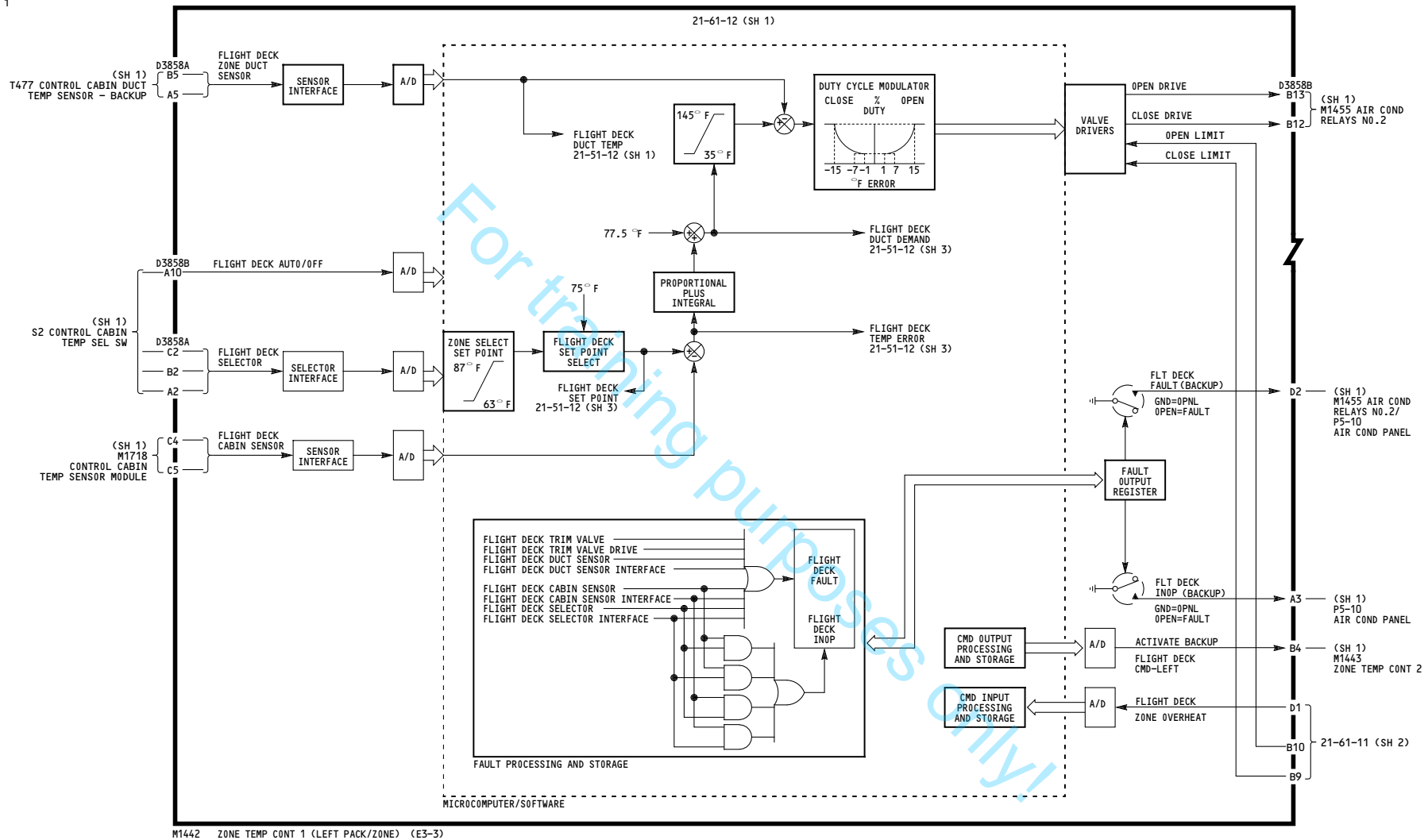
**TEMPERATURE CONTROL -  
FLIGHT DECK ZONE  
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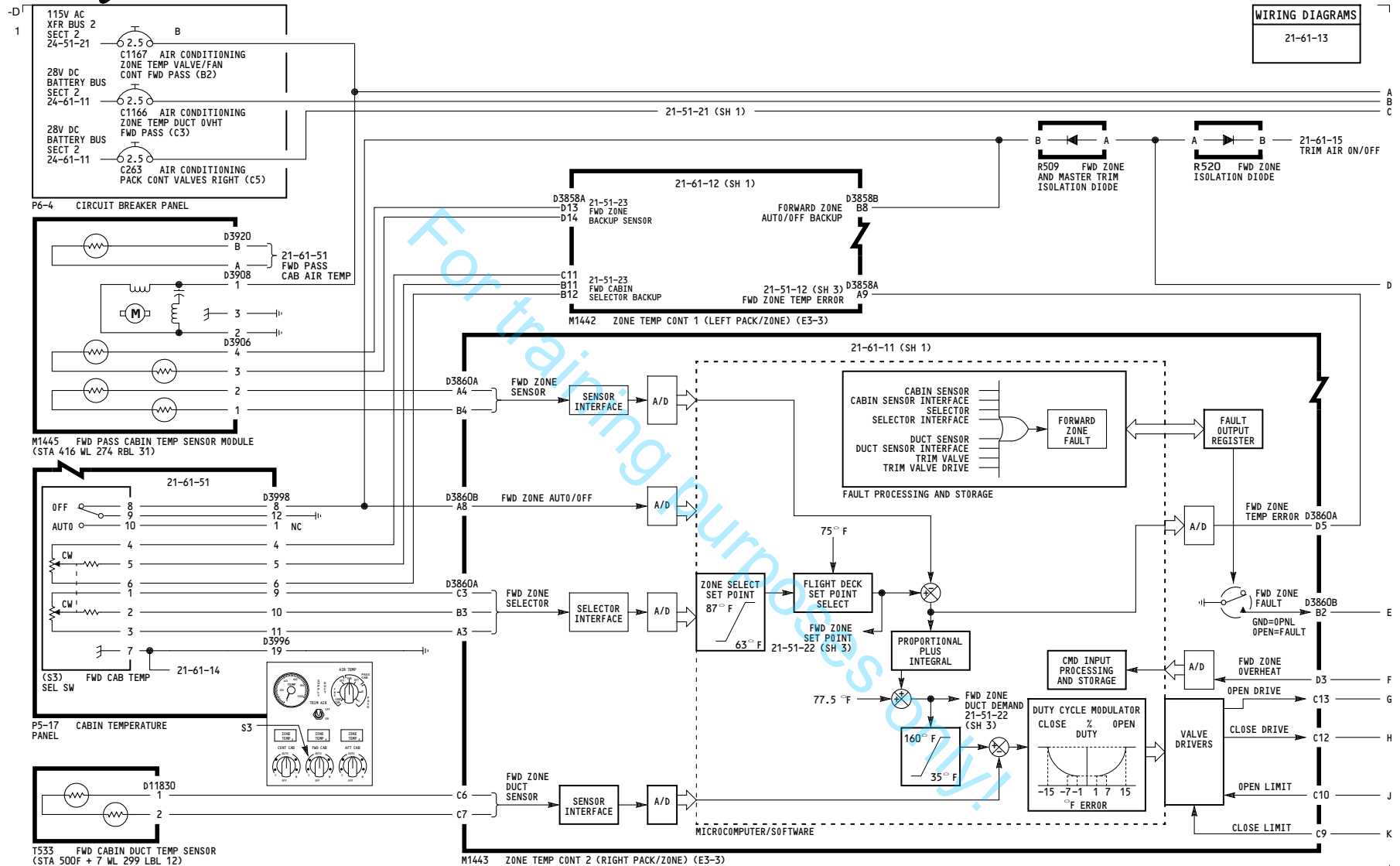
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**TEMPERATURE CONTROL -  
