SERVICE MANUAL

Boomer™ 3040
Boomer™ 3045
Boomer™ 3050

With Hydrostatic or 12x12 Gear Transmission

Compact Tractor

Part number 84242309
1st edition English
August 2012

MidWestTech | New Holland Boomer 3040, 3045, 3050 Hydrostatic or 12x12 Tractor Service Manual | Publication 84242309

Order the manual at mid-west-tech.com >

Contents

INTRODUCTION

Engine 10

Engine and crankcase 10.001

Cylinder heads 10.101

Pan and covers 10.102

Crankshaft and flywheel 10.103

Connecting rods and pistons 10.105

Valve drive and gears 10.106

Balancer and damper 10.110

Pump drives 10.114

Lift pump and lines 10.210

Fuel tanks 10.216

Fuel injection system 10.218

Intake and exhaust manifolds and muffler 10.254

Engine lubrication system 10.304

Engine cooling system 10.400

Fan and drive 10.414

Clutch 18

Clutch hydraulic release control 18.104

Clutch and components 18.110

Transmission 21

Mechanical transmission 21.114

Mechanical transmission external controls 21.130

Mechanical transmission internal components 21.140

Front axle system 25

Powered front axle 25.100

Front bevel gear set and differential 25.102

MidWestTech | New Holland Boomer 3040, 3045, 3050 Hydrostatic or 12x12 Tractor Se... Order the manual at mid-west-tech.com >

Final drive hub, steering knuckles, and shafts 25.108
Final drives 25.310
Rear axle system 27
Powered rear axle 27.100
Rear bevel gear set and differential 27.106
Planetary and final drives 27.120
Hydrostatic drive 29
Transmission and steering hydrostatic control 29.100
Hydrostatic transmission 29.202
Reservoir, cooler, and lines 29.204
Pump and motor components 29.218
Power Take-Off (PTO) 31
Rear electrohydraulic control 31.104
Two-speed rear Power Take-Off (PTO) 31.114
Central Power Take-Off (PTO) 31.120
Brakes and controls 33
Parking brake / Parking lock 33.110
Mechanical service brakes 33.120
Hydraulic systems 35
Hydraulic systems 35.000
Pump control valves 35.102
Fixed displacement pump 35.104
Three-point hitch control valve 35.114
Remote control valves 35.204
Reservoir, cooler, and filters 35.300
Regulated/Low pressure system 35.322
Safety and main relief valves 35.350
Hitches, drawbars, and implement couplings 37
Rear three-point hitch 37.110

MidWestTech | New Holland Boomer 3040, 3045, 3050 Hydrostatic or 12x12 Tractor Se... Order the manual at mid-west-tech.com >

Steering 41
Hydraulic control components 41.200
Pump 41.206
Cylinders 41.216
Cab climate control 50
Heating 50.100
Ventilation 50.104
Air conditioning 50.200
Electrical systems 55
Electrical system 55.000
Heating, Ventilation, and Air-Conditioning (HVAC) control system 55.050
Cab Heating, Ventilation, and Air-Conditioning (HVAC) controls 55.051
Harnesses and connectors 55.100
Engine starting system 55.201
Cold start aid 55.202
Alternator 55.301
Battery 55.302
Warning indicators, alarms, and instruments 55.408
Wiper/Washer system 55.518
Cab engine controls 55.525
Platform, cab, bodywork, and decals 90
Engine hood and panels 90.100
Engine shields, hood latches, and trims 90.102
Protections - ROPS and FOPS 90.114
Pneumatically-adjusted operator seat 90.124
Cab 90.150
Cab interior 90.151
Cab doors and hatches 90.154

MidWestTech | New Holland Boomer 3040, 3045, 3050 Hydrostatic or 12x12 Tractor Se... Order the manual at mid-west-tech.com >

Hydraulic systems - General specification

HYDRAULIC PUMP

Type	Gear
Pump Capacity	**37.1 l/min (9.8 US gpm)**
Pump Speed (rpm)	**2369 RPM**
Engine Speed (rpm)	**2800 RPM**
System Relief Valve Setting	
Boomer 3040, Boomer 3045, Boomer 3050	**17236.9 kPa (2500 psi)**
Lift Cylinder Diameter	**80 mm (3.150 in)**
Rear 3-Point Hitch	
Maximum Lift Capacity @ Hitch Boomer 3040, Boomer 3045, Boomer 3050 @ **24 in** Boomer 3040, Boomer 3045, Boomer 3050	 **1486 kg (3276 lb)** **1059 kg (2335 lb)**
Safety Valve Setting	**22511 - 26510 kPa (3265 - 3845 psi)**
Reservoir Capacity 12x12 HST	 **35 l (9.2 US gal)** **36 l (9.5 US gal)**
Recommended Hydraulic Oil	**NEW HOLLAND AMBRA MULTI G 134™ HYDRAULIC TRANSMISSION OIL**
Cold Weather Option	NHF200

MidWestTech | New Holland Boomer 3040, 3045, 3050 Hydrostatic or 12x12 Tractor Se... Order the manual at mid-west-tech.com >

NOTE: *The engine low oil pressure indicator light circuit shows the ignition switch in The "ACC/RUN" position and the tractor engine in a low oil pressure condition.*

1. Current starts at the battery, and flows through the positive (+) battery cable to the engine starter motor.
2. From the starter motor, current flows through the **40 A** fuse to a wire splice. The wire splice sends current into two directions:

   • To the "B" terminal of the ignition switch
3. When the ignition switch is placed in the "ACC/RUN" position current is transferred across the following ignition switch terminals:

   • "B" to "C" terminals

Terminal "C" of ignition switch

1. Current flows from the "C" terminal of the ignition switch to the fuse panel bussbar, from the bussbar current travels through the No. 5 **7.5 A** fuse.
2. The No. 5 **7.5 A** fuse supplies current to terminal No. 31 of the instrument panel.

Instrument Panel/Indicator Light

1. The instrument panel is provide with current to terminal No. 31 and the ground source for the indicator light is provided by terminal No. 19. The ground path for the indicator light travels through the engine oil pressure switch which is grounded directly to the engine cylinder head. When the engine oil pressure drops below 6 psi the switch closes to complete the ground path to terminal No. 19 of the instrument panel. This allows the low oil pressure indicator light to illuminate, warning the operator of a potential engine problem.

MidWestTech | New Holland Boomer 3040, 3045, 3050 Hydrostatic or 12x12 Tractor Se... Order the manual at mid-west-tech.com >

Electrical system - Troubleshooting - Hazard Flasher Circuit (Gear Model)

Problem	Possible Cause	Correction
Hazard Signal Lights will not illuminate or flash	Blown No.6, **10 A** fuse	Inspect fuse and replace as necessary
	Hazard signal bulb(s) burnt out	Inspect bulb(s) and replace as necessary
	Defective hazard switch	Test switch and replace as necessary
	Defective flasher cutoff relay	Test flasher relay by using a known functioning flasher relay and replace as necessary
	Defective hazard/turn flasher module	Test module and replace as necessary
	Faulty wiring or ground connection	Inspect the tractor's wiring harness and ground terminals for damage, corrosion, and short circuits. Repair or replace as needed
Instrument panel hazard indicator(s) does not illuminate	Indicator LED burnt out	Replace instrument panel if necessary
	Faulty wiring or ground connection	Inspect the tractor's wiring harness and ground terminals for damage, corrosion, and short circuits. Repair or replace as needed

Electrical system - Troubleshooting - Hazard Flasher Circuit (HST Model)

Problem	Possible Cause	Correction
Hazard Signal Lights will not illuminate or flash	Blown No.6, **10 A** fuse	Inspect fuse and replace as necessary
	Hazard signal bulb(s) burnt out	Inspect bulb(s) and replace as necessary
	Defective hazard switch	Test switch and replace as necessary
	Defective flasher cutoff relay	Test flasher relay by using a known functioning flasher relay and replace as necessary
	Defective hazard/turn flasher module	Test module and replace as necessary
	Faulty wiring or ground connection	Inspect the tractor's wiring harness and ground terminals for damage, corrosion, and short circuits. Repair or replace as needed
Instrument panel hazard indicator(s) does not illuminate	Indicator bulb(s) burnt out	Inspect bulb and replace as necessary
	Faulty wiring or ground connection	Inspect the tractor's wiring harness and ground terminals for damage, corrosion, and short circuits. Repair or replace as needed

Electrical system - Troubleshooting - Right Turn Signal Circuit (Gear Model)

Problem	Possible Cause	Correction
Directional signal will not illuminate or flash	Blown No.3, **10 A** hazard or directional signal fuse	Inspect fuse and replace as necessary
	Directional signal bulb burnt out	Inspect bulb and replace as necessary
	Defective hazard switch or directional signal switch	Test switches and replace as necessary
	Defective hazard/turn flasher module	Test module and replace as necessary

MidWestTech | New Holland Boomer 3040, 3045, 3050 Hydrostatic or 12x12 Tractor Se... Order the manual at mid-west-tech.com >

BOOMER 3040, 3045 AND 3050 COMPACT TRACTORS WITH HST TRANSMISSION AND CAB

47431070

ELECTRICAL SCHEMATIC

PAGE 1 OF 2

SCHEMATIC PAGE INDEX

CHARGING SYSTEM	PAGE 7
SAFETY SYSTEM	PAGE 8
GLOW PLUGS/SAFETY SYSTEM	PAGE 9
STARTING SYSTEM	PAGE 10
INSTRUMENT CLUSTER/SENSORS	PAGE 11
AIR CONDITIONING SYSTEM	PAGE 12
CONTROL STALK	PAGE 13
HEADLIGHTS AND HORN/HAZARD MODULE/SWITCH	PAGE 14
FRONT WARNING LIGHTS	PAGE 15
WARNING LIGHTS	PAGE 16
CAB POWER DISTRIBUTION	PAGE 17
HVAC SYSTEM	PAGE 18
RADIO/INTERIOR LIGHTING/AUXILLIARY POWER SOCKET	PAGE 19
WIPER SYSTEM	PAGE 20
ROOF WORK LIGHTS	PAGE 21
CAB GROUNDS	PAGE 22
CRUISE CONTROL/EUROPEAN WIRING (NOT USED IN NAR)	PAGE 23
RANGE SHIFT	PAGE 24
GROUNDS	PAGE 25

Note: Pages 1-6 are not shown.

WIRING REFERENCES

MF - 431 - YE - 0.8
- WIRE GAUGE (SQUARE MM)
- WIRE COLOR
- CIRCUIT NUMBER
- HARNESS CODE

CIRCUIT DIAGRAM LEGENDS

HM42 B-1.0 — CIRCUIT TAG IF REQUIRED
WIRE HARNESS NAME / WIRE NUMBER / COLOR / CONDUCTOR AREA

COLOR ABBREVIATIONS

ABBREVIATION	COLOR
R	RED
T	TAN
W	WHITE
Y	YELLOW
B	BLACK
BR	BROWN
G	GREY
O	ORANGE
P	PINK
V	VIOLET (PURPLE)
DB	DARK BLUE
LB	LIGHT BLUE
DG	DARK GREEN
LG	LIGHT GREEN

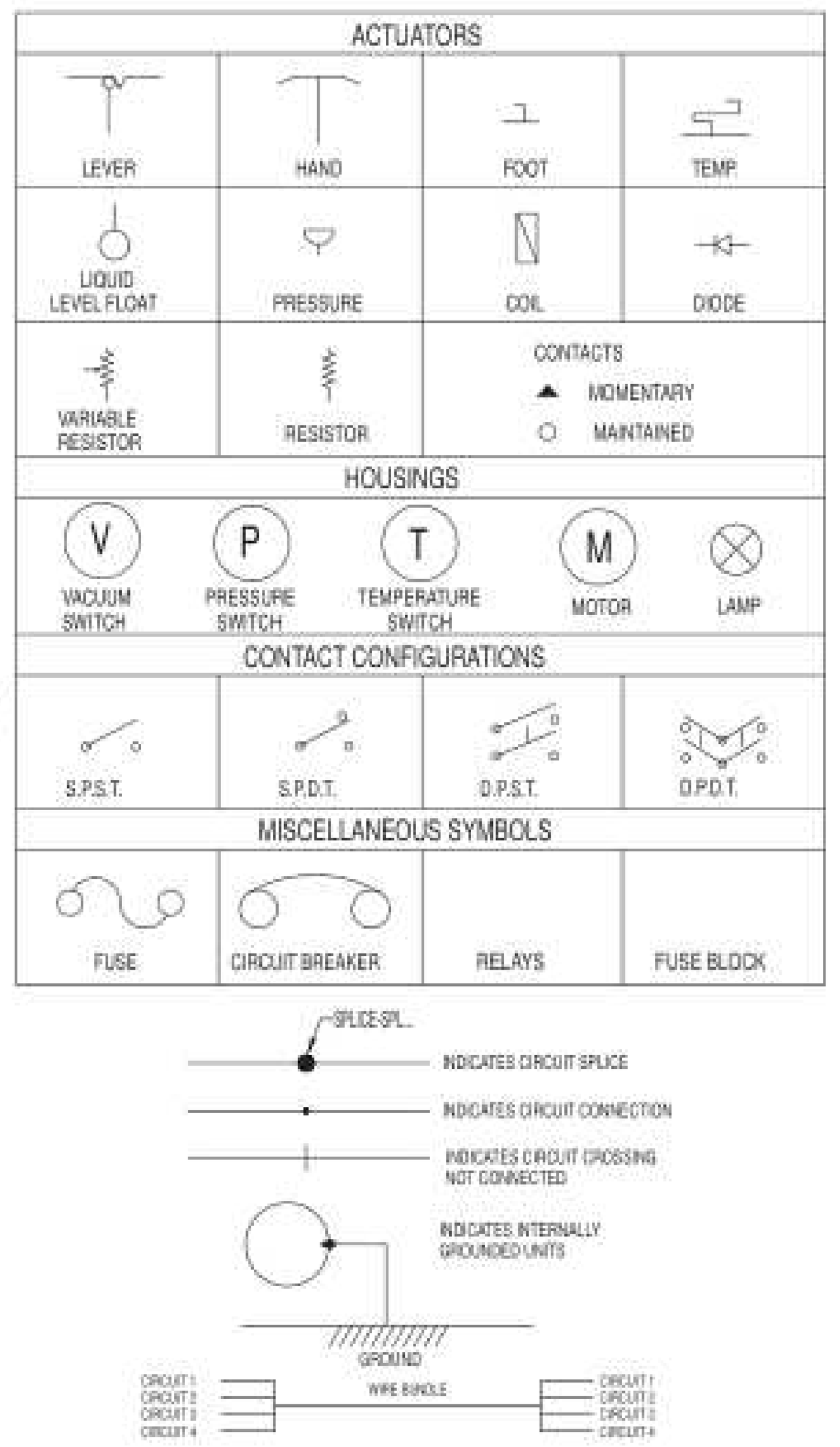
NOTES:
1. FOR ELECTRICAL SYSTEM INSTRUCTIONS SEE ES-A7384
2. DIAGRAM SHOWN WITH VEHICLE PARKED, POWER OFF, ALL CONTROLS IN NEUTRAL AND PARK BRAKE SET.

