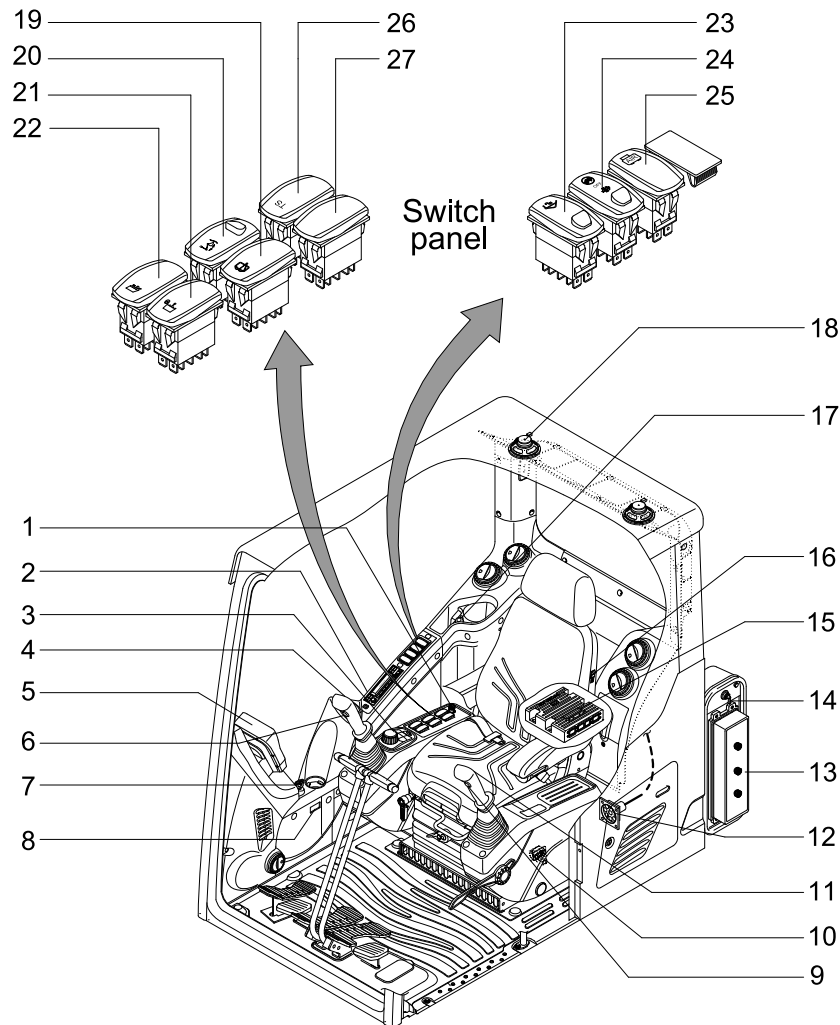


SECTION 4 ELECTRICAL SYSTEM

Group 1 Component Location	4-1
Group 2 Electrical Circuit	4-3
Group 3 Electrical Component Specification	4-23
Group 4 Connectors	4-36

GROUP 1 COMPONENT LOCATION

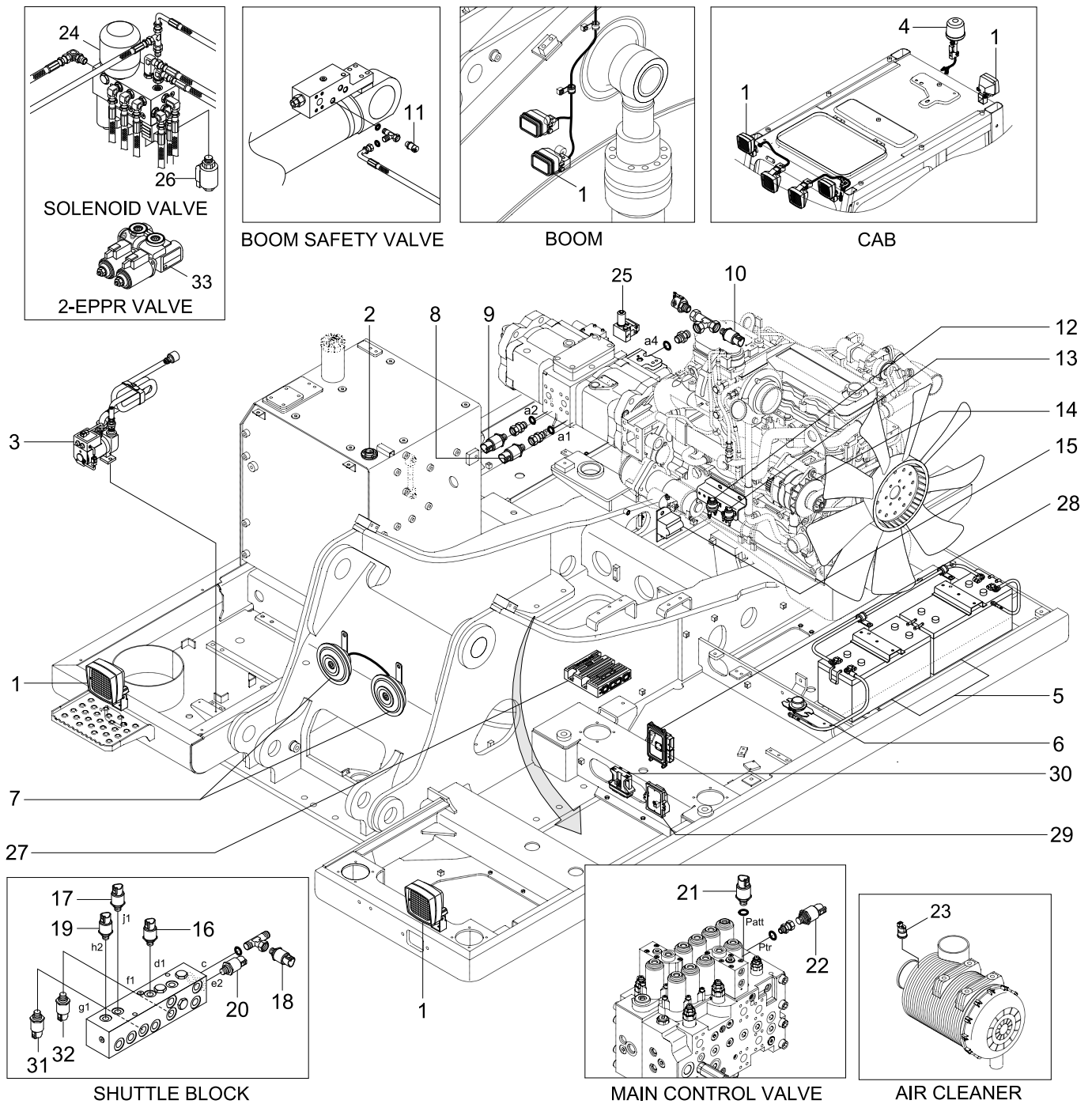
1. LOCATION 1



300A4EL01

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 Jog dial module	12 RS232 & J1939 service socket	21 Swing lock switch
4 Horn switch	13 Fuse & relay box	22 Free/fine swing switch
5 Cluster	14 Master switch	23 Quick coupler switch
6 Breaker operation switch	15 Machine control unit	24 Exhaust system cleaning switch
7 Starting switch	16 Seat heater switch	25 Air compressor switch
8 Service meter	17 Service socket	26 Travel straight switch
9 Power max switch	18 Speaker	27 Option attach switch