FLIGHT DECK ZONE  
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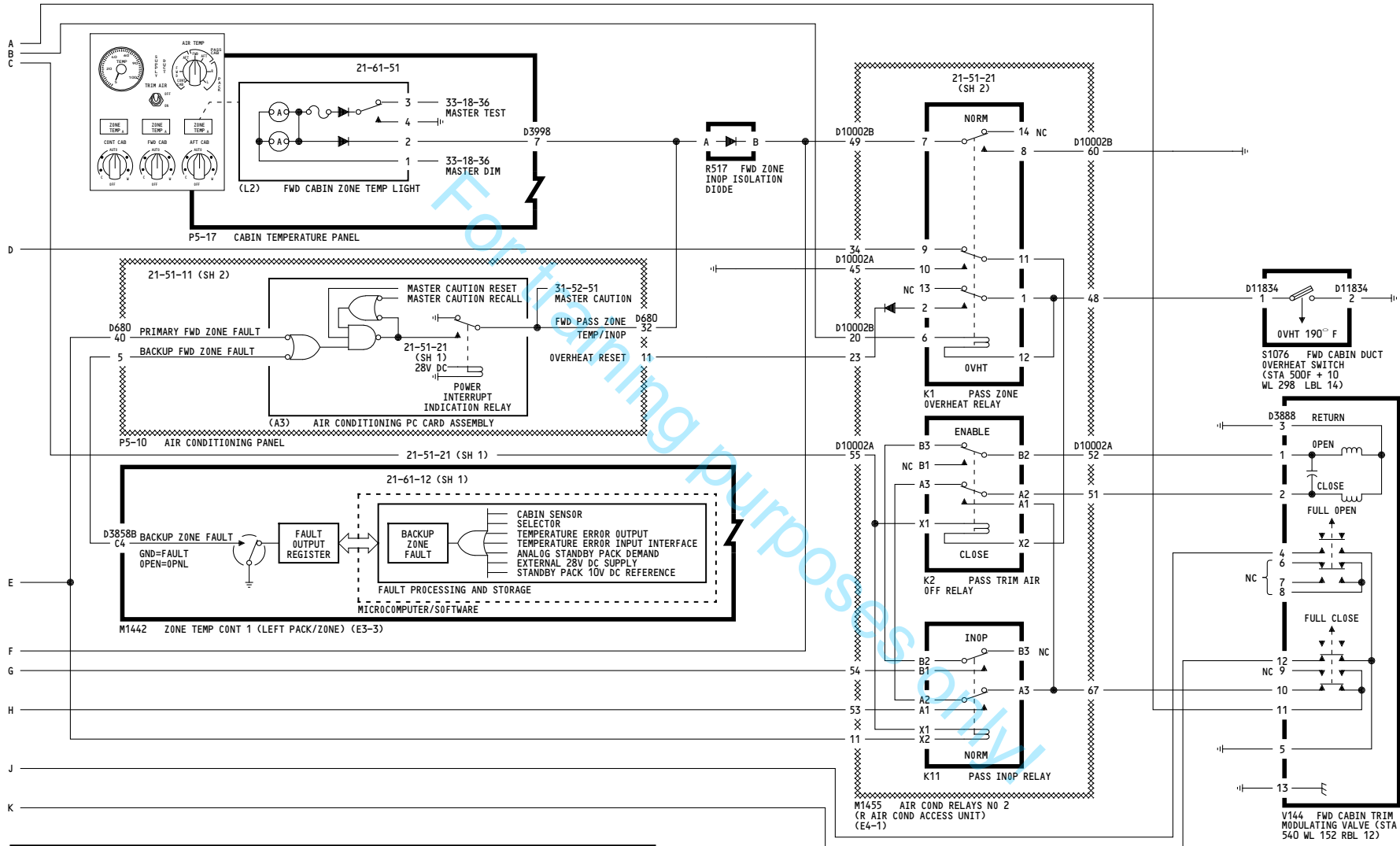
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### TEMPERATURE CONTROL - FWD PASSENGER ZONE