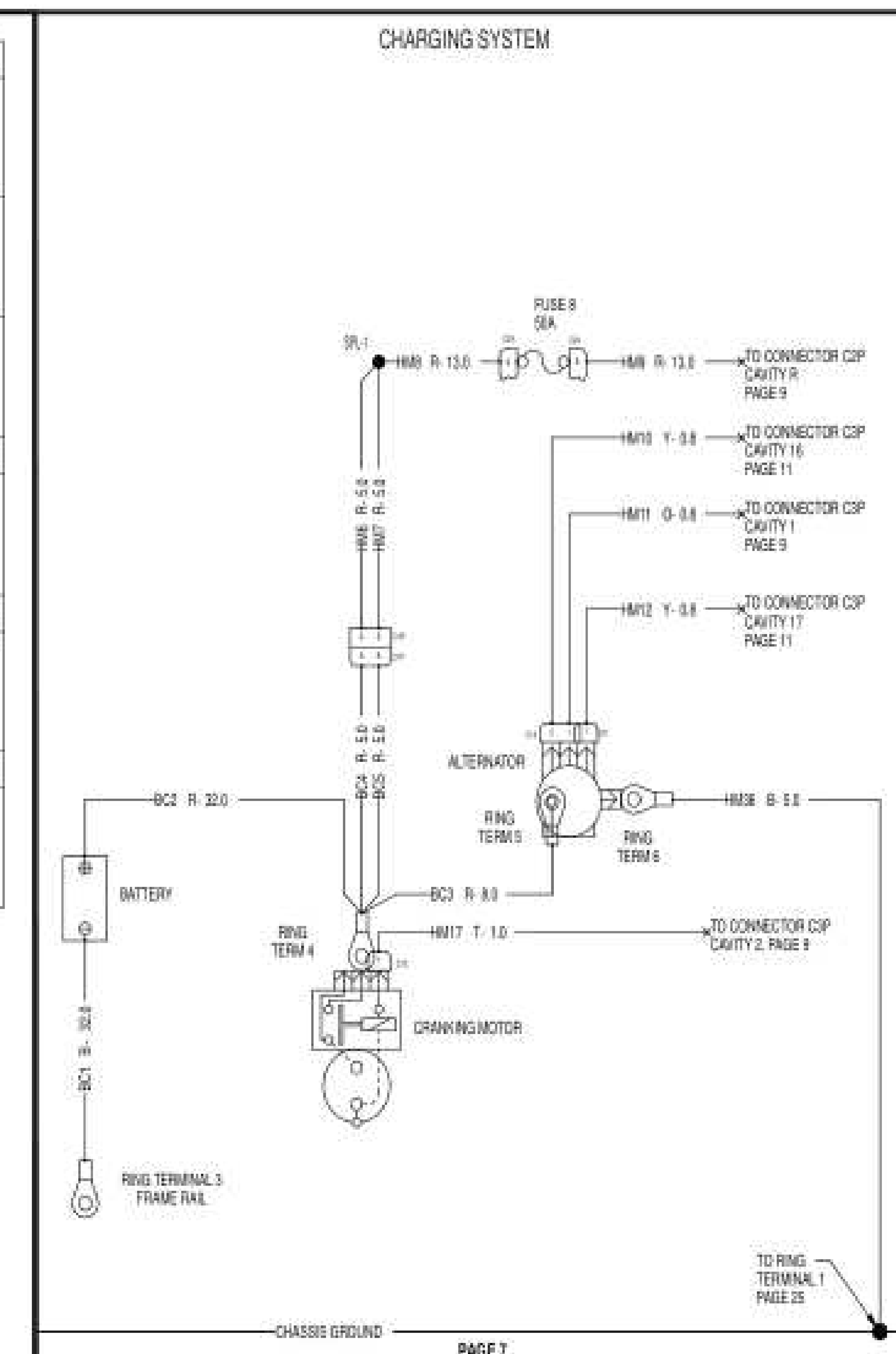
WIRE SIZE CHART

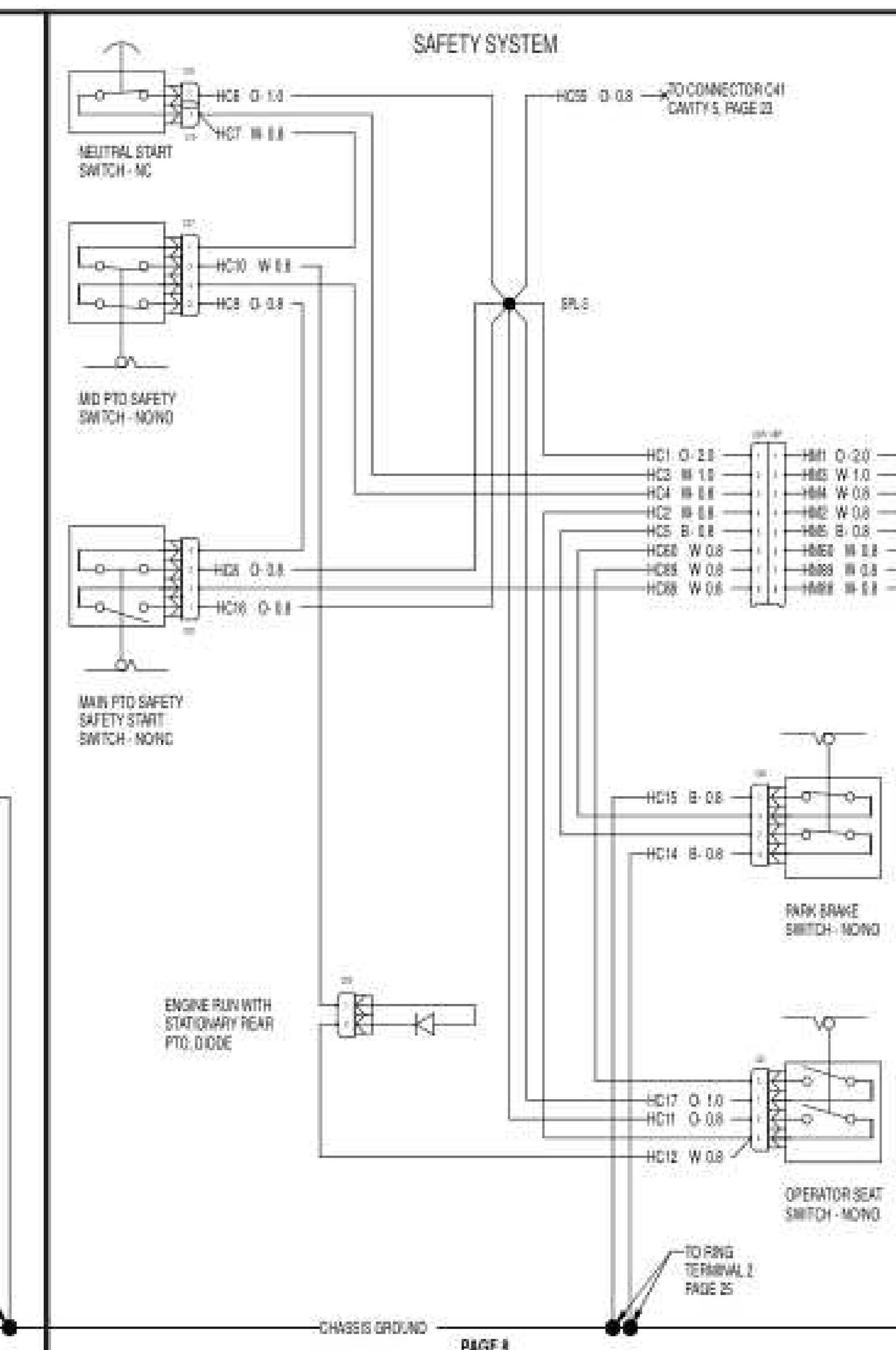
Square mm	AWG
0.5	20
0.8	18
1.0	16
2.0	14
3.0	12
5.0	10
8.0	8

