

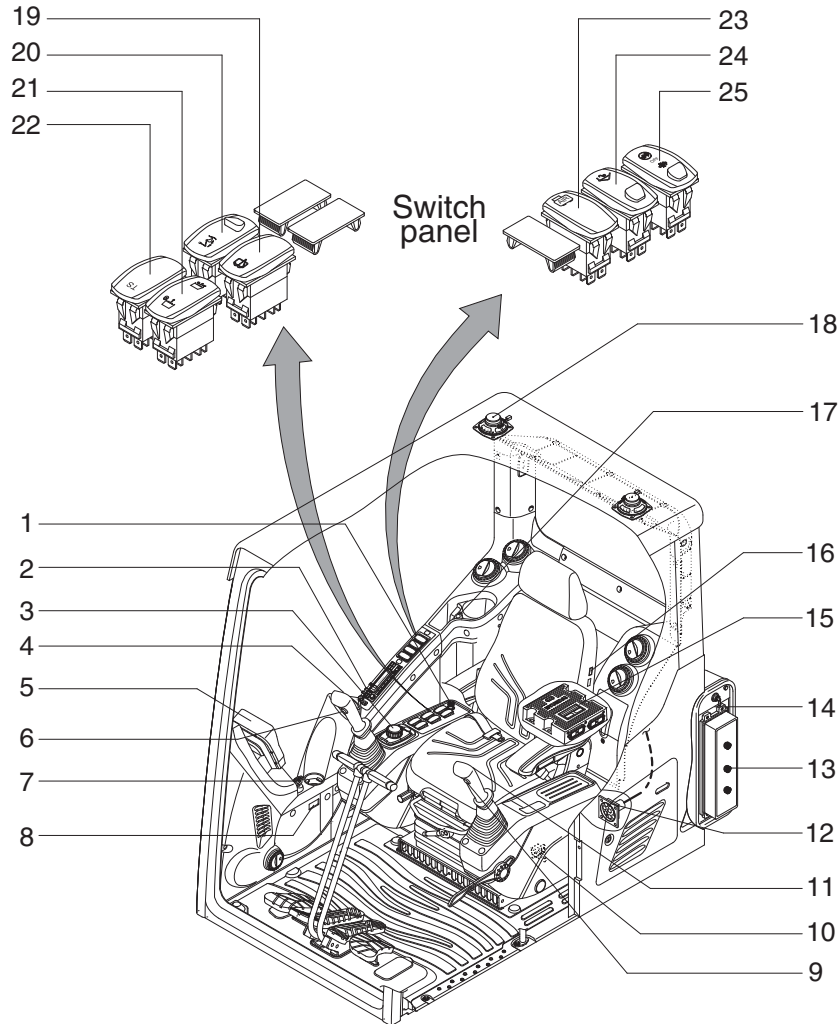
## SECTION 4 ELECTRICAL SYSTEM

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# SECTION 4 ELECTRICAL SYSTEM

## GROUP 1 COMPONENT LOCATION

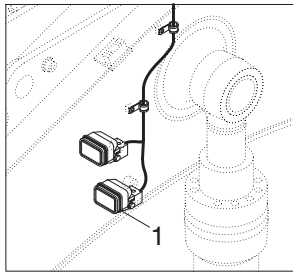
### 1. LOCATION 1



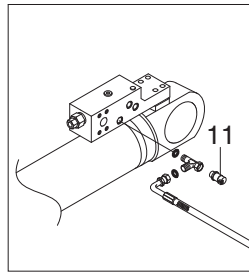
300L4EL15

- |                            |                                 |                                |
|----------------------------|---------------------------------|--------------------------------|
| 1 Cigar lighter            | 10 Emergency engine stop switch | 19 Lower wiper & washer switch |
| 2 Radio & USB player       | 11 One touch decel switch       | 20 Boom floating switch        |
| 3 Haptic controller        | 12 RS232 & J1939 service socket | 21 Swing lock/fine switch      |
| 4 Horn switch              | 13 Fuse & relay box             | 22 Travel straight switch      |
| 5 Cluster                  | 14 Master switch                | 23 Air compressor switch       |
| 6 Breaker operation switch | 15 Machine control unit         | 24 Quick clamp switch          |
| 7 Starting switch          | 16 Seat heater switch           | 25 SCR system cleaning switch  |
| 8 Service meter            | 17 Service socket               |                                |
| 9 Power max switch         | 18 Speaker                      |                                |

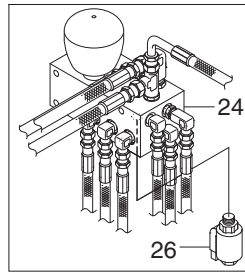
## 2. LOCATION 2



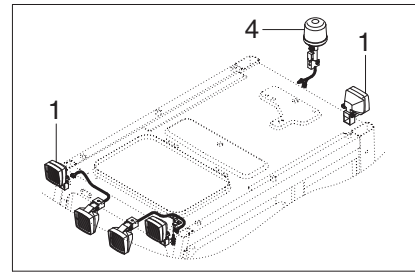
BOOM



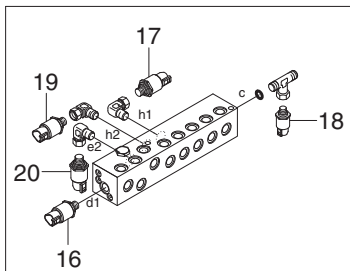
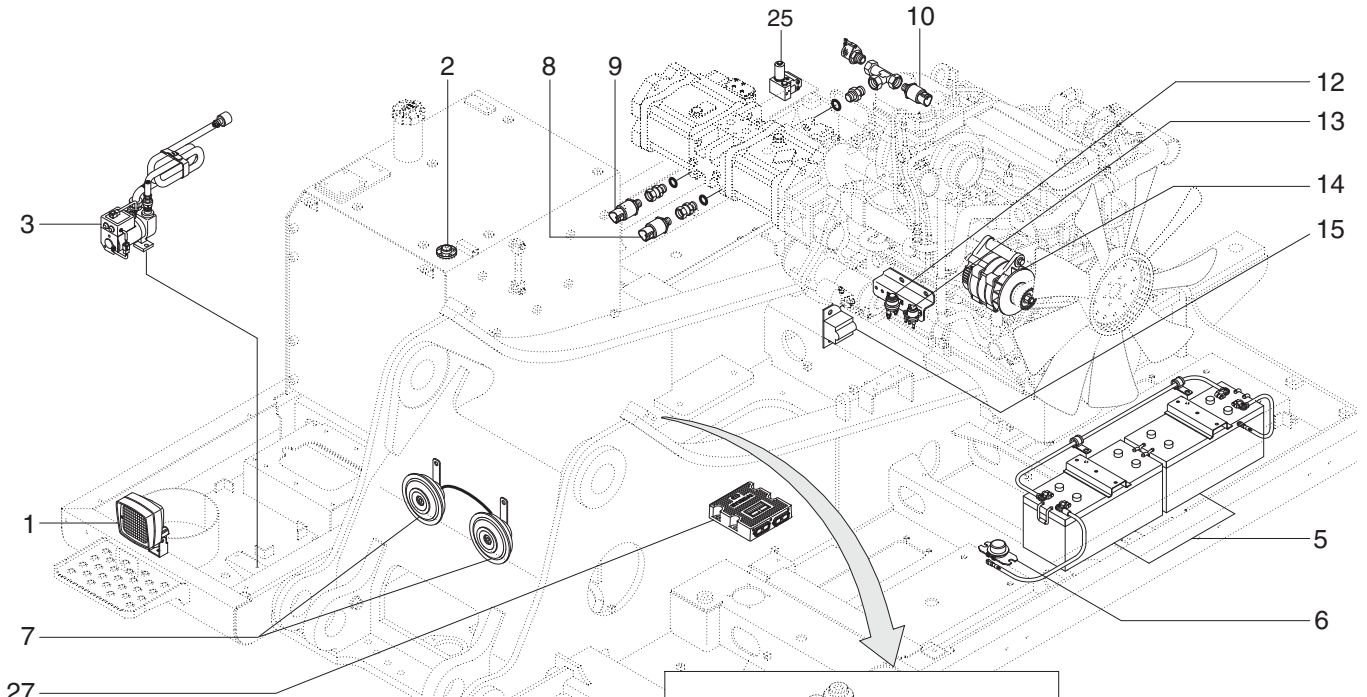
BOOM SAFETY VALVE



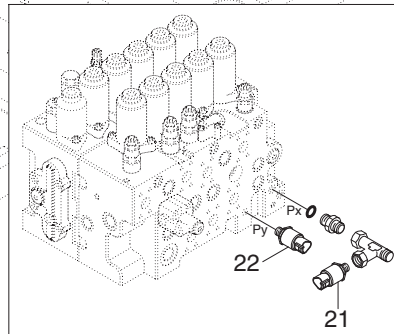
SOLENOID VALVE



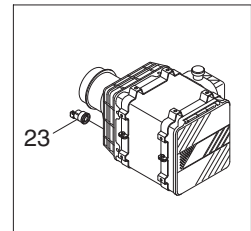
CAB



SHUTTLE BLOCK



MAIN CONTROL VALVE



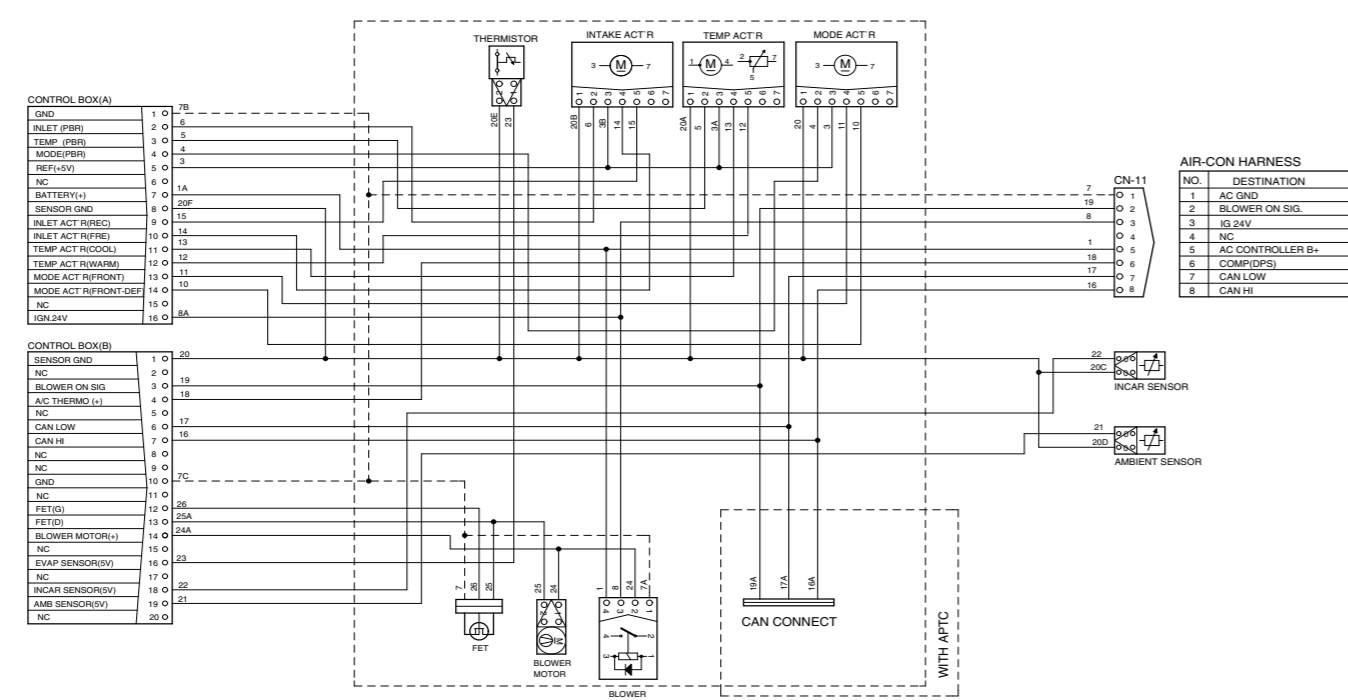
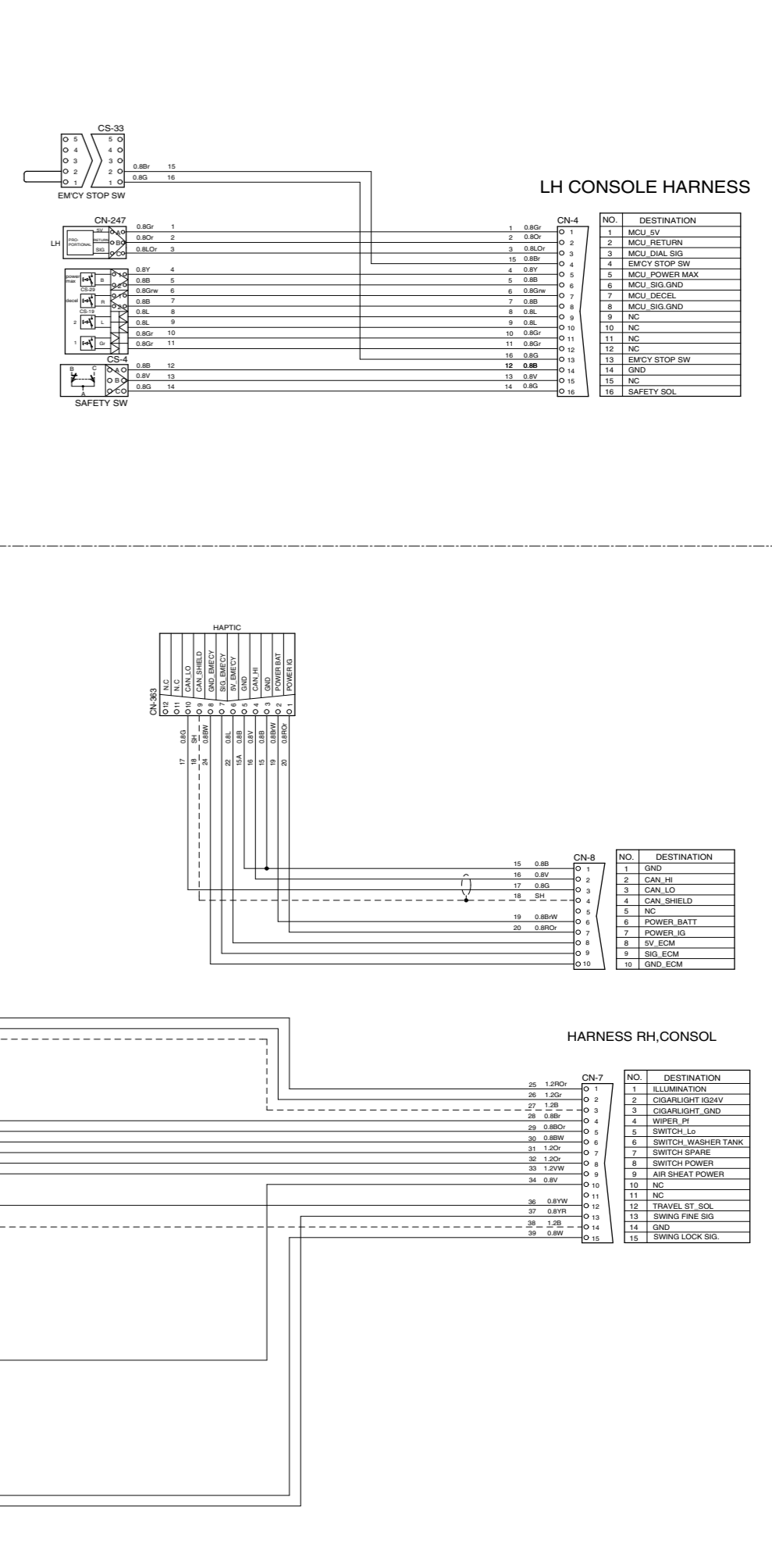
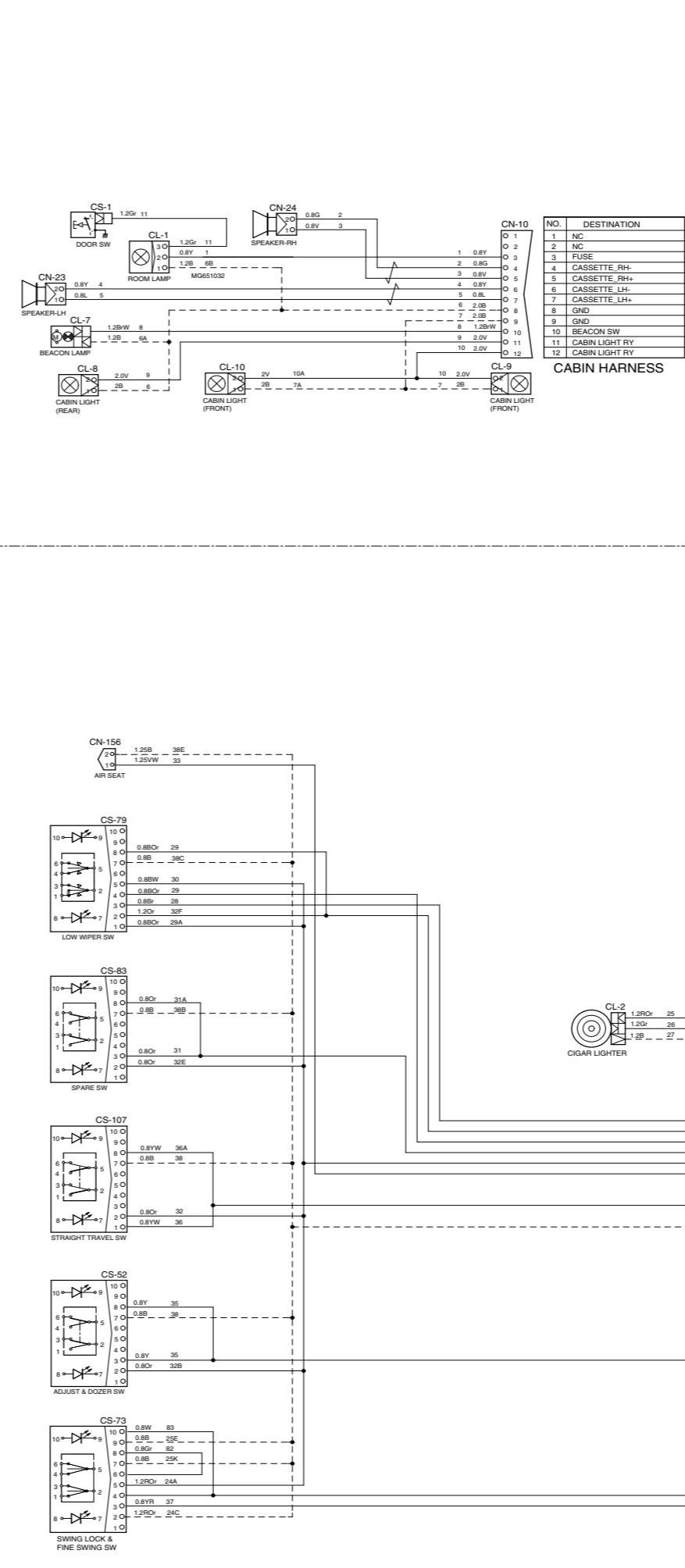
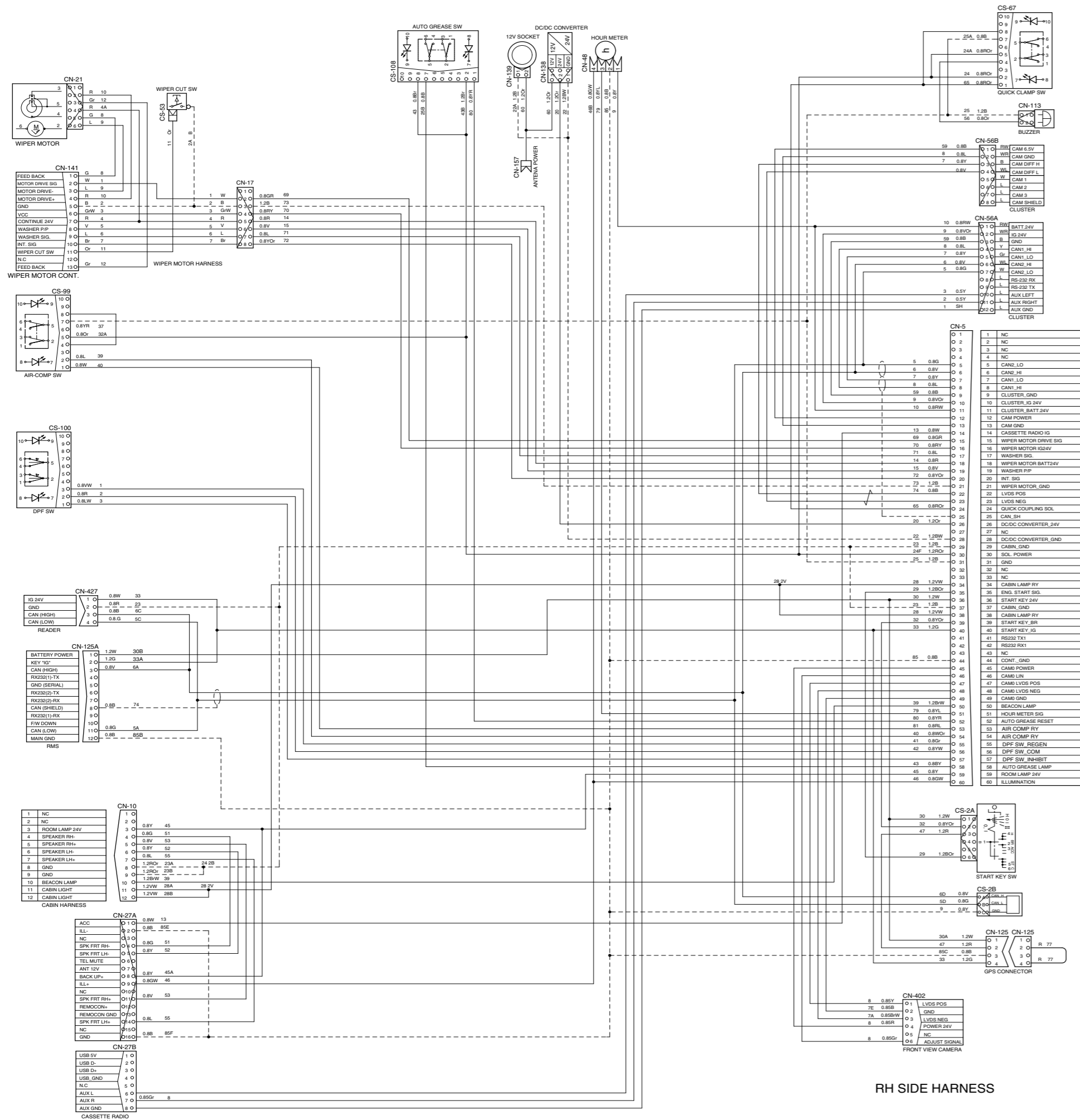
AIR CLEANER