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YD001-YD005

## TEMPERATURE CONTROL - FWD PASSENGER ZONE

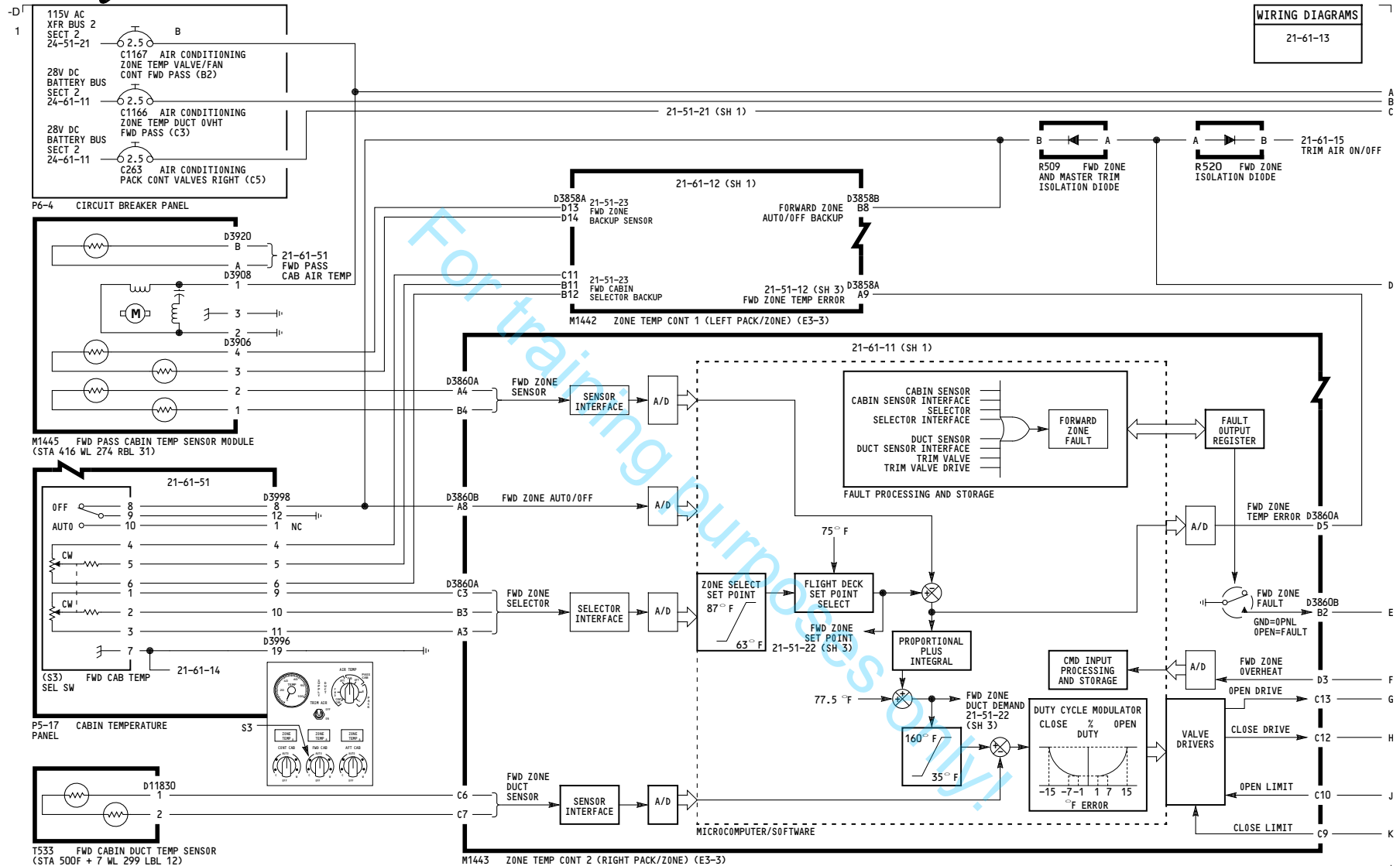
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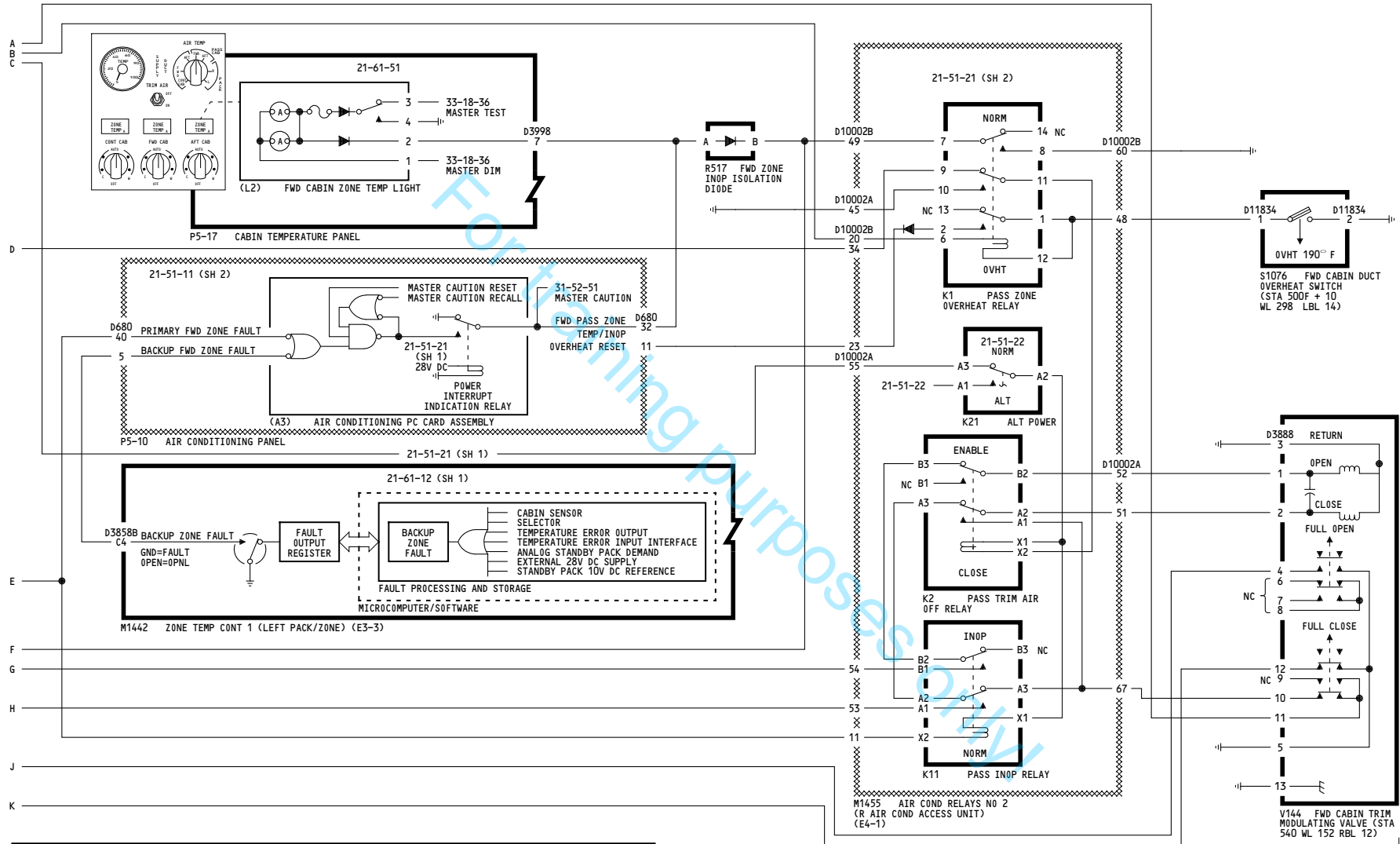
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### TEMPERATURE CONTROL - FWD PASSENGER ZONE