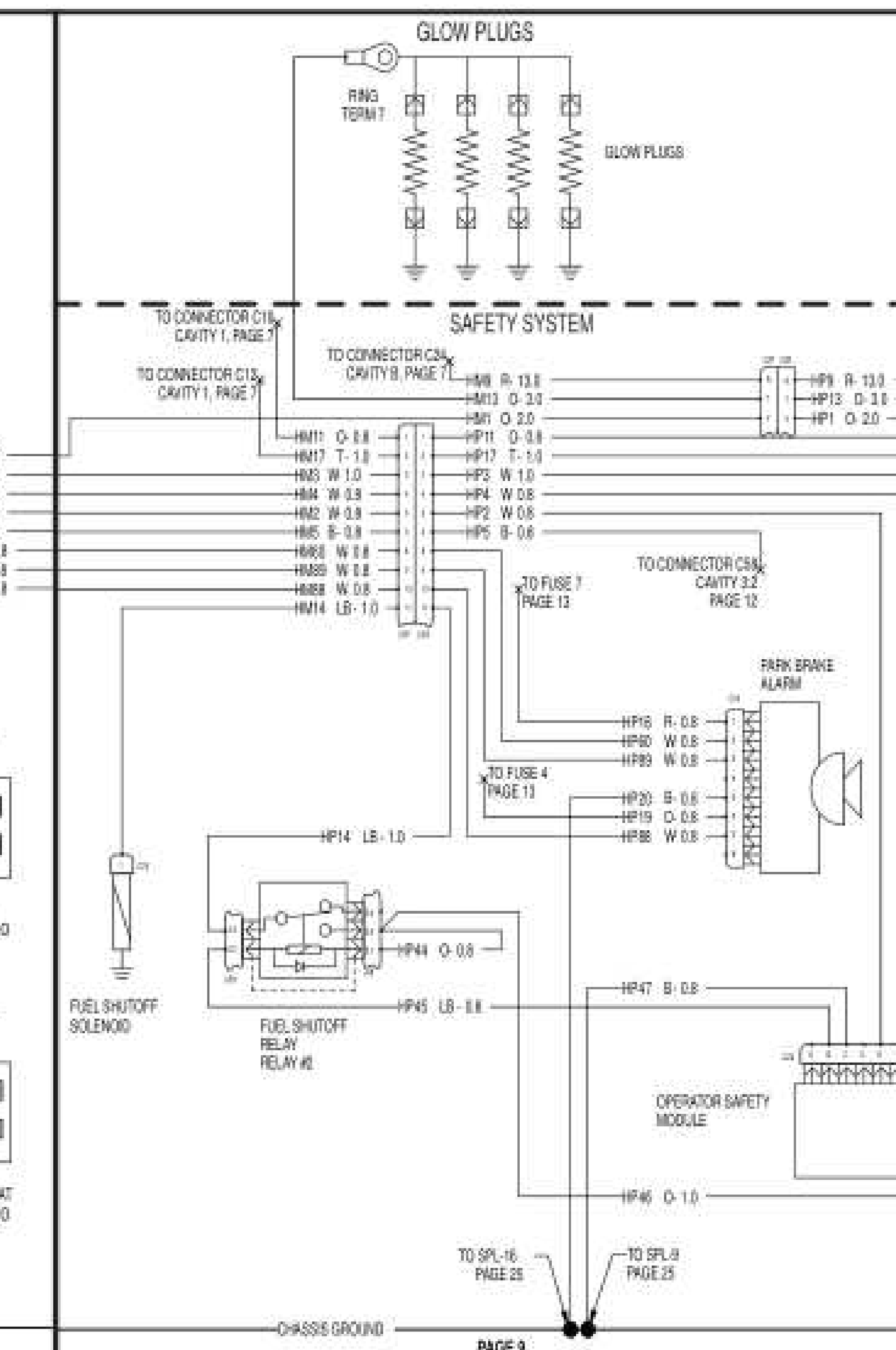
WIRE HARNESS NAME

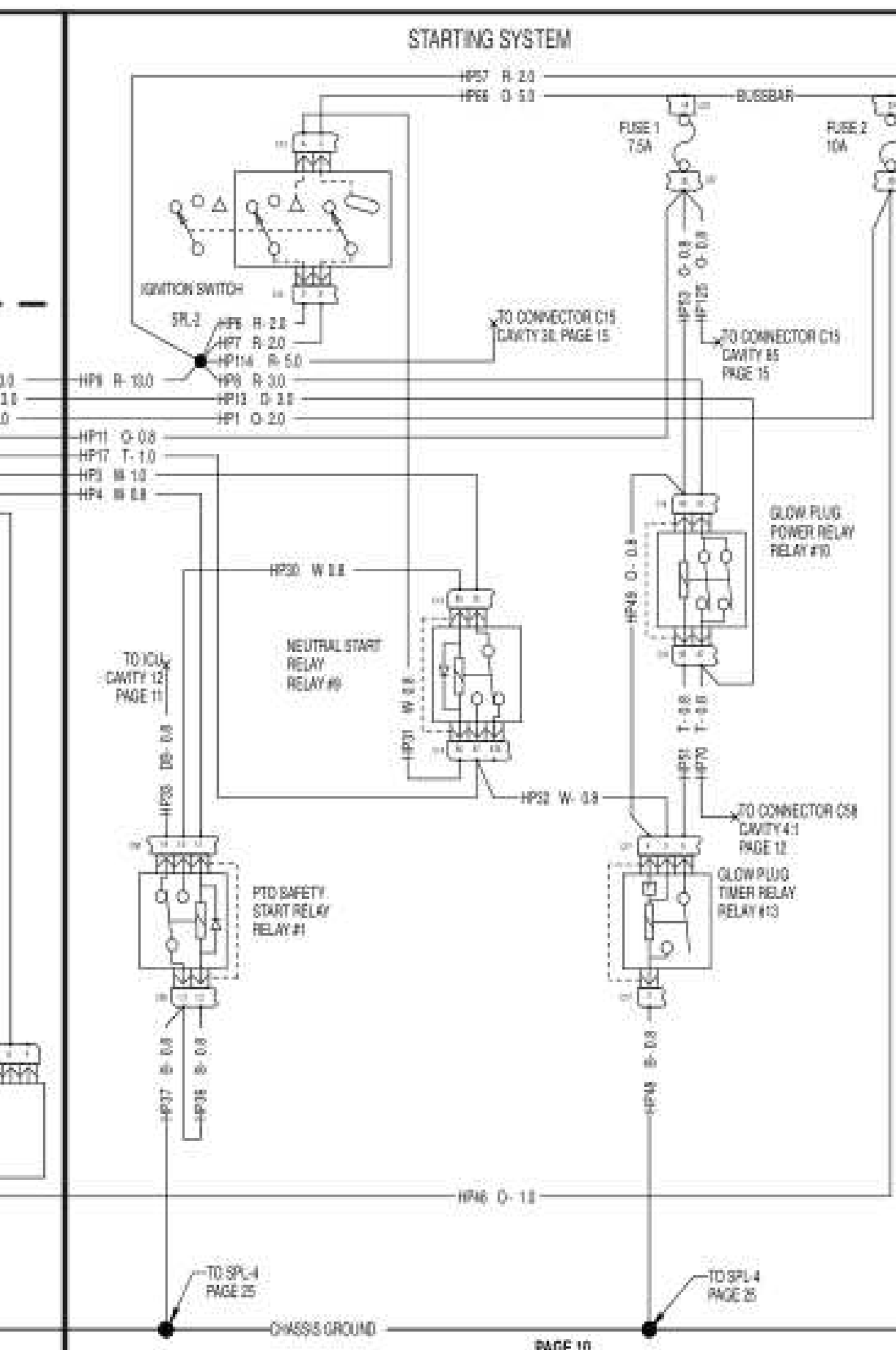
ABBREVIATION	HARNESS
HM	MAIN
HC	CHASSIS
HP	PANEL
HH	HOOD
BC	BATTERY CABLE
HR	ROOF