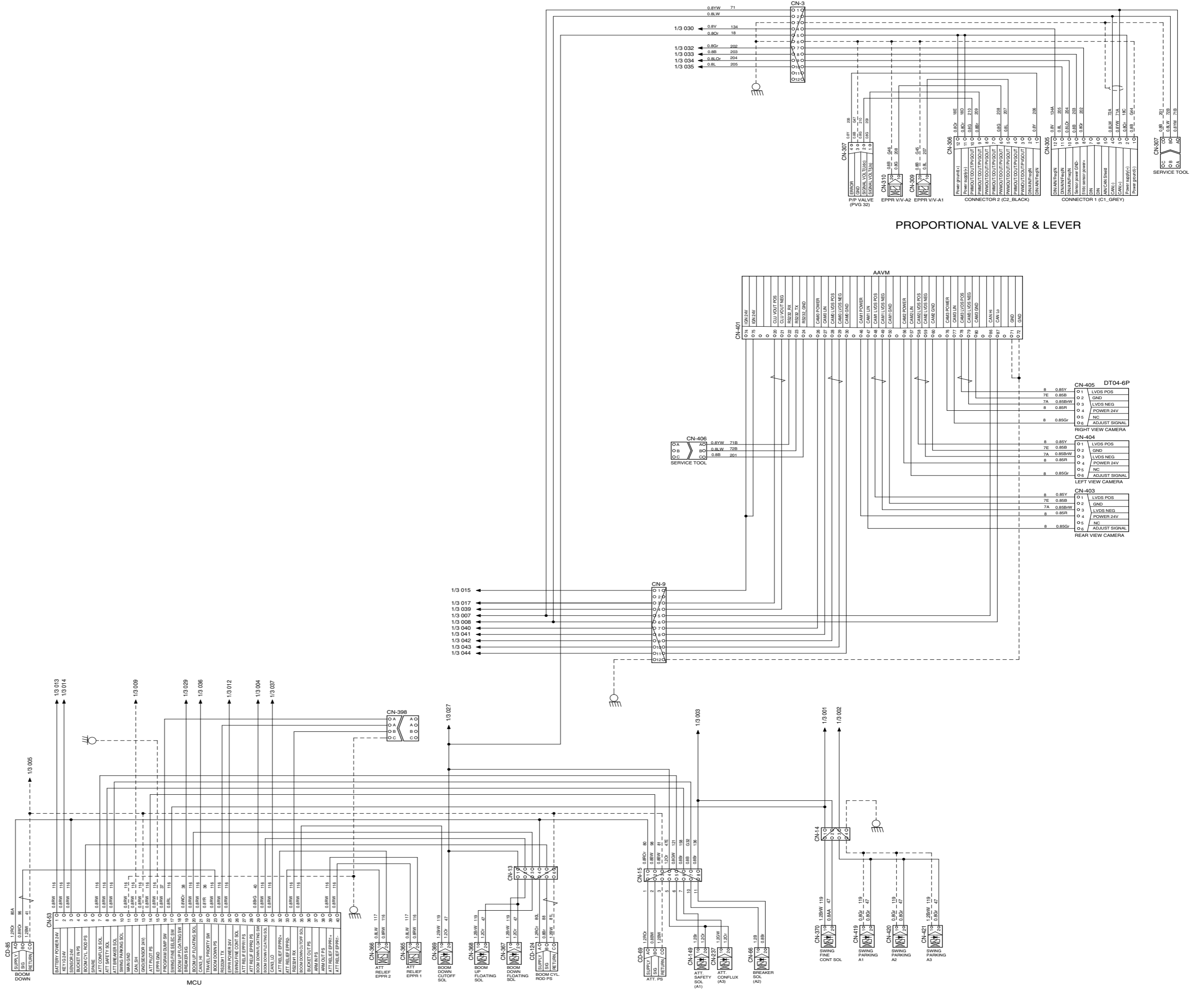
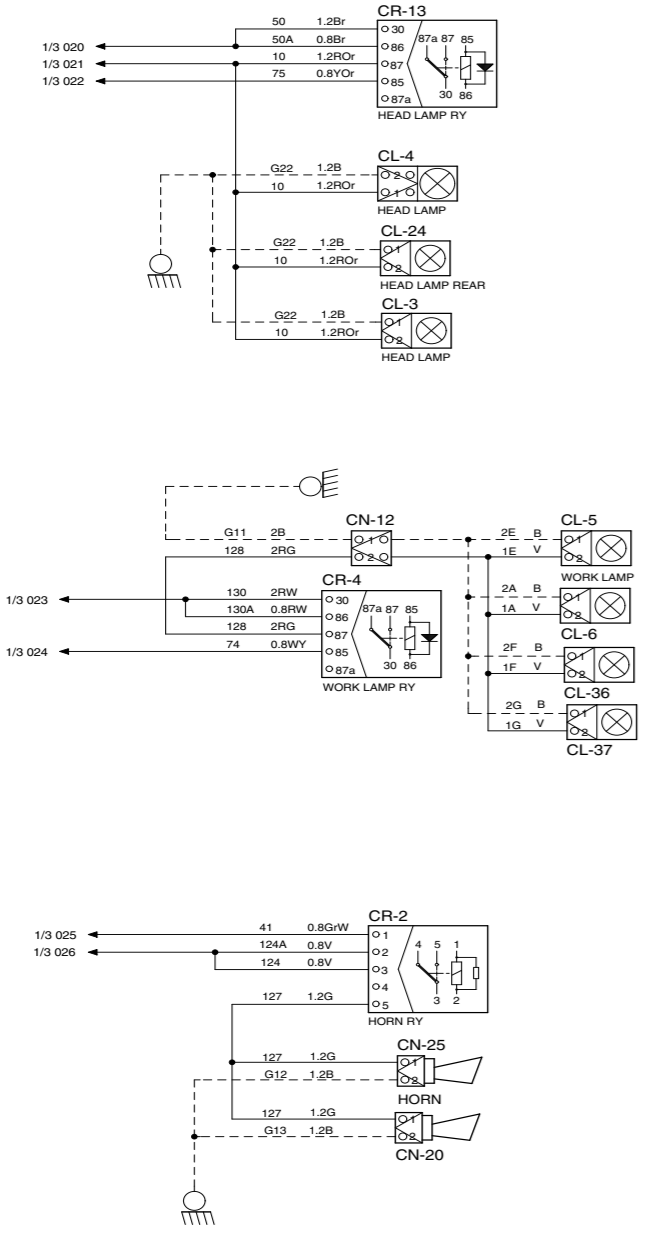
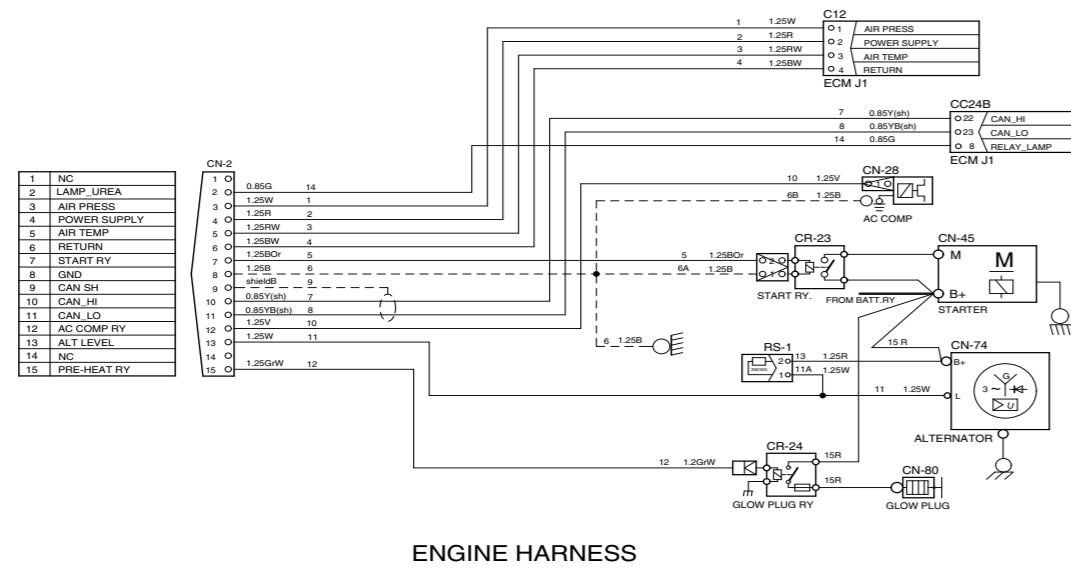
330L4EL16

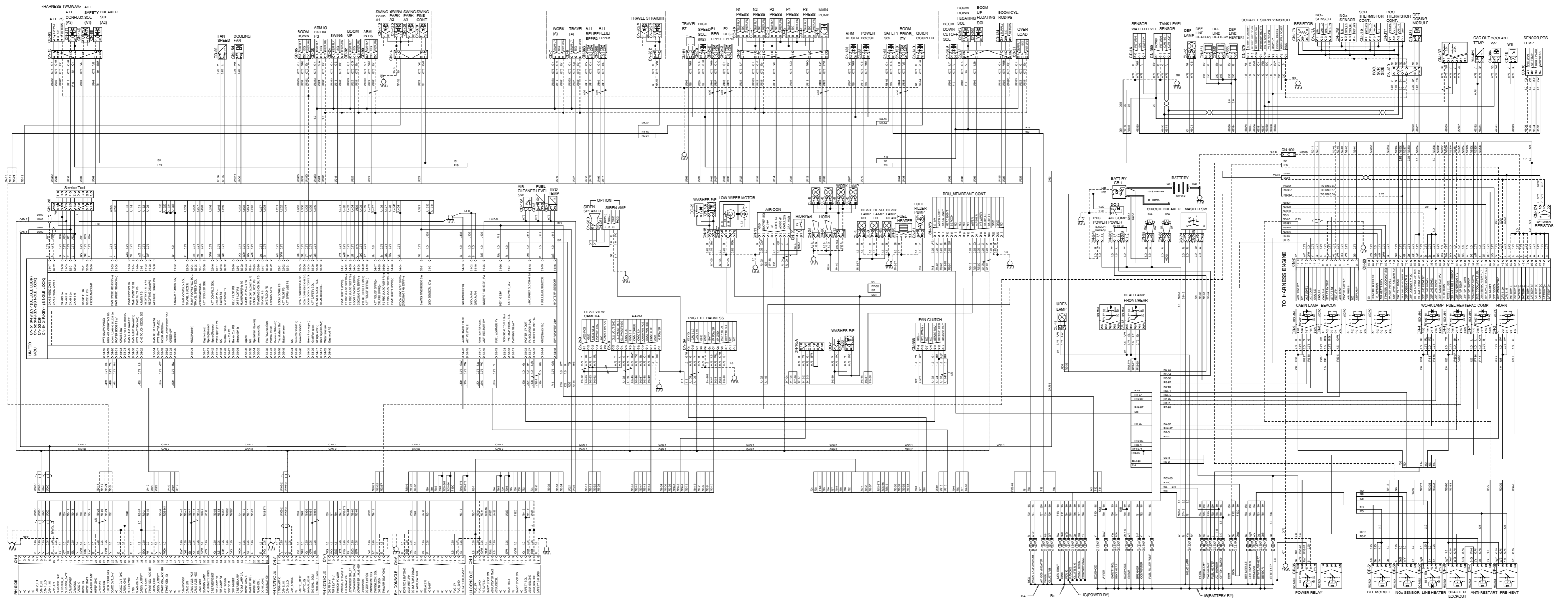
- |                      |                                  |                                 |
|----------------------|----------------------------------|---------------------------------|
| 1 Lamp               | 10 EPPR pressure sensor          | 19 Boom down pressure sensor    |
| 2 Fuel sender        | 11 Overload pressure sensor      | 20 Arm in/swing pressure sensor |
| 3 Fuel filler pump   | 12 Start relay                   | 21 Attach pressure sensor       |
| 4 Beacon lamp        | 13 Heater relay                  | 22 Travel pressure sensor       |
| 5 Battery            | 14 Alternator                    | 23 Air cleaner sensor           |
| 6 Battery relay      | 15 Travel alarm buzzer           | 24 Solenoid valve               |
| 7 Horn               | 16 Arm/Bucket in pressure sensor | 25 Pump EPPR valve              |
| 8 P1 pressure sensor | 17 Boom up pressure sensor       | 26 Boom priority EPPR valve     |
| 9 P2 pressure sensor | 18 Swing pressure sensor         | 27 MCU                          |



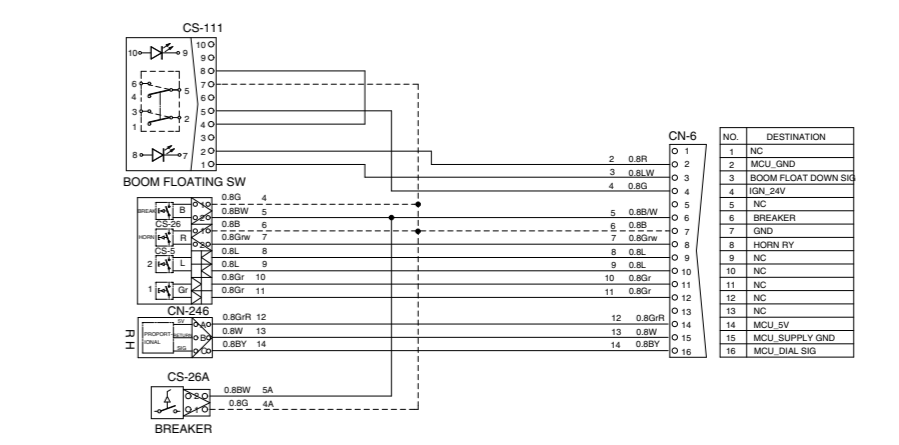
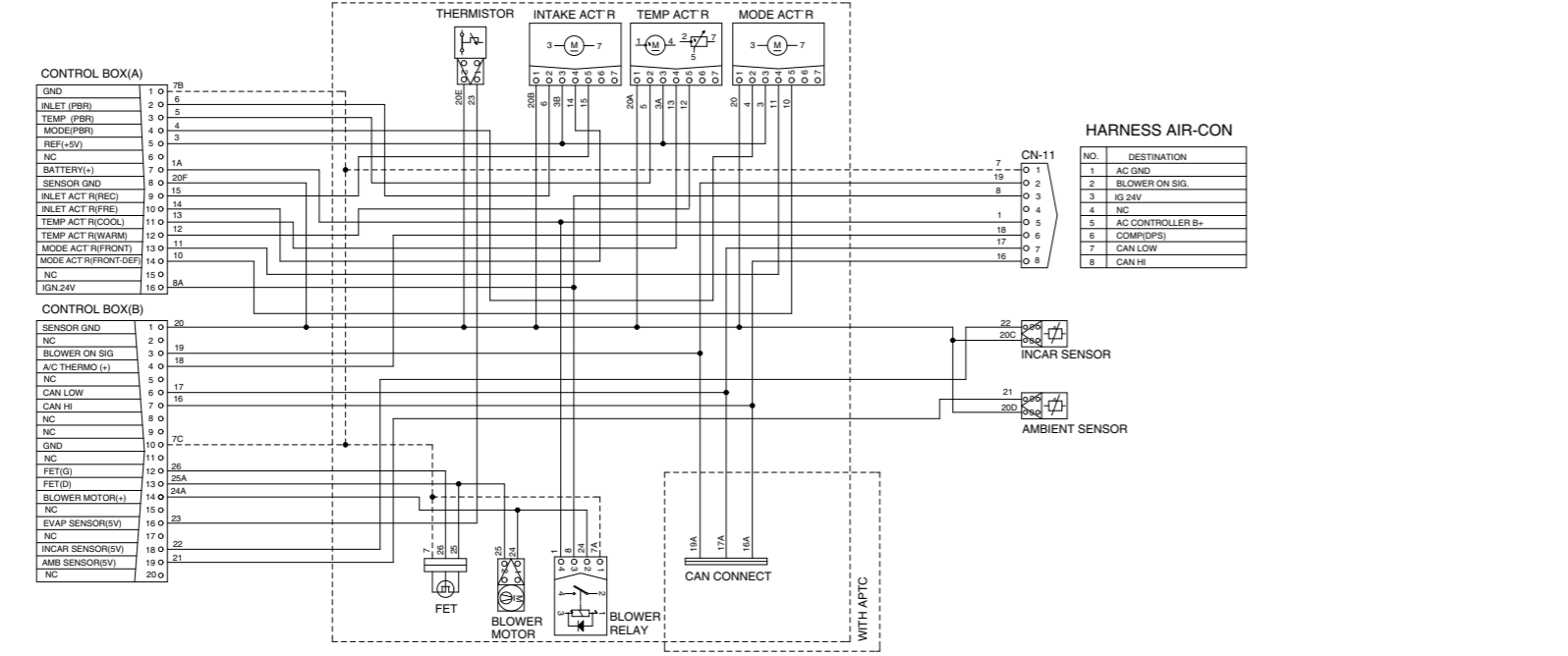
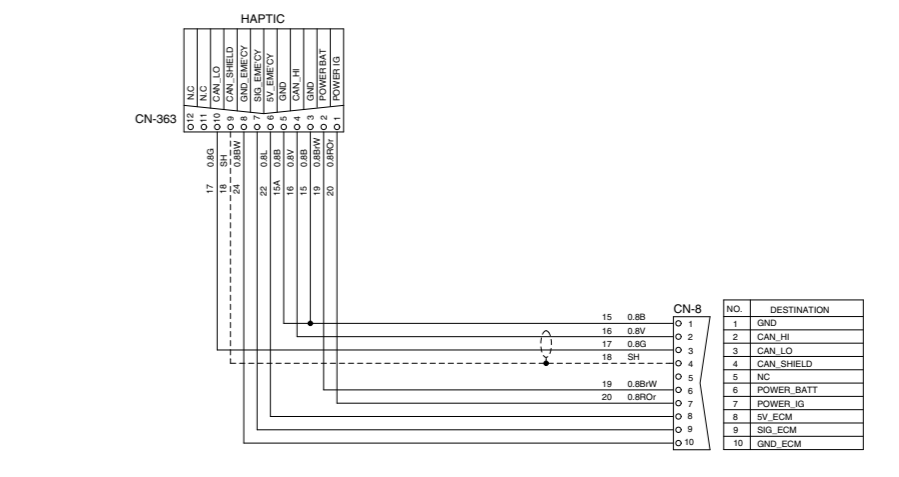
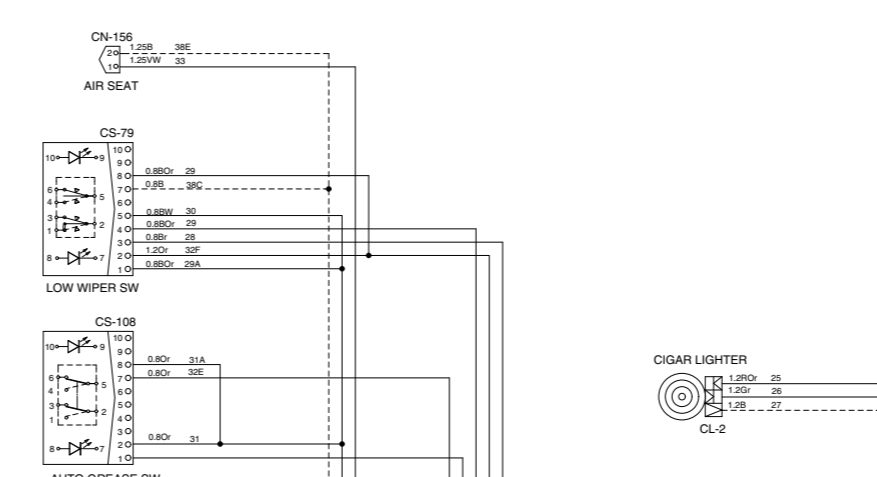
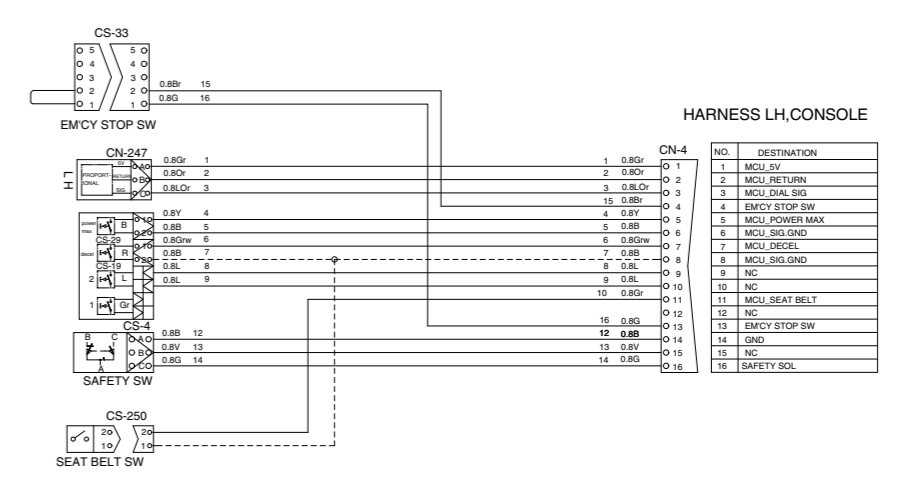
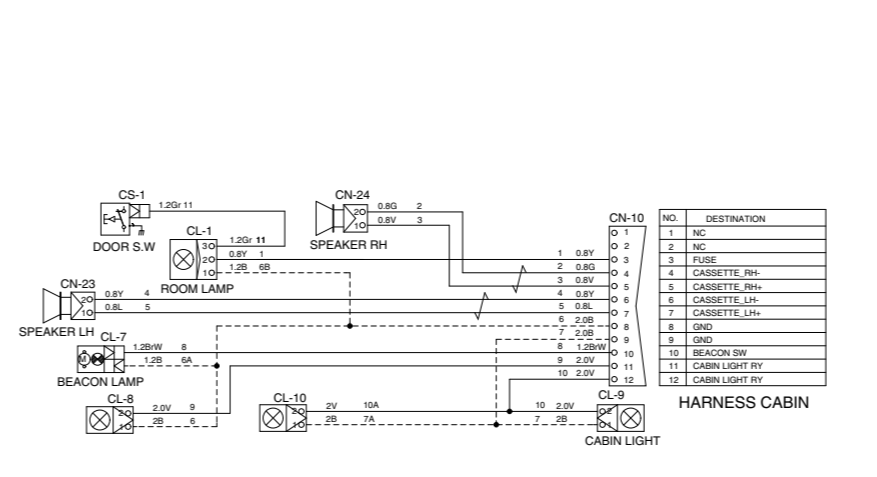
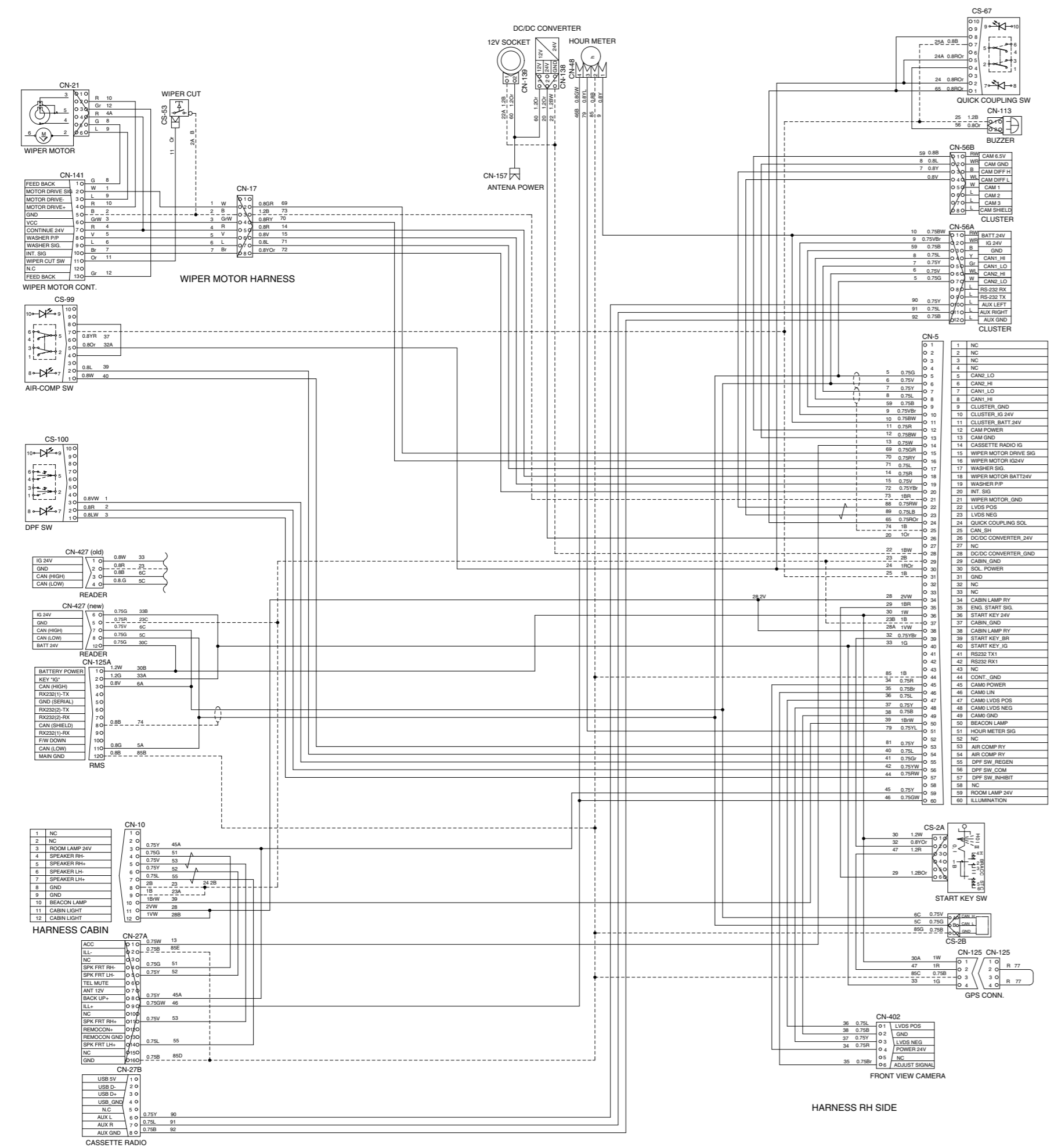