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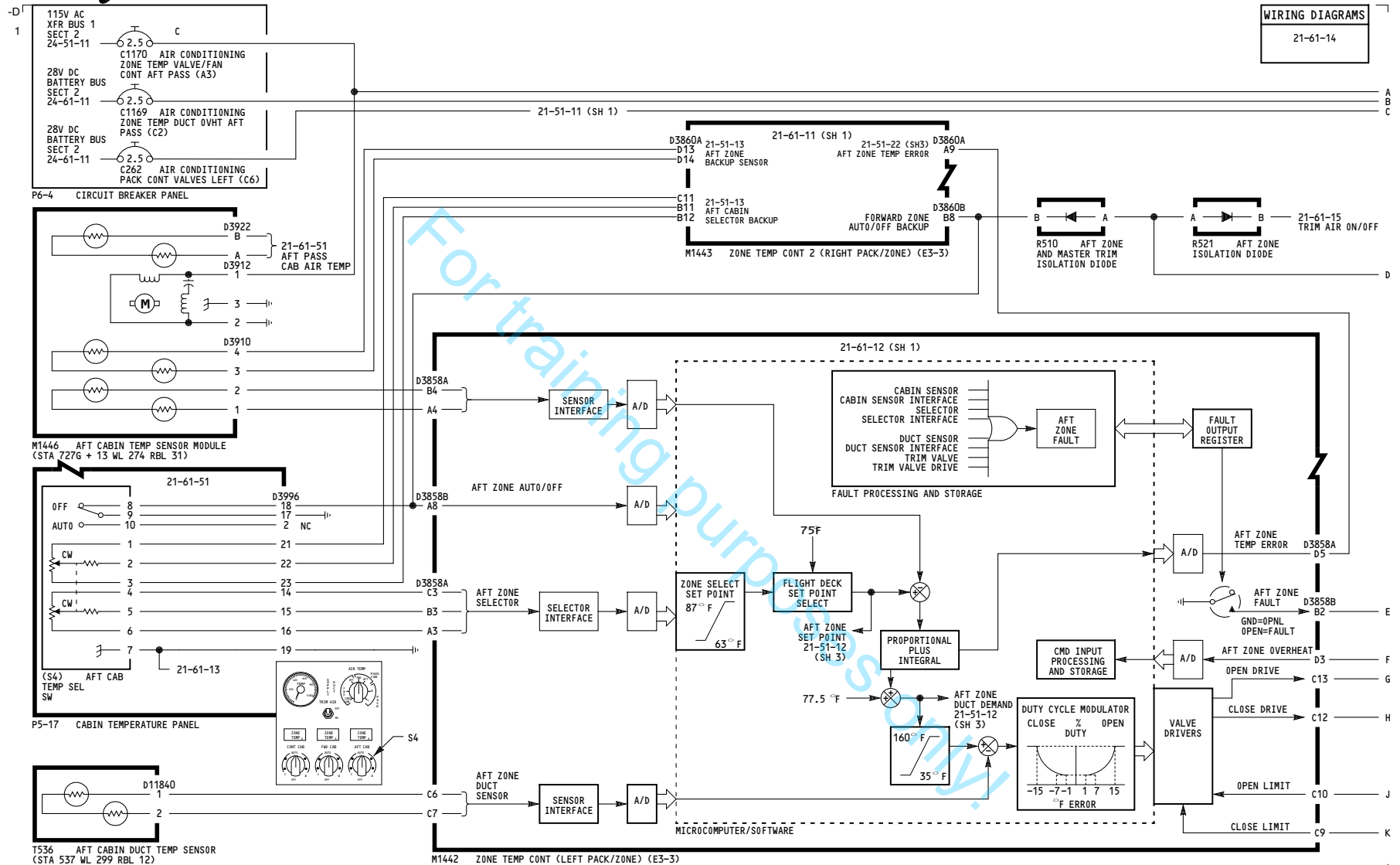
YD006-YD020