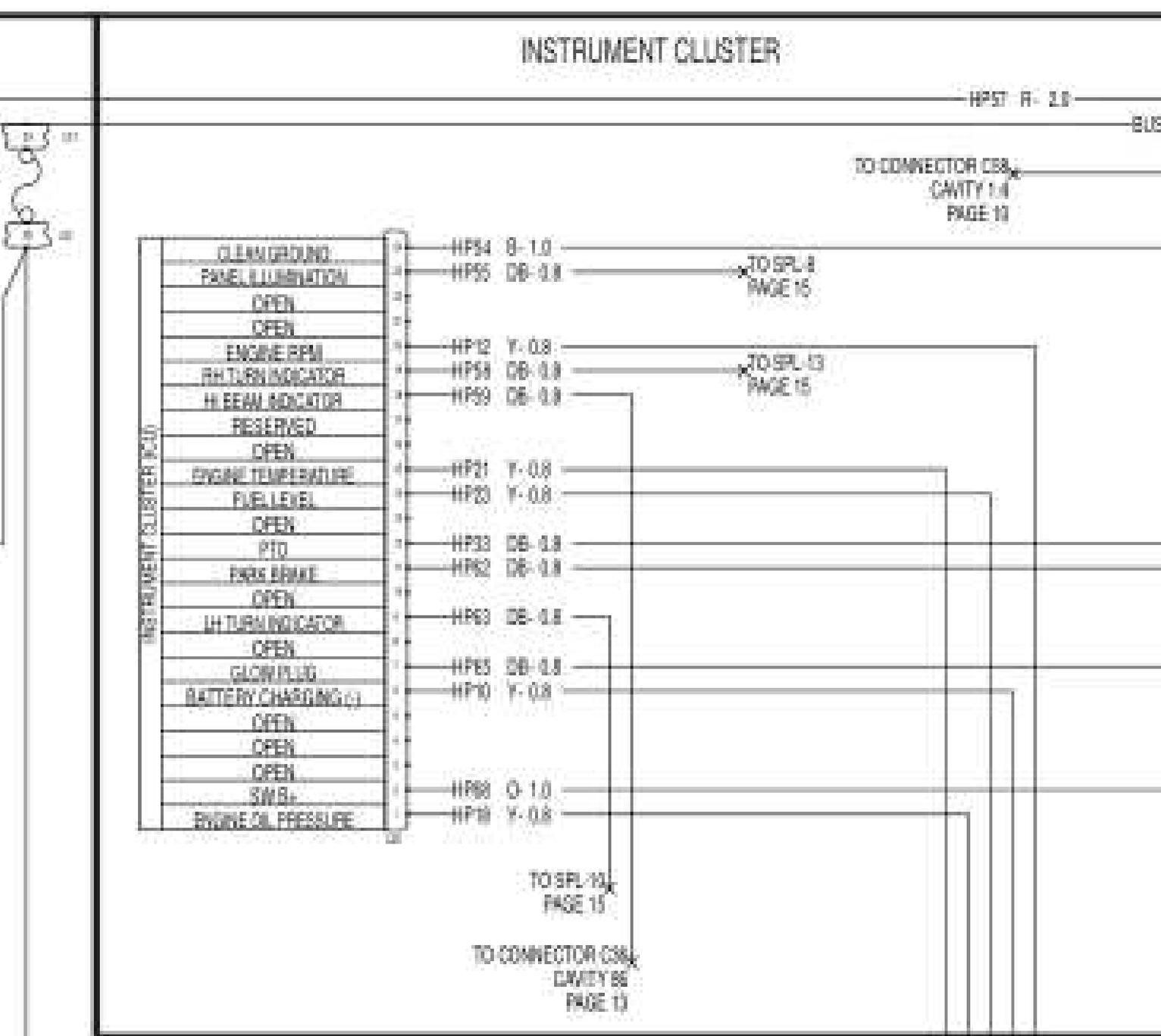


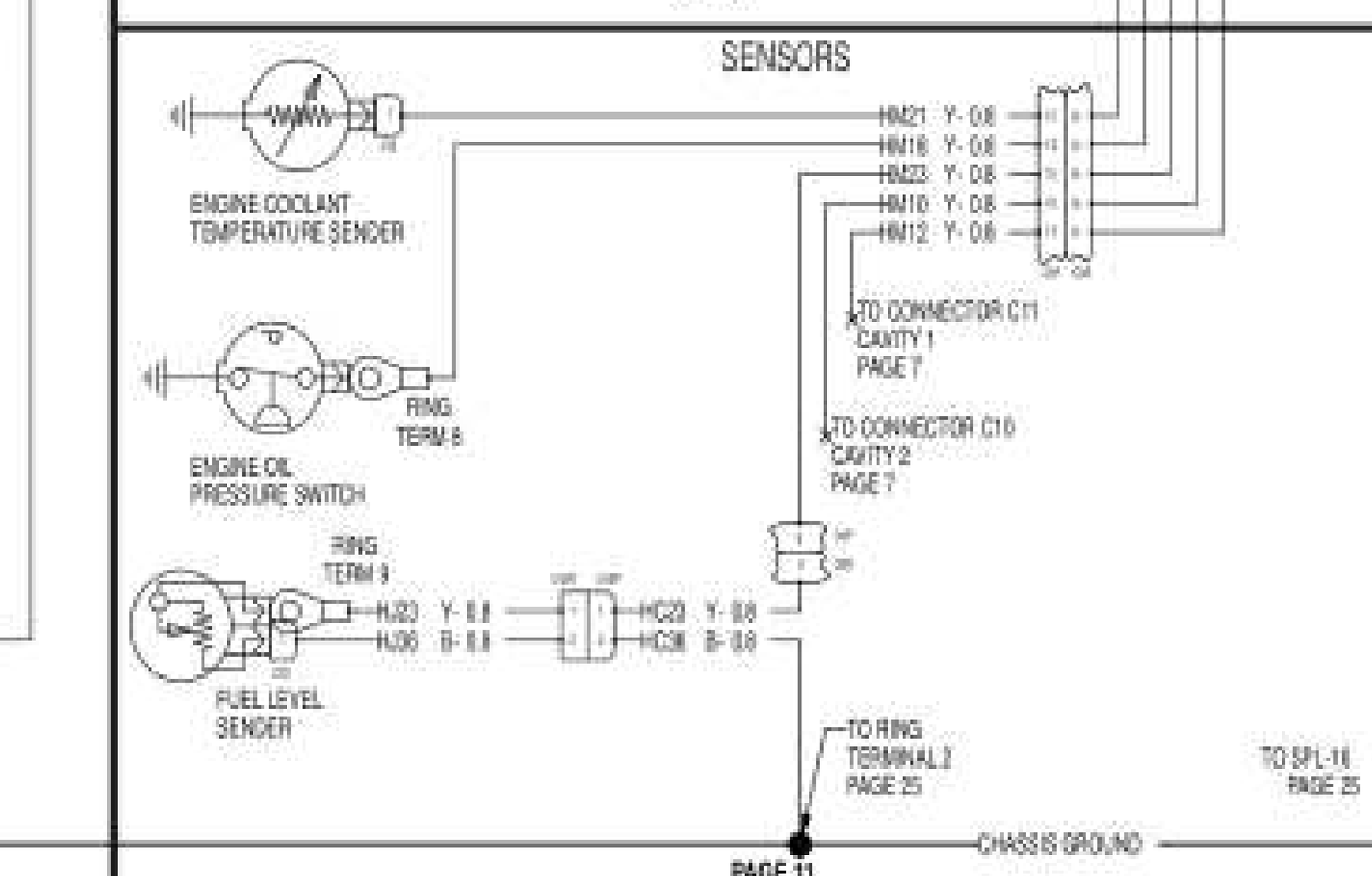


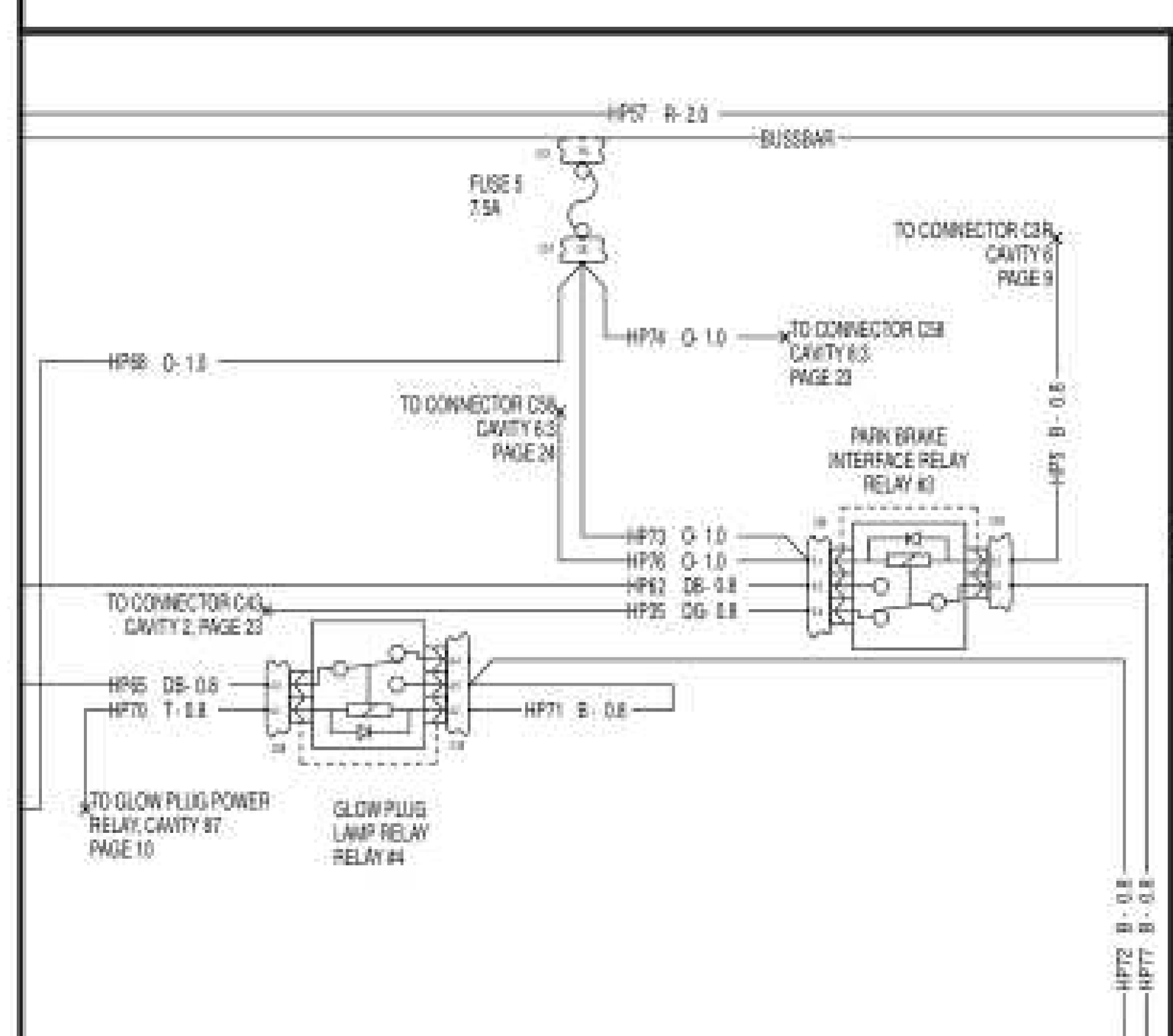


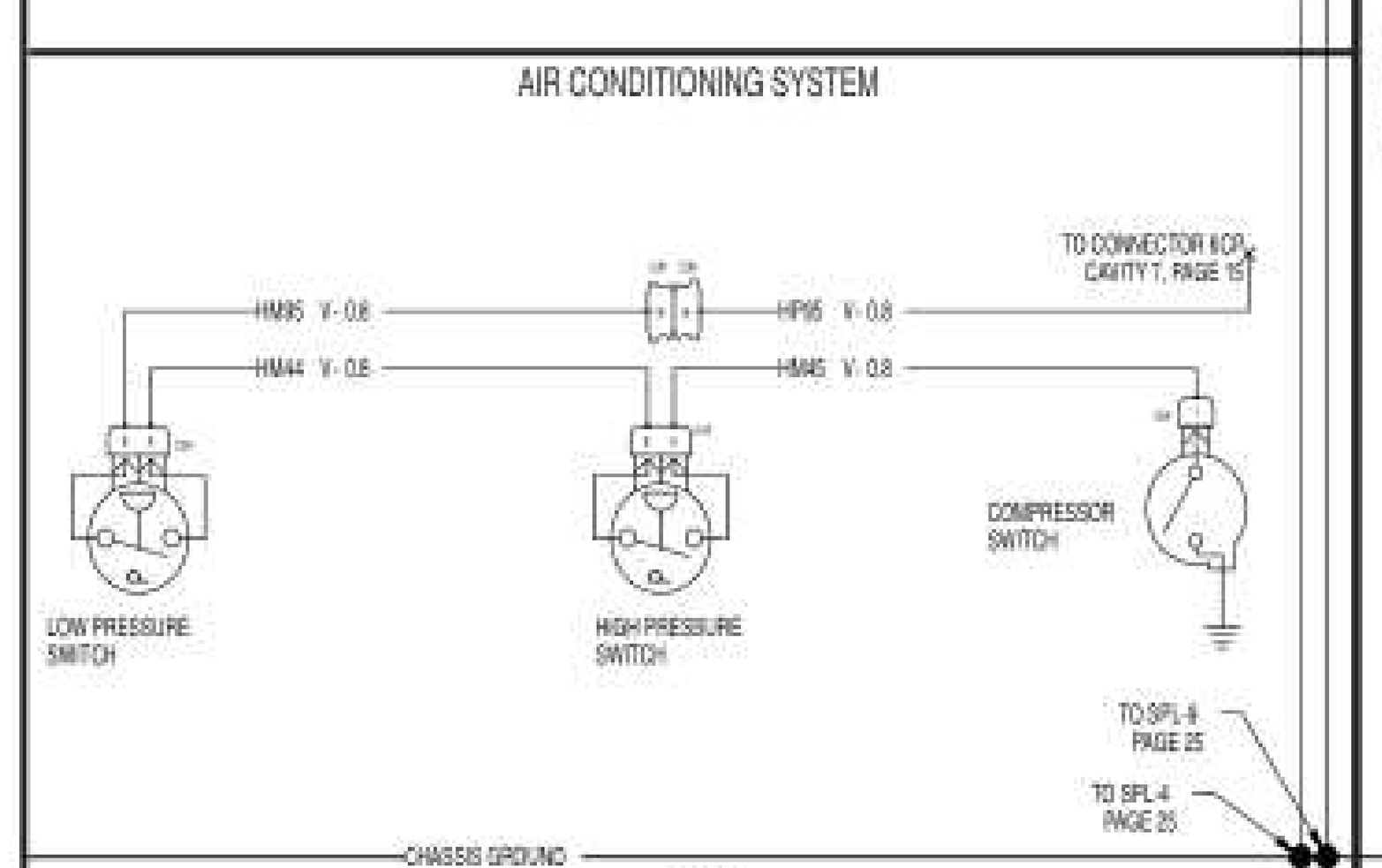