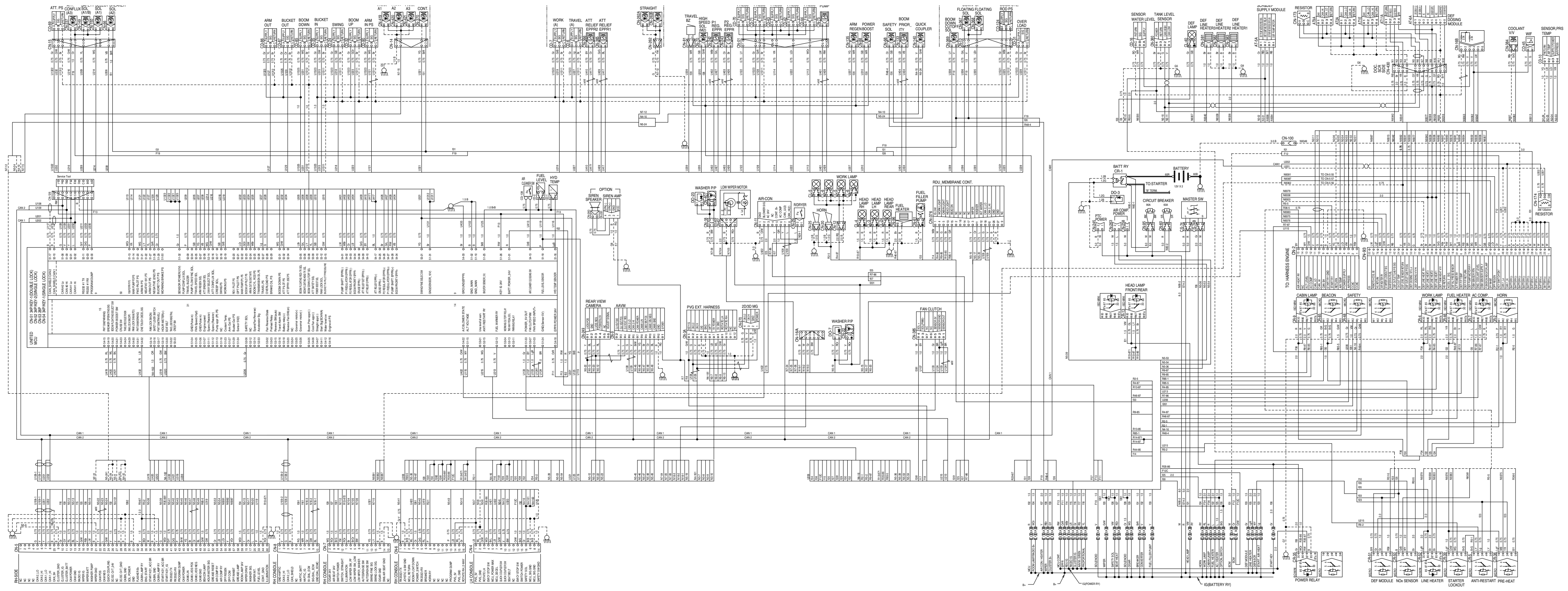
2. LOCATION 2



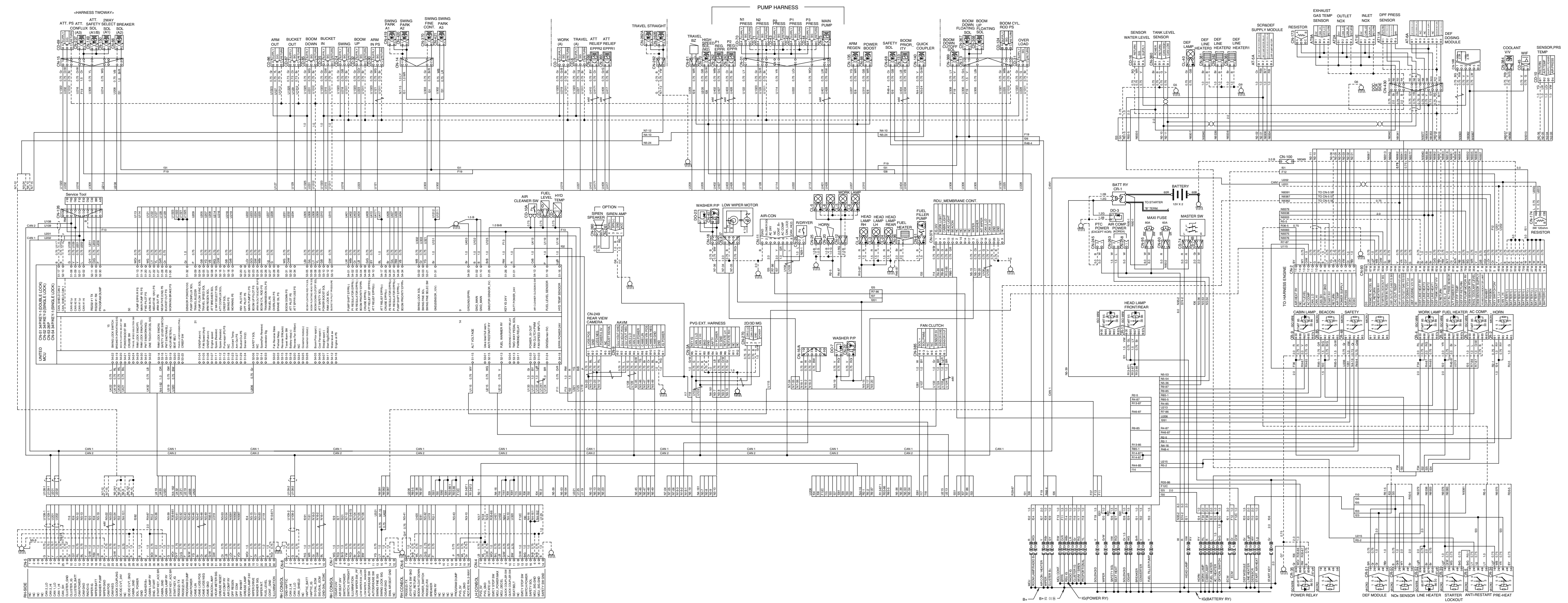
- | | | |
|-----------------------------|------------------------------|---------------------------------|
| 1 Lamp | 12 Start relay | 23 Air cleaner sensor (-#00142) |
| 2 Fuel sender | 13 Heater relay | 24 Solenoid valve |
| 3 Fuel filler pump | 14 Alternator | 25 Pump EPPR valve |
| 4 Beacon lamp | 15 Travel alarm buzzer | 26 Boom priority EPPR valve |
| 5 Battery | 16 Arm out pressure sensor | 27 MCU assy |
| 6 Battery relay | 17 Boom up pressure sensor | 28 AAVM controller |
| 7 Horn | 18 Swing pressure sensor | 29 DRU assy |
| 8 P1 pressure sensor | 19 Boom down pressure sensor | 30 PVG32 controller |
| 9 P2 pressure sensor | 20 Arm in pressure sensor | 31 Bucket out pressure sensor |
| 10 EPPR pressure sensor | 21 Attach pressure sensor | 32 Bucket in pressure sensor |
| 11 Overload pressure sensor | 22 Travel pressure sensor | 33 2-EPPR valve |

GROUP 2 ELECTRICAL CIRCUIT

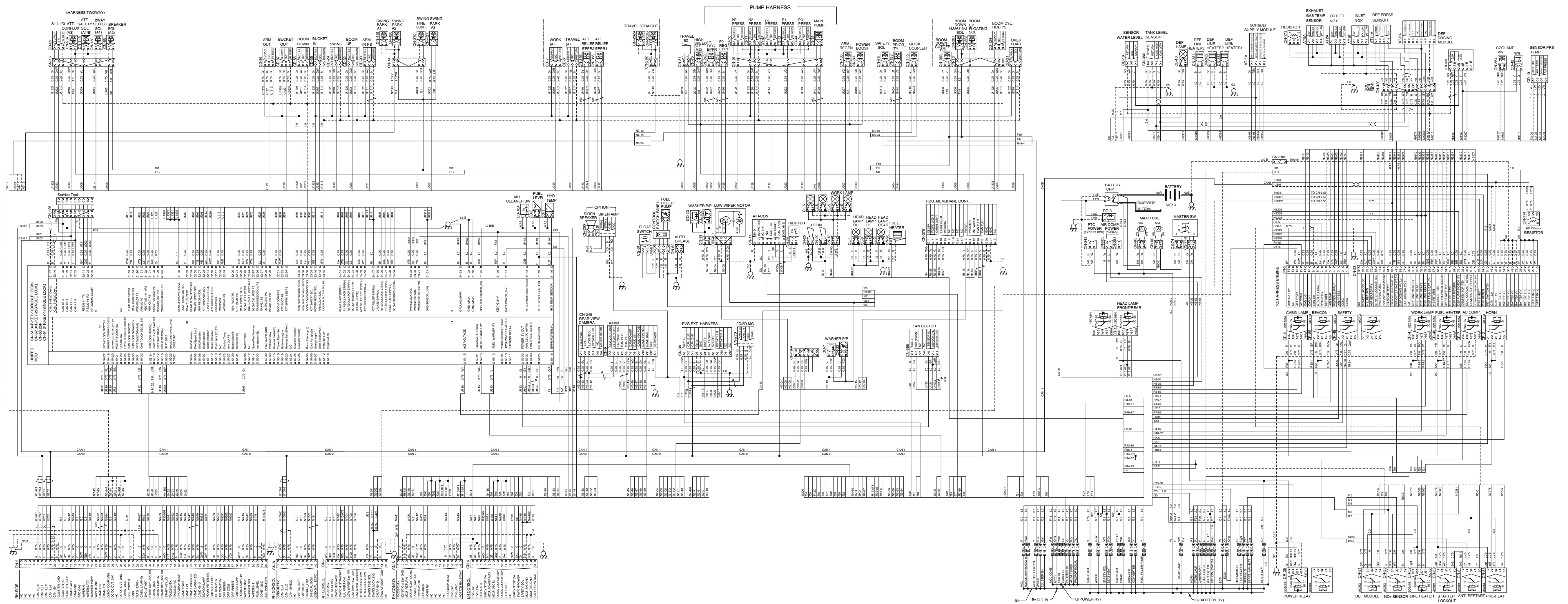
- ELECTRICAL CIRCUIT (1/4)
- MACHINE SERIAL NO. : -#0114