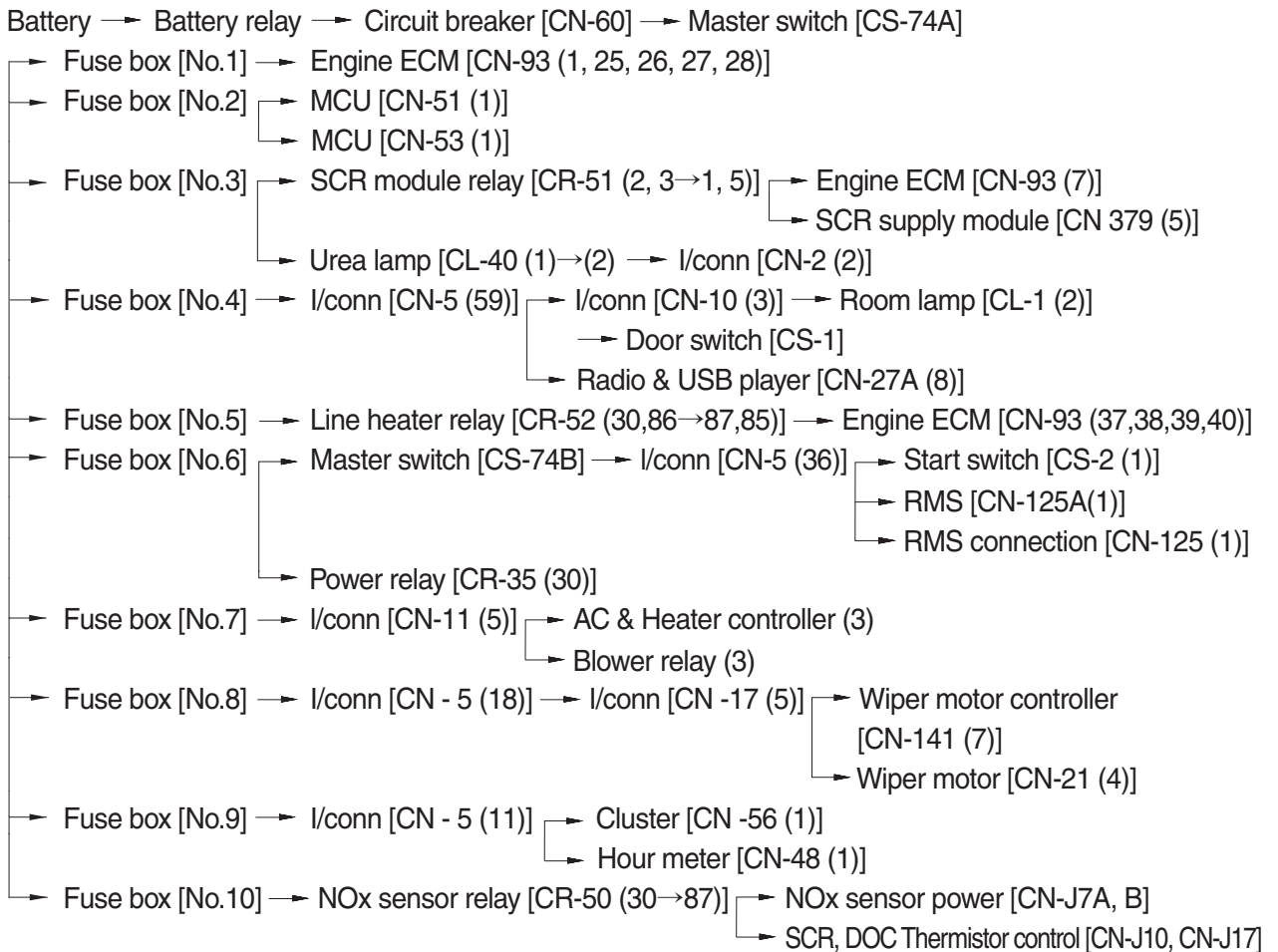
**MEMORANDUM**

## 1. POWER CIRCUIT

The negative terminal of battery is grounded to the machine chassis through master switch.

When the start switch is in the OFF position, the current flows from the positive battery terminal as shown below.

### 1) OPERATING FLOW



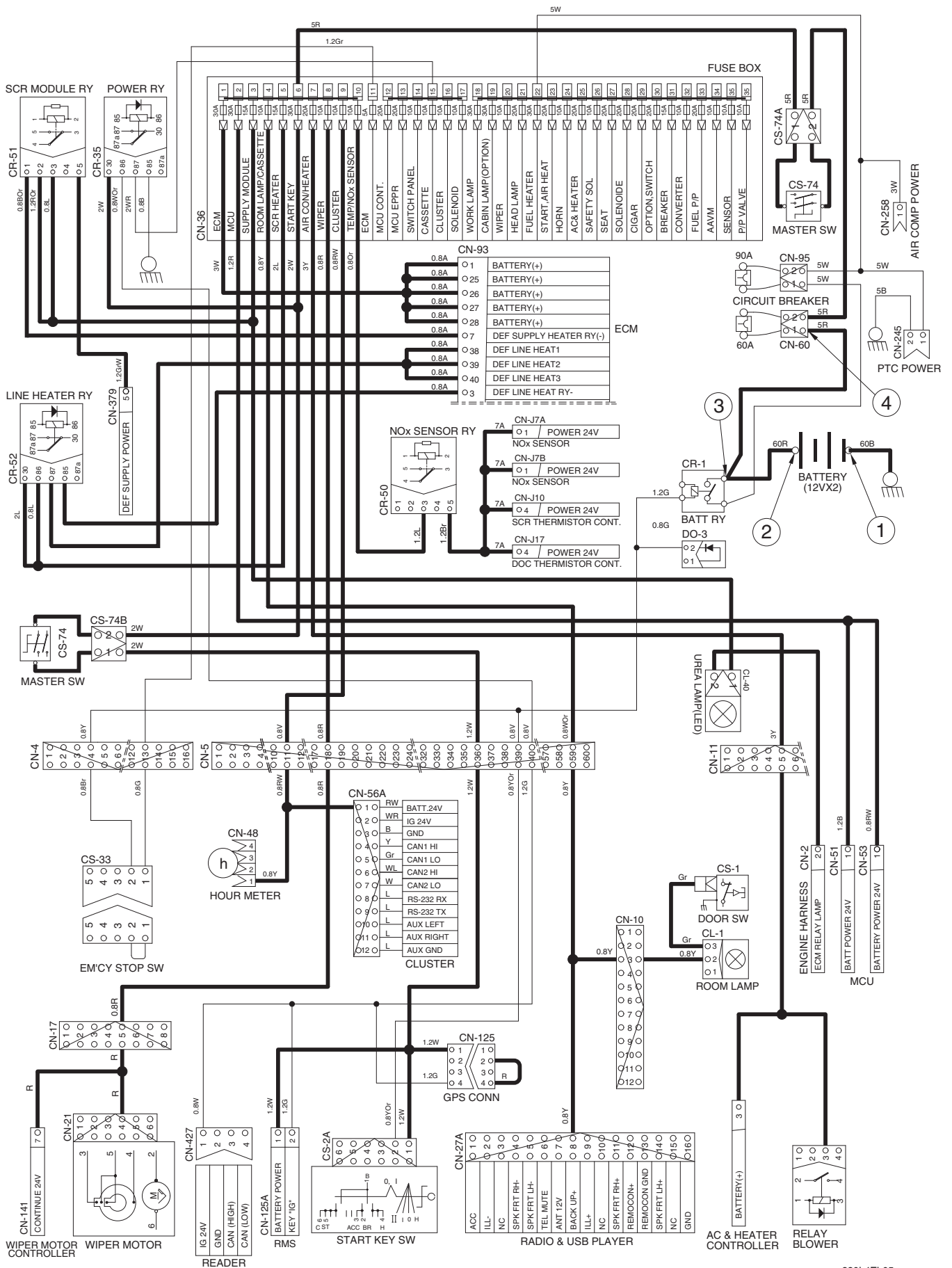
※ I/conn : Intermediate connector

### 2) CHECK POINT

Engine	Start switch	Check point	Voltage
OFF	OFF	① - GND (battery 1EA)	10~12.5V
		② - GND (battery 2EA)	20~25V
		③ - GND (battery 2EA)	20~25V
		④ - GND (fusible link)	20~25V

※ GND : Ground

# POWER CIRCUIT



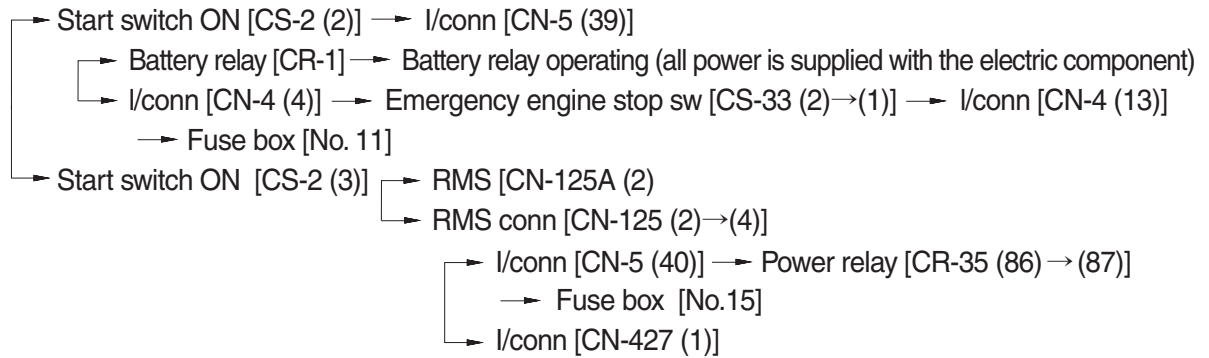
330L4EL05

## 2. STARTING CIRCUIT

### 1) OPERATING FLOW

Battery(+) terminal → Battery relay [CR-1] → Circuit breaker [CN-60] → Master switch [CS-74A]  
 → Fuse box [No.6] → Master switch [CS-74B] → I/conn [CN-5(36)] → Start switch [CS-2(1)]

#### (1) When start key switch is in ON position



#### (2) When start key switch is in START position

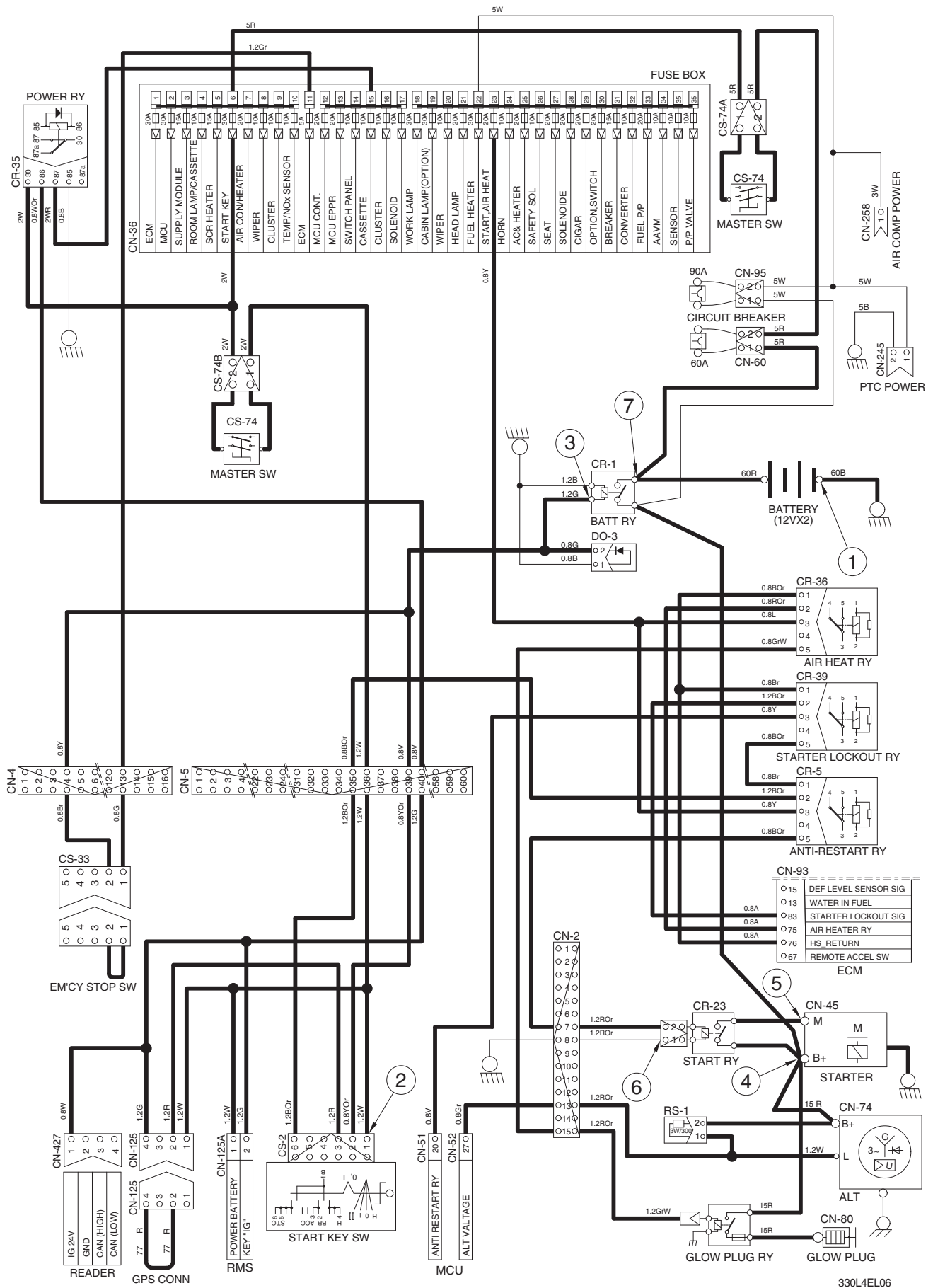
Start switch START [CS-2 (6)] → I/conn [CN-5 (35)] → Anti-restart relay [CR-5 (2) → (5)]  
 → I/conn [CN-2 (7)] → Start relay [CR-23]

### 2) CHECK POINT

Engine	Start switch	Check point	Voltage
OPERATING	START	① - GND (battery) ② - GND (start key) ③ - GND (battery relay M4) ④ - GND (starter B+) ⑤ - GND (starter M) ⑥ - GND (start relay) ⑦ - GND (battery relay M8)	20~25V



# STARTING CIRCUIT



330L4EL06

### 3. CHARGING CIRCUIT

When the starter is activated and the engine is started, the operator releases the key switch to the ON position.

Charging current generated by operating alternator flows into the battery through the battery relay [CR-1].

The current also flows from alternator to each electrical component and controller through the fuse box.

#### 1) OPERATING FLOW

##### (1) Warning flow

Alternator "L" terminal → I/conn [CN-2 (13)] → MCU alternator level [CN-52 (27)]  
 → Cluster charging warning lamp (Via serial interface)

##### (2) Charging flow

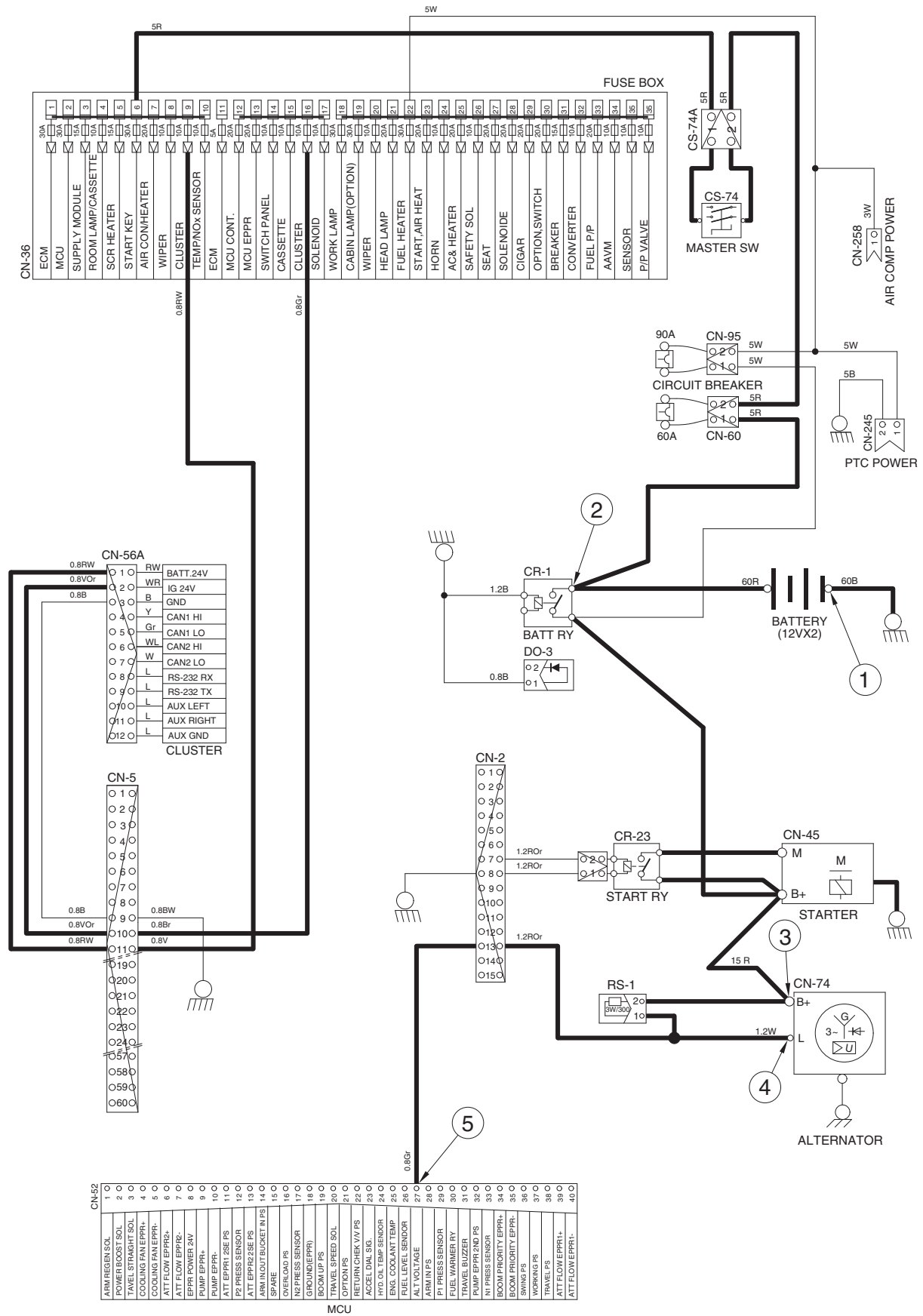
Alternator "B+" terminal → Battery relay(M8) → Battery(+) terminal  
 → Circuit breaker [CN-60] → Master switch [CS-74]  
 → Fuse box

#### 2) CHECK POINT

Engine	Start switch	Check point	Voltage
Run	ON	① - GND (battery voltage) ② - GND (battery relay) ③ - GND (alternator B <sup>+</sup> terminal) ④ - GND (alternator L terminal) ⑤ - GND (MCU)	20~25V