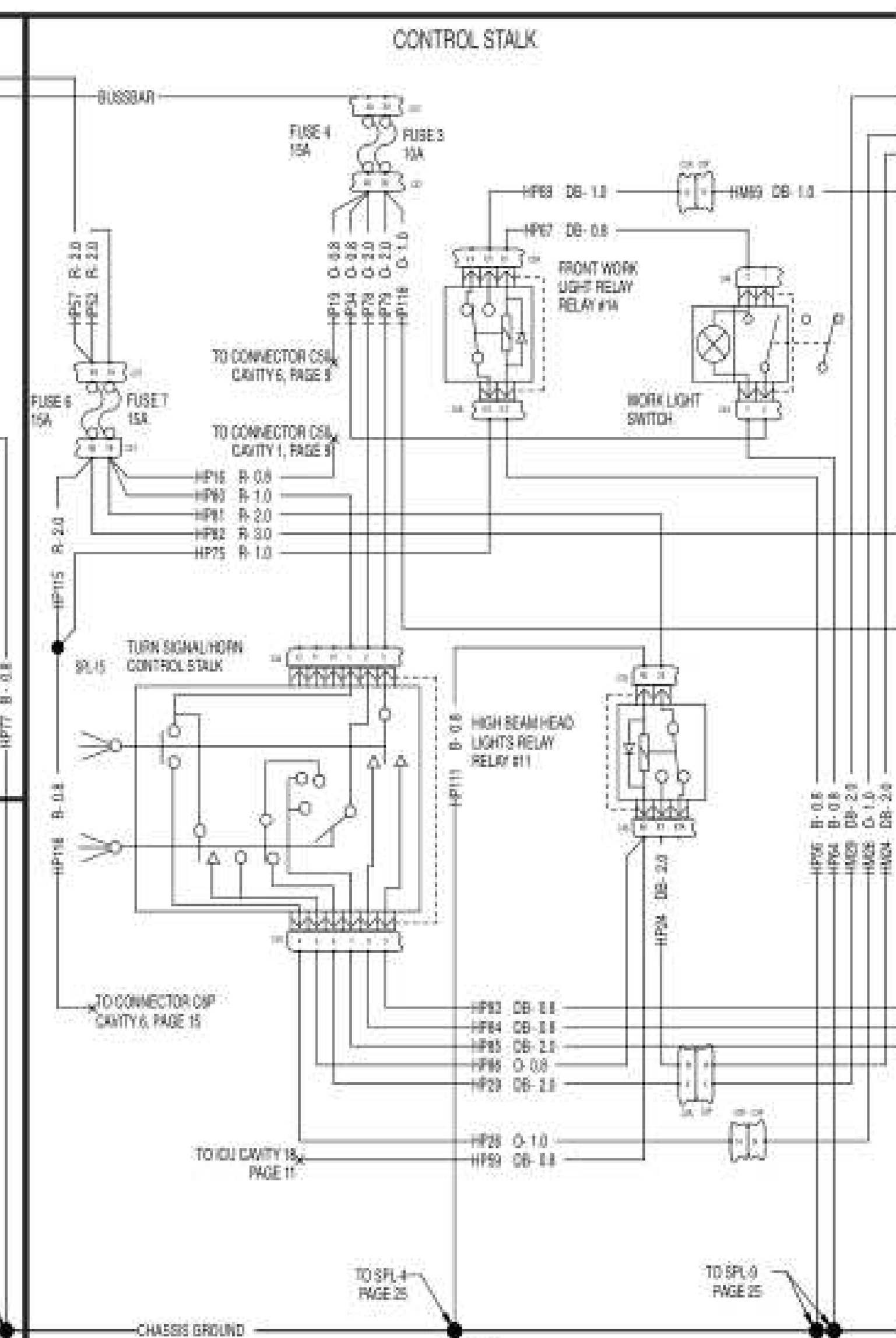


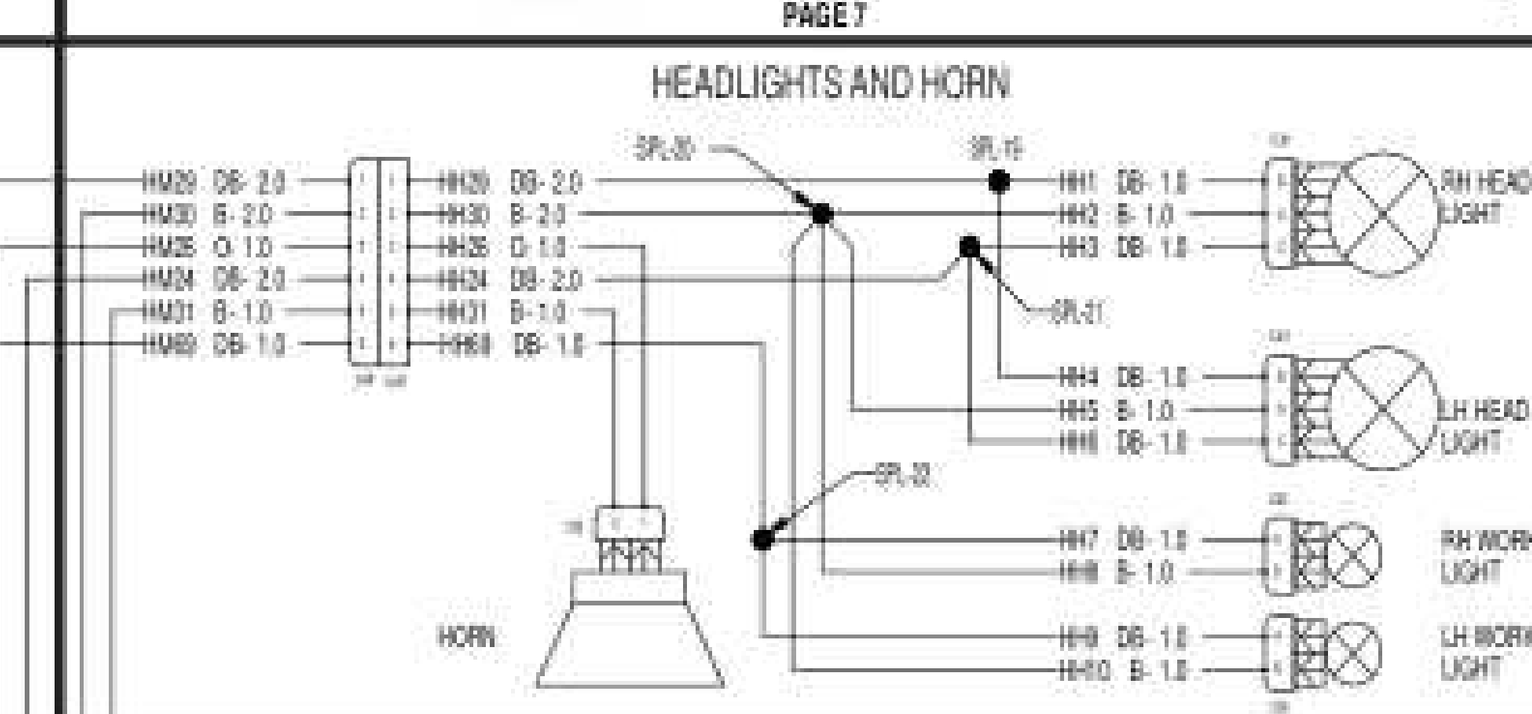


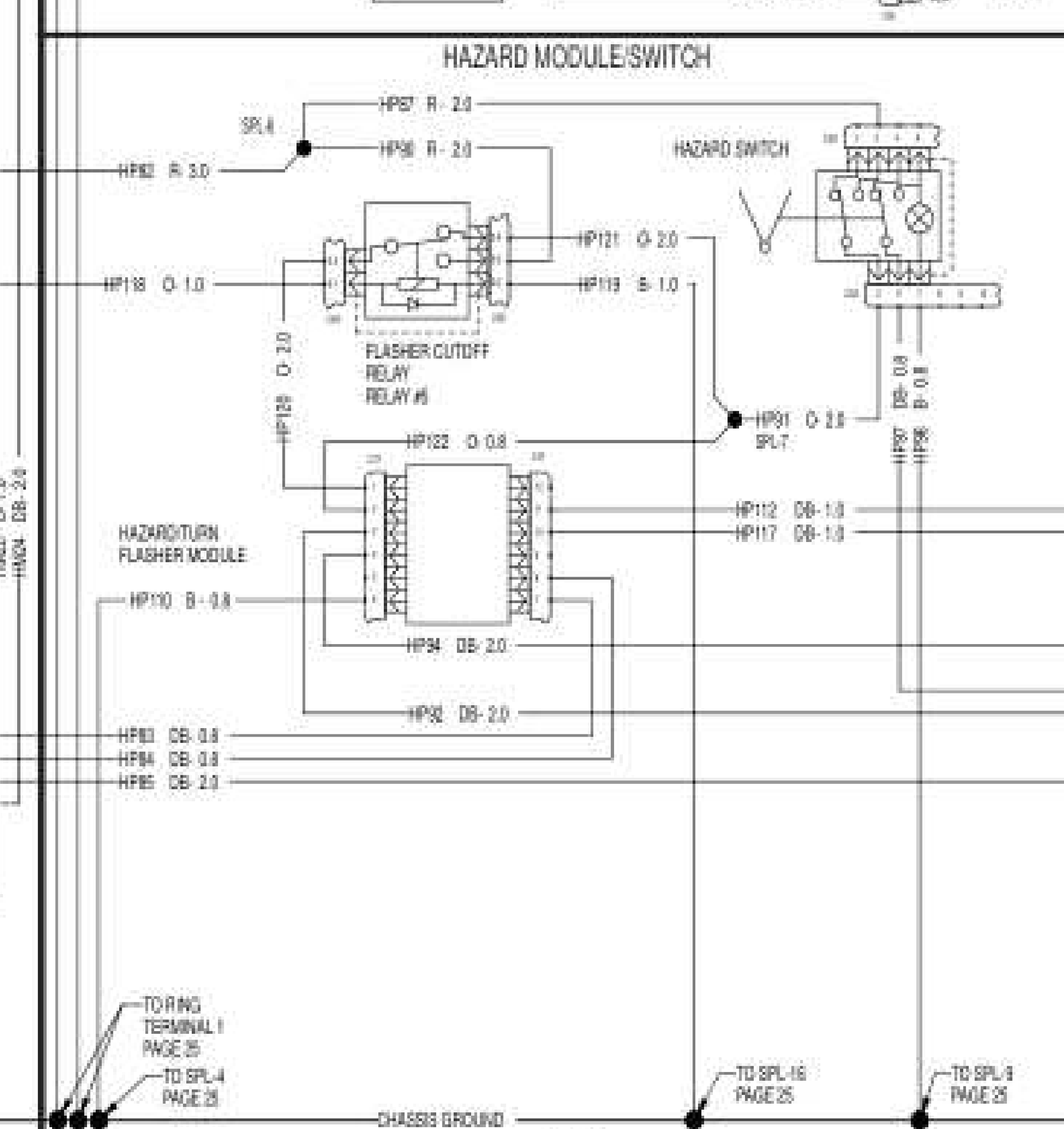


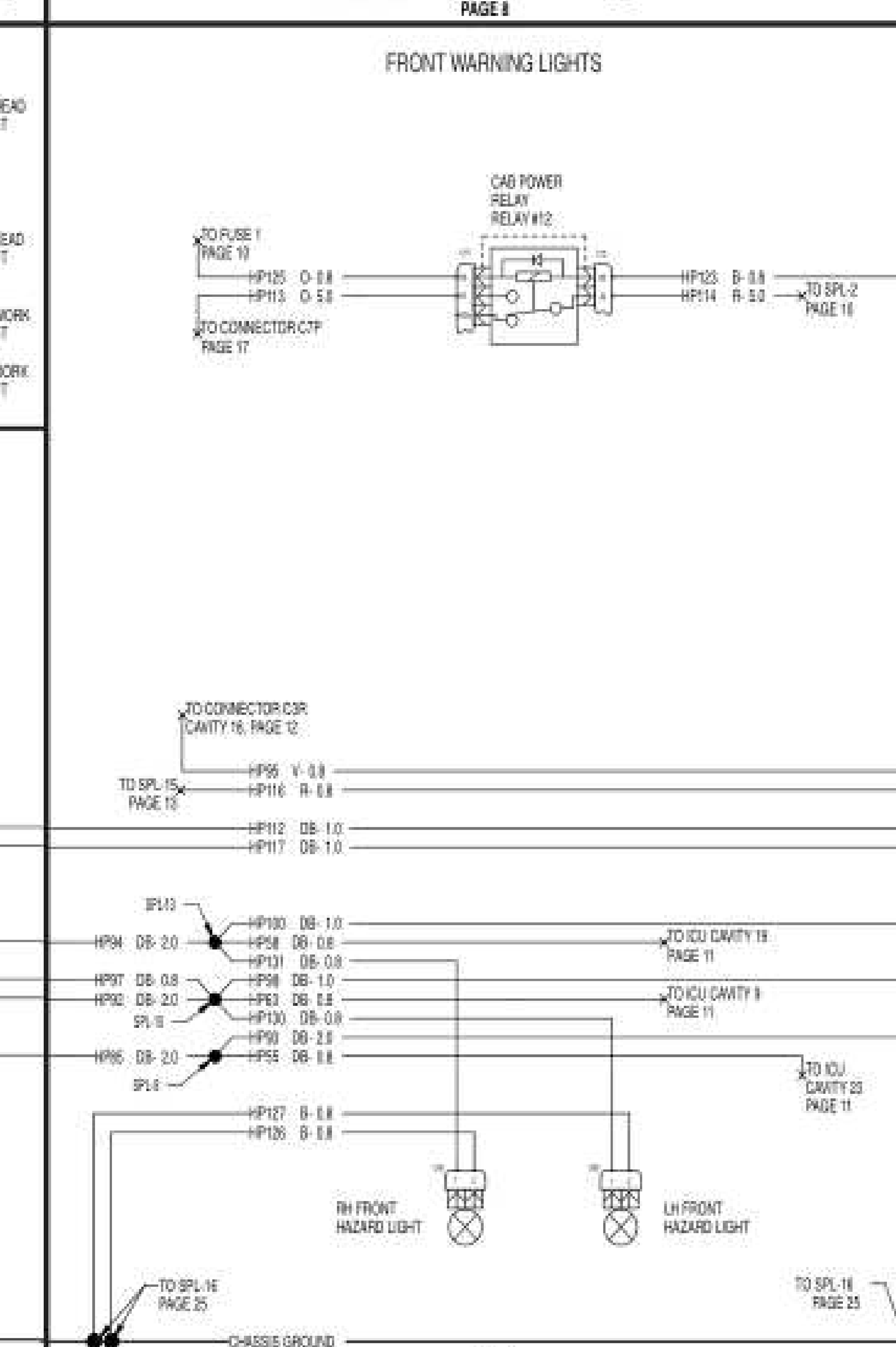


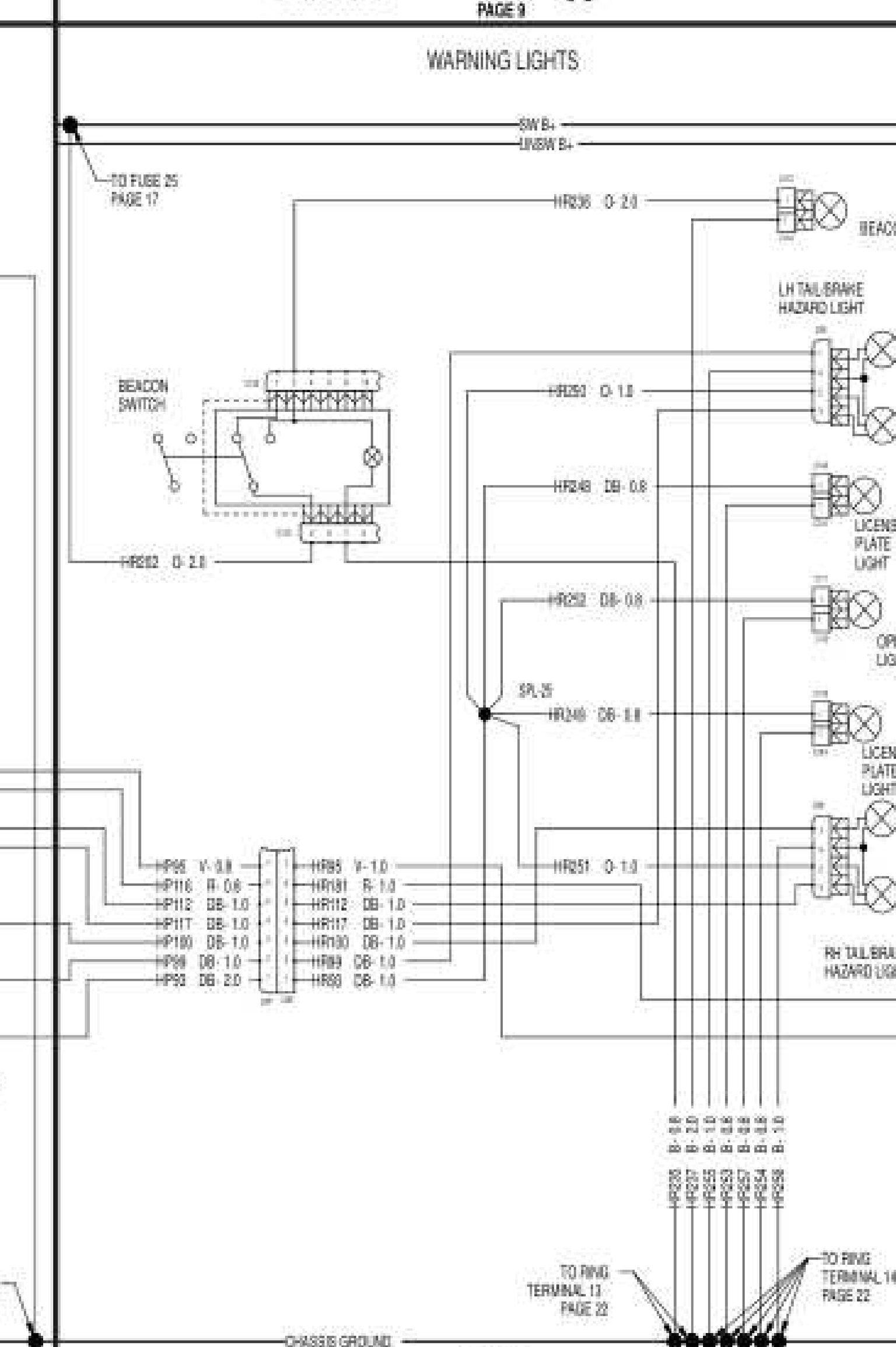