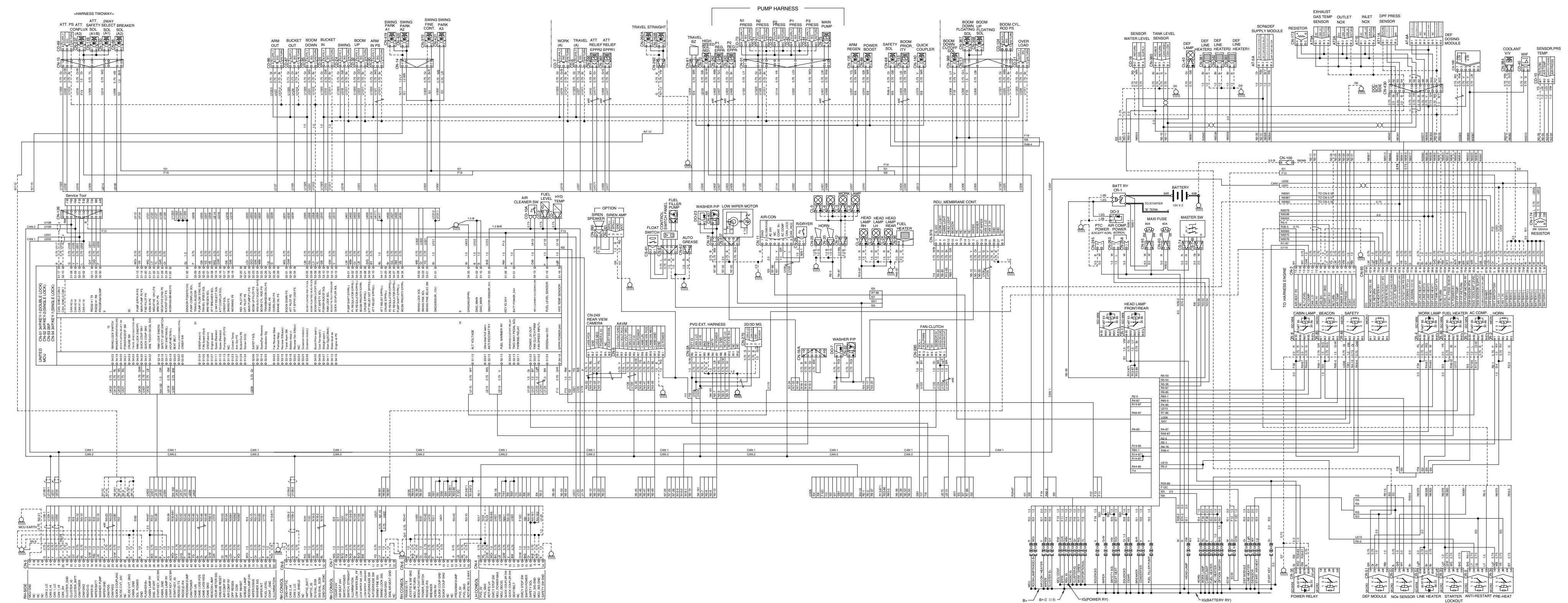


- MACHINE SERIAL NO. : #0115-#0599

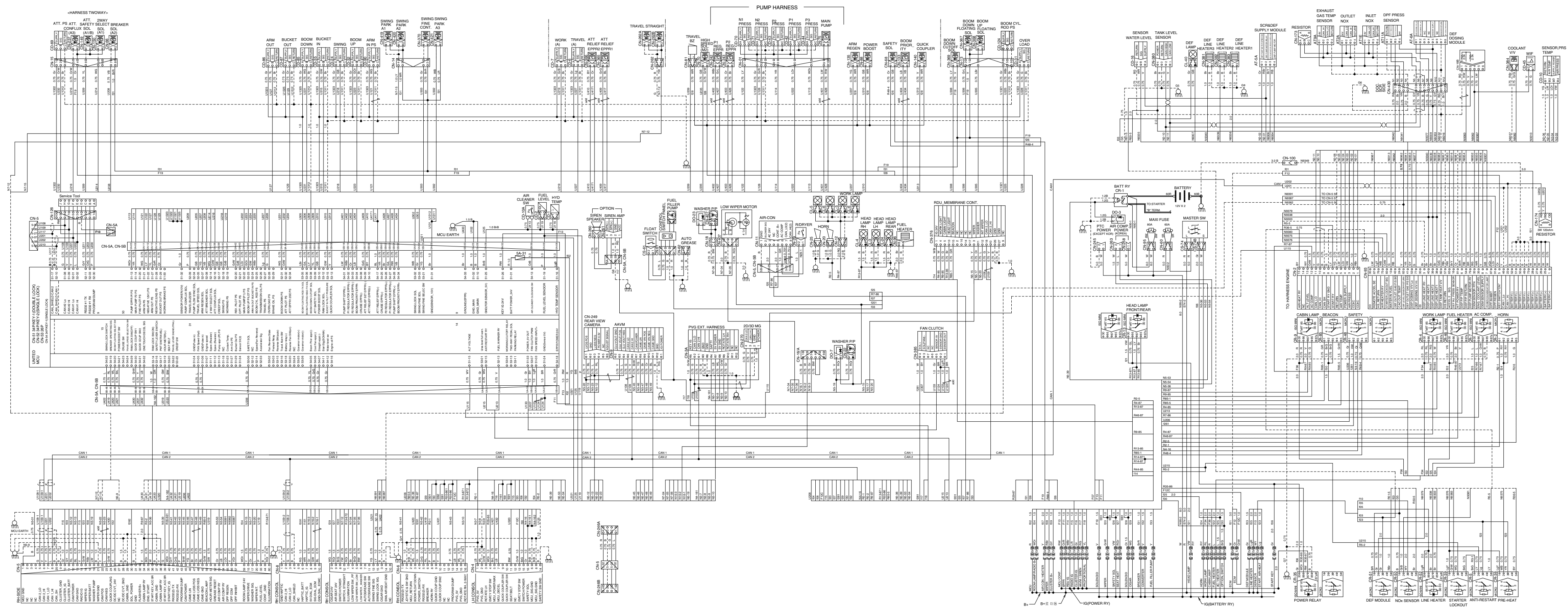


- MACHINE SERIAL NO. : #0600-#0944

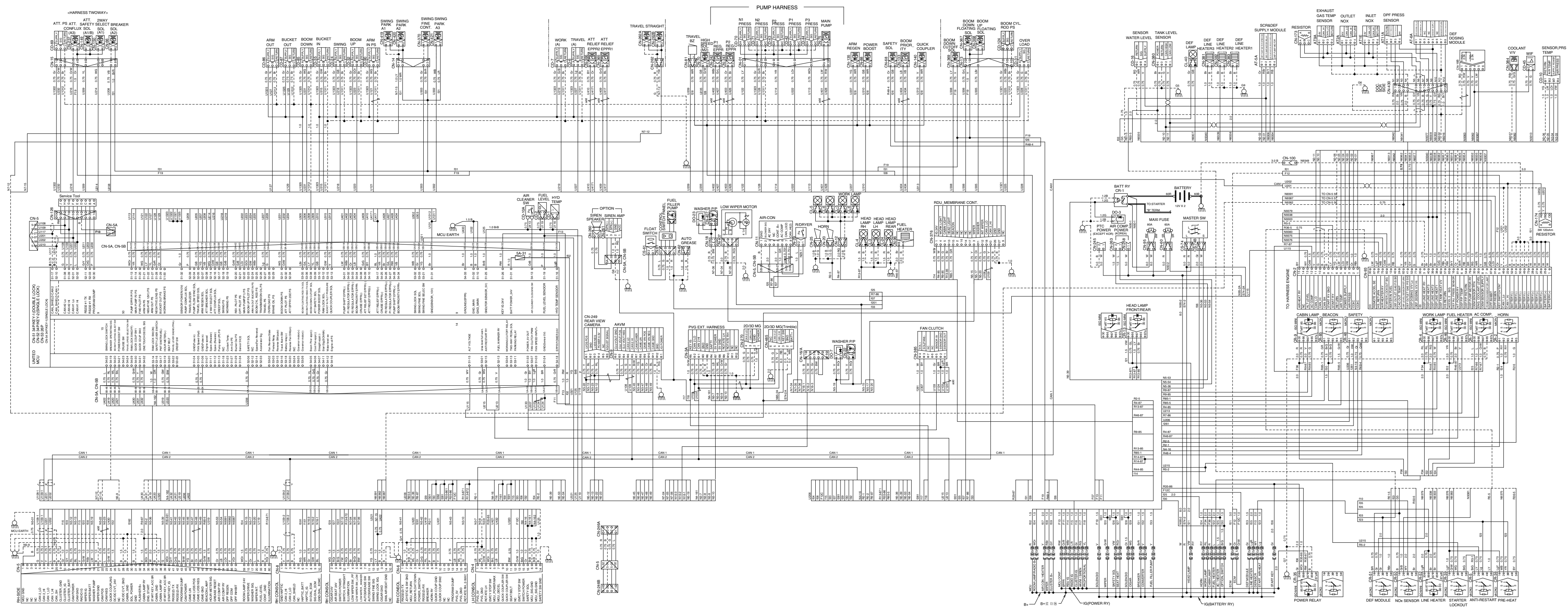




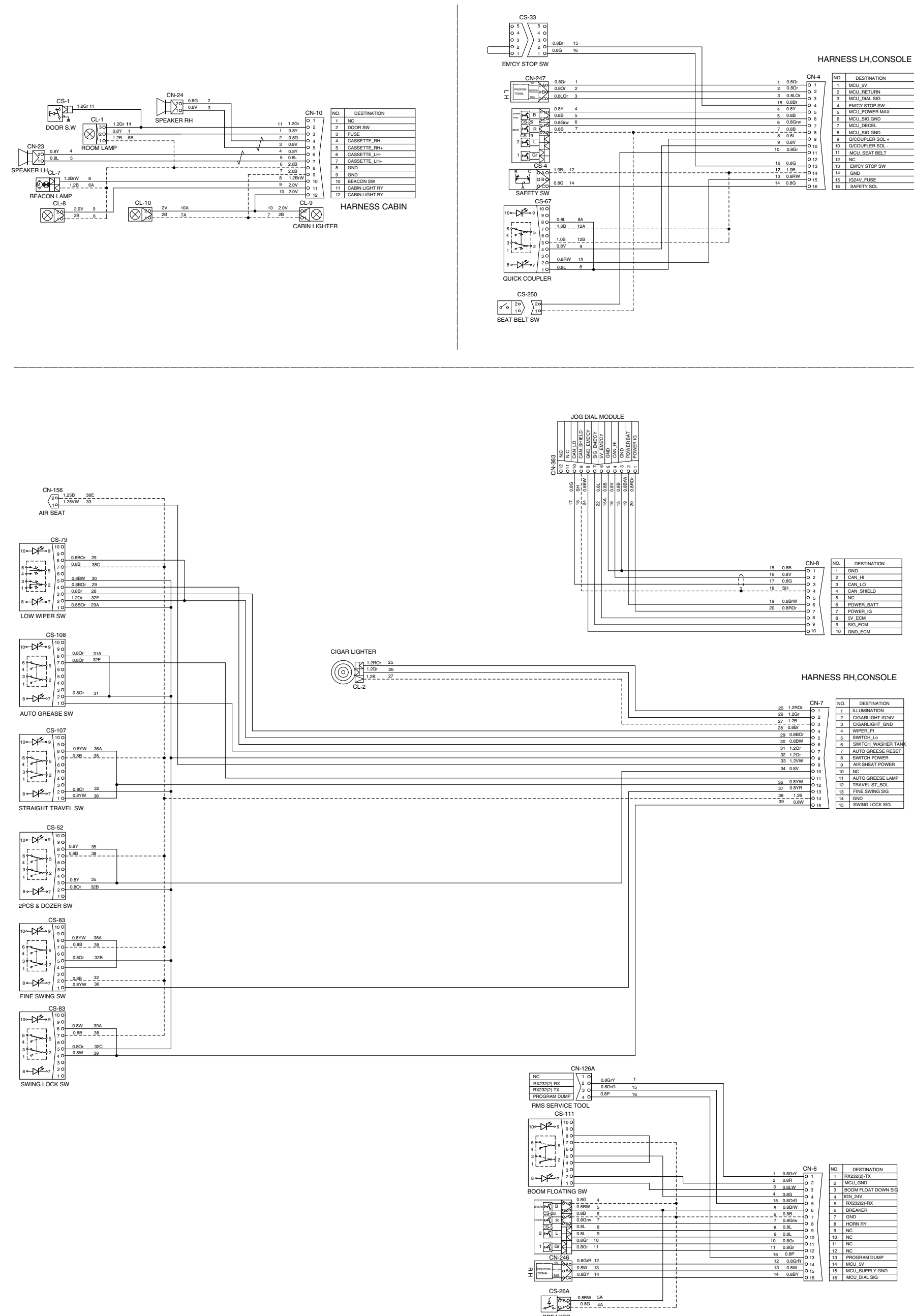
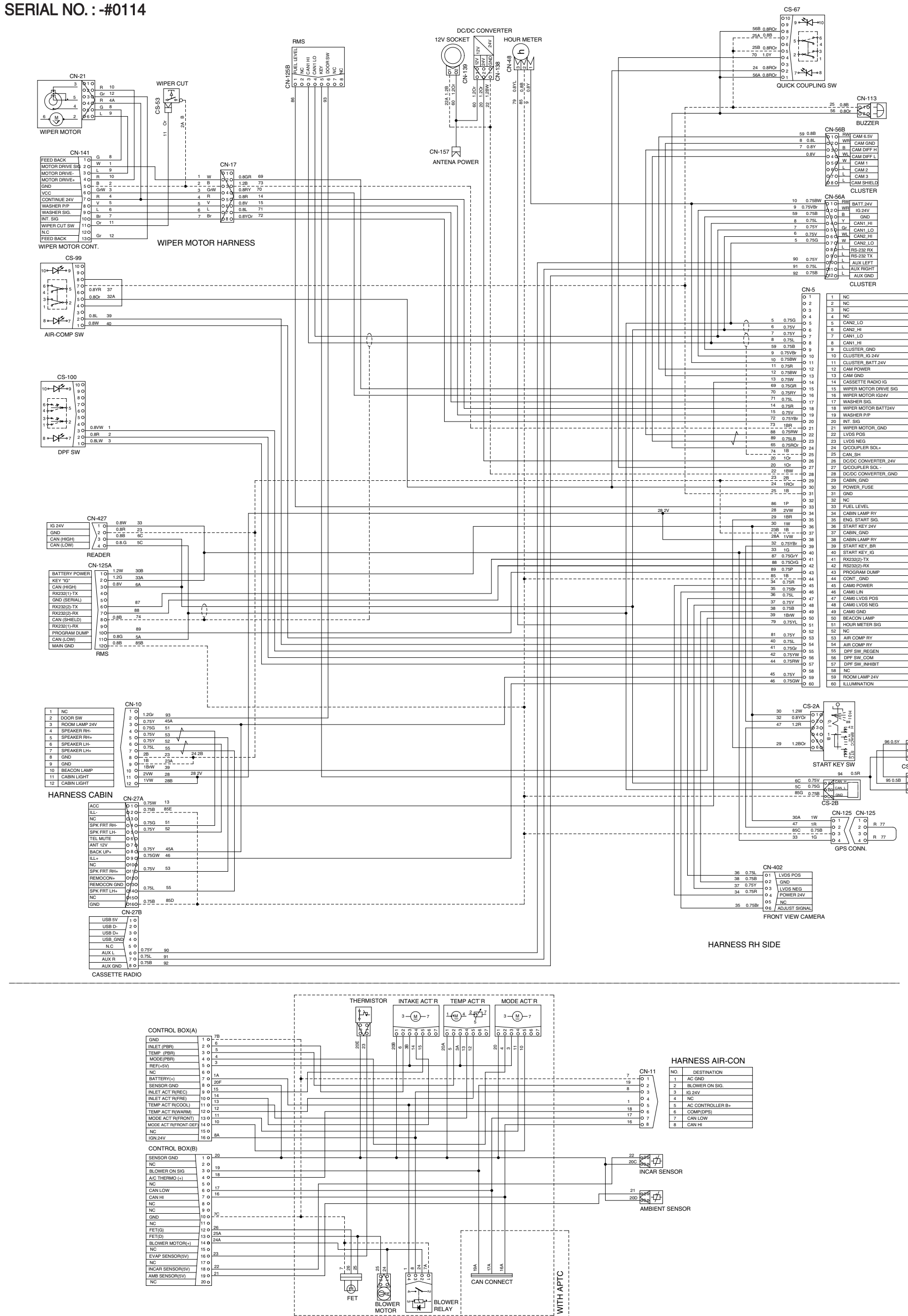
- MACHINE SERIAL NO. : #1432-#1470