**TEMPERATURE CONTROL -  
FWD PASSENGER ZONE**

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YD001-YD005

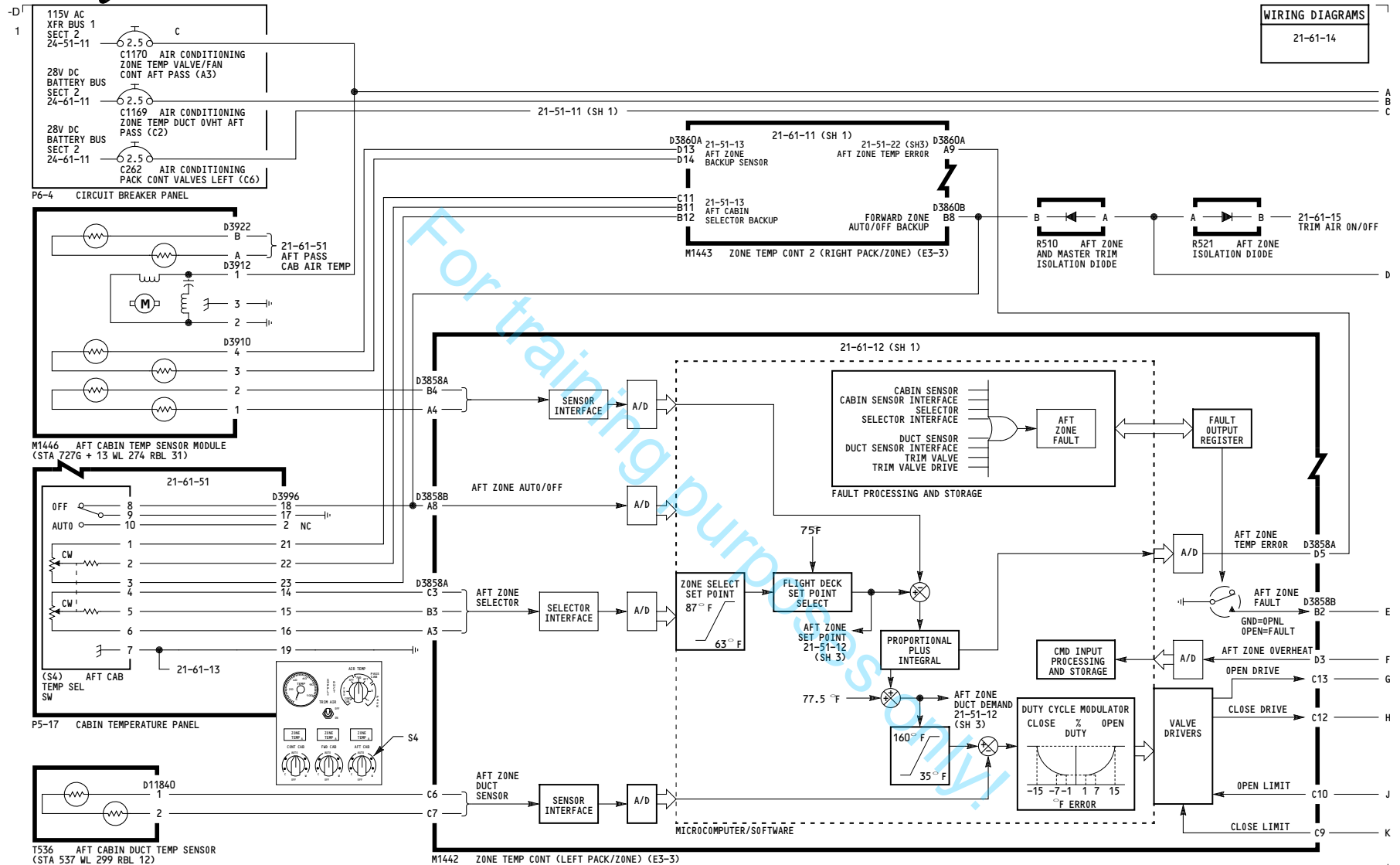
## TEMPERATURE CONTROL - AFT PASSENGER ZONE