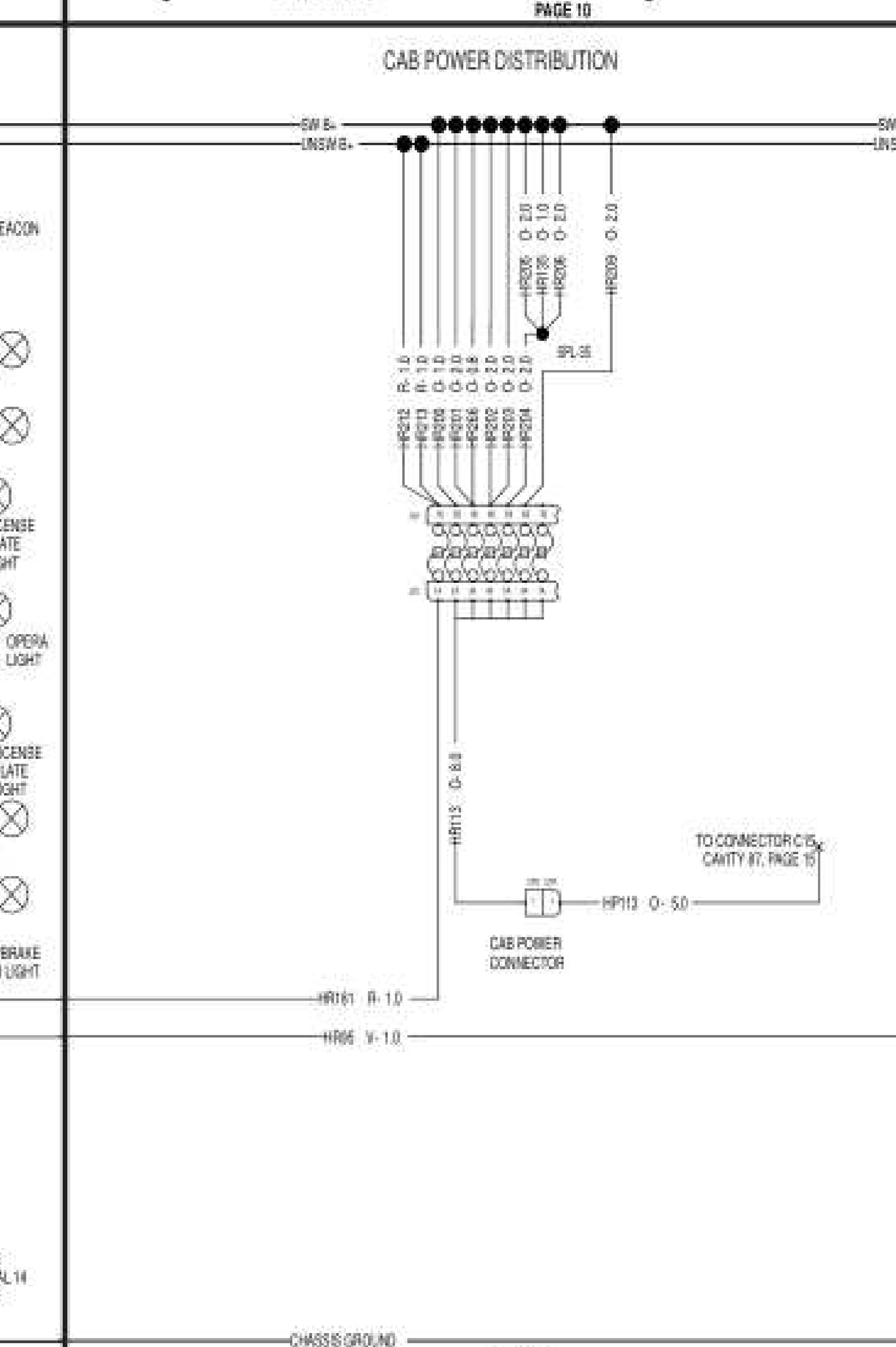


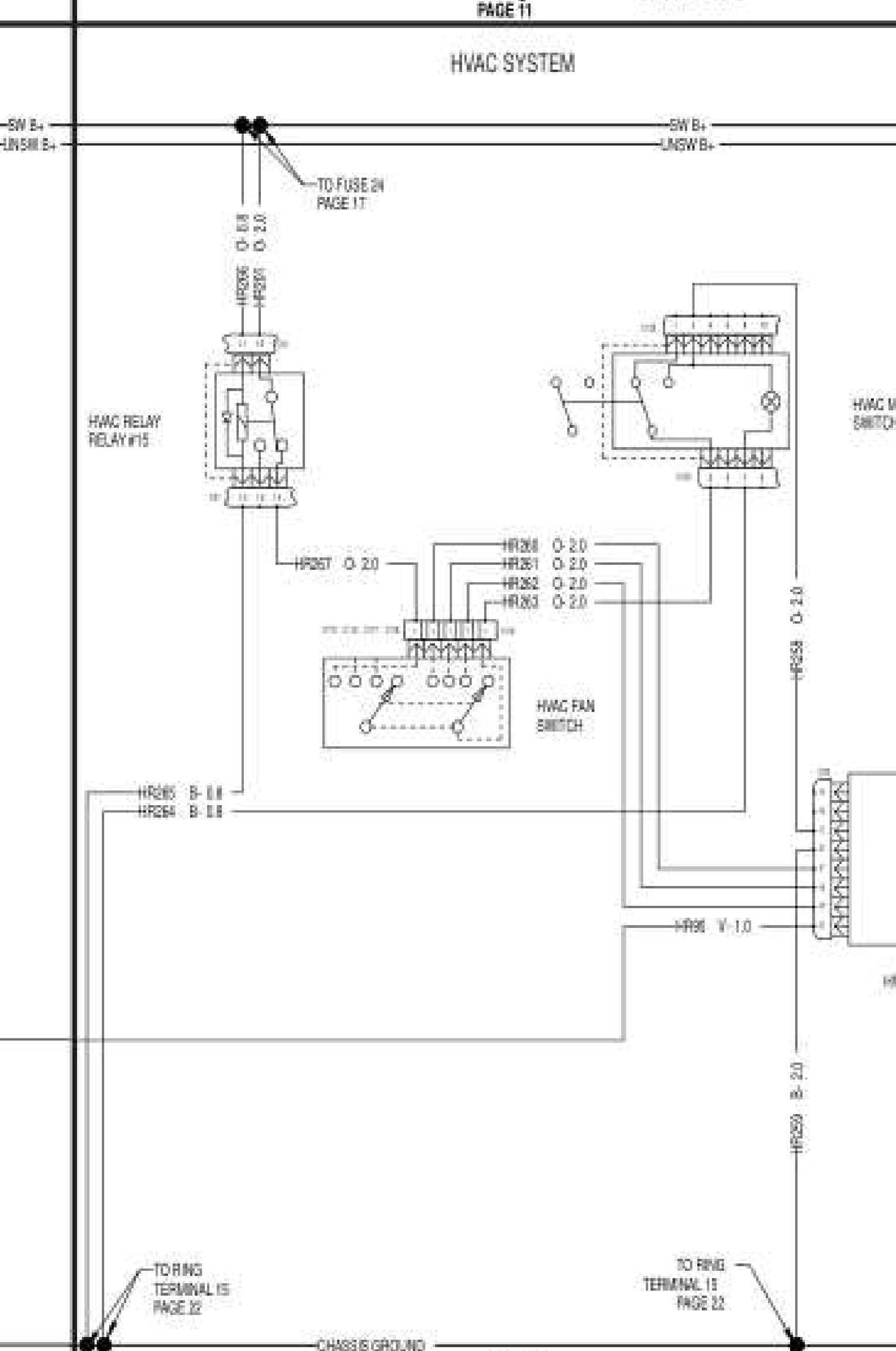


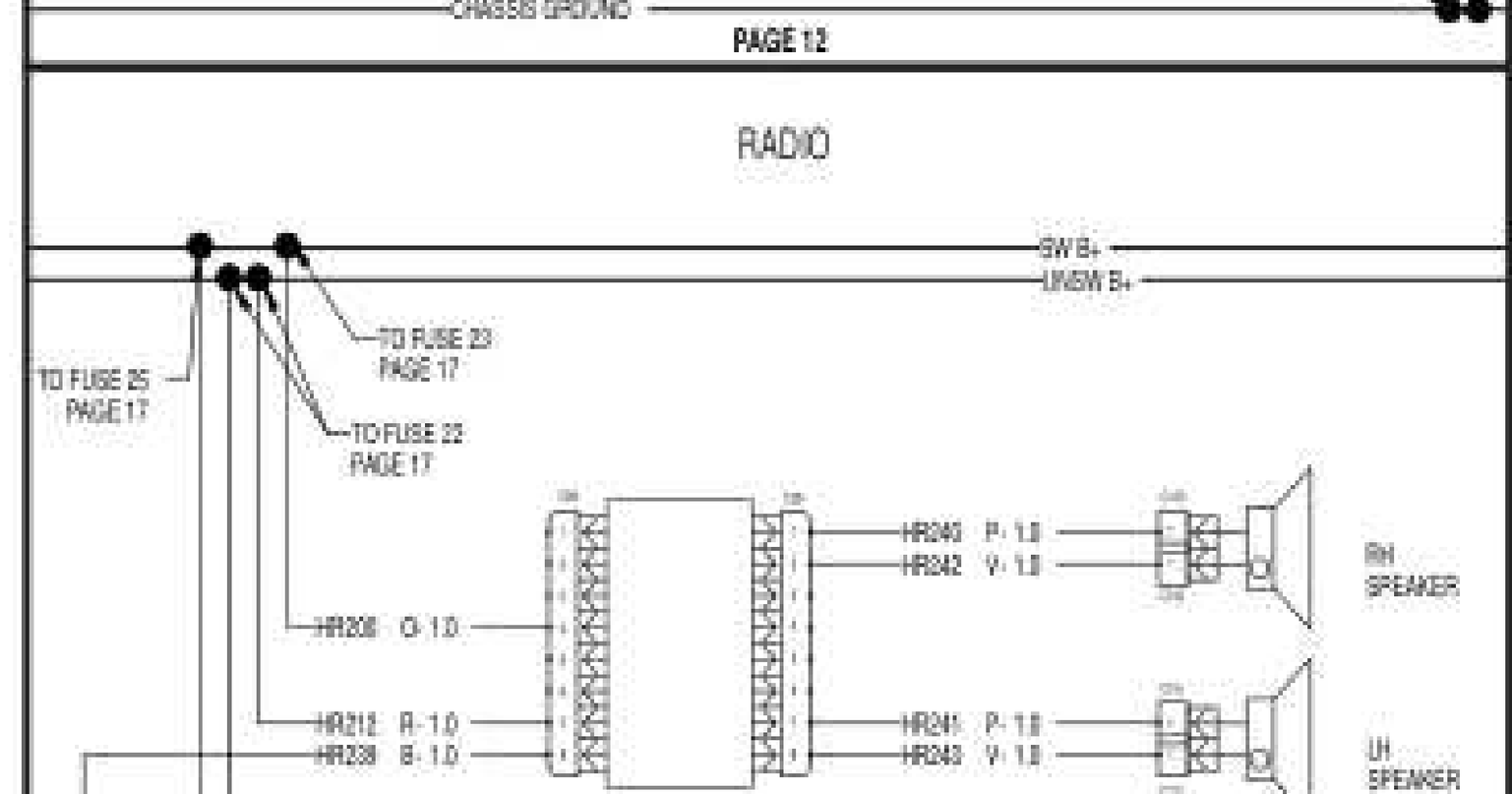


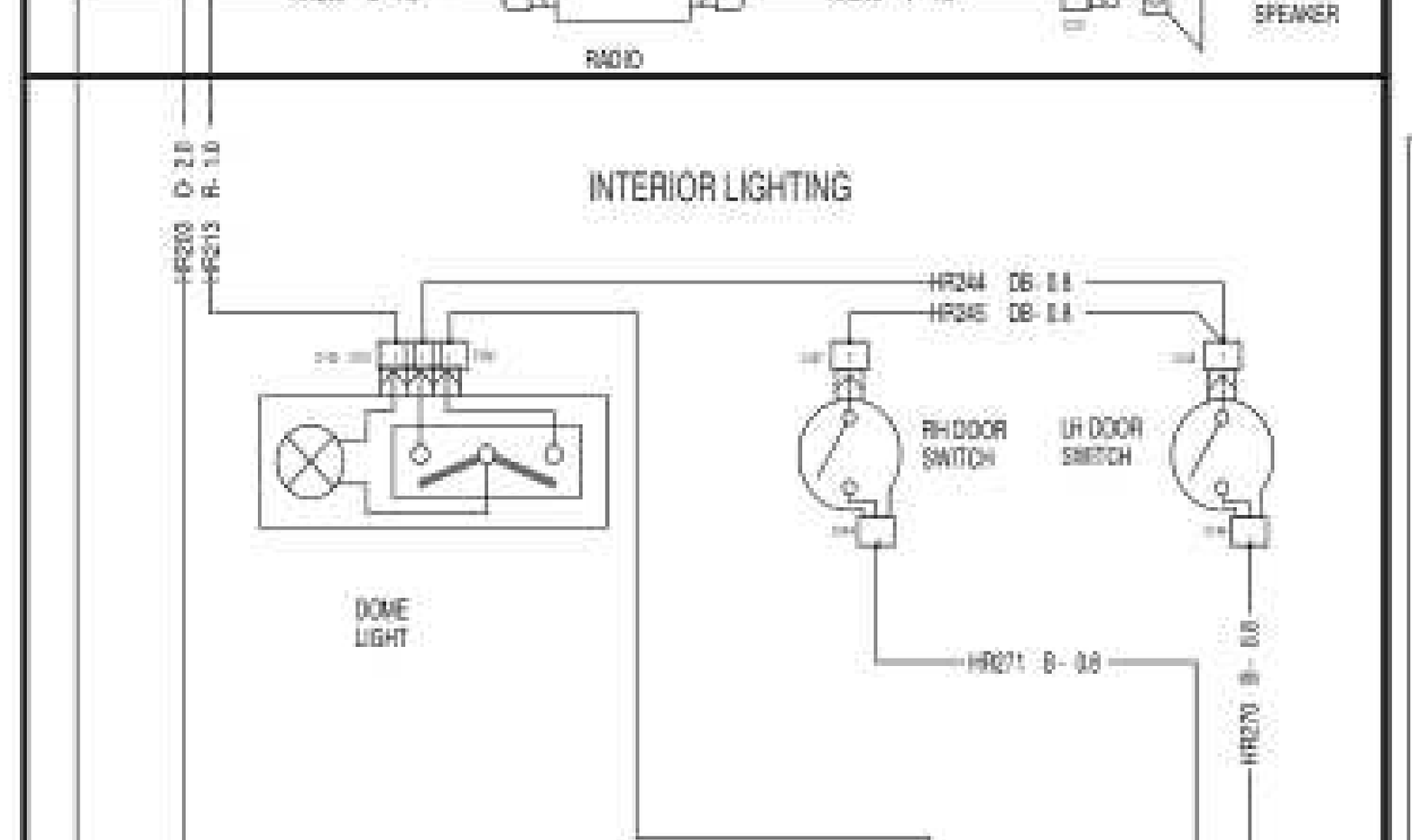