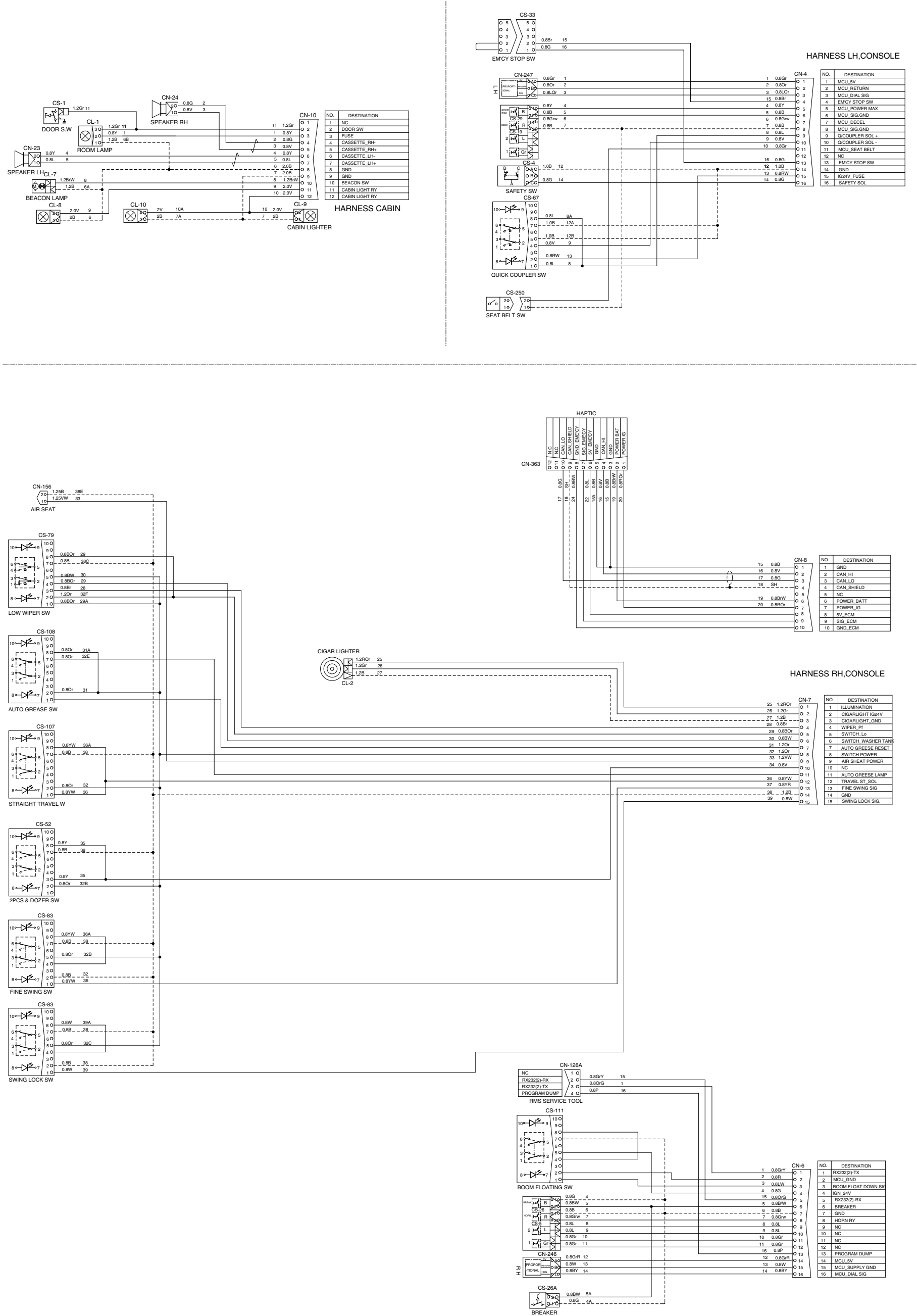


- MACHINE SERIAL NO.: #1471-

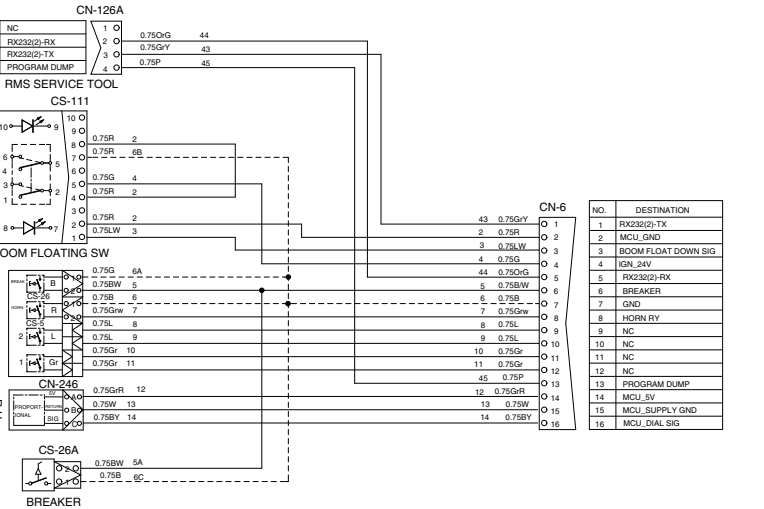
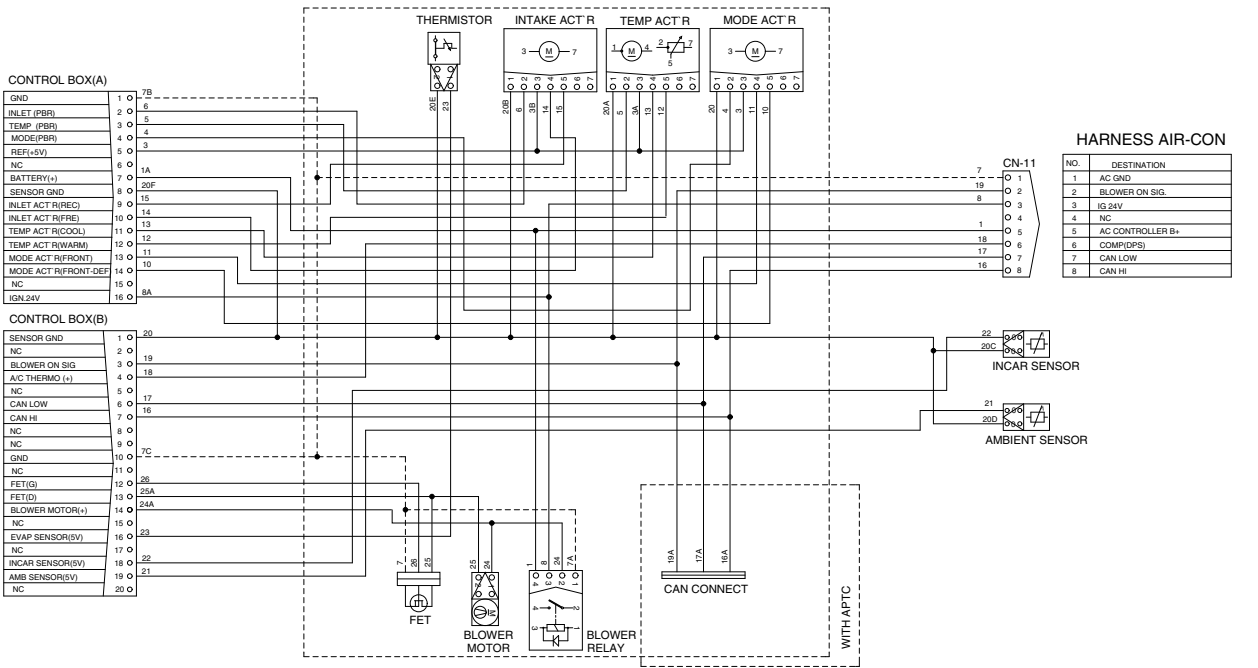
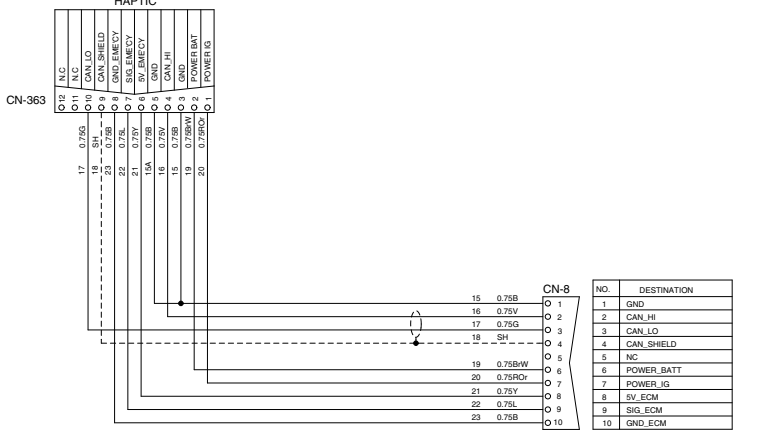
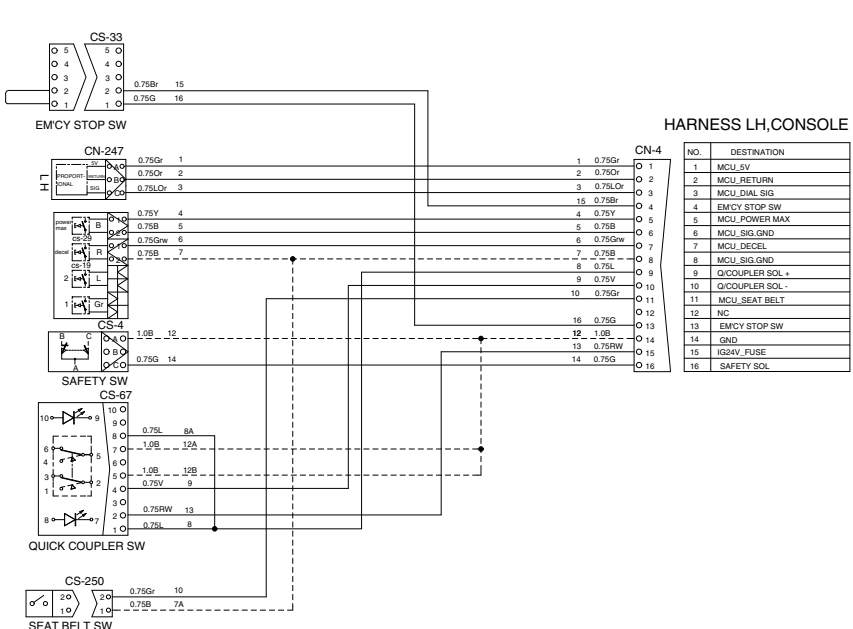
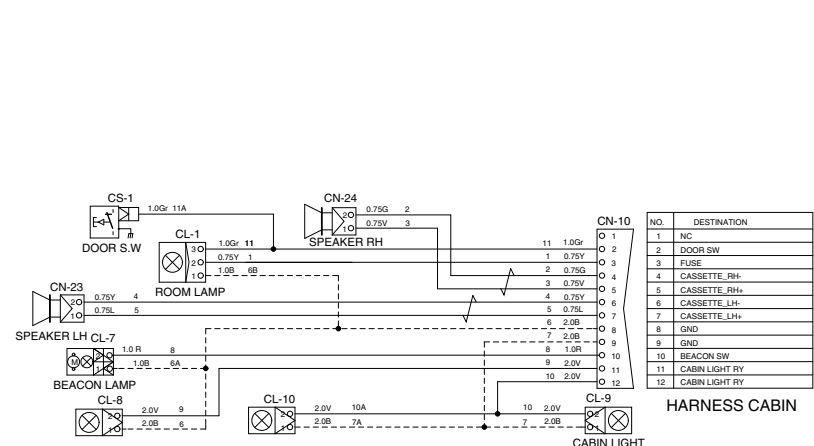
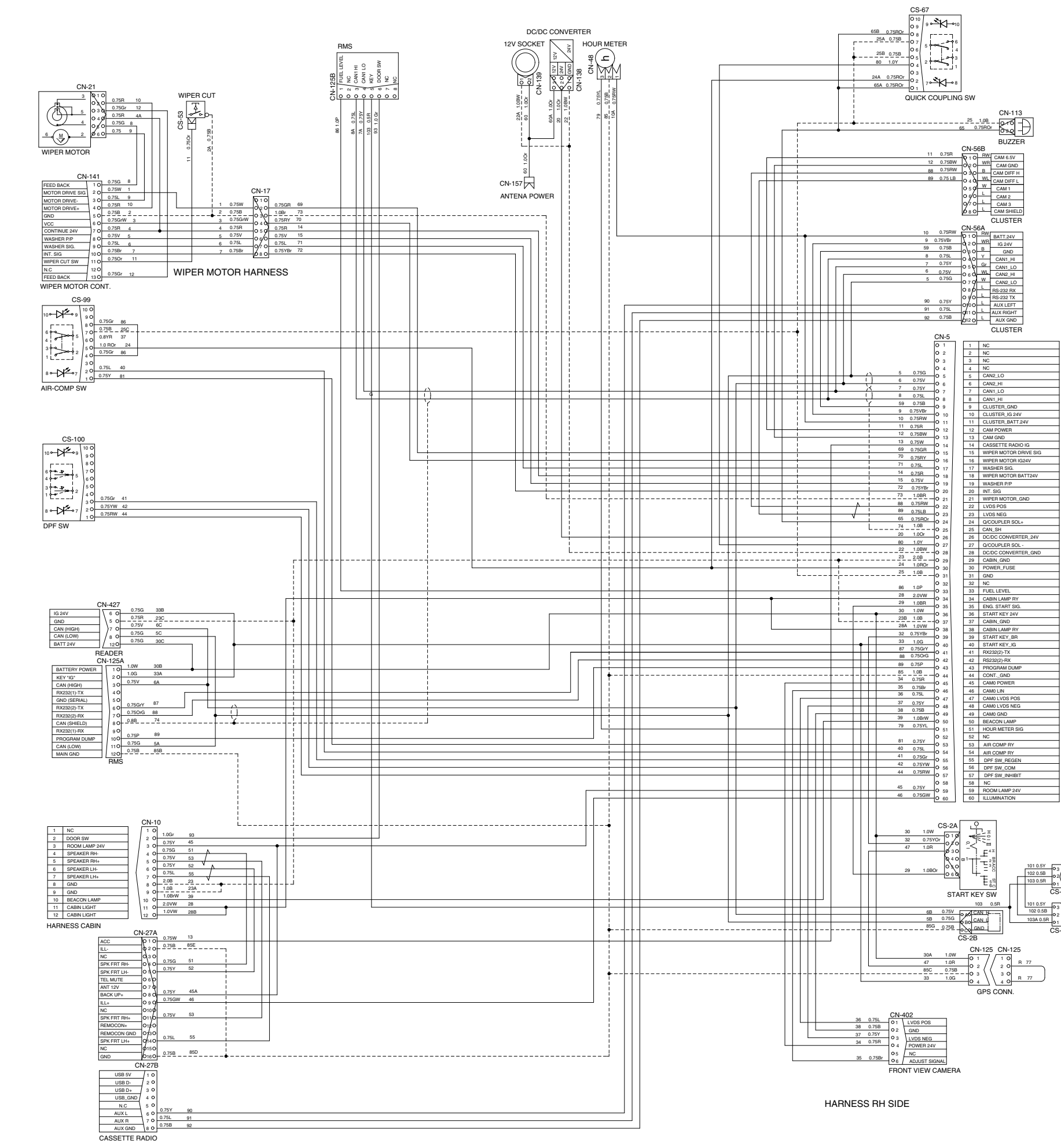