※ GND : Ground

# CHARGING CIRCUIT



330L4EL07

## 4. HEAD AND WORK LIGHT CIRCUIT

### 1) OPERATING FLOW

Fuse box (No.21) → Head light relay [CR-13 (30, 86)]

Fuse box (No.18) → Work light relay [CR-4 (30, 86)]

#### (1) Head light switch ON

Head light switch ON [CN-376 (7)] → Head light relay [CR-13 (85) → (87)]

→ Head light ON [CL-3 (1), CL-4 (1), CL-24 (1)]

→ I/conn [CN-7 (1)] → Cigar light [CL-2]

→ I/conn [CN-5 (60)] → Radio & USB player illumination ON [CN-27A (9)]

#### (2) Work light switch ON

Work light switch ON [CN-376 (6)] → Work light relay [CR-4 (85) → (87)]

→ I/conn [CN-12 (2)] → Work light ON [CL-5 (2), CL-6 (2), CL-36 (2), CL-37 (2)]

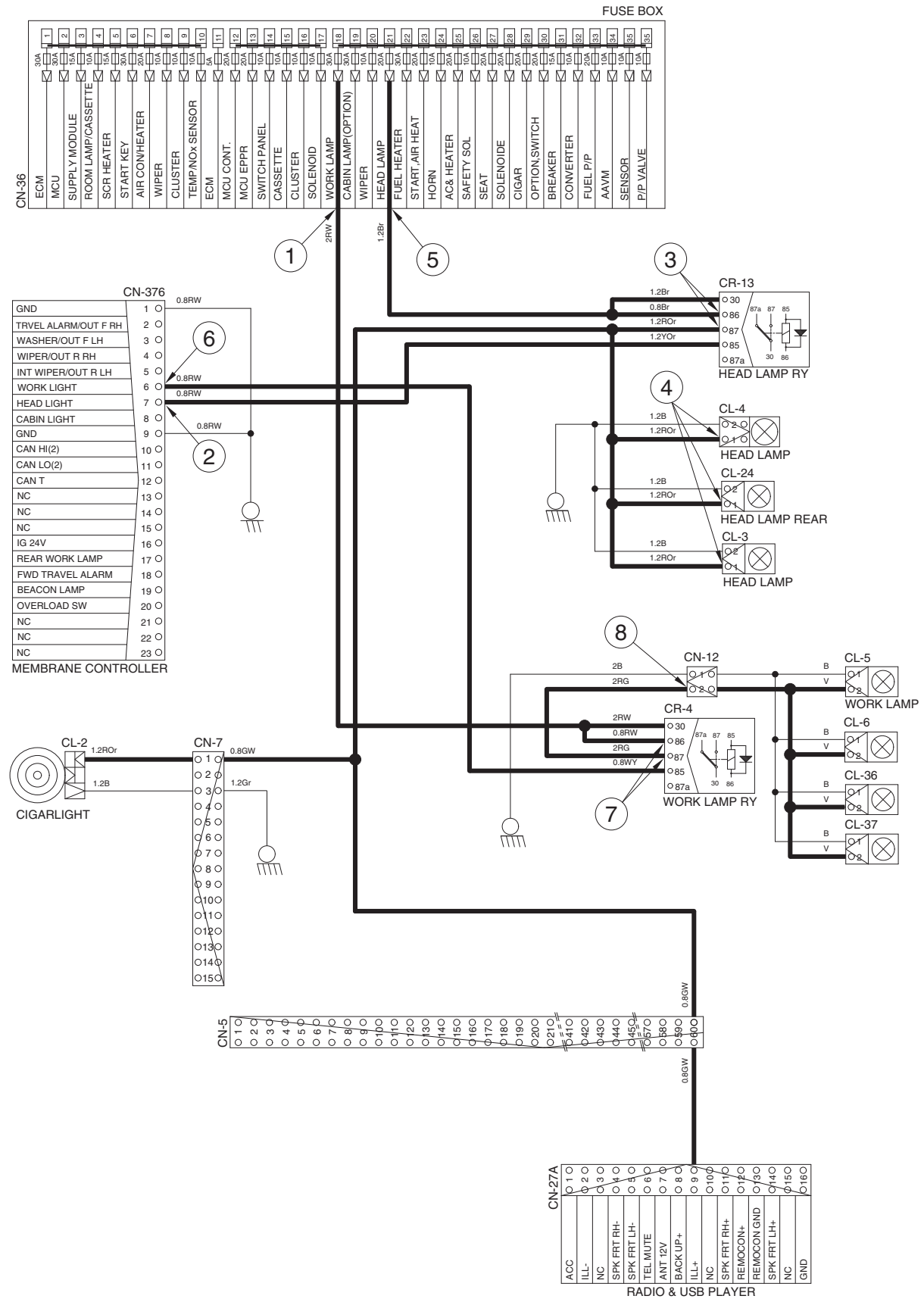
### 2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box) ② - GND (switch power output) ③ - GND (head light relay) ④ - GND (head light) ⑤ - GND (fuse box) ⑥ - GND (switch power output) ⑦ - GND (work light relay) ⑧ - GND (work light)	20~25V

※ GND : Ground



# HEAD AND WORK LIGHT CIRCUIT



## 5. BEACON LAMP AND CAB LIGHT CIRCUIT

### 1) OPERATING FLOW

Fuse box (No.30) → Beacon lamp relay [CR-36 (2, 3)]

Fuse box (No.19) → Cab light relay [CR-9 (30, 86)]

#### (1) Beacon lamp switch ON

Beacon lamp switch ON [CN-376 (19)] → Beacon lamp relay [CR-45 (1)→ (5)]

→ I/conn [CN-5 (50)] → I/conn [CN-10 (10)] → Beacon lamp ON [CL-7]

#### (2) Cab light switch ON

Cab light switch ON [CN-376 (8)] → Cab lamp relay [CR-9 (85) → (87)]

→ I/conn [CN-5 (34, 38)] → I/conn [CN-10 (11)] → Cab light ON [CL-8 (2)]

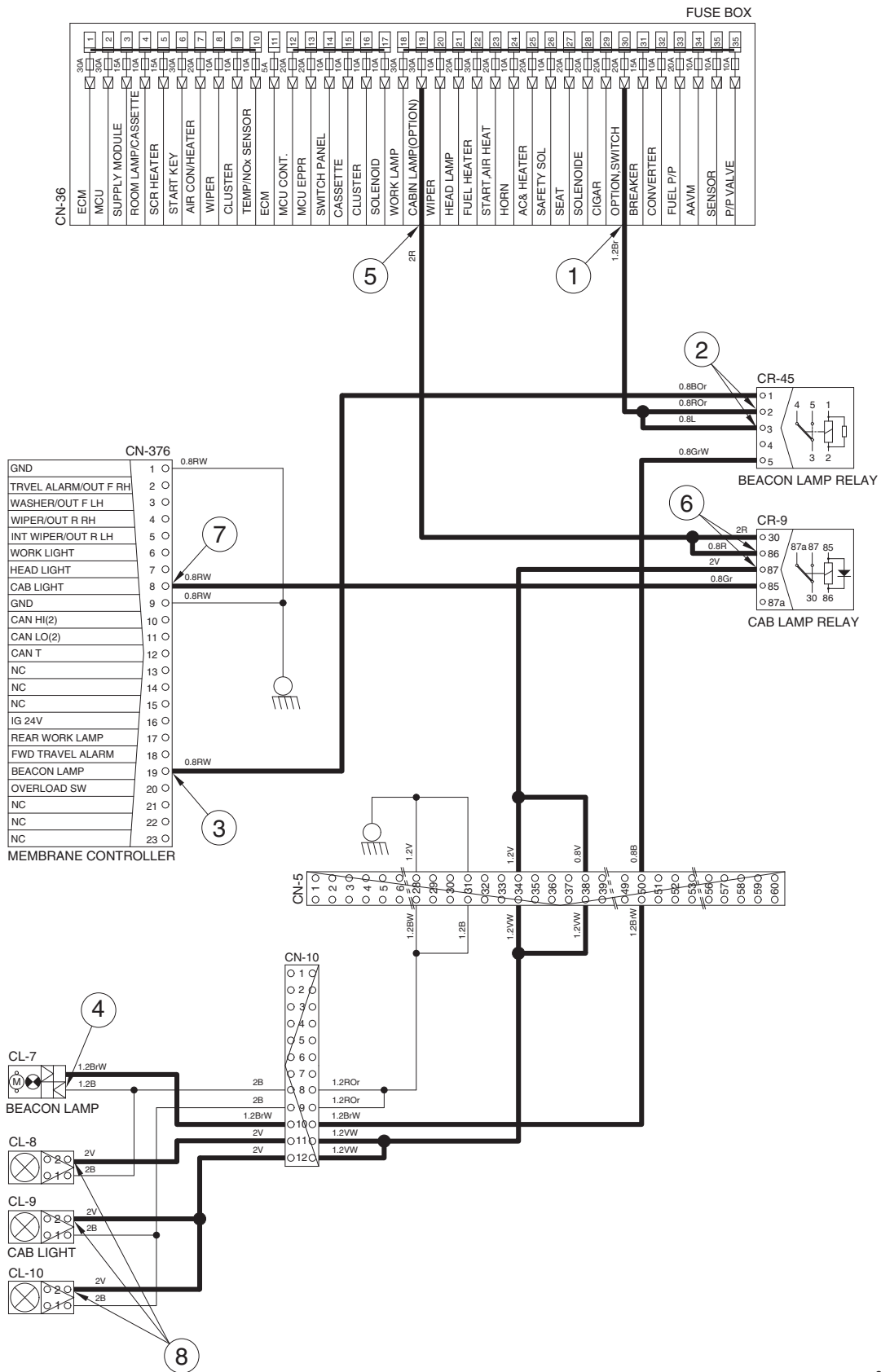
→ I/conn [CN-10 (12)] → Cab light ON [CL-9 (2), CL-10 (2)]

### 2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box) ② - GND (beacon lamp relay) ③ - GND (switch power output) ④ - GND (beacon lamp) ⑤ - GND (fuse box) ⑥ - GND (cabin light relay) ⑦ - GND (switch power output) ⑧ - GND (cab light)	20~25V

※ GND : Ground

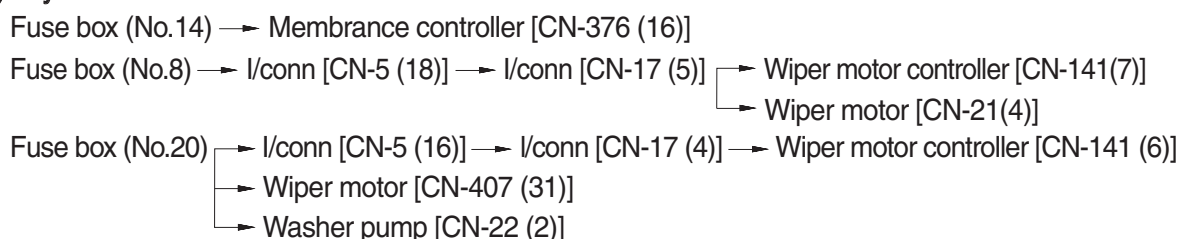
# BEACON LAMP AND CAB LIGHT CIRCUIT



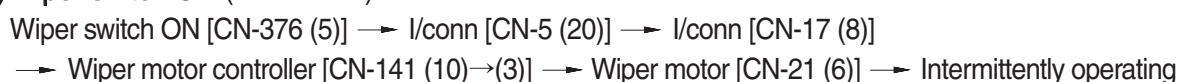
## 6. WIPER AND WASHER CIRCUIT

### 1) OPERATING FLOW

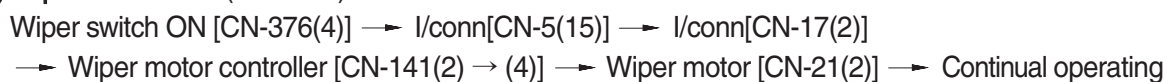
#### (1) Key switch ON



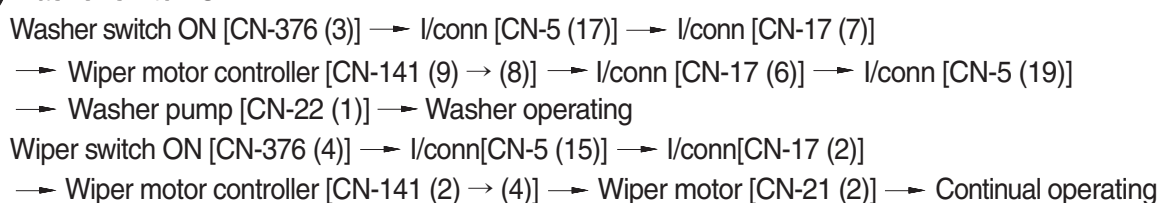
#### (2) Wiper switch ON (Intermittent)



#### (3) Wiper switch ON (continual)



#### (4) Washer switch ON

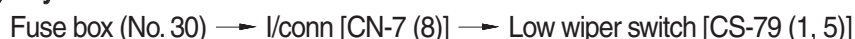


#### (5) Auto parking (when switch OFF)

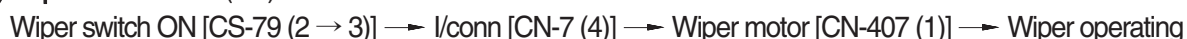


### 2) OPERATING FLOW (LOW WIPER)

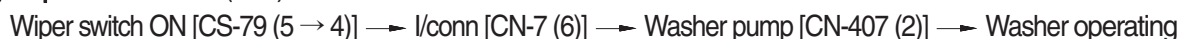
#### (1) Key switch ON



#### (2) Wiper switch ON (1st)



#### (3) Wiper switch ON (2nd)



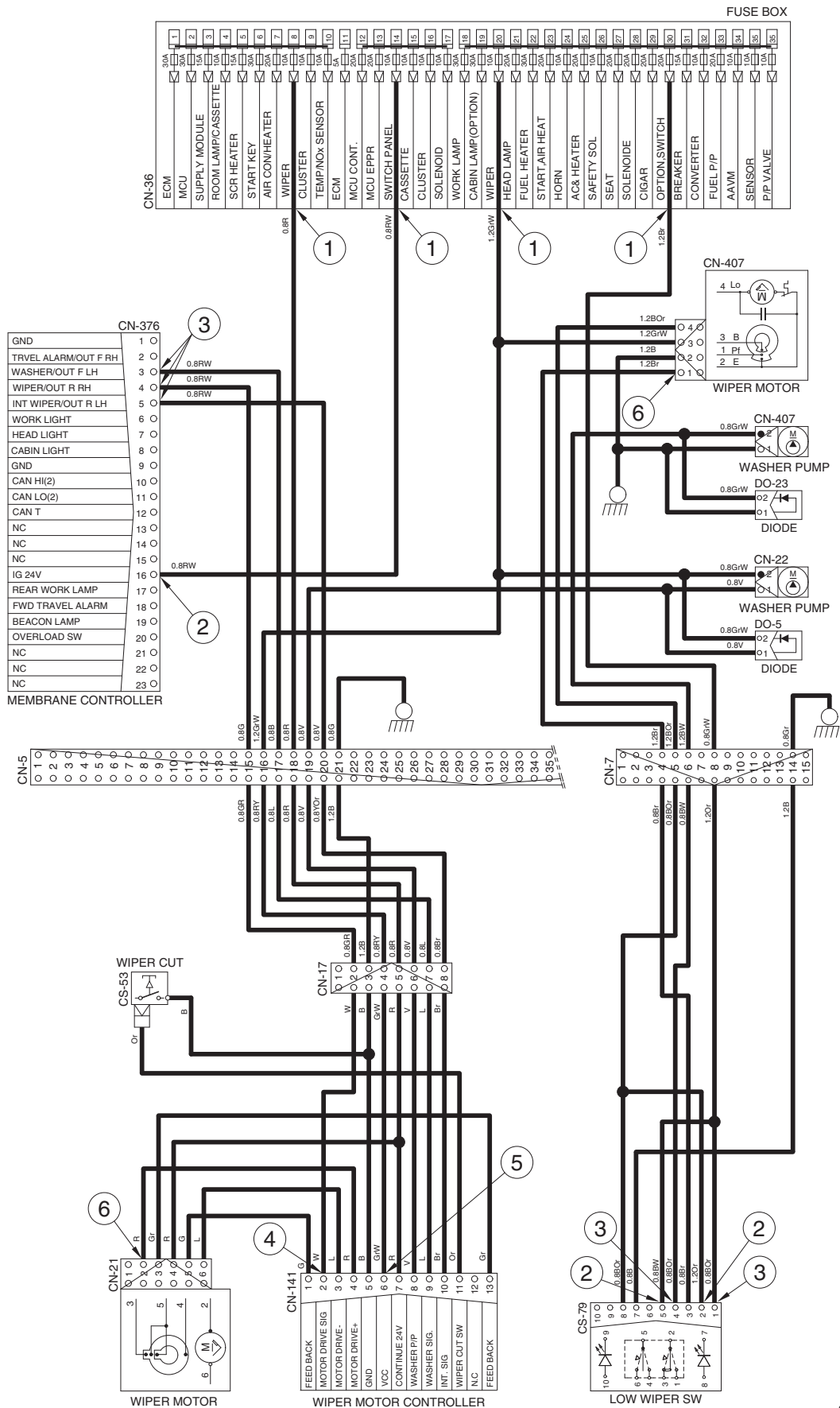
### 3) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box)	20~25V
		② - GND (switch power input)	
		③ - GND (switch power output)	0 ~ 5V
		④ - GND (wiper power input)	
		⑤ - GND (wiper power output)	24V
		⑥ - GND (wiper motor)	0 or 24V