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YD006-YD020

## TEMPERATURE CONTROL - AFT PASSENGER ZONE

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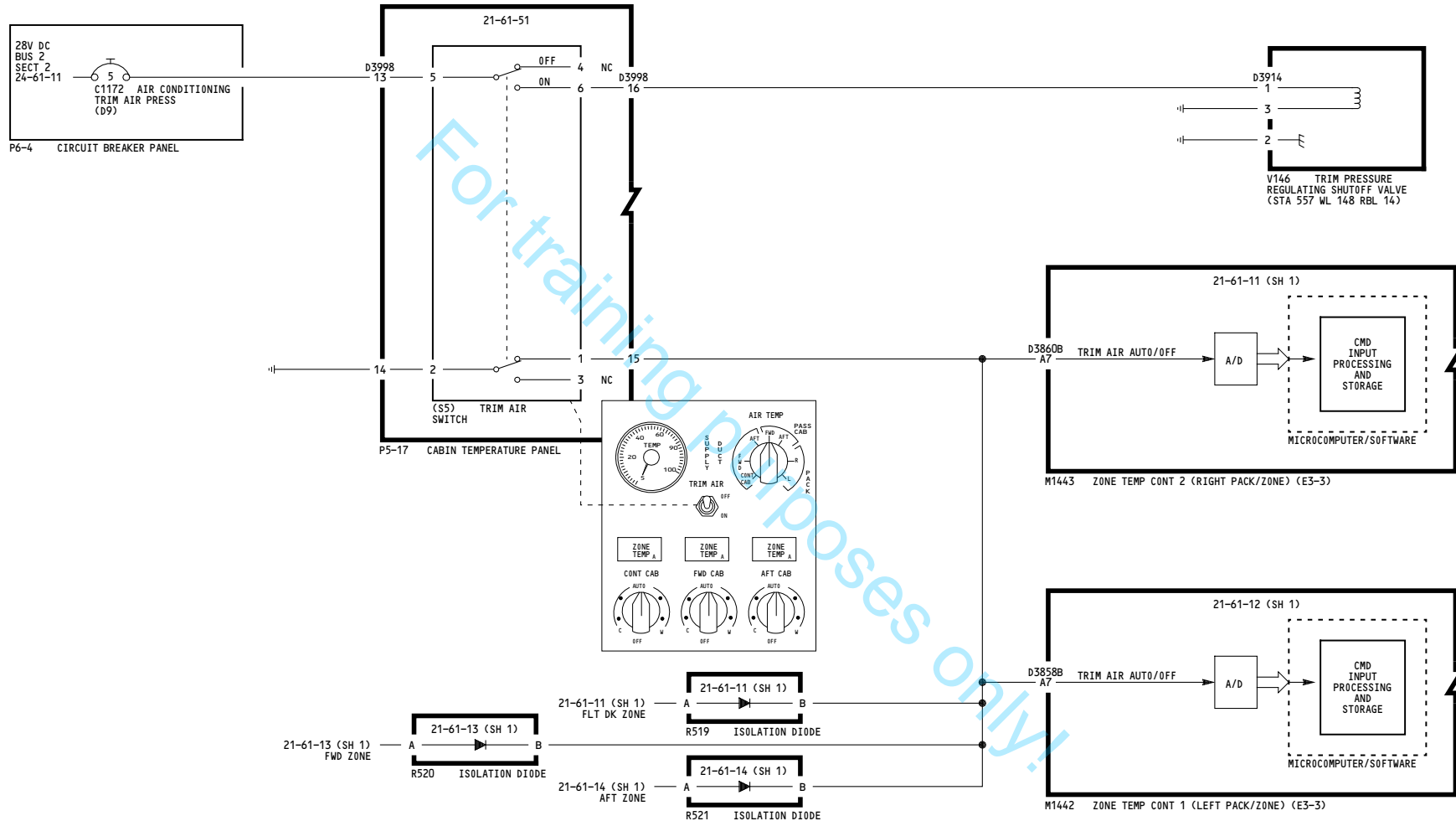