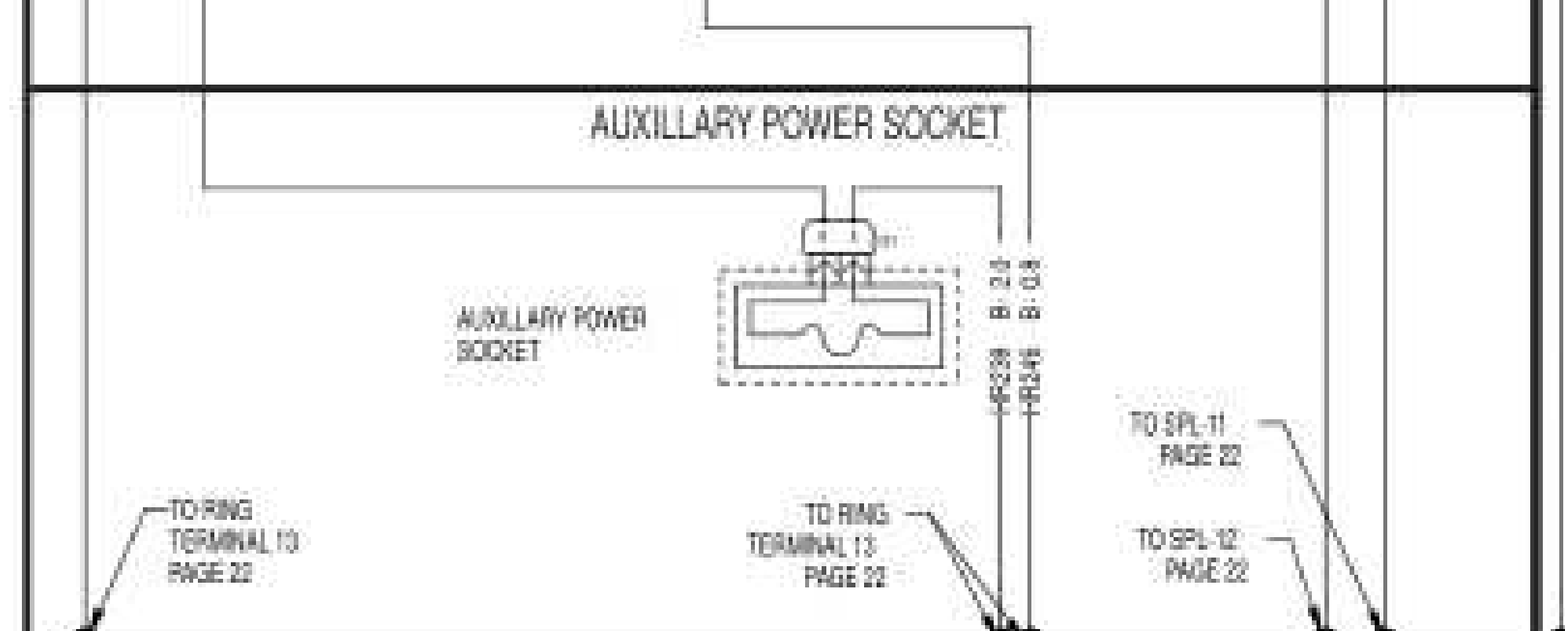


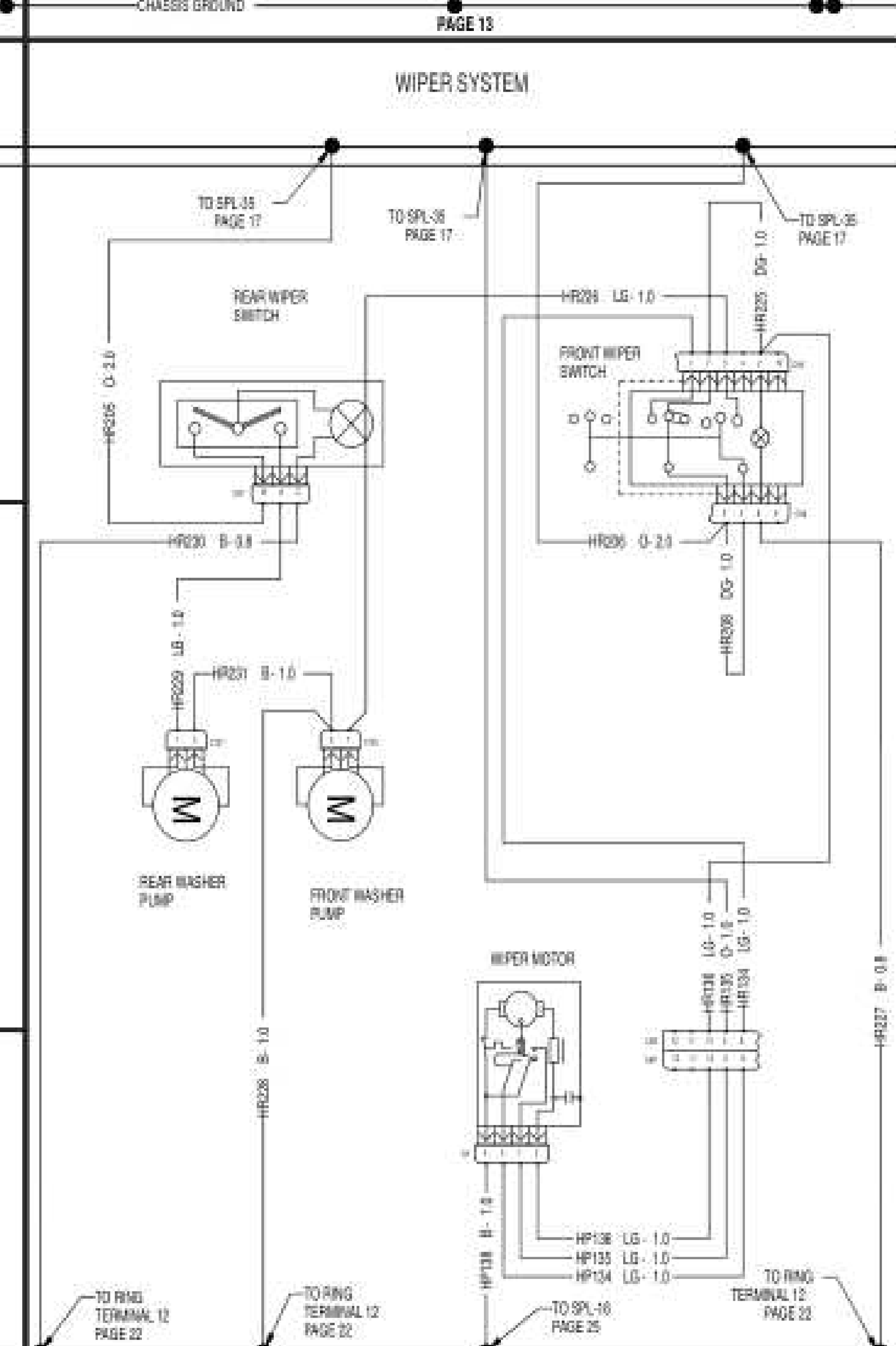


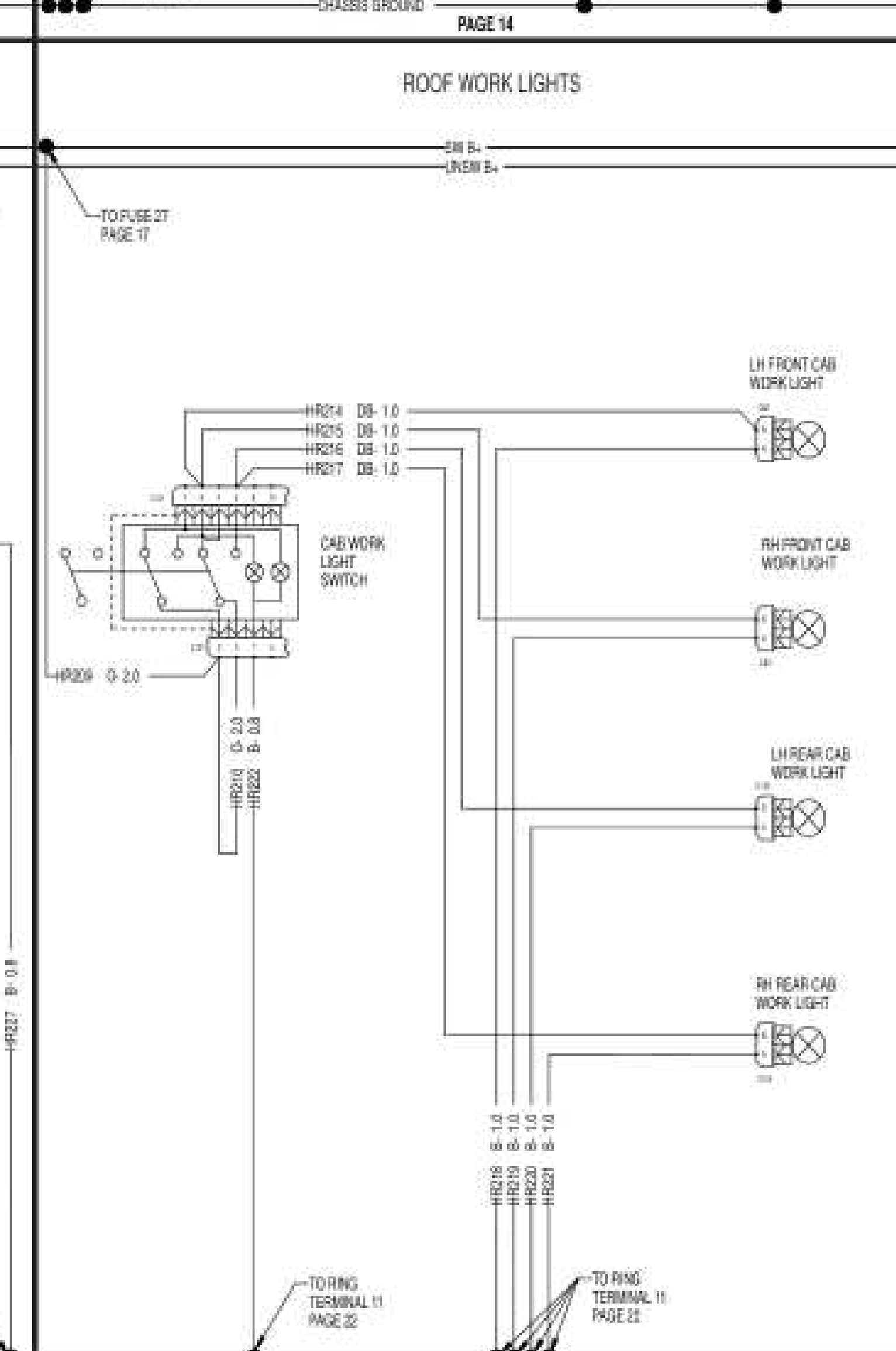


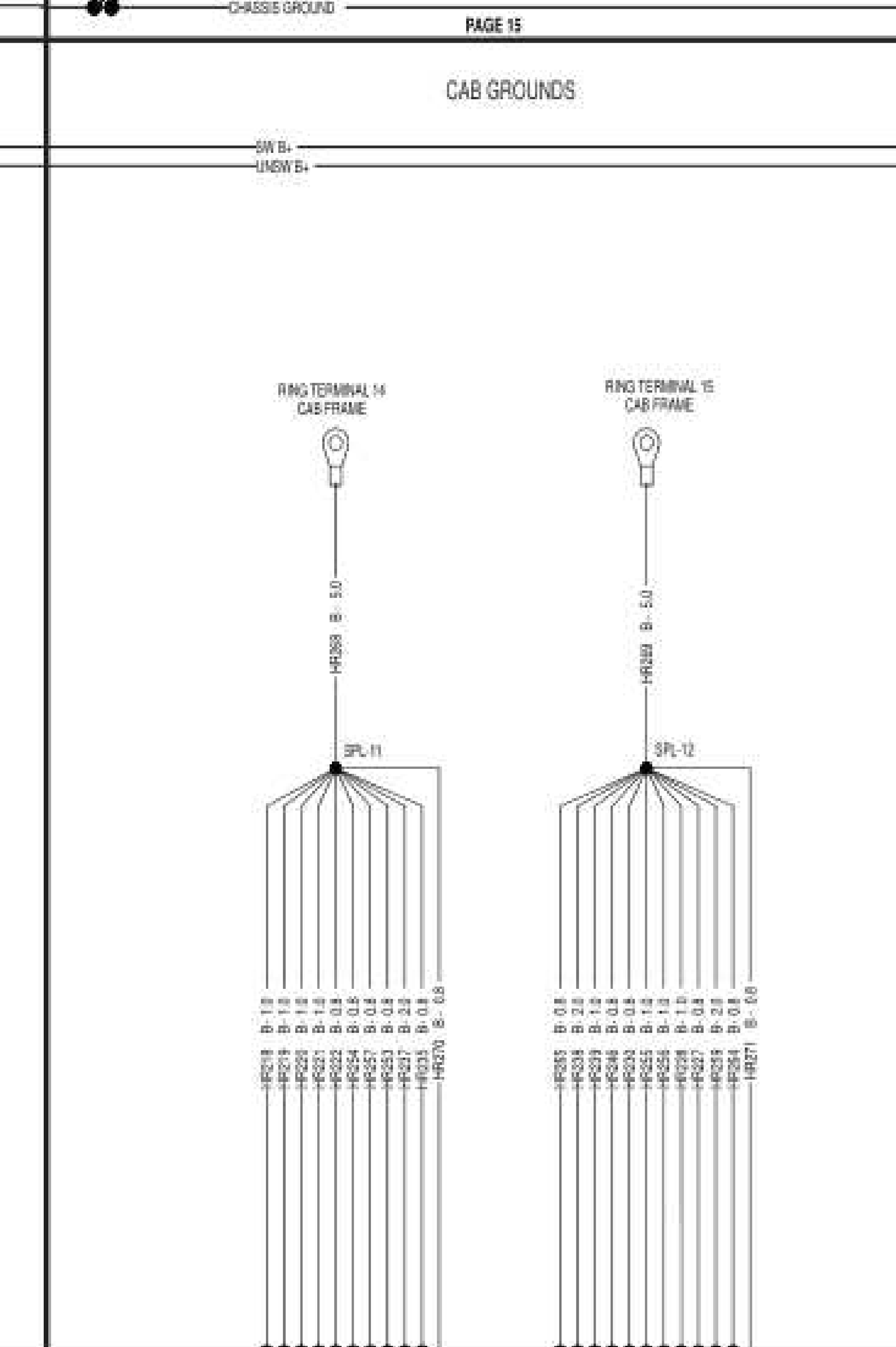


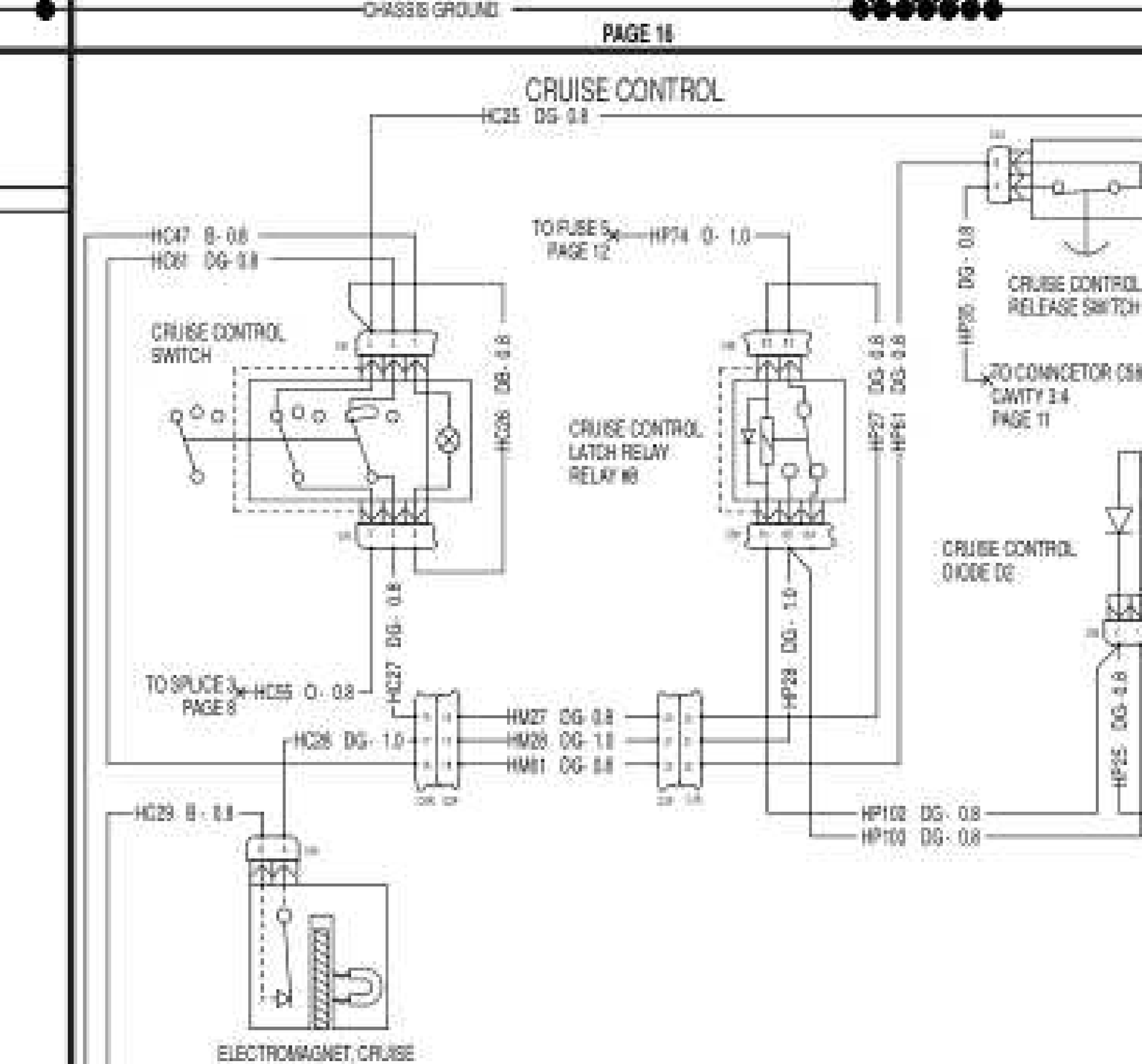