- MACHINE SERIAL NO.: -#0114

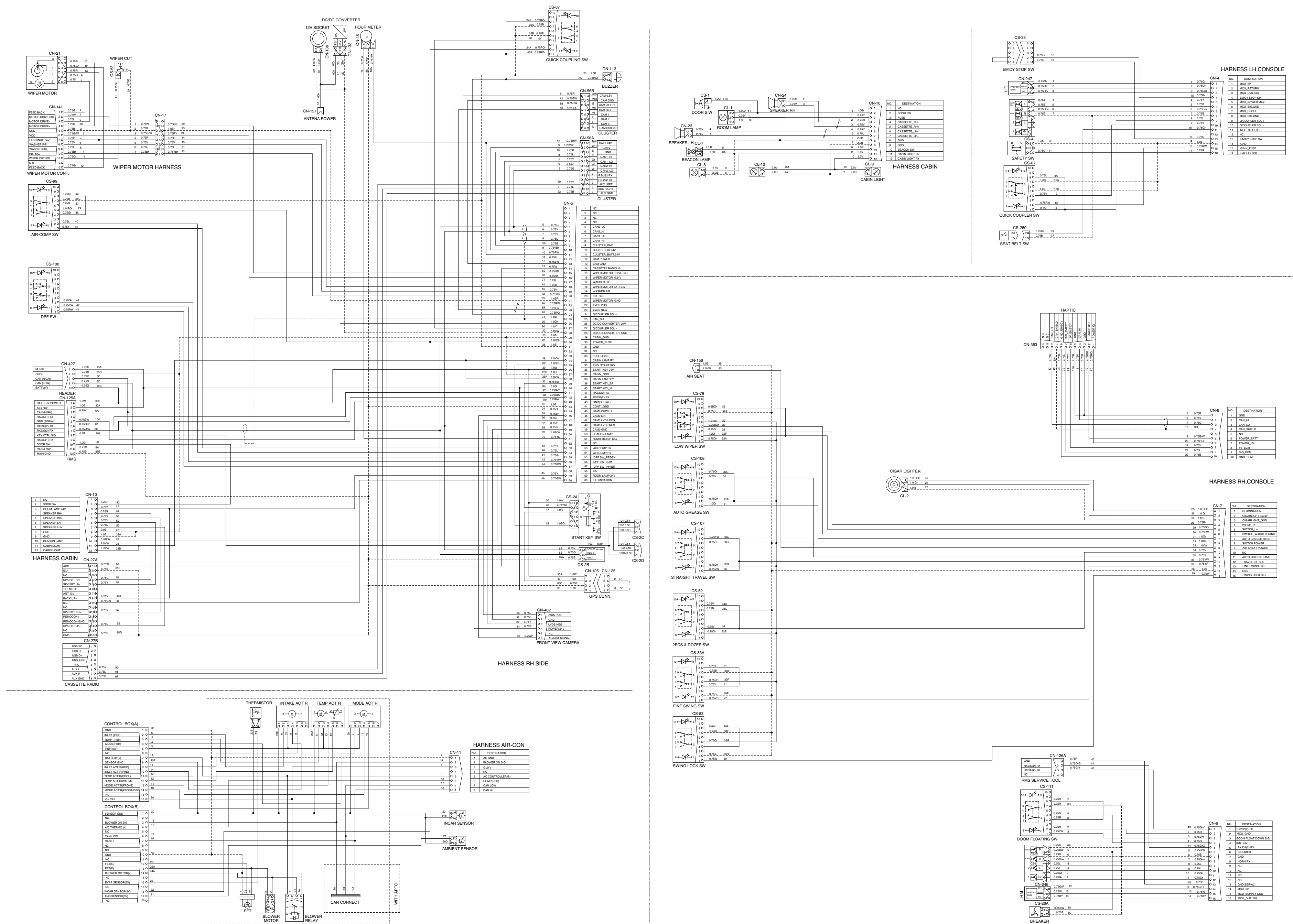




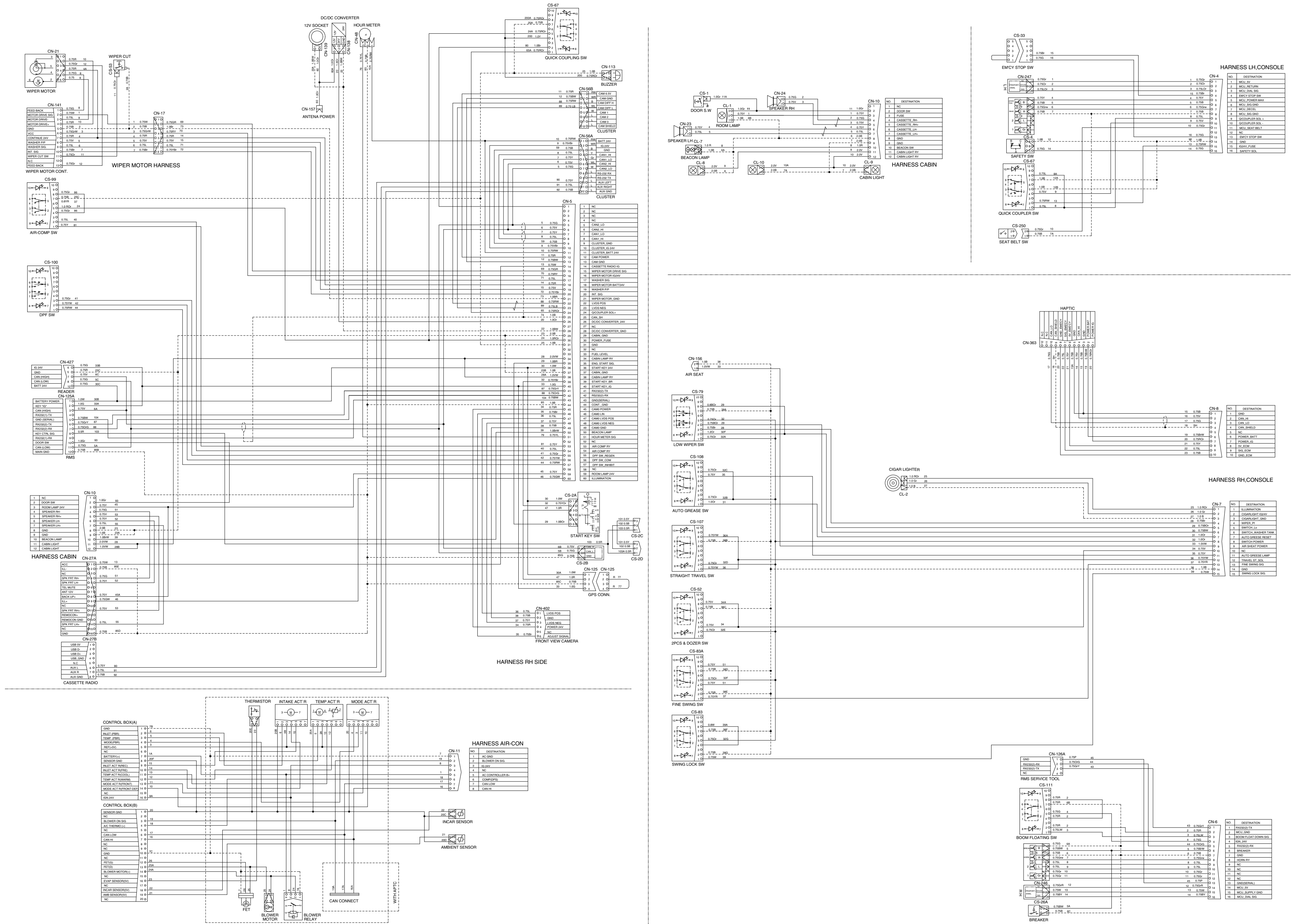
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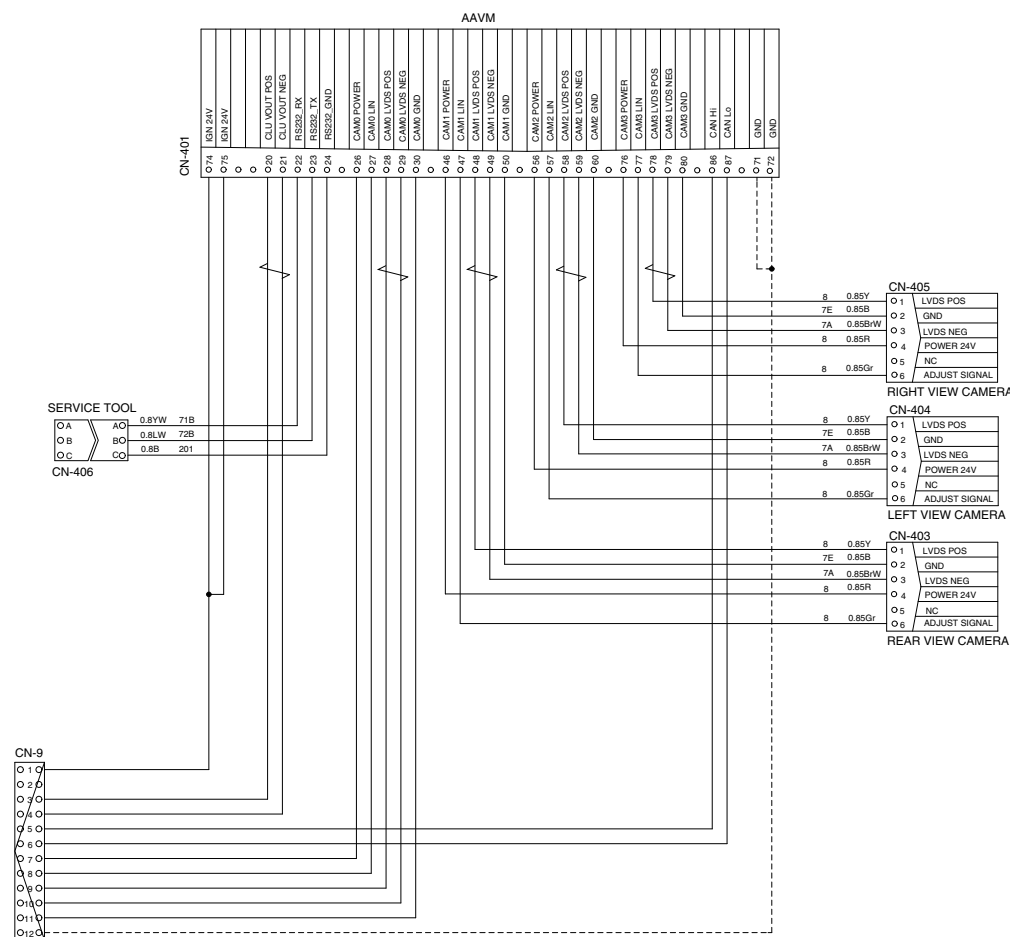
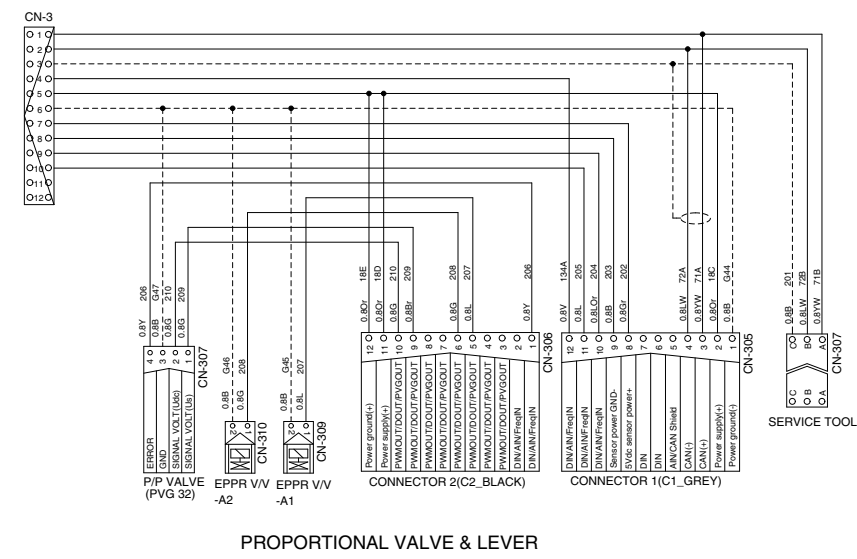
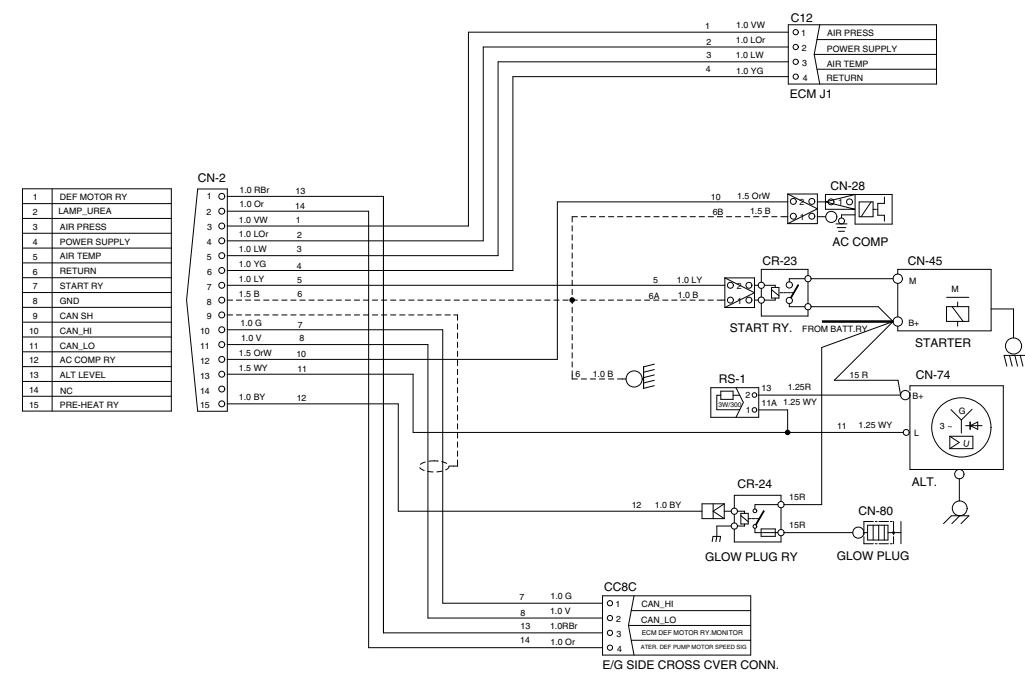
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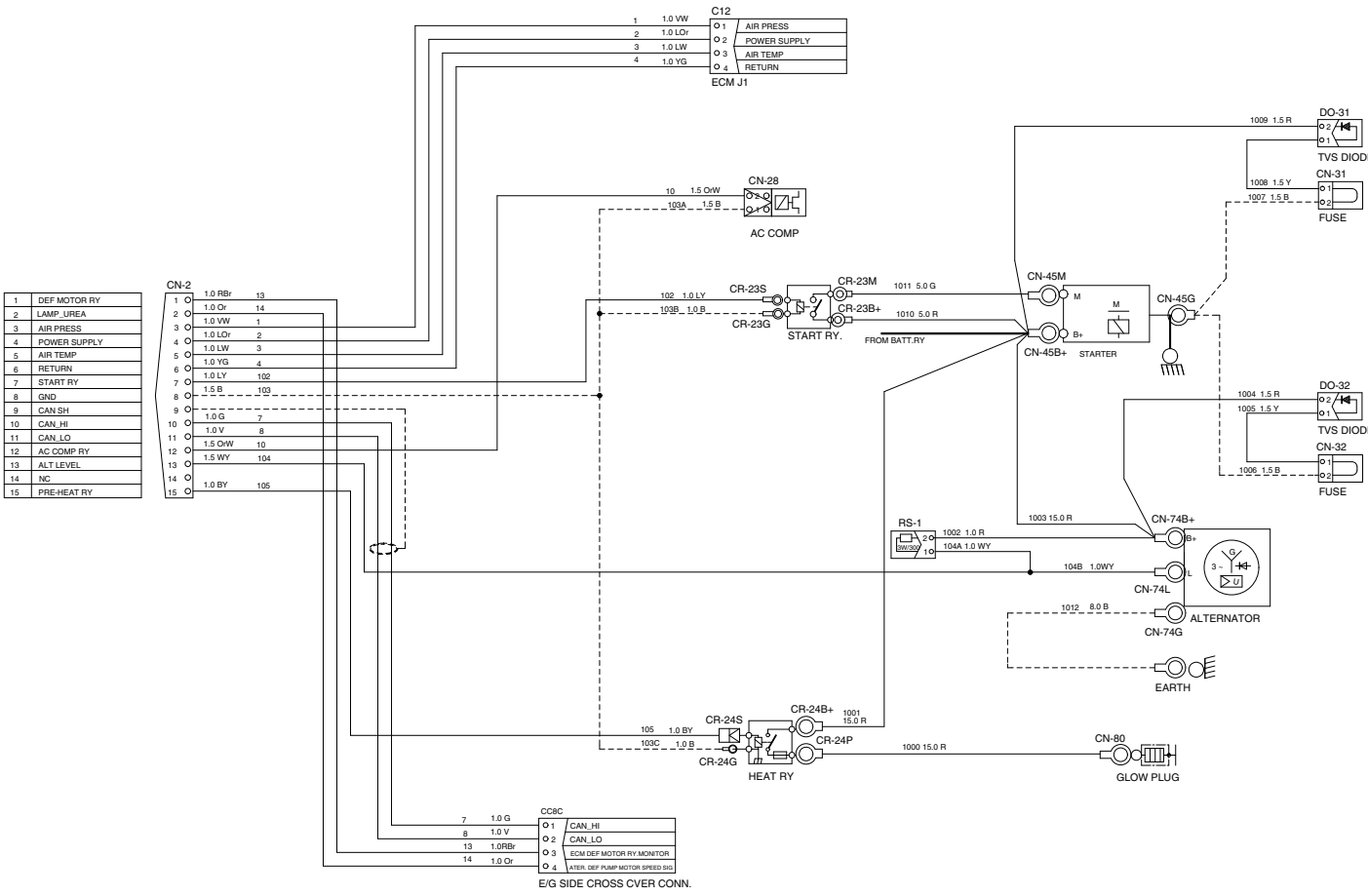
- MACHINE SERIAL NO. : #0945-