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ALL

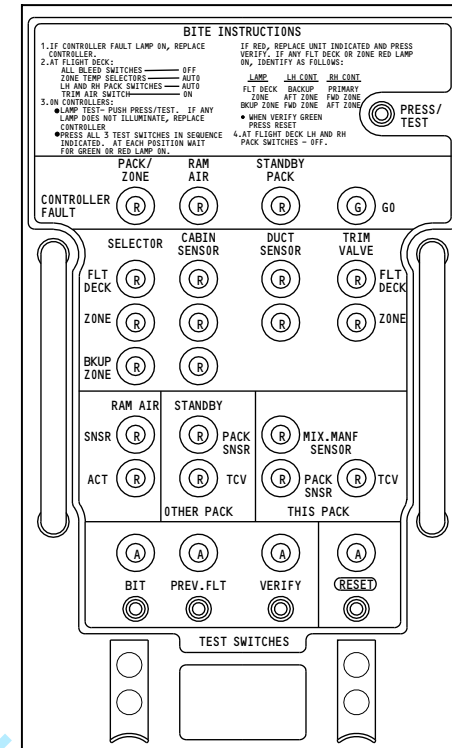
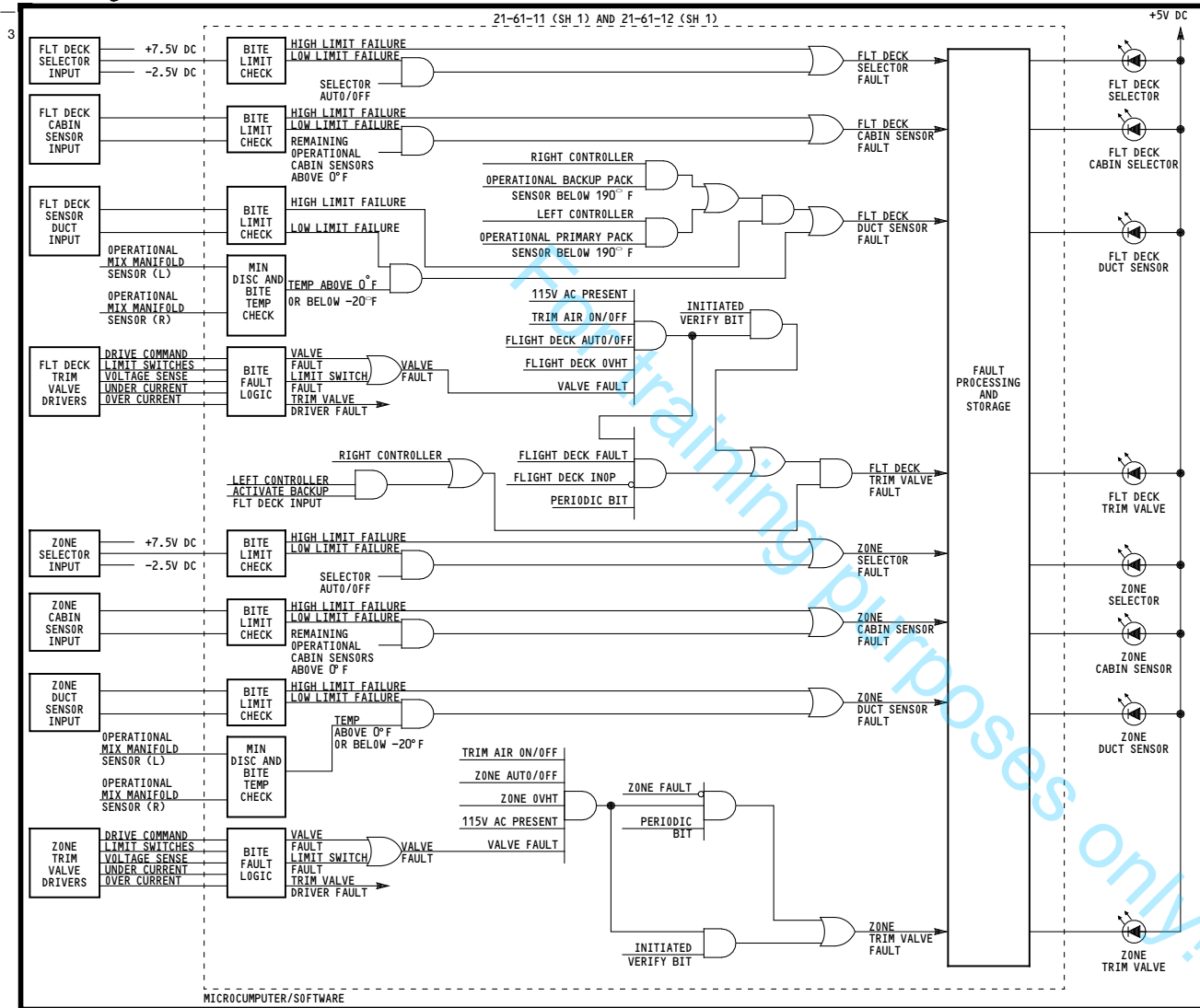
**TEMPERATURE CONTROL -  
TRIM PRESSURE REGULATION**