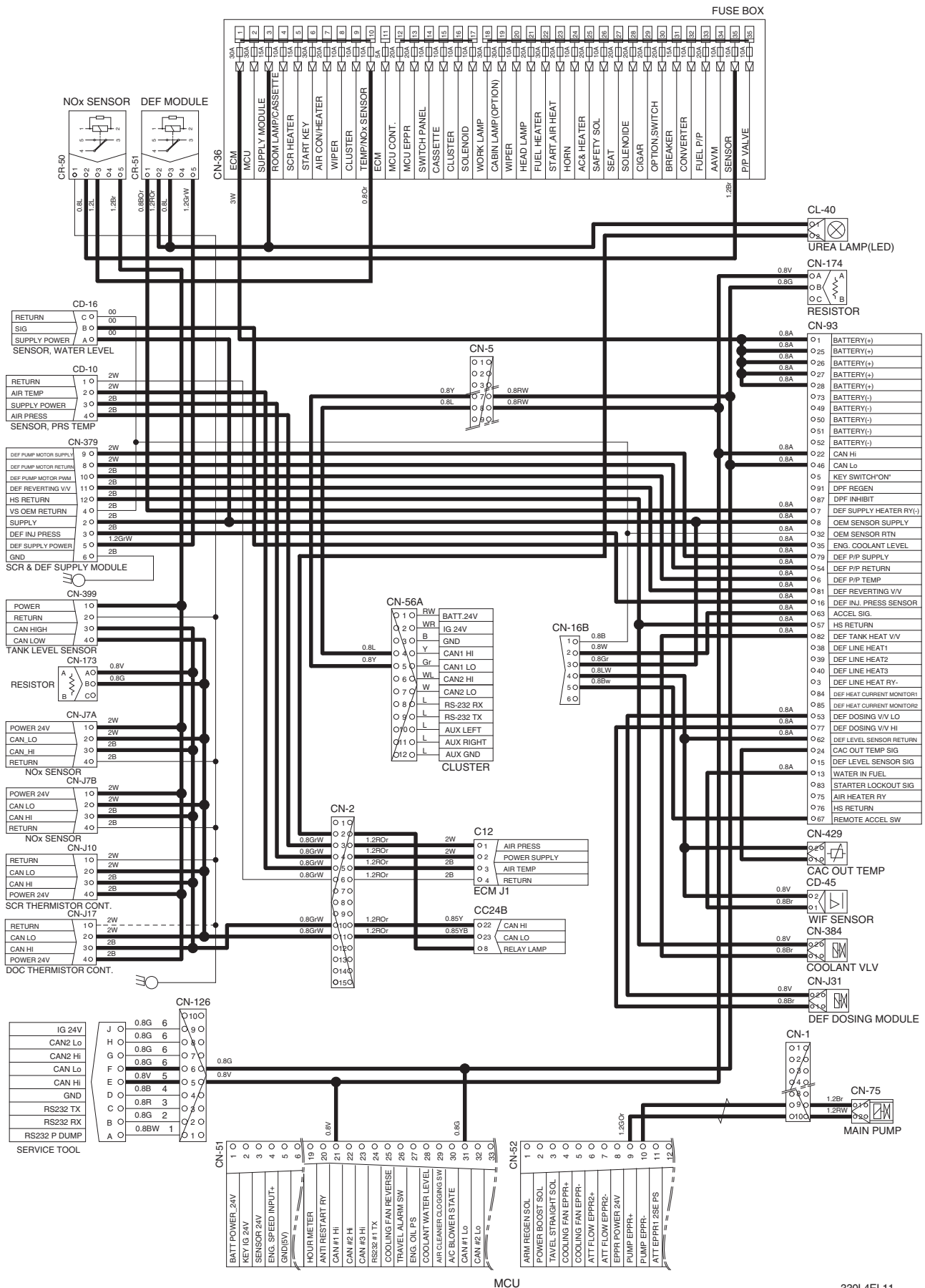
※ GND : Ground



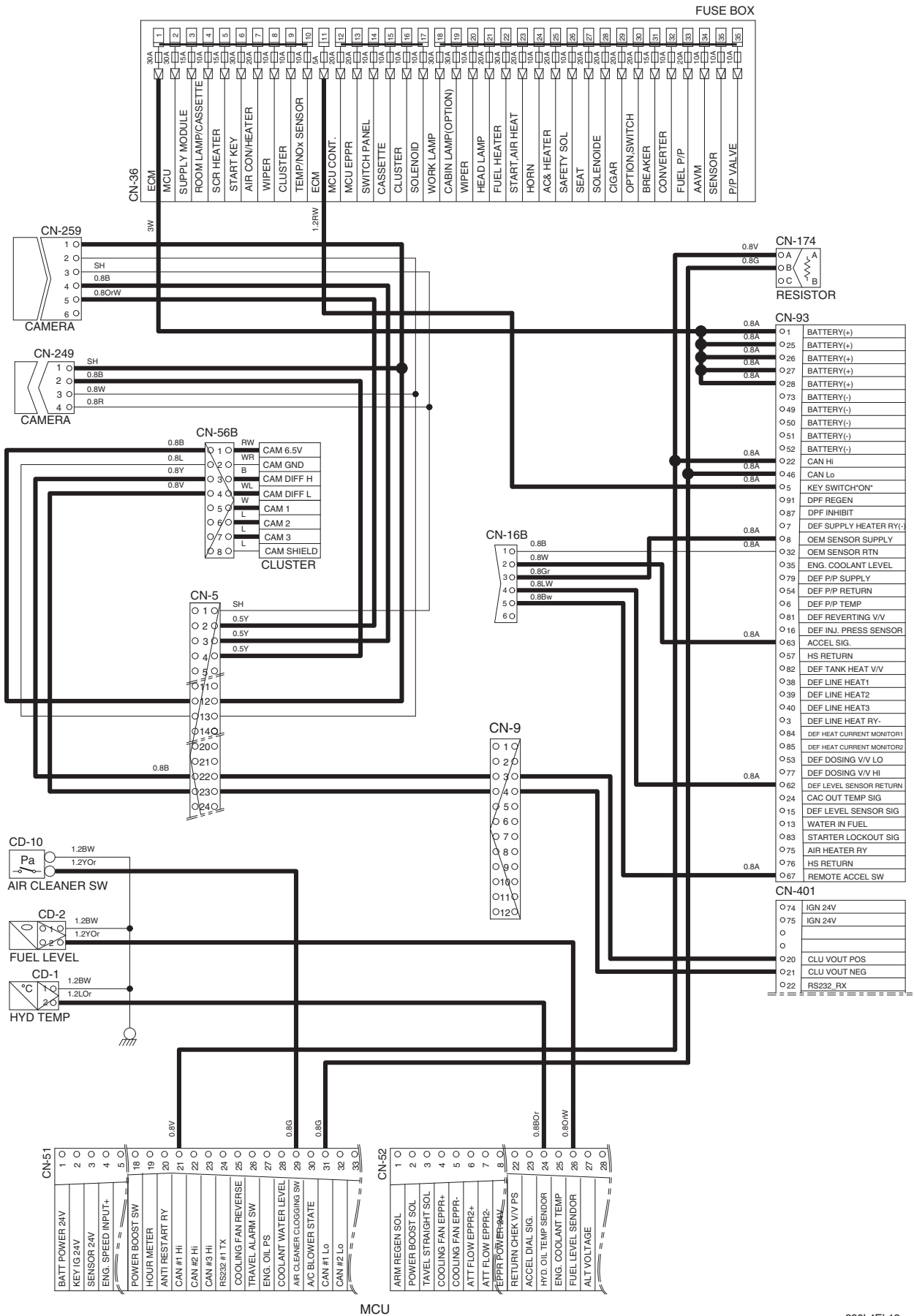
# WIPER AND WASHER CIRCUIT



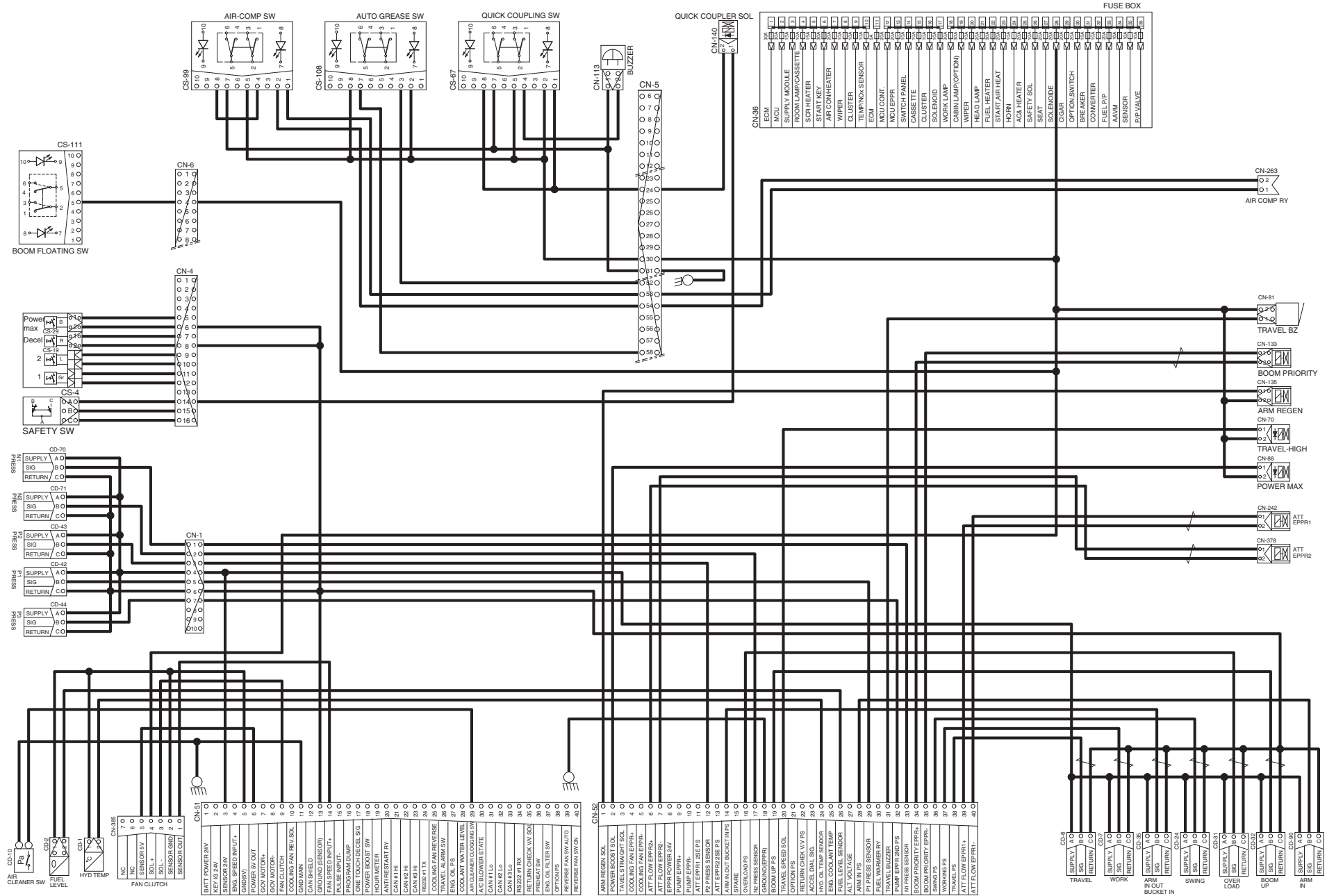
# CONTROLLER CIRCUIT



# MONITORING CIRCUIT



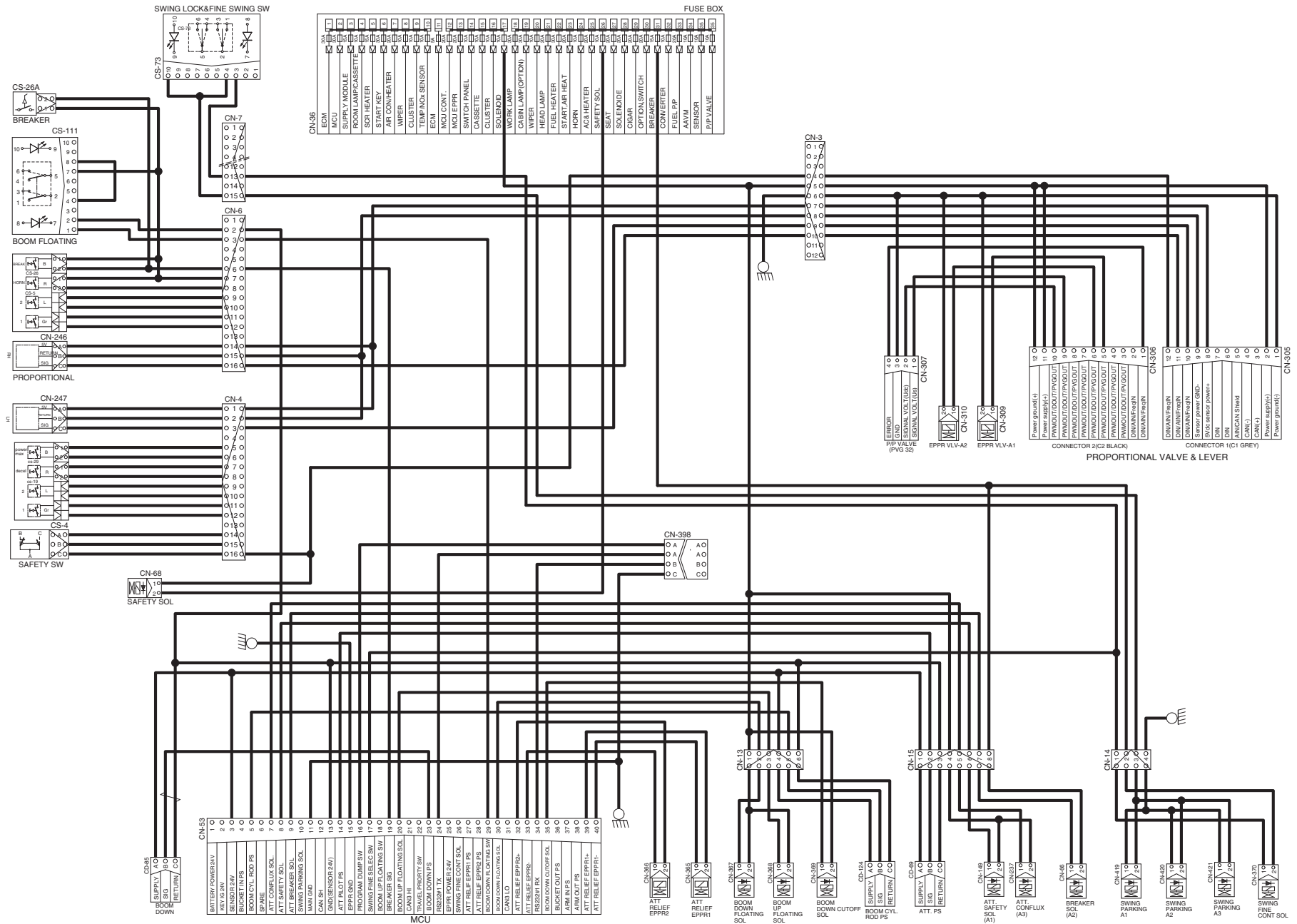
# ELECTRIC CIRCUIT FOR HYDRAULIC (1/2)



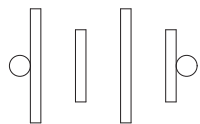
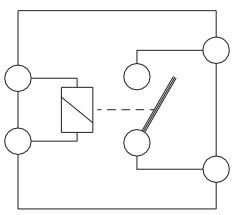
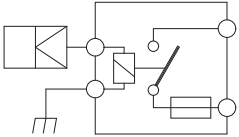
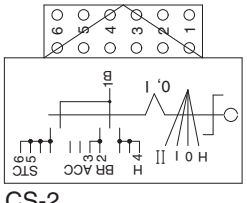
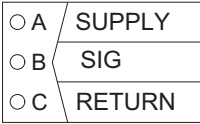
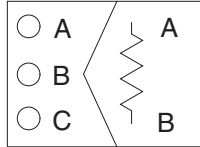
MCU

330L4EL13

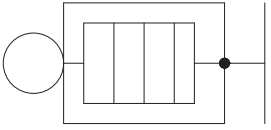
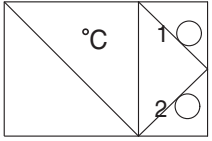
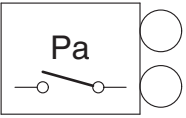
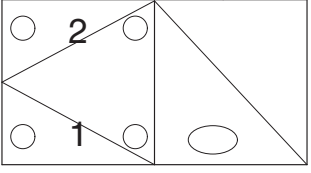
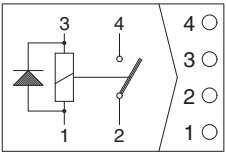
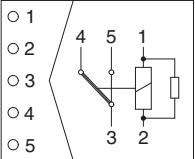
# ELECTRIC CIRCUIT FOR HYDRAULIC (2/2)

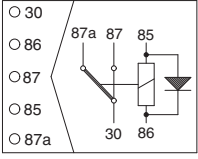
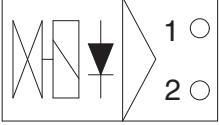

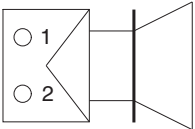
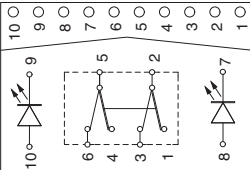
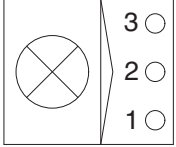


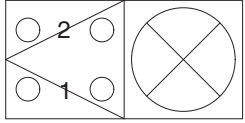
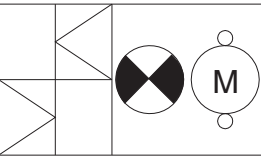
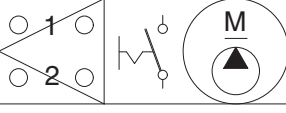
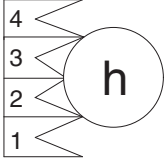
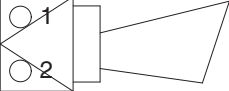
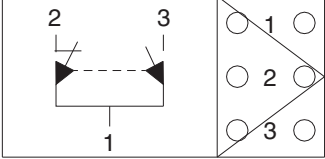
## GROUP 3 ELECTRICAL COMPONENT SPECIFICATION

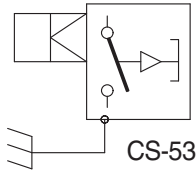
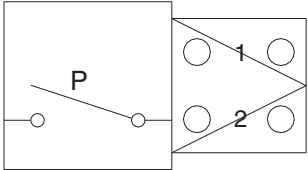
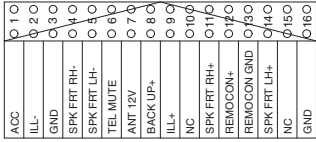
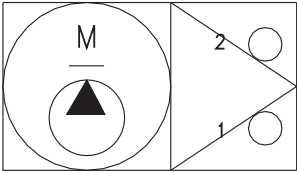
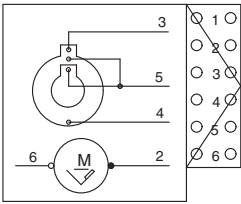
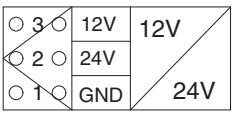
Part name	Symbol	Specifications	Check
Battery		12V × 160Ah (2EA)	※ Check specific gravity 1.280 over : Over charged 1.280 ~ 1.250 : Normal 1.250 below : Recharging
Battery relay	 <p style="text-align: center;">CR-1</p>	Rated load : 24V 100A (continuity) 1000A (30seconds)	※ Check coil resistance(M4 to M4) Normal : About 50 Ω ※ Check contact Normal : ∞ Ω
Glow plug relay	 <p style="text-align: center;">CR-24</p>	24V 200A	※ Check contact Normal : 0.942 Ω (For terminal 1-GND)
Start key	 <p style="text-align: center;">CS-2</p>	B-BR : 24V 1A B-ACC : 24V 10A B-ST : 24V 40A	※ Check contact OFF : ∞ Ω (for each terminal) ON : 0 Ω (for terminal 1-3 and 1-2) START : 0 Ω (for terminal 1-5)
Pressure sensor	 <p style="text-align: center;">                     ○ A SUPPLY                      ○ B SIG                      ○ C RETURN                 </p> <p>                     CD-6 CD-7 CD-16 CD-24                      CD-31 CD-32 CD-35 CD-42                      CD-43 CD-44 CD-69 CD-70                      CD-71 CD-85 CD-90 CD-124                 </p>	8~30V	※ Check contact Normal : 0.1 Ω
Resistor	 <p style="text-align: center;">                     ○ A                      ○ B                      ○ C                 </p> <p style="text-align: center;">                     A                      B                 </p> <p style="text-align: center;">CN-173 CN-174</p>	4W	※ Check resistance A-B : 120 Ω

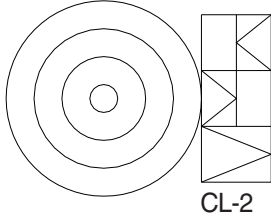
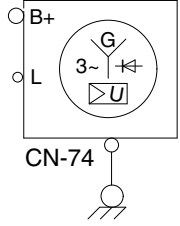
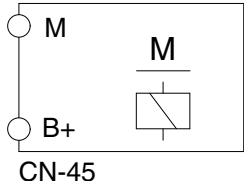
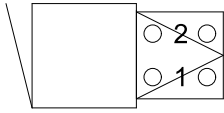
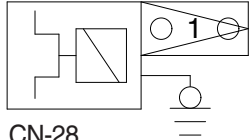
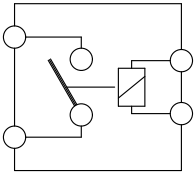


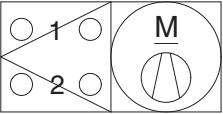
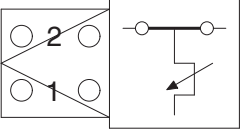
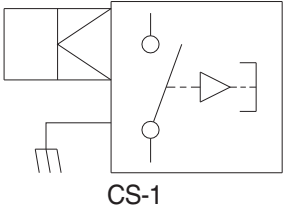
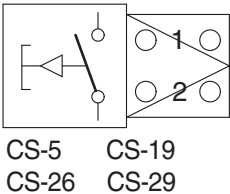
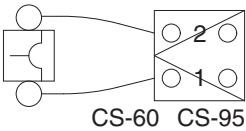
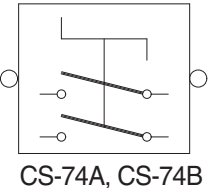
Part name	Symbol	Specifications	Check
Glow plug	 CN-80	24V 200A	※ Check resistance 0.25~0.12 Ω
Temperature sensor (hydraulic)	 CD-1	-	※ Check resistance 50°C : 804 Ω 80°C : 310 Ω 100°C : 180 Ω
Air cleaner pressure switch	 CD-10	(N.O TYPE)	※ Check contact High level : ∞ Ω Low level : 0 Ω
Fuel sender	 CD-2	-	※ Check resistance Full : 50 Ω      6/12 : 350 Ω 11/12 : 100 Ω    5/12 : 400 Ω 10/12 : 150 Ω    4/12 : 450 Ω 9/12 : 200 Ω     3/12 : 500 Ω 8/12 : 250 Ω     2/12 : 550 Ω 7/12 : 300 Ω     1/12 : 600 Ω Empty warning : 700 Ω
Relay (air con blower)		24V 20A	※ Check resistance Normal : About 200 Ω (for terminal 1-3) 0 Ω (for terminal 2-4)
Relay	 CR-2 CR-5 CR-36 CR-39 CR-45 CR-50 CR-51	24V 16A	※ Check resistance Normal : About 160 Ω (for terminal 1-2) 0 Ω (for terminal 3-4) ∞ Ω (for terminal 3-5)

Part name	Symbol	Specifications	Check
Relay	 <p>CR-4 CR-7 CR-9 CR-13 CR-35 CR-46 CR-50 CR-52</p>	24V 16A	※ Check resistance Normal : About 160 Ω (for terminal 85-86) 0 Ω (for terminal 30-87a) ∞ Ω (for terminal 30-87)
Solenoid valve	 <p>CN-66 CN-68 CN-70 CN-88 CN-135 CN-140 CN-149 CN-237 CN-262 CN-367 CN-368 CN-369 CN-370 CN-384 CN-419 CN-420 CN-421 CN-J31</p>	24V 1A	※ Check resistance Normal : 15~25 Ω (for terminal 1-2)
EPPR valve	 <p>CN-75 CN-133 CN-154 CN-242 CN-309 CN-310 CN-365 CN-366 CN-378</p>	700mA	※ Check resistance Normal : 15~25 Ω (for terminal 1-2)
Speaker	 <p>CN-23(LH) CN-24(RH)</p>	20W	※ Check resistance Normal : A few Ω
Switch (locking type)	 <p>CS-52 CS-67 CS-83 CS-99 CS-107 CS-108 CS-111</p>	24V 1.5A	※ Check contact Normal ON : 0 Ω (for terminal 3-7, 4-8) ∞ Ω (for terminal 7-9, 8-10) OFF : ∞ Ω (for terminal 3-7, 4-8) 0 Ω (for terminal 7-9, 8-10)
Room lamp	 <p>CL-1</p>	24V 10W	※ Check disconnection Normal : 1.0 Ω ON : 0 Ω (For terminal 1-2) ∞ Ω (For terminal 1-3) OFF : ∞ Ω (For terminal 1-2) 0 Ω (For terminal 1-3)

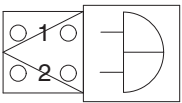
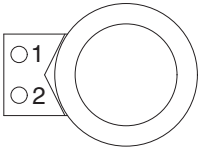
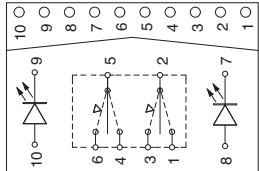
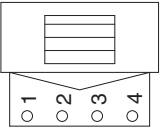
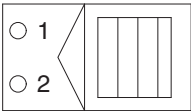
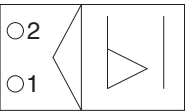
Part name	Symbol	Specifications	Check
Head lamp, Work lamp, Cab lamp	 <p>CL-3 CL-4 CL-5 CL-6 CL-8 CL-9 CL-10 CL-24 CL-36 CL-37</p>	24V 65W (H3 Type)	※ Check disconnection Normal : 1.2 Ω
Beacon lamp	 <p>CL-7</p>	21V 70W (H1 Type)	※ Check disconnection Normal : A few Ω
Fuel filler pump	 <p>CN-61</p>	24V 10A 35 l /min	※ Check resistance Normal : 1.0 Ω
Hour meter		16~32V	※ Check operation Supply power(24V) to terminal No.2 and connect terminal No.1 and ground
Horn	 <p>CN-20 CN-25</p>	DC22~28V 2A	※ Check operation Supply power(24V) to each terminal and connect ground.
Safety switch	 <p>CS-4</p>	24V 15A (N.C TYPE)	※ Check contact Normal : 0 Ω (for terminal 1-2) ∞ Ω (for terminal 1-3) Operating : ∞ Ω (for terminal 1-2) 0 Ω (for terminal 1-3)

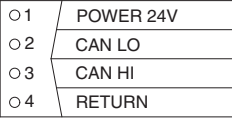
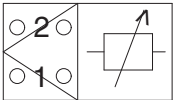
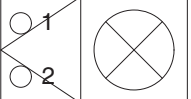
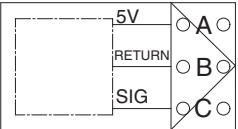
Part name	Symbol	Specifications	Check
Wiper cut switch	 <p>CS-53</p>	24V (N.O TYPE)	※ Check contact Normal : 0 Ω (one pin to ground)
Receiver dryer	 <p>CN-29</p>	24V 2.5A	※ Check contact Normal : ∞ Ω
Radio & USB player	 <p>CN-27</p>	24V 2A	※ Check voltage 20~25V (for terminal 1-3, 3-8)
Washer pump	 <p>CN-22 CN-408</p>	24V 3.8A	※ Check contact Normal : 10.7 Ω (for terminal 1-2)
Wiper motor	 <p>CN-21</p>	24V 2A	※ Check disconnection Normal : 7 Ω (for terminal 2-6)
DC/DC Converter	 <p>CN-138</p>	12V 3A	※ Check voltage 24V (for terminal 1-2) 12V (for terminal 1-3)