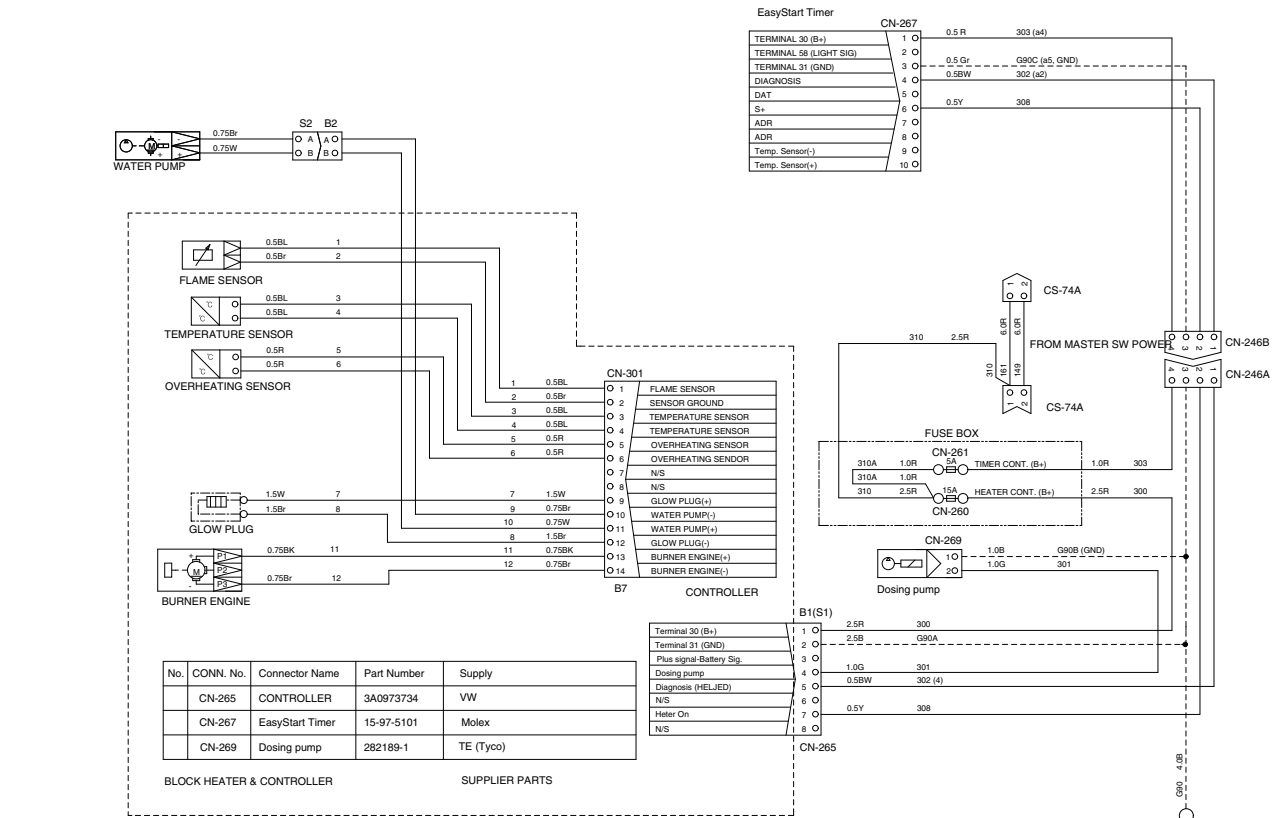
- MACHINE SERIAL NO. : -#0006



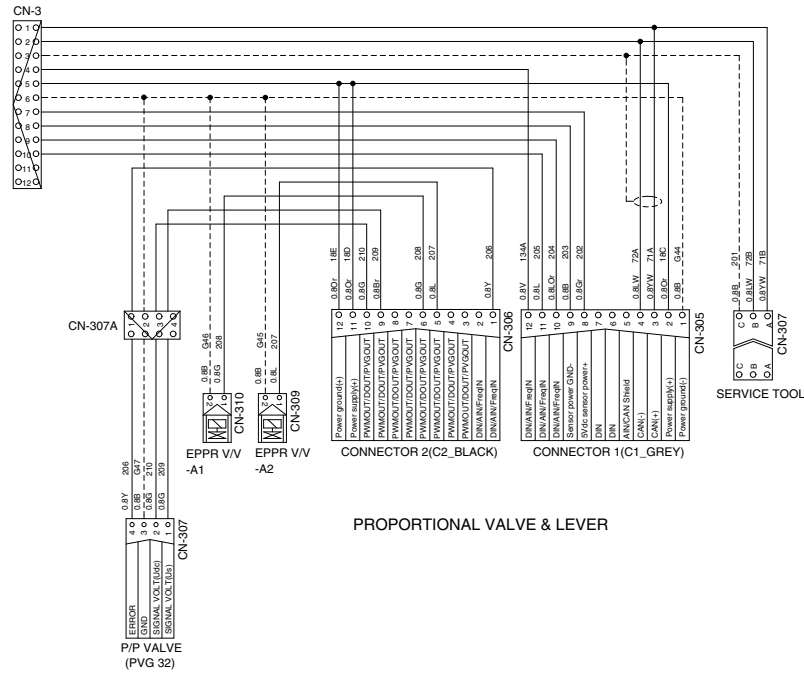
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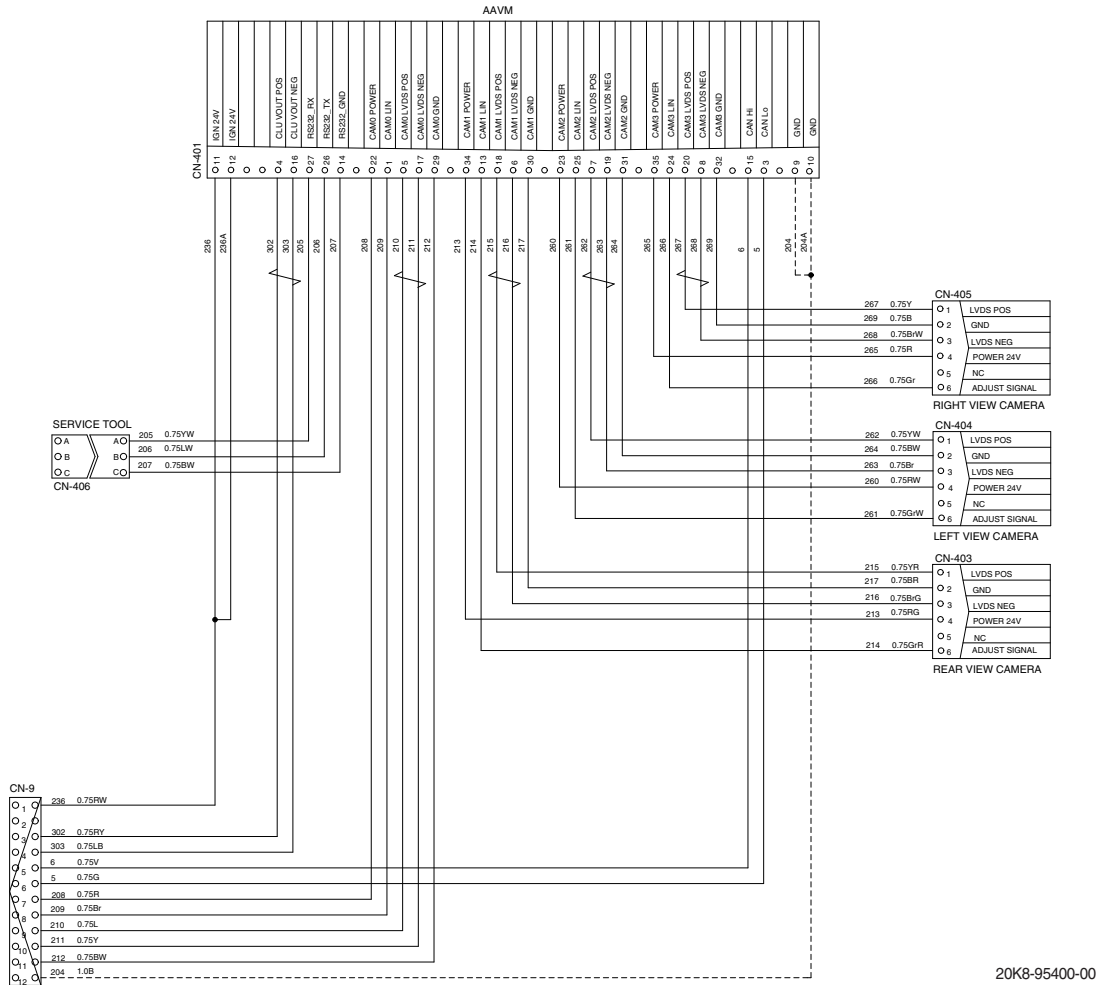