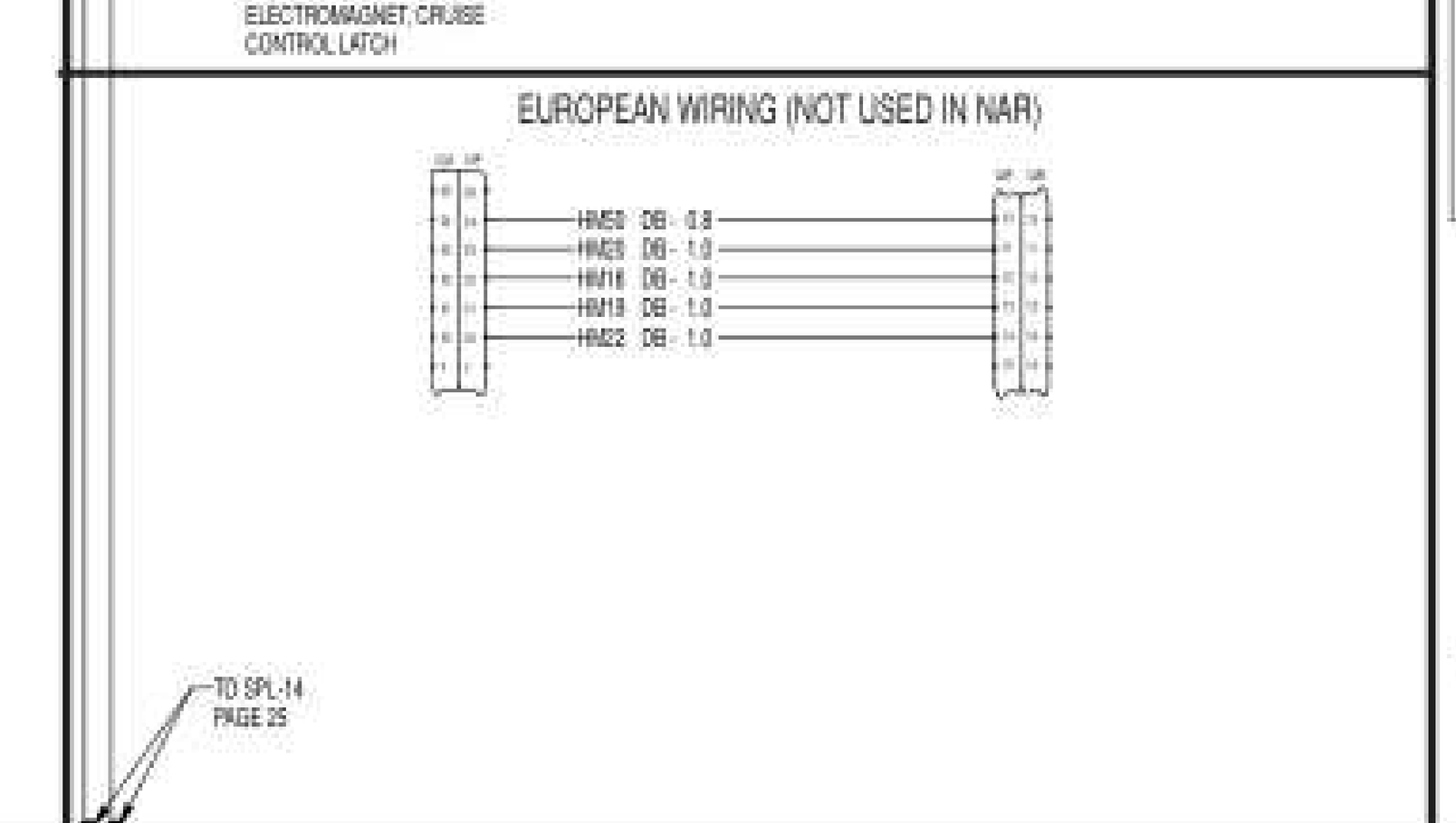


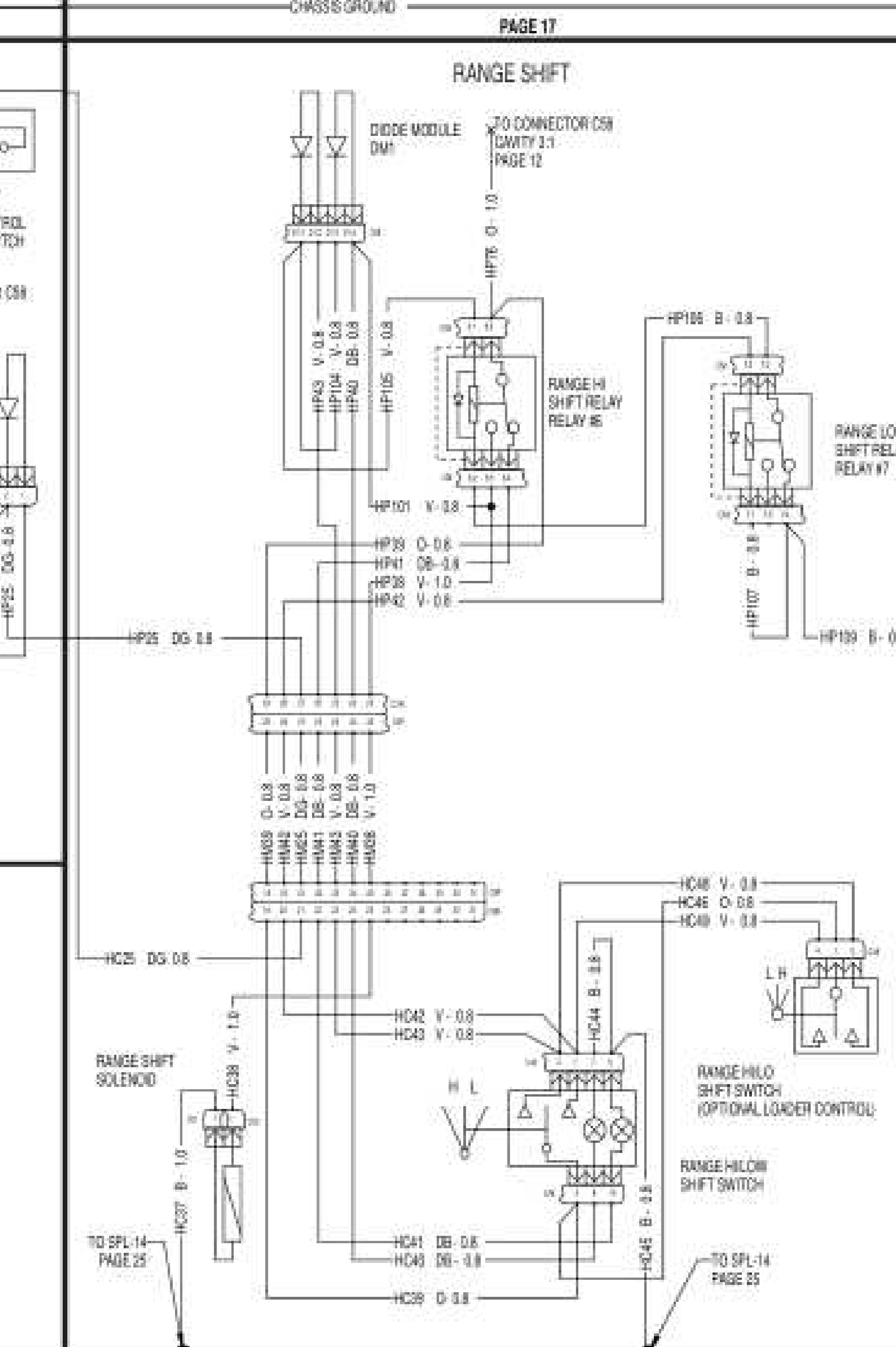


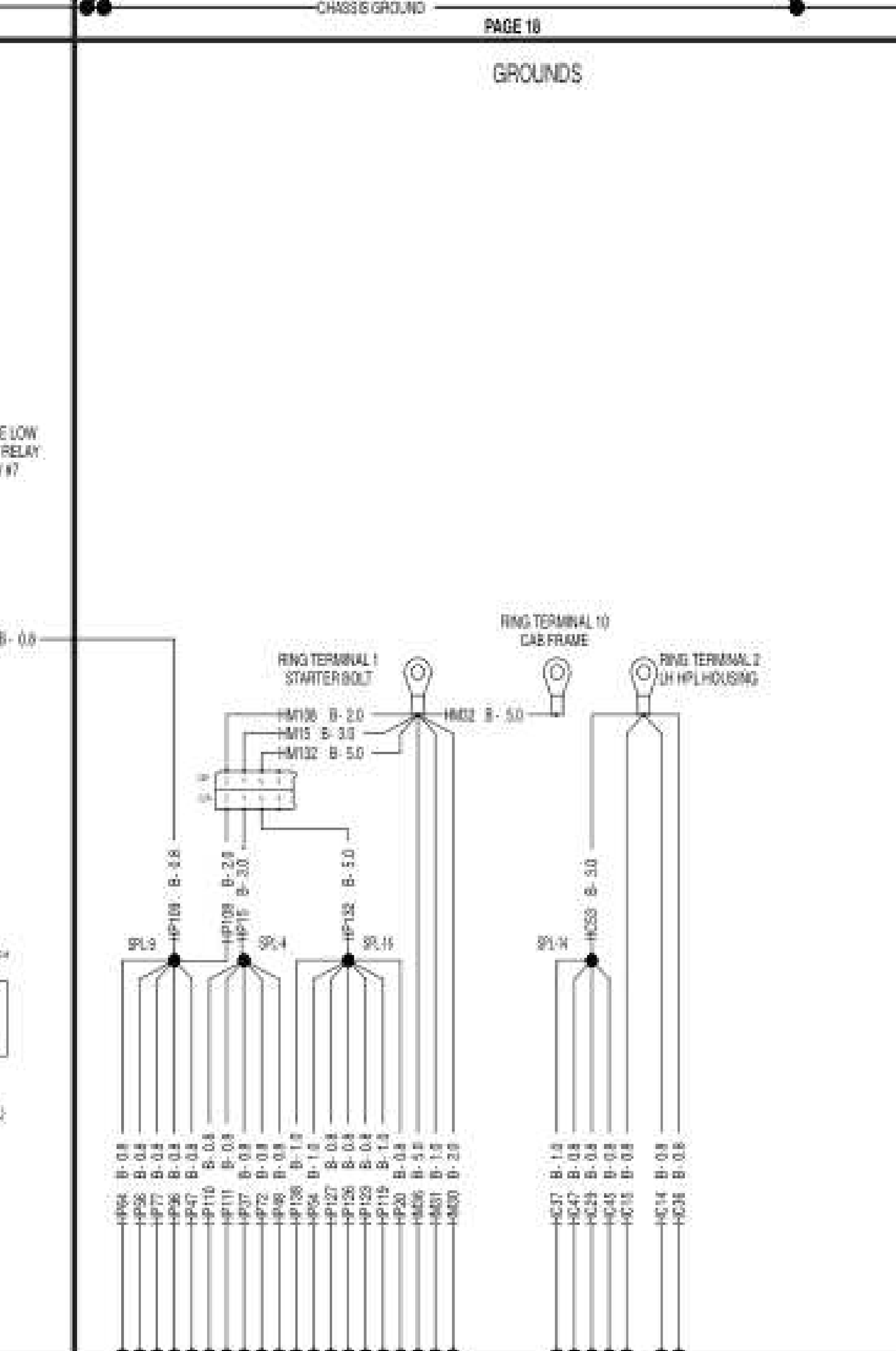












Order the manual at mid-west-tech.com >