Part name	Symbol	Specifications	Check
Cigar lighter	 <p>CL-2</p>	24V 5A 1.4W	※ Check coil resistance Normal : About 1M Ω ※ Check contact Normal : ∞ Ω Operating time : 5~15sec
Alternator	 <p>CN-74</p>	Denso 24V 95A	※ Check contact Normal : 0 Ω (for terminal B <sup>+</sup> -L) Normal : 24~27.5V
Starter	 <p>CN-45</p>	Denso 24V 7.8kW	※ Check contact Normal : 0.1 Ω
Travel alarm	 <p>CN-81</p>	24V 0.5A	※ Check contact Normal : 5.2 Ω
Aircon compressor	 <p>CN-28</p>	24V 79W	※ Check contact Normal : 13.4 Ω
Start relay	 <p>CR-23</p>	24V 300A	※ Check contact Normal : 0.94 Ω (for terminal 1-2)

Part name	Symbol	Specifications	Check
Blower motor		24V 9.5A	※ Check resistance Normal : 2.5 Ω (for terminal 1-2)
Duct sensor (switch)		1°C OFF 4°C ON	※ Check resistance Normal : 0 Ω (for terminal 1-2), the atmosphere temp : Over 4°C
Door switch		24V 2W	※ Check resistance Normal : About 5M Ω
Switch (power max, one touch decel, horn, breaker)		24V 6A	※ Check resistance Normal : ∞ Ω
Circuit breaker		60A	※ Check disconnection Normal : 0 Ω (connect ring terminal and check resist between terminal 1 and 2)
Master switch		6-36V	※ Check disconnection Normal : 0.1 Ω



Part name	Symbol	Specifications	Check
Quick clamp buzzer	 <p>CN-113</p>	24V 200mA 107 ± 4dB	
Socket	 <p>CN-139</p>	12V 10A	
Switch	 <p>CS-73 CS-79 CS-100</p>	24V 8A	※ Check contact Normal ON : 0 Ω (for terminal 3-7, 4-8) ∞ Ω (for terminal 7-9, 8-10) OFF : ∞ Ω (for terminal 3-7, 4-8) 0 Ω (for terminal 7-9, 8-10)
Fuel heater	 <p>CN-96</p>	-	
DEF/AdBlue® line heater	 <p>CN-381 CN-382 CN-383</p>	-	
WIF sensor	 <p>CD-45</p>	-	

Part name	Symbol	Specifications	Check
DEF/AdBlue® sensor	 <p>CN-399 CN-J7A CN-J7B CN-J10 CN-J17</p>	-	
CAC out temperature sensor	 <p>CN-429</p>	-	
DEF/AdBlue® fill up warning lamp (LED)	 <p>CL-40</p>	-	
Proportional valve sensor	 <p>CN-246 CN-247</p>	-	

## GROUP 4 CONNECTORS

### 1. CONNECTOR DESTINATION

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	AMP	10	l/conn (Frame harness-Pump PS harness)	S816-010002	S816-110002
CN-2	AMP	15	l/conn (Frame harness-Engine harness)	2-85262-1	368301-1
CN-3	TYCO	12	l/conn (Frame harness-Pro vlv harness)	174661-2	368537-1
CN-4	AMP	16	l/conn (Console harness LH-Frame harness)	368047-1	368050-1
CN-5	DEUTSCH	60	l/conn (Side harness RH-Frame harness)	DRB16-60SAE-L018	DRB12-60P-L018
CN-6	AMP	16	l/conn (Console harness RH-Frame harness)	368047-1	368050-1
CN-7	AMP	15	l/conn (Console harness RH-Frame harness)	2-85262-1	2-85262-1
CN-8	AMP	10	l/conn (Console harness RH-Frame harness)	S816-010002	S816-110002
CN-9	DEUTSCH	12	l/conn (AAVM harness-Frame harness)	DT06-12SA-P021	DT04-12PA-P021
CN-10	DEUTSCH	12	l/conn (Cab harness-Side harness RH)	DT06-12S-EP06	DT04-12PA-P021
CN-11	DEUTSCH	8	l/conn (Frame harness-Aircon harness)	DT06-8S-EP06	-
CN-12	DEUTSCH	2	l/conn (Frame harness-Boom wire harness)	DT06-2S-EP06	DT04-2P-E004
CN-13	AMP	8	Boom floating	174262-2	174264-2
CN-15	AMP	8	l/conn (Frame harness-Breaker sol)	174982-2	174984-2
CN-16	AMP	6	Emergency engine start & speed control	S816-006002	S816-106002
CN-17	AMP	8	l/conn (Wiper harness-Side harness RH)	S816-008002	S816-108002
CN-18	AMP	2	Washer tank 2	174352-2	174354-2
CN-20	MOLEX	2	Horn	36825-0211	-
CN-21	AMP	6	Wiper motor	S810-006202	-
CN-22	KET	2	Washer tank 1	MG640605	-
CN-23	KET	2	Speaker-LH	MG610070	-
CN-24	KET	2	Speaker-RH	MG610070	-
CN-25	DEUTSCH	2	Horn	DT06-2S-EP06	-
CN-27A	KUM	16	Radio & USB player	PK145-16017	-
CN-27B	AMP	8	Radio & USB player	-	174984-2
CN-28	KUM	1	Aircon compressor	NMWP01F-B	-
CN-29	KET	2	Receiver dryer	MG640795	-
CN-36	-	-	Fuse & relay box	21Q7-10910	-
CN-45	RING-TERM	-	Starter motor B+	S820-108000	-
CN-48	KET	1	Hour meter	2-520193-2	-
CN-51	DEUTSCH	40	MCU	DRC26-40SA	-
CN-52	DEUTSCH	40	MCU	DRC26-40SB	-
CN-53	DEUTSCH	40	MCU	DRC26-40SC	-
CN-56A	AMP	12	Cluster	-	174663-2
CN-56B	AMP	8	Cluster	-	174984-2
CN-60	YAZAKI	2	Circuit breaker	7222-4220-30	-
CN-61	DEUTSCH	2	Fuel filler pump	DT06-2S-EP06	-

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-66	DEUTSCH	2	Breaker solenoid	DT06-2S-EP06	-
CN-68	DEUTSCH	2	Safety solenoid	DT06-2S-EP06	-
CN-70	DEUTSCH	2	Travel high solenoid	DT06-2S-EP06	-
CN-74	RING-TERM	1	Alternator "I" terminal	S820-108000	-
CN-75	AMP	2	Pump EPPR	S816-002002	-
CN-80	RING-TERM	-	Glow plug	S820-306000	-
CN-81	DEUTSCH	2	Travel buzzer solenoid	DT06-2S-EP06	-
CN-88	DEUTSCH	2	Power max solenoid	DT06-2S-EP06	-
CN-93	DELPHI	60	ECM	13964577	-
CN-95	YAZAKI	2	Circuit breaker	-	7222-4220-30
CN-100	KET	1	ECM ground	MG640944-5	-
CN-113	KET	2	Buzzer	MG651205-5	-
CN-125	Econoseal J	4	RMS connector	S816-004002	S816-104002
CN-125A	DEUTSCH	12	RMS	DT06-12S-P021	DT04-12PA-P021
CN-126	TYCO	10	Service tool	2-1418390-1	S816-110002
CN-133	DEUTSCH	2	Boom priority solenoid	DT06-2S-EP06	-
CN-135	DEUTSCH	2	Arm regeneration solenoid	DT06-2S-EP06	-
CN-138	FASTEN	3	DC/DC Converter	S810-003202	-
CN-139	FASTEN	2	12V socket	172434-2	-
CN-140	DEUTSCH	2	Quick clamp solenoid	DT06-2S-EP06	DT04-2P-E005
CN-141	AMP	13	Wiper motor controller	172498-1	-
CN-147	AMP	4	Fuel heater	2-967325-3	-
CN-149	DEUTSCH	2	Attach safety solenoid	DT06-2S-EP06	-
CN-154	DEUTSCH	2	Cooling fan	DT06-2S-EP06	-
CN-156	DEUTSCH	2	Air seat	DT06-2S-EP06	DT04-2P-E005
CN-157	AMP	1	Antena power	S822-014002	-
CN-173	DEUTSCH	3	Resistor	DT06-3S-EP06	DT04-3P-EP10
CN-174	DEUTSCH	3	Resistor	DT06-3S-EP06	DT04-3P-EP10
CN-237	DEUTSCH	2	Attach conflux solenoid	DT06-2S-EP06	-
CN-242	DEUTSCH	2	Attach EPPR 1	DT06-2S-EP06	-
CN-243	DEUTSCH	2	Attach EPPR 2	DT06-2S-EP06	-
CN-245	FCI	4	PTC power	180900-0	-
CN-246	DEUTSCH	3	Proportional valve-RH	DT06-3S	DT04-3P
CN-247	DEUTSCH	3	Proportional valve-LH	DT06-3S	DT04-3P
CN-249	DEUTSCH	4	Rear view camera	DT06-4S-EP06	DT04-4P-E005
CN-258	KET	1	Air compressor power	MG640944-5	MG650943-5
CN-259	AMP	6	Camera	S816-006002	S816-106002
CN-262	AMP	2	Straight travel solenoid	174352-2	174354-2
CN-262A	DEUTSCH	2	Straight travel solenoid 1	DT06-2S-EP06	DT04-2P-E005
CN-262B	DEUTSCH	2	Straight travel solenoid 2	DT06-2S-EP06	DT04-2P-E005

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-263	DEUTSCH	2	Air compressor relay	DT06-2S-EP06	DT04-2P-E005
CN-305	DEUTSCH	12	Proportional-Connector-1	DTM06-12SA	-
CN-306	DEUTSCH	12	Proportional-Connector-2	DTM06-12SB	-
CN-307	DEUTSCH	3	Proportional-Service tool	DT06-3S-E005	DT06-3P-EP06
CN-308	AMP	4	Proportional-PVG32	2-967059-1	-
CN-309	DEUTSCH	2	Proportional-EPPR valve-A1	DT06-2S-EP06	-
CN-310	DEUTSCH	2	Proportional-EPPR valve-A2	DT06-2S-EP06	-
CN-363	AMP	12	Haptic controller	174045-2	-
CN-365	DEUTSCH	2	Attach EPPR valve-LH	DT06-2S-EP06	DT04-2P-E005
CN-366	DEUTSCH	2	Attach EPPR valve-RH	DT06-2S-EP06	DT04-2P-E005
CN-367	AMP	2	Boom down floating solenoid	85202-1	-
CN-368	DEUTSCH	2	Boom up floating solenoid	DT06-2S-EP06	DT04-2P-E005
CN-369	DEUTSCH	2	Boom down cut off solenoid	DT06-2S-EP06	DT04-2P-E005
CN-370	DEUTSCH	2	Swing fine control solenoid	DT06-2S-EP06	DT04-2P-E005
CN-376	TYCO	23	Membrane controller	7706087-2	-
CN-379	TYCO	2	SCR & DEF/AdBlue® supply module	2-1703639-1	-
CN-381	DELPHI	2	Line heater 1	C-0936059-01	-
CN-382	DELPHI	2	Line heater 2	C-0936059-01	-
CN-383	DELPHI	2	Line heater 3	C-0936059-01	-
CN-384	DEUTSCH	2	Coolant valve	DT06-2S-EP06	-
CN-385	-	7	Fan clutch	965570	-
CN-398	DEUTSCH	4	RS232	DT04-4S-E005	DT06-4P-E005
CN-399	TYCO	4	DEF/AdBlue® tank level sensor	1-967325-1	-
CN-402	DEUTSCH	6	Front view camera	DT06-6S-P021	DT04-6P-P021
CN-403	DEUTSCH	6	Rear view camera	DT06-6S-EP06	DT04-6P-EP14
CN-404	DEUTSCH	6	LH view camera	DT06-6S-EP06	DT04-6P-EP14
CN-405	DEUTSCH	6	RH view camera	DT06-6S-EP06	DT04-6P-EP14
CN-406	DEUTSCH	3	RS-232 (AAVM)	DT06-3S-EP06	DT06-3P-E005
CN-407	DEUTSCH	4	Low wiper motor	DT04-4S-EP06	DT06-4P-E005
CN-408	FCI	4	Washer tank	MG640795	-
CN-419	DEUTSCH	2	Swing parking-A1	DT06-2S-EP06	-
CN-420	DEUTSCH	2	Swing parking-A2	DT06-2S-EP06	-
CN-421	DEUTSCH	2	Swing parking-A3	DT06-2S-EP06	-
CN-427	MOLEX	4	Reader-RMS	039012040	026013096
		12		5557-12R	5559-12P
CN-429	DELPHI	4	CAC Out temp	12162197	-
CN-J7A	TYCO	4	DOC Nox sensor	2-1418390-1	-
CN-J7B	TYCO	4	SCR Nox sensor	1-1418390-1	-
CN-J10	TYCO	4	SCR Thermistor	3-1418390-1	-
CN-J17	TYCO	4	DOC Thermistor	4-1418390-1	-
CN-J31	BOSCH	2	DEF/AdBlue® dosing module	1-928-403-874	-

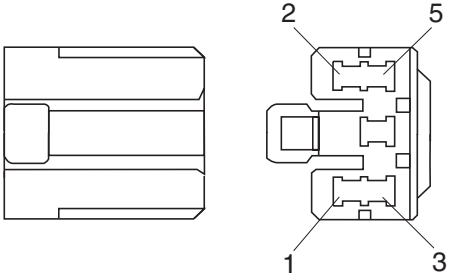
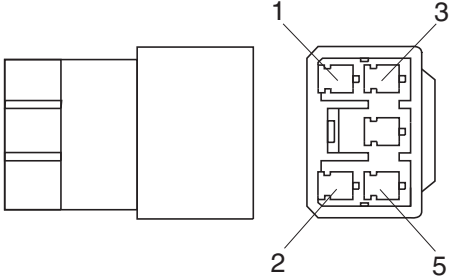
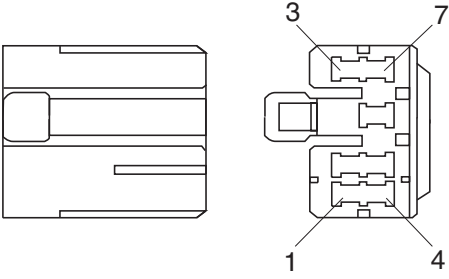
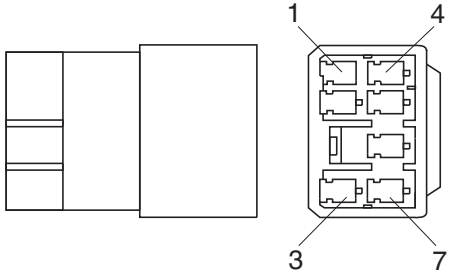
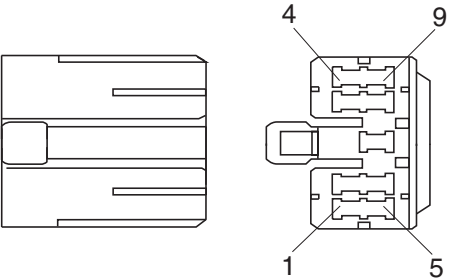
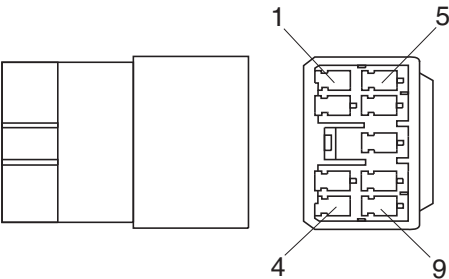
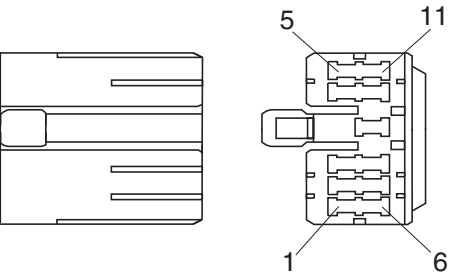
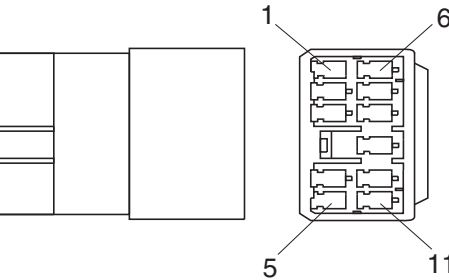
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
· Relay					
CR-1	RING-TERM	-	Battery relay	ST710289-2	-
CR-2	-	5	Horn relay	-	-
CR-4	-	5	Working lamp relay	-	-
CR-5	-	5	Anti restart relay	-	-
CR-7	-	5	Aircon compressor relay	-	-
CR-9	-	5	Cabin lamp relay	-	-
CR-13	-	5	Head lamp relay	-	-
CR-23	KET	2	Start relay	S814-002001	S814-102001
CR-24	RING TERM	1	Preheat relay	S822-014000	-
CR-35	-	5	Power relay	-	-
CR-36	-	5	Preheat relay	-	-
CR-39	-	5	Starter lock out relay	-	-
CR-45	-	5	Beacon lamp relay	-	-
CR-46	-	5	Fuel warmer relay	-	-
CR-50	-	5	NOx sensor relay	-	-
CR-51	-	5	DEF/AdBlue® module relay	-	-
CR-52	-	5	Line heater relay	-	-
· Switch					
CS-1	SHUR	1	Door switch	S822-014002	S822-114002
CS-2	WP	6	Start key switch	S814-006100	-
CS-4	DEUTSCH	3	Safety switch	DT06-3S-EP06	-
CS-5	DEUTSCH	2	Horn switch	-	DT04-2P-E005
CS-19	DEUTSCH	2	One touch decel switch	-	DT04-2P-E005
CS-26	DEUTSCH	2	Breaker switch	DT06-2S-EP06	-
CS-26A	AMP	2	Breaker pedal switch	S816-002002	S816-102002
CS-29	DEUTSCH	2	Power max switch	DT06-2S-EP06	-
CS-33	AMP	6	Emergency engine stop switch	S816-006002	S816-106002
CS-52	CARLING	10	Dozer & 2PCS boom switch	VC2-01	-
CS-53	AMP	1	Wiper cut switch	S822-014002	-
CS-67	CARLING	10	Quick clamp switch	VC2-01	-
CS-73	CARLING	10	Swing lock & fine switch	VC2-01	-
CS-74A	TYCO	23	Master switch	7706087-2	-
CS-74B	DEUTSCH	2	Master switch	DT06-2S-EP06	-
CS-78	CARLING	10	Lower wiper switch	VC2-01	-
CS-83	CARLING	10	Spare switch	VC2-01	-
CS-99	CARLING	10	Air compressor switch	VC2-01	-
CS-100	CARLING	10	SCR system cleaning switch	VC2-01	-
CS-107	CARLING	10	Travel straight switch	VC2-01	-

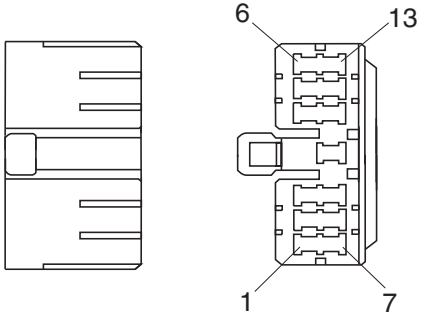
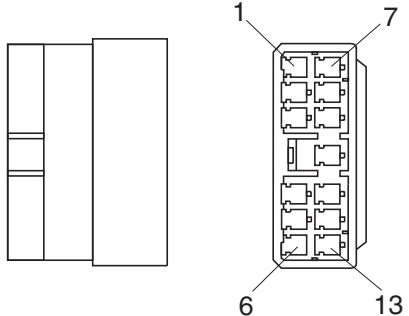
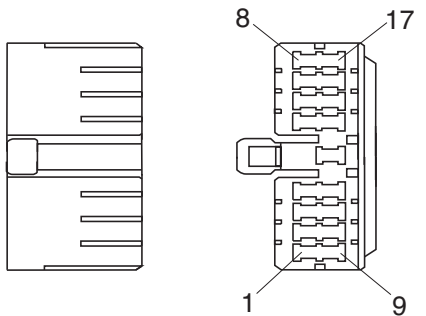
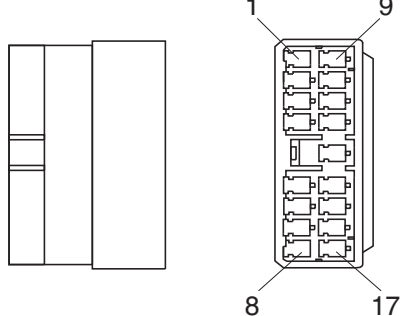
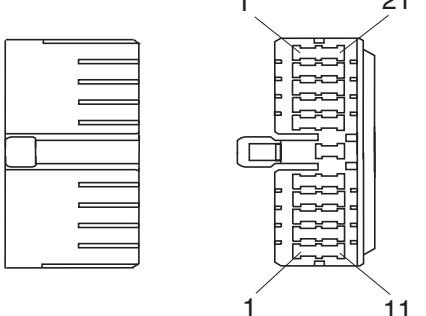
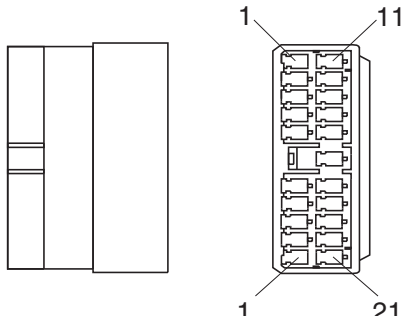


Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CS-108	CARLING	10	Auto grease switch	VC2-01	-
CS-111	CARLING	10	Boom floating switch	VC2-01	-
· Light					
CL-1	KET	3	Room lamp	MG651032	-
CL-2	AMP	1	Cigar light	S822-014002	S822-114002
CL-3	DEUTSCH	2	Head lamp-LH	DT06-2S-EP06	DT04-2P
CL-4	DEUTSCH	2	Head lamp-RH	DT06-2S-EP06	DT04-2P
CL-5	DEUTSCH	2	Work lamp-LH	DT06-2S-EP06	DT04-2P
CL-6	DEUTSCH	2	Work lamp-RH	DT06-2S-EP06	DT04-2P
CL-7	SHUR	1	Beacon lamp	S822-014002	S822-114002
CL-8	DEUTSCH	2	Cab light-LH	DT06-2S-EP06	DT04-2P
CL-9	DEUTSCH	2	Cab light-RH	DT06-2S-EP06	DT04-2P
CL-10	DEUTSCH	2	Cab light	DT06-2S-EP06	DT04-2P
CL-24	DEUTSCH	2	Head lamp	DT06-2S-EP06	DT04-2P-E005
CL-36	DEUTSCH	2	Work lamp	DT06-2S-EP06	DT04-2P
CL-37	DEUTSCH	2	Work lamp	DT06-2S-EP06	DT04-2P
CL-40	DEUTSCH	2	DEF/AdBlue® lamp	DT06-2S-EP06	DT04-2P
CL-41	AMP	2	DEF/AdBlue® fill up warning lamp	S822-01400	-
· Sensor, sensor					
CD-1	AMP	2	Hydraulic oil temp sender	85202-1	-
CD-2	DEUTSCH	2	Fuel sender	DT06-2S-EP06	-
CD-6	DEUTSCH	3	Travel pressure switch	DT06-3S-EP06	-
CD-7	DEUTSCH	3	Working pressure switch	DT06-3S-EP06	-
CD-10	AMP	4	Air cleaner switch	6098-0144	-
CD-16	AMP	3	Water level sensor	12110293	-
CD-24	DEUTSCH	3	Swing sensor	DT06-3S-EP06	-
CD-31	DEUTSCH	3	Overload sensor	DT06-3S-EP06	-
CD-32	DEUTSCH	3	Boom up sensor	DT06-3S-EP06	-
CD-35	DEUTSCH	3	Arm & bucket in sensor	DT06-3S-EP06	-
CD-42	DEUTSCH	3	Pump pressure 1	DT06-3S-EP06	-
CD-43	DEUTSCH	3	Pump pressure 2	DT06-3S-EP06	-
CD-44	DEUTSCH	3	Pump pressure 3	DT06-3S-EP06	-
CD-45	DEUTSCH	2	WIF sensor	DT06-2S-EP06	-
CD-52	AMP	2	Fan rpm sensor	174352-2	-
CD-69	DEUTSCH	3	Attach pressure sensor	DT06-3S-EP06	-
CD-70	DEUTSCH	3	N1 pressure sensor	DT06-3S-EP06	-
CD-71	DEUTSCH	3	N2 pressure sensor	DT06-3S-EP06	-
CD-85	DEUTSCH	3	Boom down sensor	DT06-3S-EP06	DT06-3P-E005
CD-90	DEUTSCH	3	Arm in sensor	DT06-3S-EP06	-
CD-124	DEUTSCH	3	Boom cylinder rod pressure sensor	DT06-3S-EP06	-

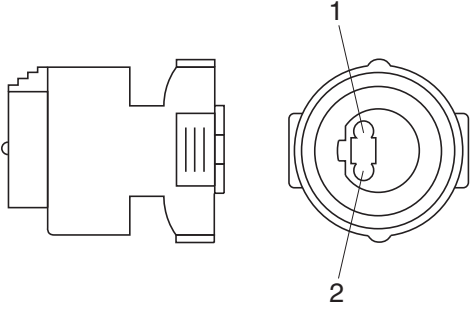
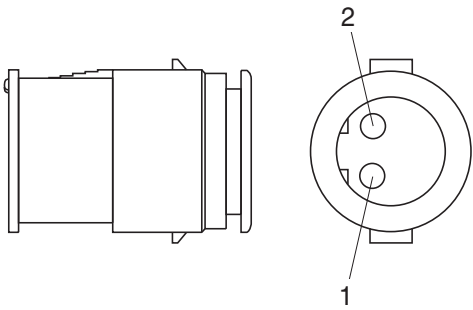
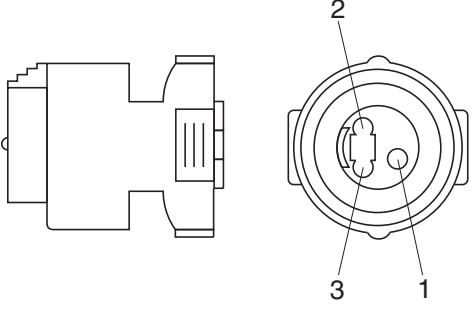
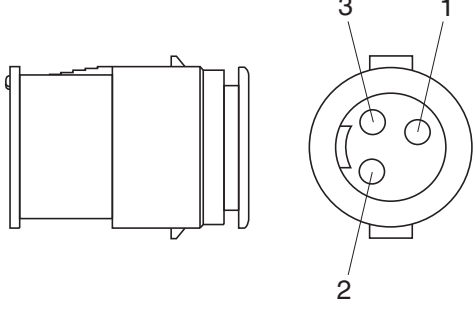
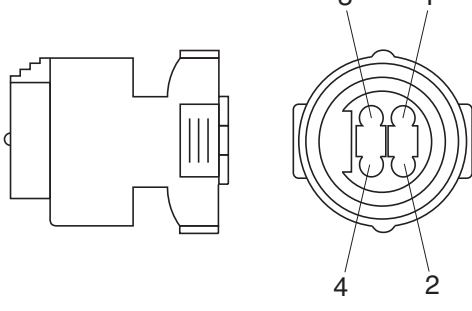
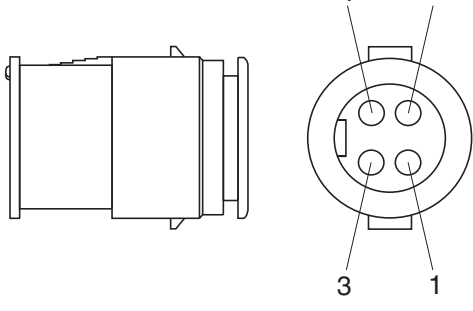
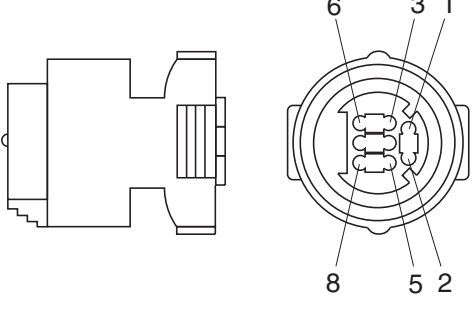
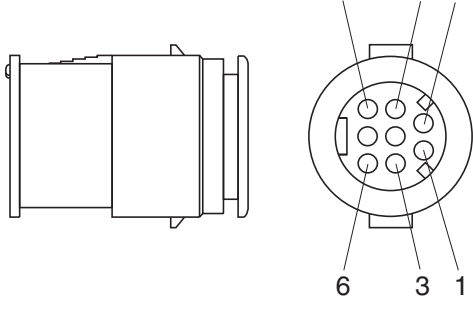
## 2. CONNECTION TABLE FOR CONNECTORS

### 1) PA TYPE CONNECTOR

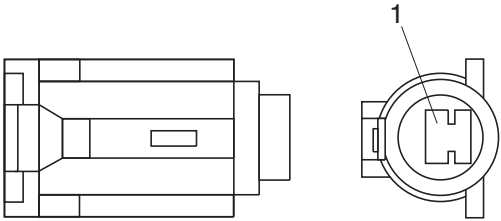
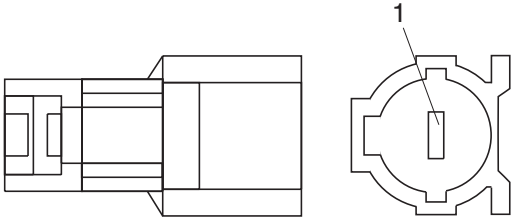
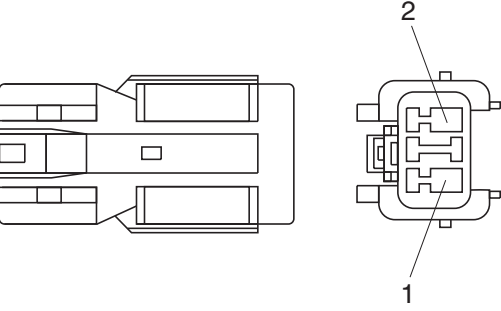
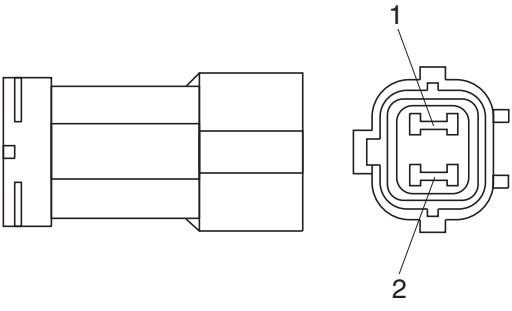
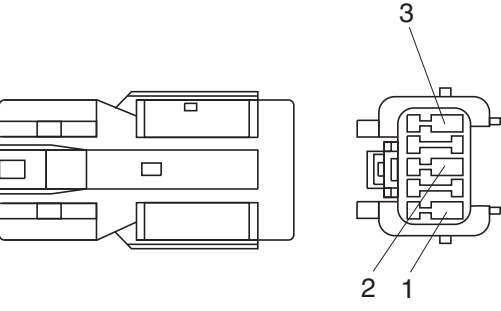
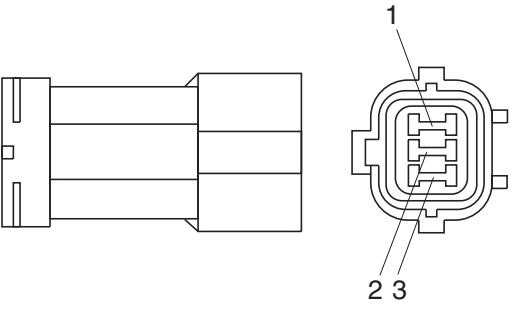
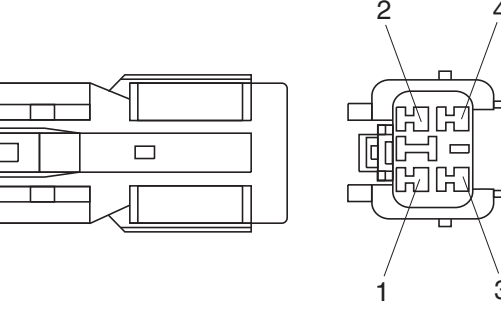
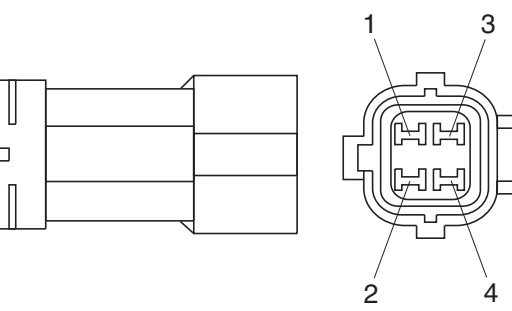
No. of pin	Receptacle connector (female)	Plug connector (male)
5	 <p style="text-align: center;">S811-005002</p>	 <p style="text-align: center;">S811-105002</p>
7	 <p style="text-align: center;">S811-007002</p>	 <p style="text-align: center;">S811-107002</p>
9	 <p style="text-align: center;">S811-009002</p>	 <p style="text-align: center;">3S811-109002</p>
11	 <p style="text-align: center;">S811-011002</p>	 <p style="text-align: center;">S811-111002</p>

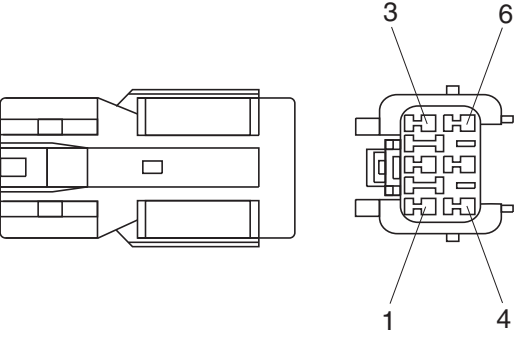
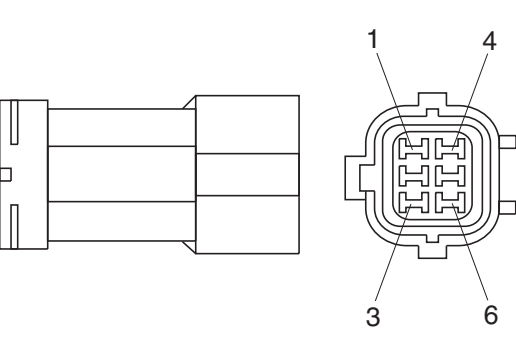
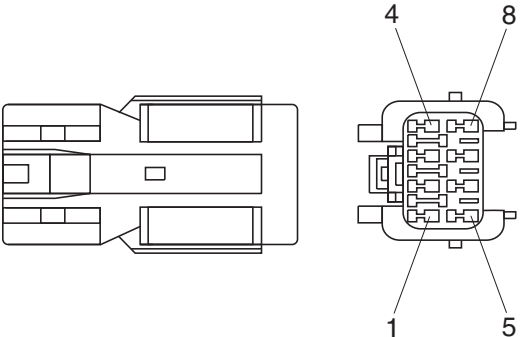
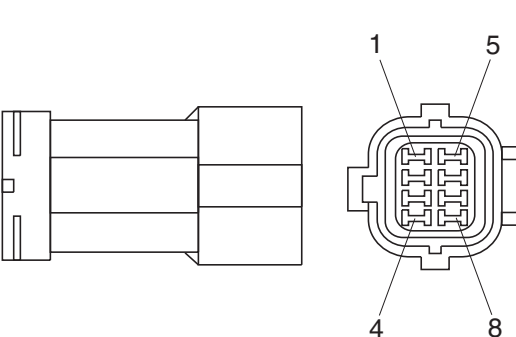
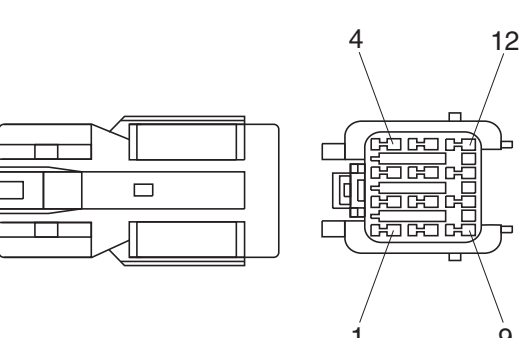
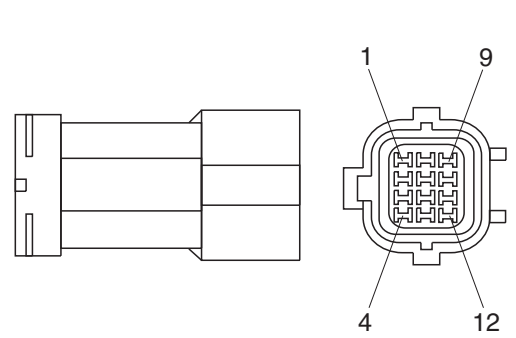
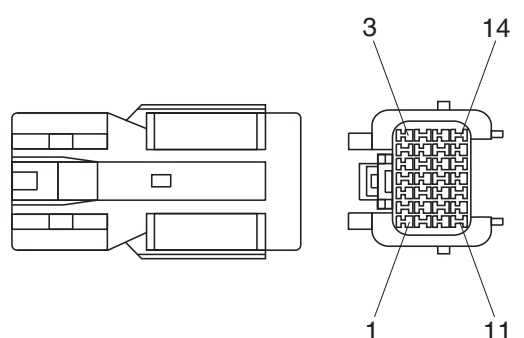
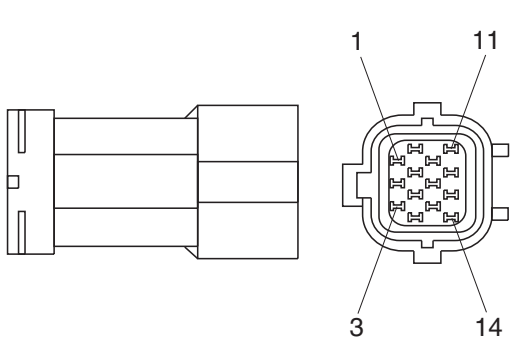
No. of pin	Receptacle connector (female)	Plug connector (male)
13	 <p style="text-align: center;">S811-013002</p>	 <p style="text-align: center;">S811-113002</p>
17	 <p style="text-align: center;">S811-017002</p>	 <p style="text-align: center;">S811-117002</p>
21	 <p style="text-align: center;">S811-021002</p>	 <p style="text-align: center;">S811-121002</p>

## 2) J TYPE CONNECTOR

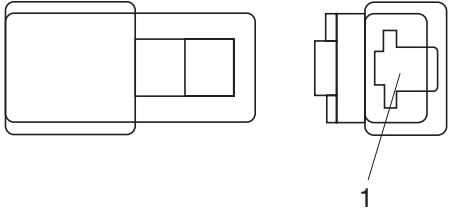
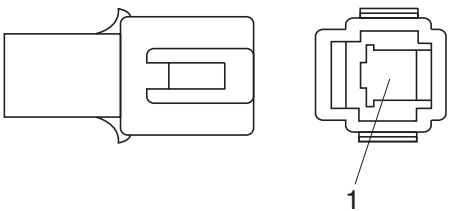
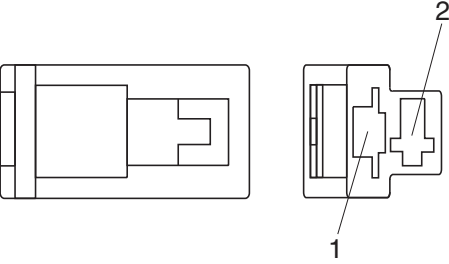
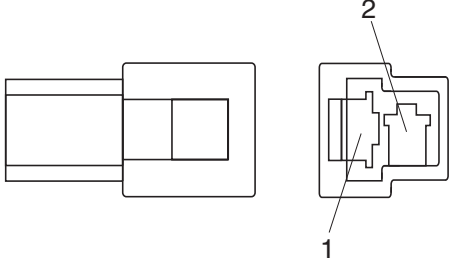
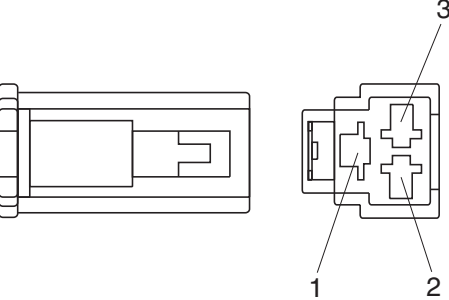
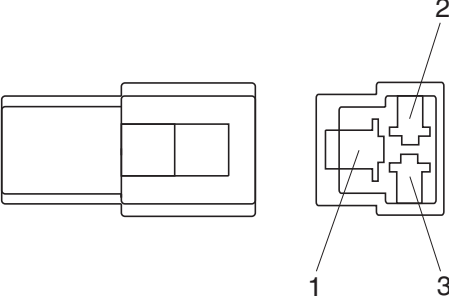
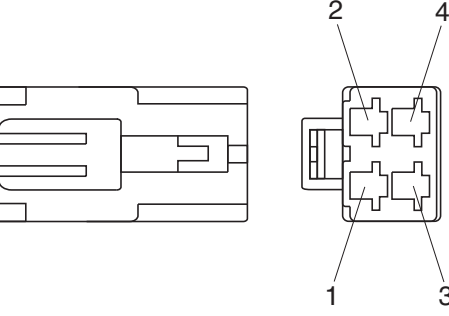
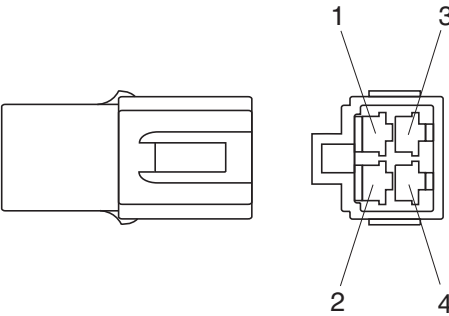
No. of pin	Receptacle connector (female)	Plug connector (male)
2	 <p data-bbox="687 680 831 712">S816-002001</p>	 <p data-bbox="1240 680 1383 712">S816-102001</p>
3	 <p data-bbox="687 1090 831 1122">S816-003001</p>	 <p data-bbox="1240 1090 1383 1122">S816-103001</p>
4	 <p data-bbox="687 1500 831 1532">S816-004001</p>	 <p data-bbox="1240 1500 1383 1532">S816-104001</p>
8	 <p data-bbox="687 1910 831 1942">S816-008001</p>	 <p data-bbox="1240 1910 1383 1942">S816-108001</p>

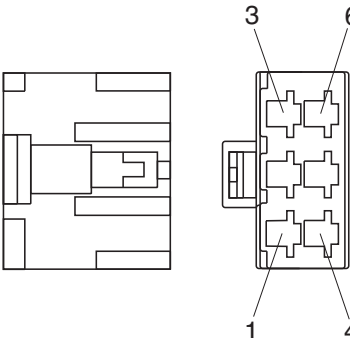
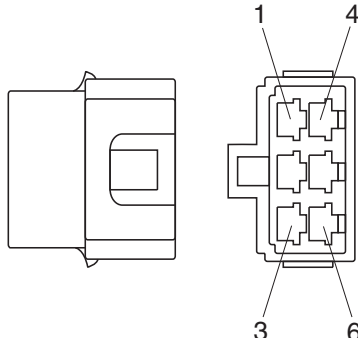
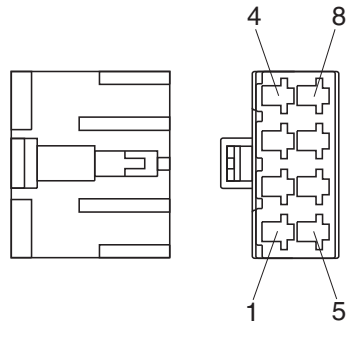
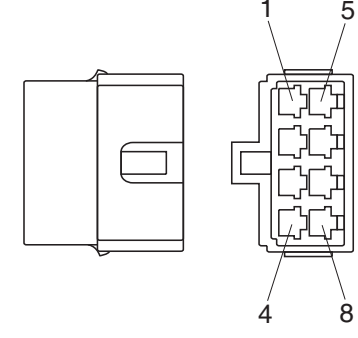
### 3) SWP TYPE CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
1	 <p data-bbox="687 680 836 712">S814-001000</p>	 <p data-bbox="1241 680 1390 712">S814-101000</p>
2	 <p data-bbox="687 1084 836 1115">S814-002000</p>	 <p data-bbox="1241 1084 1390 1115">S814-102000</p>
3	 <p data-bbox="687 1494 836 1525">S814-003000</p>	 <p data-bbox="1241 1494 1390 1525">S814-103000</p>
4	 <p data-bbox="687 1904 836 1935">S814-004000</p>	 <p data-bbox="1241 1904 1390 1935">S814-104000</p>

No. of pin	Receptacle connector (female)	Plug connector (male)
6	 <p data-bbox="686 638 837 672">S814-006000</p>	 <p data-bbox="1244 638 1396 672">S814-106000</p>
8	 <p data-bbox="686 1041 837 1075">S814-008000</p>	 <p data-bbox="1244 1041 1396 1075">S814-108000</p>
12	 <p data-bbox="686 1449 837 1482">S814-012000</p>	 <p data-bbox="1244 1449 1396 1482">S814-112000</p>
14	 <p data-bbox="686 1856 837 1890">S814-014000</p>	 <p data-bbox="1244 1856 1396 1890">S814-114000</p>