E/G HARNESS



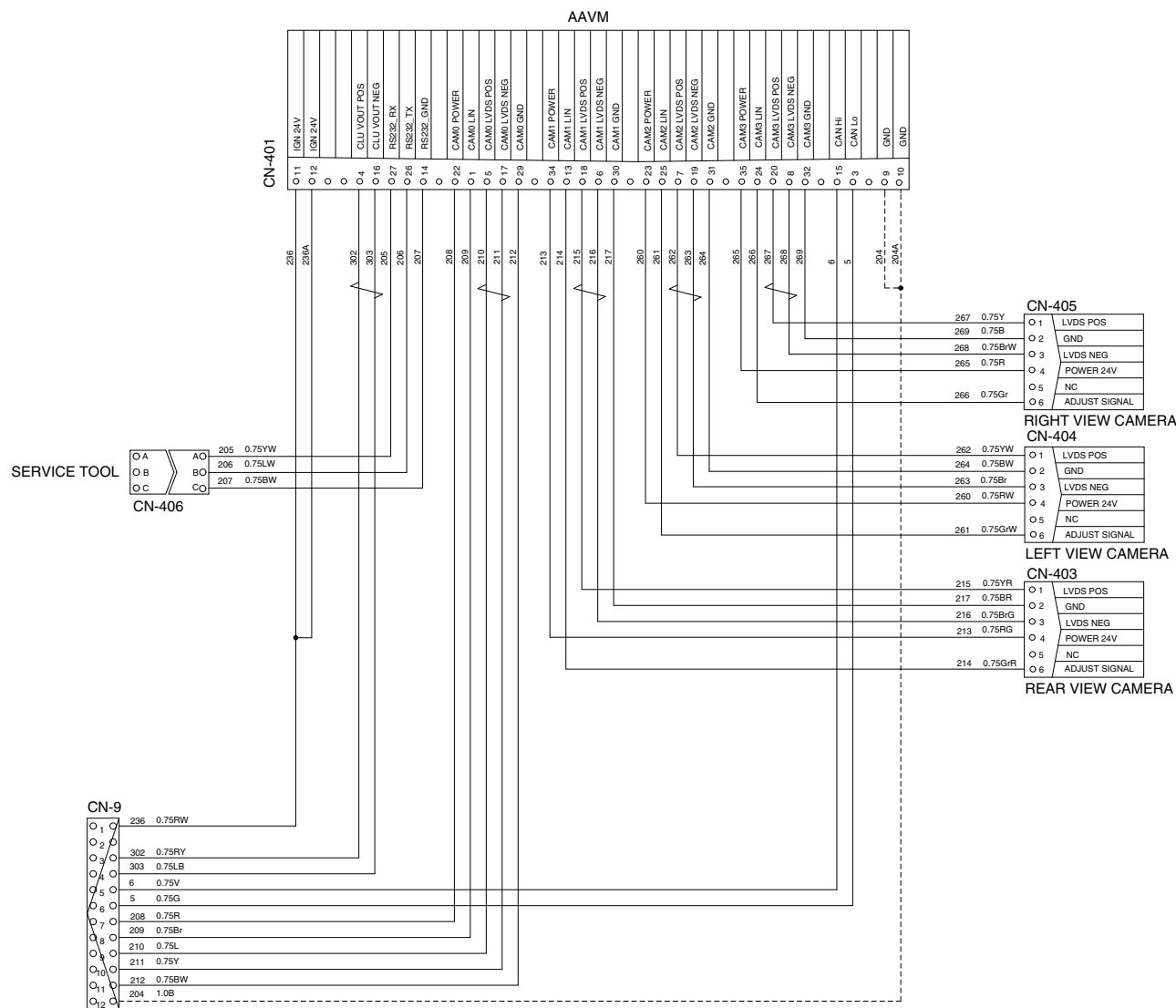
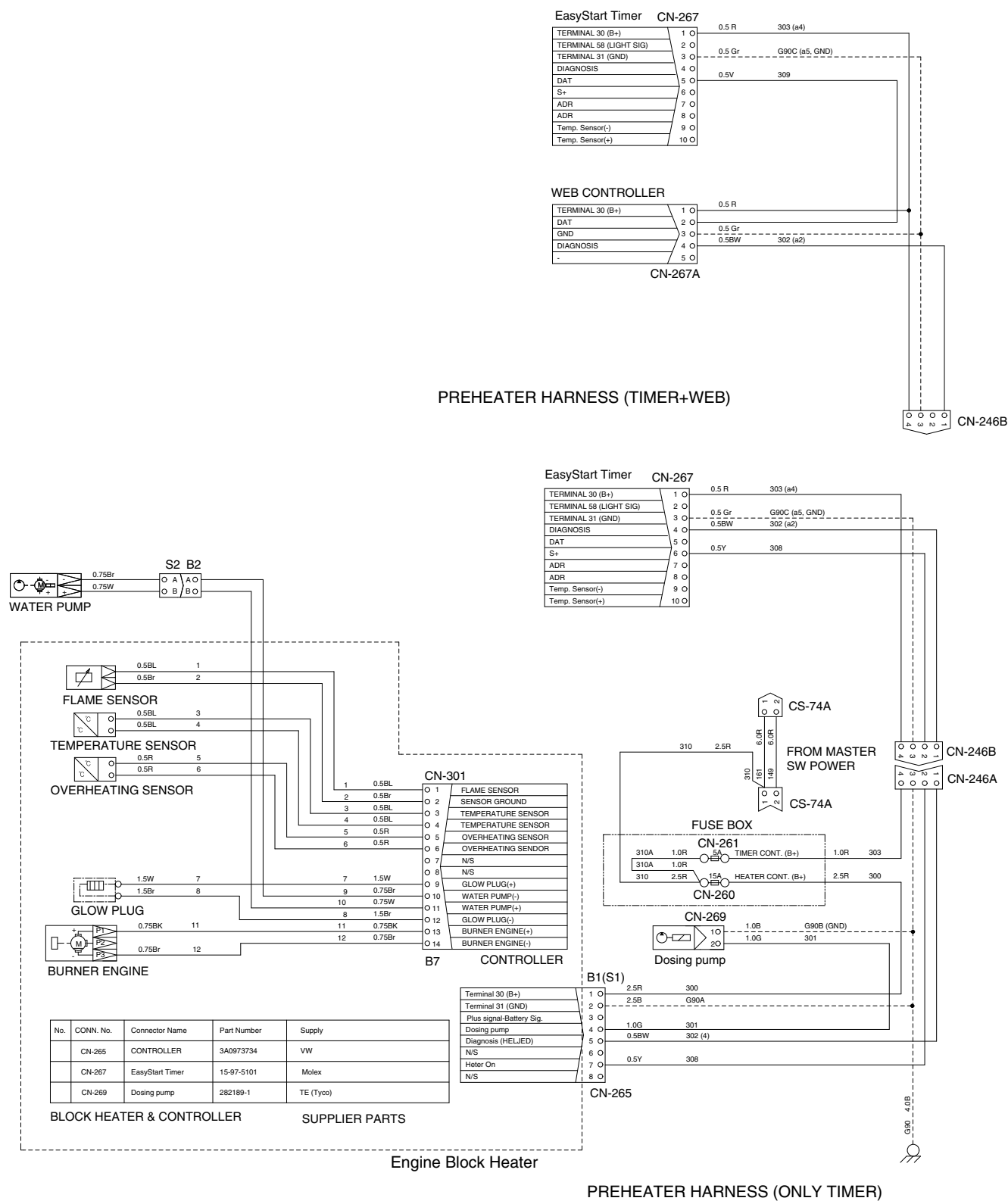
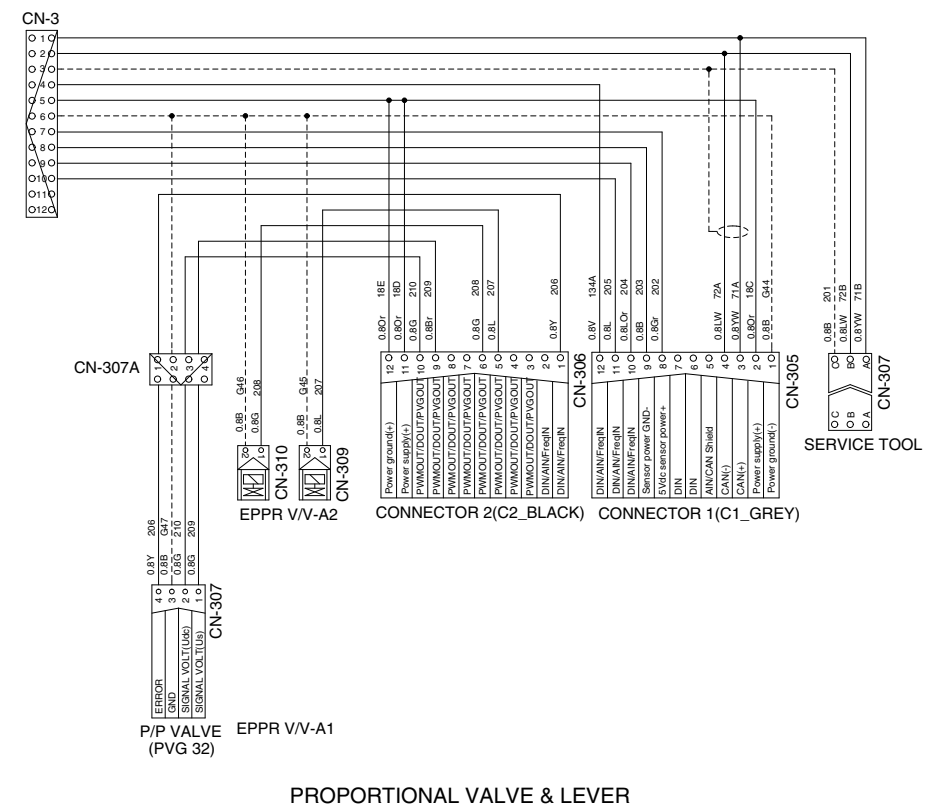
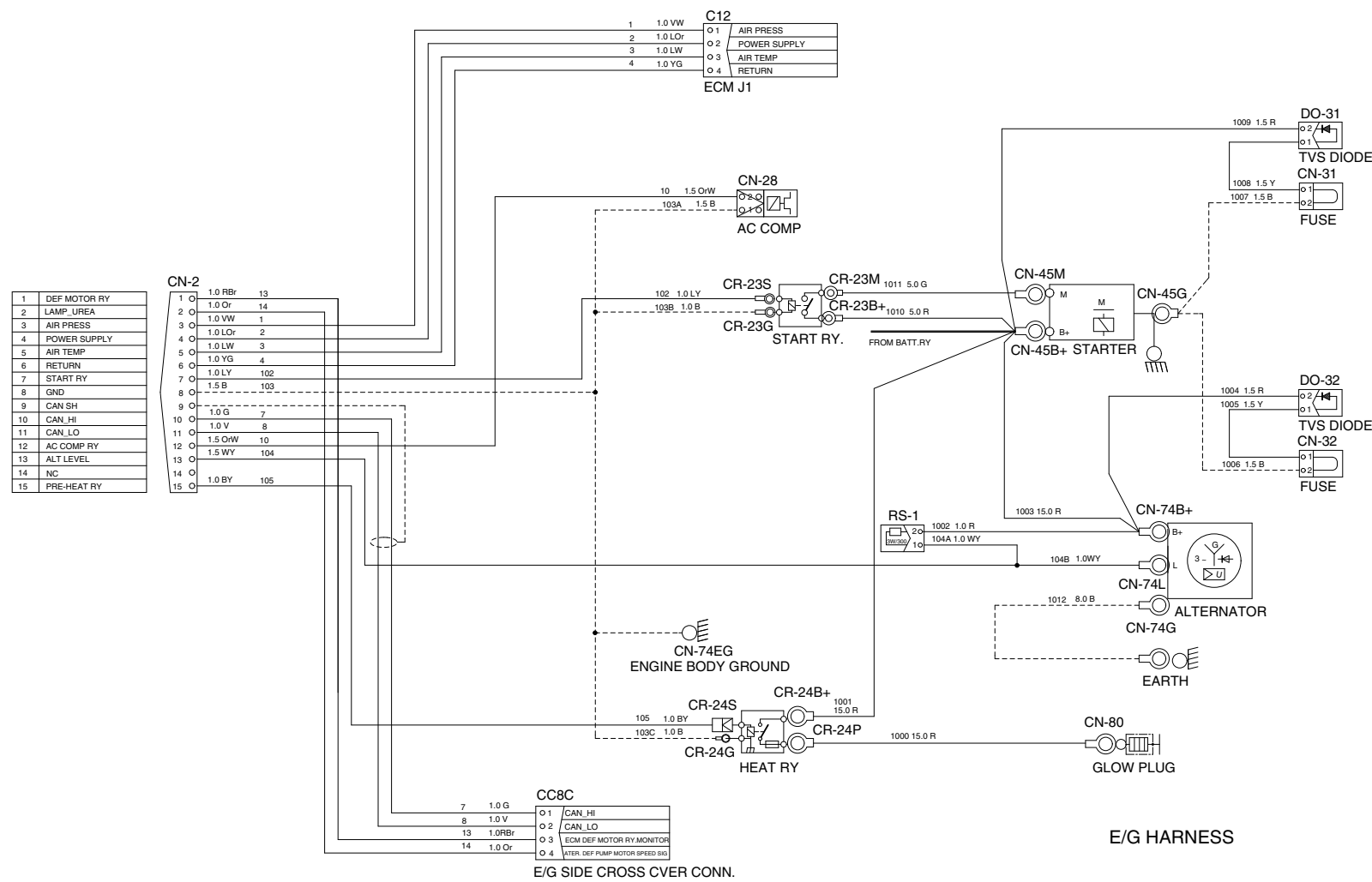
Engine Block Heater