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M1442 AND M1443      ZONE TEMP CONT 1 & 2 (TYPICAL) (E3-3)

ALL

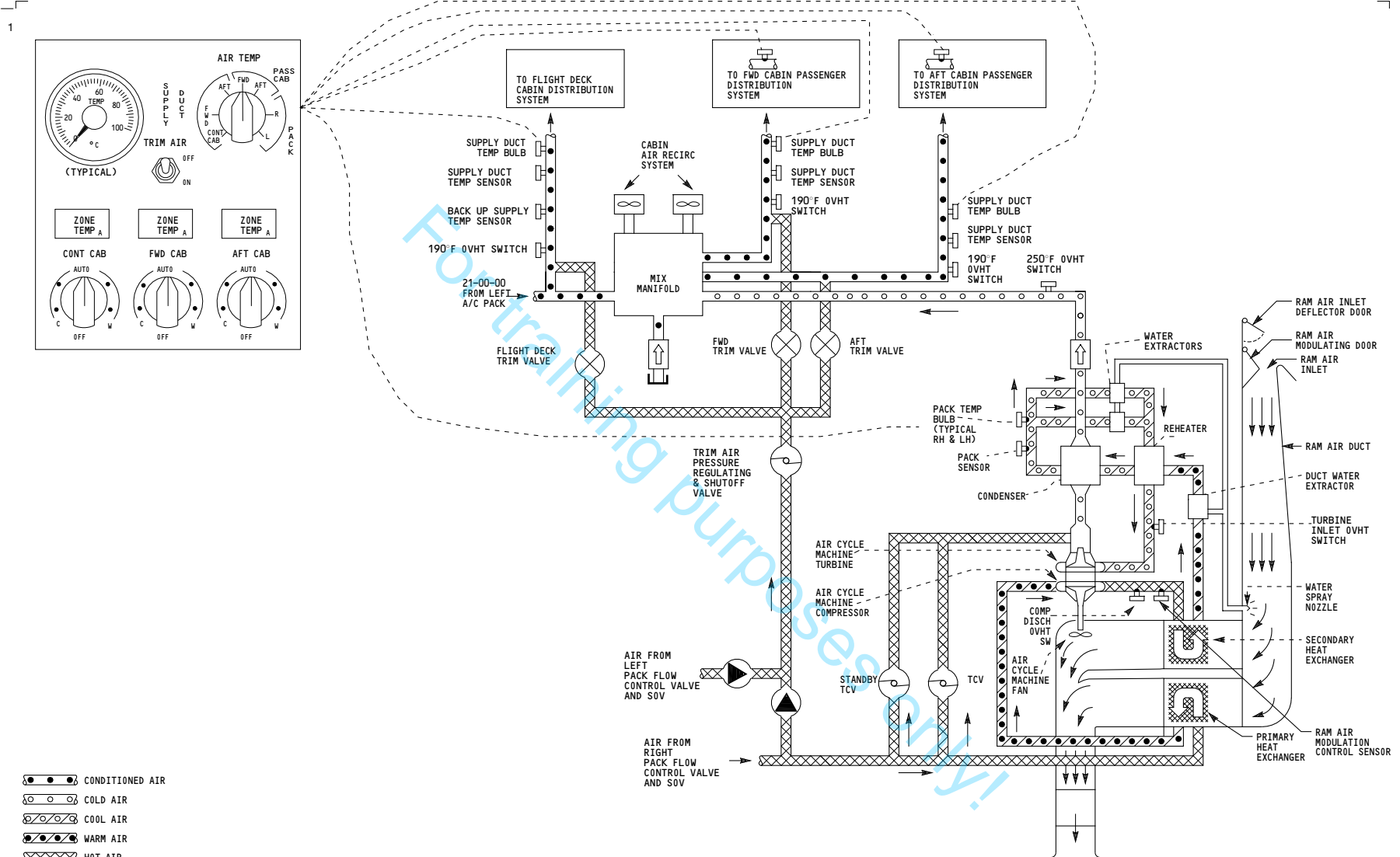
**AIR CONDITIONING  
TEMPERATURE INDICATION**

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## WIRING DIAGRAMS



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