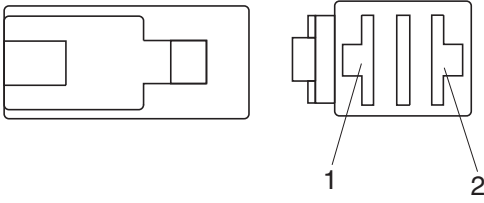
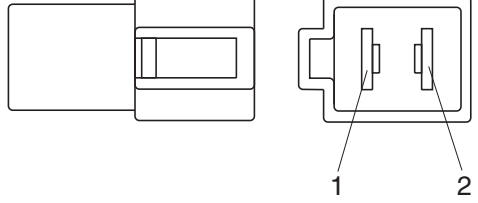
#### 4) CN TYPE CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
1	 <p style="text-align: center;">S810-001202</p>	 <p style="text-align: center;">S810-101202</p>
2	 <p style="text-align: center;">S810-002202</p>	 <p style="text-align: center;">S810-102202</p>
3	 <p style="text-align: center;">S810-003202</p>	 <p style="text-align: center;">S810-103202</p>
4	 <p style="text-align: center;">S810-004202</p>	 <p style="text-align: center;">S810-104202</p>

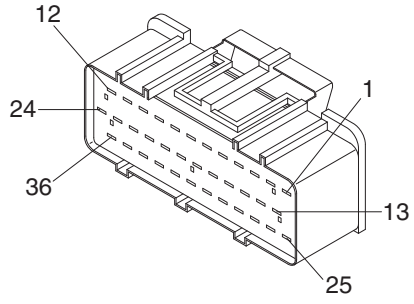
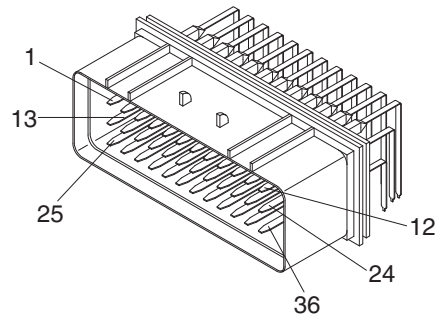
No. of pin	Receptacle connector (female)	Plug connector (male)
6	 <p data-bbox="686 638 837 672">S810-006202</p>	 <p data-bbox="1236 638 1388 672">S810-106202</p>
8	 <p data-bbox="686 1041 837 1075">S810-008202</p>	 <p data-bbox="1236 1041 1388 1075">S810-108202</p>



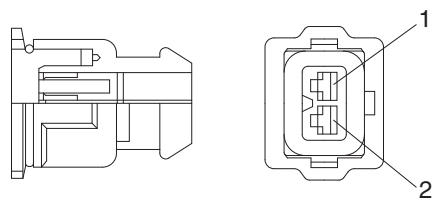
### 5) 375 FASTEN TYPE CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
2	 <p style="text-align: center;">S810-002402</p>	 <p style="text-align: center;">S810-102402</p>

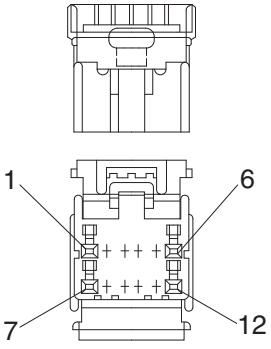
### 6) AMP ECONOSEAL CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
36	 <p style="text-align: center;">344111-1</p>	 <p style="text-align: center;">344108-1</p>

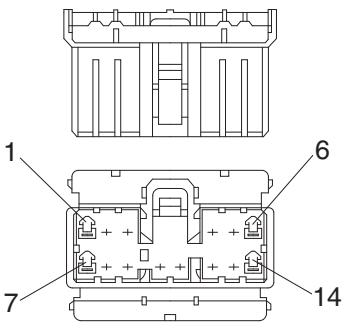
### 7) AMP TIMER CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
2	 <p style="text-align: center;">85202-1</p>	

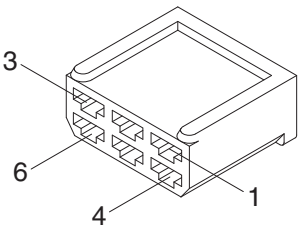
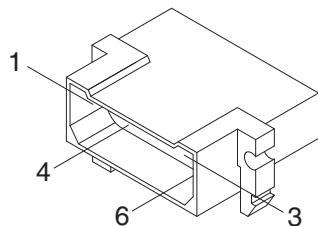
### 8) AMP 040 MULTILOCK CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
12	 <p style="text-align: right;">174045-2</p>	

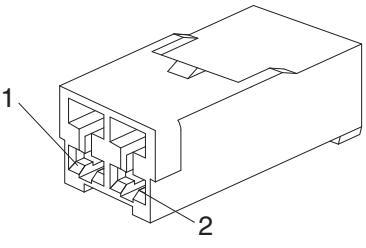
### 9) AMP 070 MULTILOCK CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
14	 <p style="text-align: right;">173852</p>	

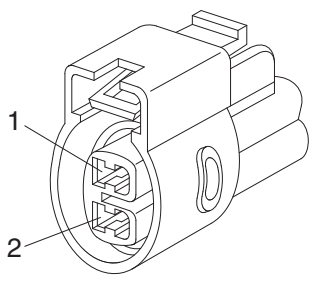
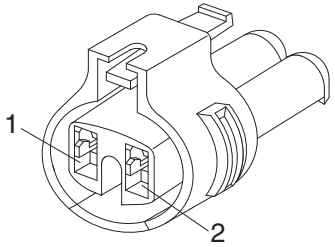
### 10) AMP FASTIN - FASTON CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
6	 <p style="text-align: right;">925276-0</p>	 <p style="text-align: right;">480003-9</p>

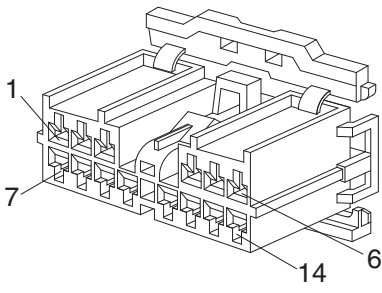
### 11) KET 090 CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
2	 <p style="text-align: right;">MG610070</p>	

### 12) KET 090 WP CONNECTORS

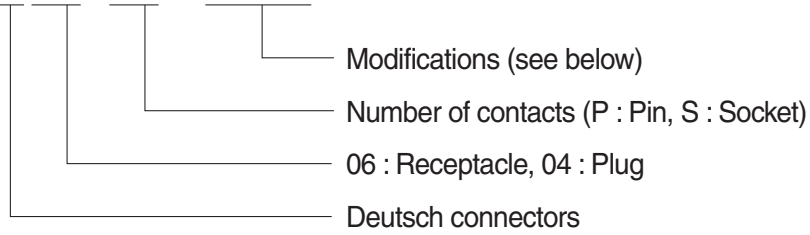
No. of pin	Receptacle connector (female)	Plug connector (male)
2	 <p style="text-align: right;">MG640605</p>	
2	 <p style="text-align: right;">MG640795</p>	

### 13) KET SDL CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
14	 <p data-bbox="710 672 837 705">MG610406</p>	

## 14) DEUTSCH DT CONNECTORS

DT 06 - 3S - ★★☆☆



### ※ Modification

E003 : Standard end cap - gray

E004 : Color of connector to be black

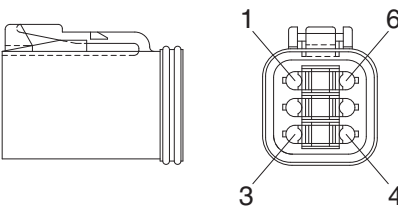
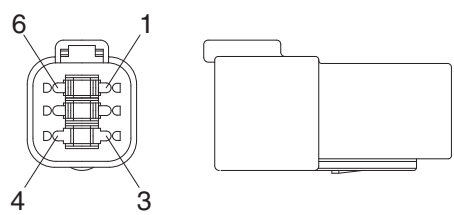
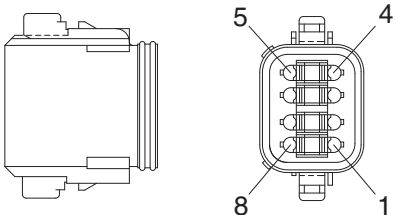
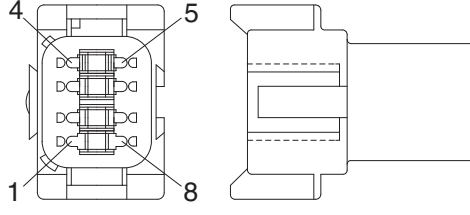
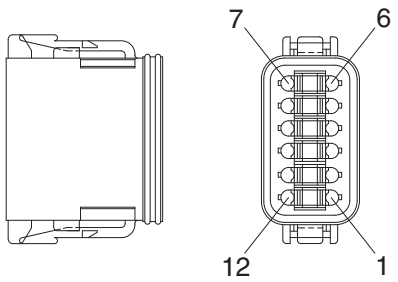
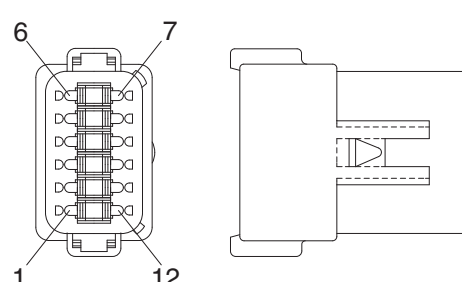
E005 : Combination - E004 & E003

EP04 : End cap

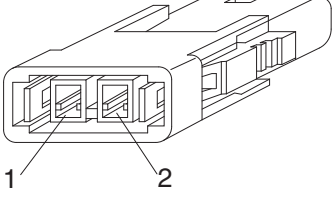
EP06 : Combination P012 & EP04

P012 : Front seal enhancement - connectors color to black for 2, 3, 4 & 6pin

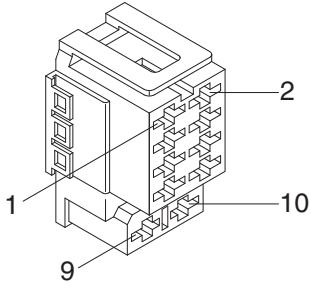
No. of pin	Receptacle connector (female)	Plug connector (male)
2	<p>DT06-2S</p>	<p>DT04-2P</p>
3	<p>DT06-3S</p>	<p>DT04-3P</p>
4	<p>DT06-4S</p>	<p>DT04-4P</p>

No. of pin	Receptacle connector (female)	Plug connector (male)
6	 <p style="text-align: center;">DT06-6S</p>	 <p style="text-align: center;">DT04-6P</p>
8	 <p style="text-align: center;">DT06-8S</p>	 <p style="text-align: center;">DT04-8P</p>
12	 <p style="text-align: center;">DT06-12S</p>	 <p style="text-align: center;">DT04-12P</p>

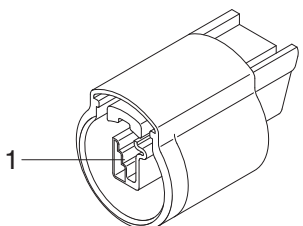
### 15) MOLEX 2CKTS CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
2	 <p data-bbox="702 683 837 705">35215-0200</p>	

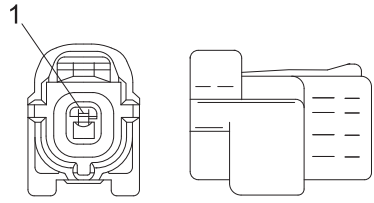
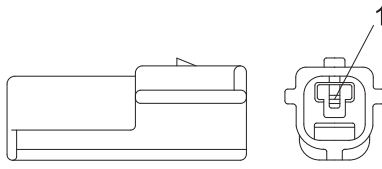
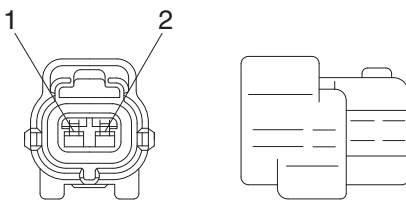
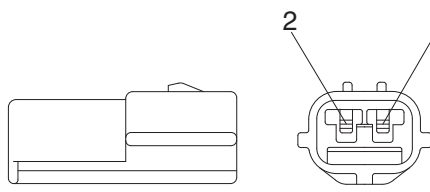
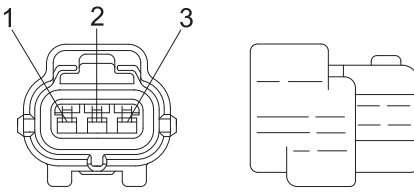
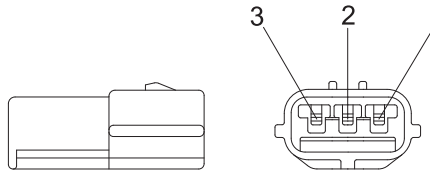
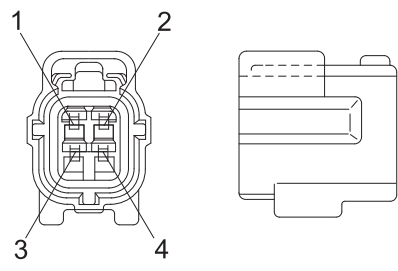
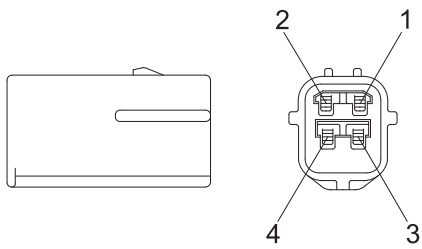
### 16) ITT SWF CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
10	 <p data-bbox="694 1288 837 1310">SWF593757</p>	

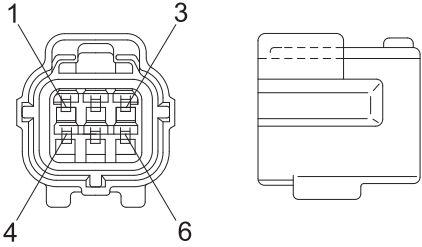
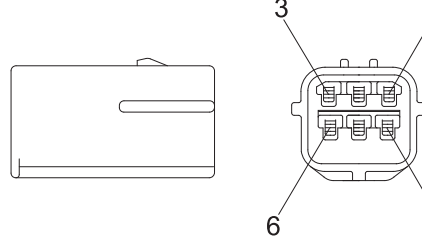
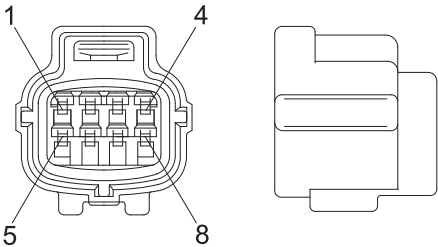
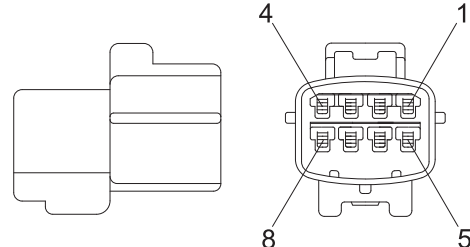
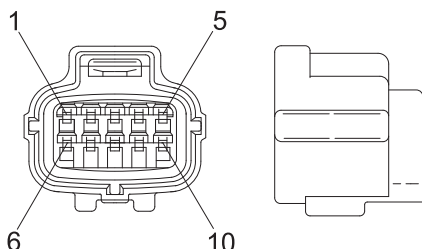
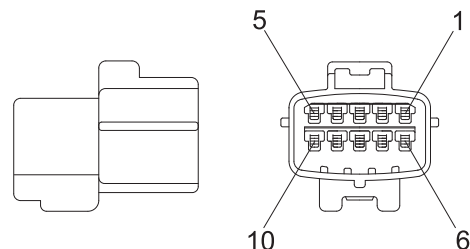
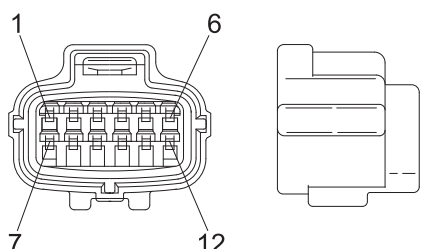
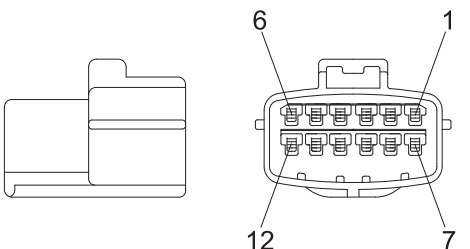
### 17) MWP NMWP CONNECTOR

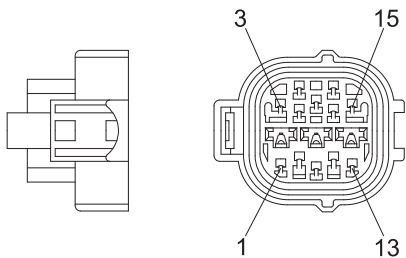
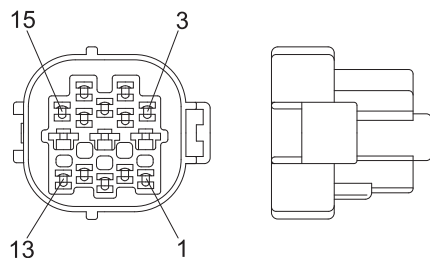
No. of pin	Receptacle connector (female)	Plug connector (male)
1	 <p data-bbox="686 1892 837 1915">NMWP01F-B</p>	

### 18) ECONOSEAL J TYPE CONNECTORS

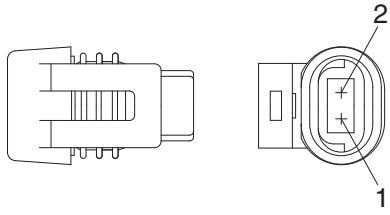
No. of pin	Receptacle connector (female)	Plug connector (male)
1	 <p style="text-align: right;">S816-001002</p>	 <p style="text-align: right;">S816-101002</p>
2	 <p style="text-align: right;">S816-002002</p>	 <p style="text-align: right;">S816-102002</p>
3	 <p style="text-align: right;">S816-003002</p>	 <p style="text-align: right;">S816-103002</p>
4	 <p style="text-align: right;">S816-004002</p>	 <p style="text-align: right;">S816-104002</p>



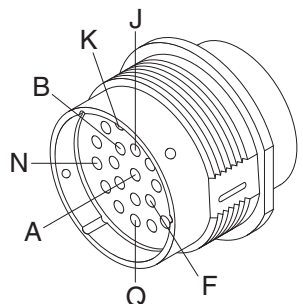
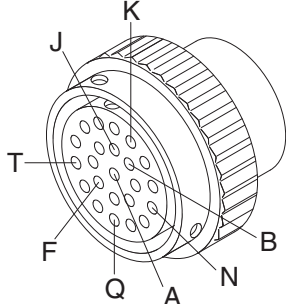
No. of pin	Receptacle connector (female)	Plug connector (male)
6	 <p style="text-align: center;">S816-006002</p>	 <p style="text-align: center;">S816-106002</p>
8	 <p style="text-align: center;">S816-008002</p>	 <p style="text-align: center;">S816-108002</p>
10	 <p style="text-align: center;">S816-010002</p>	 <p style="text-align: center;">S816-110002</p>
12	 <p style="text-align: center;">S816-012002</p>	 <p style="text-align: center;">S816-112002</p>

No. of pin	Receptacle connector (female)	Plug connector (male)
15	 <p data-bbox="730 633 834 663">368301-1</p>	 <p data-bbox="1276 633 1380 663">2-85262-1</p>

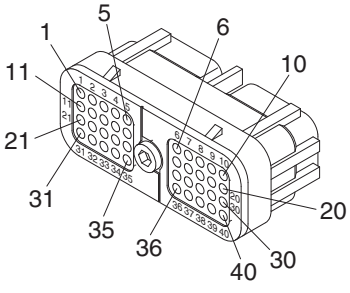
### 19) METRI-PACK TYPE CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
2	 <p data-bbox="726 1238 829 1267">12040753</p>	

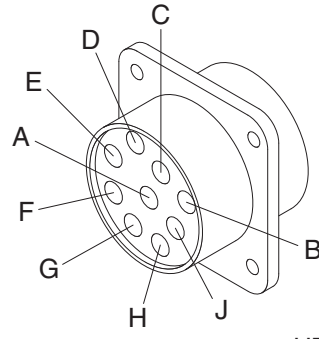
### 20) DEUTSCH HD30 CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
23	 <p data-bbox="667 1839 834 1868">HD36-24-23SN</p>	 <p data-bbox="1220 1839 1388 1868">HD34-24-23PN</p>

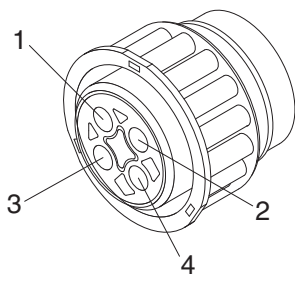
### 21) DEUTSCH MCU CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
40	 <p style="text-align: right;">DRC26-40SA/B</p>	

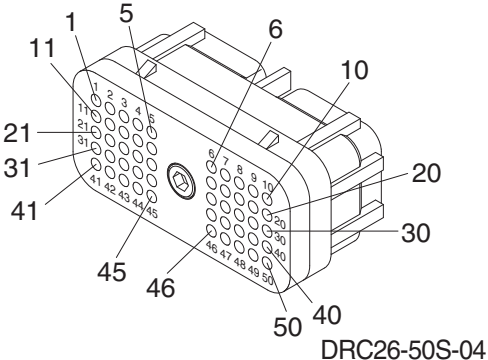
### 22) DEUTSCH SERVICE TOOL CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
9	 <p style="text-align: right;">HD10-9-96P</p>	

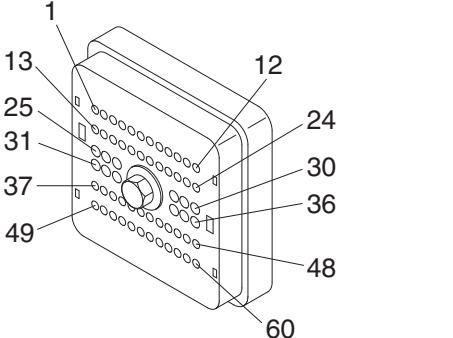
### 23) AMP FUEL WARMER CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
4	 <p style="text-align: right;">2-967325-3</p>	

### 24) DEUTSCH ENGINE ECM CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
50	 <p style="text-align: right;">DRC26-50S-04</p>	

### 25) DEUTSCH INTERMEDIATE CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
60	 <p style="text-align: right;">DRB16-60SAE-L018</p>	