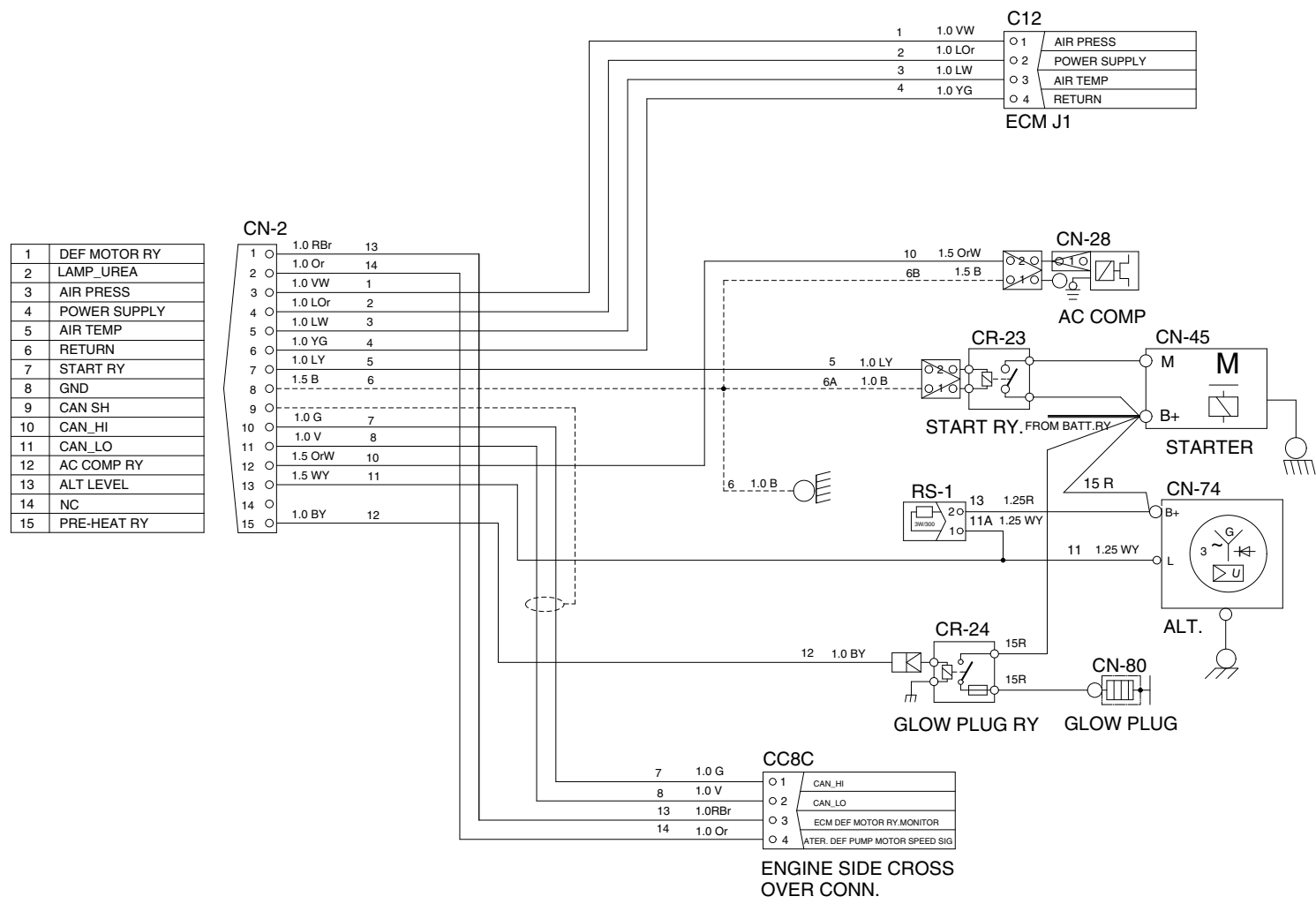
PROPORTIONAL VALVE & LEVER



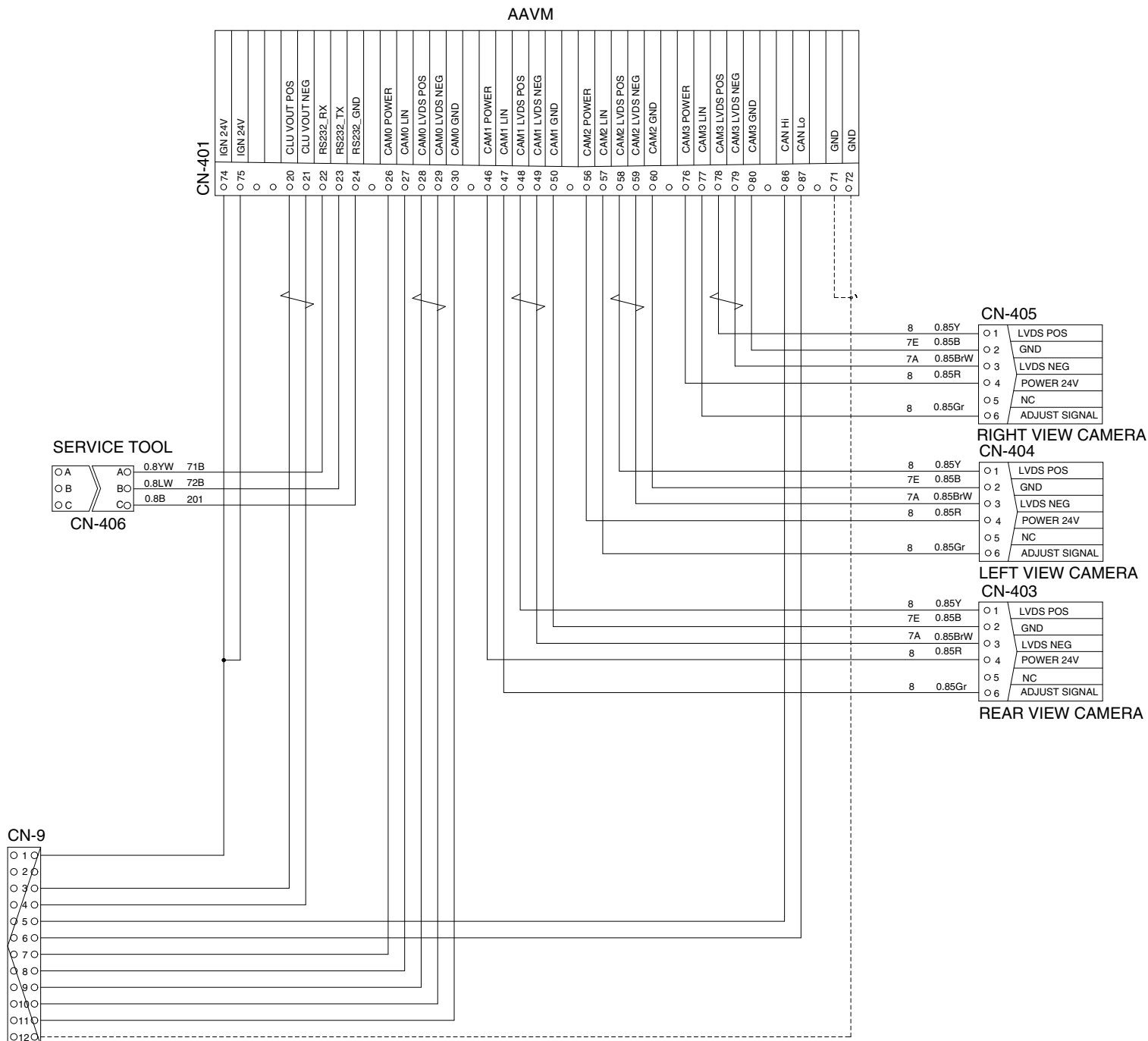
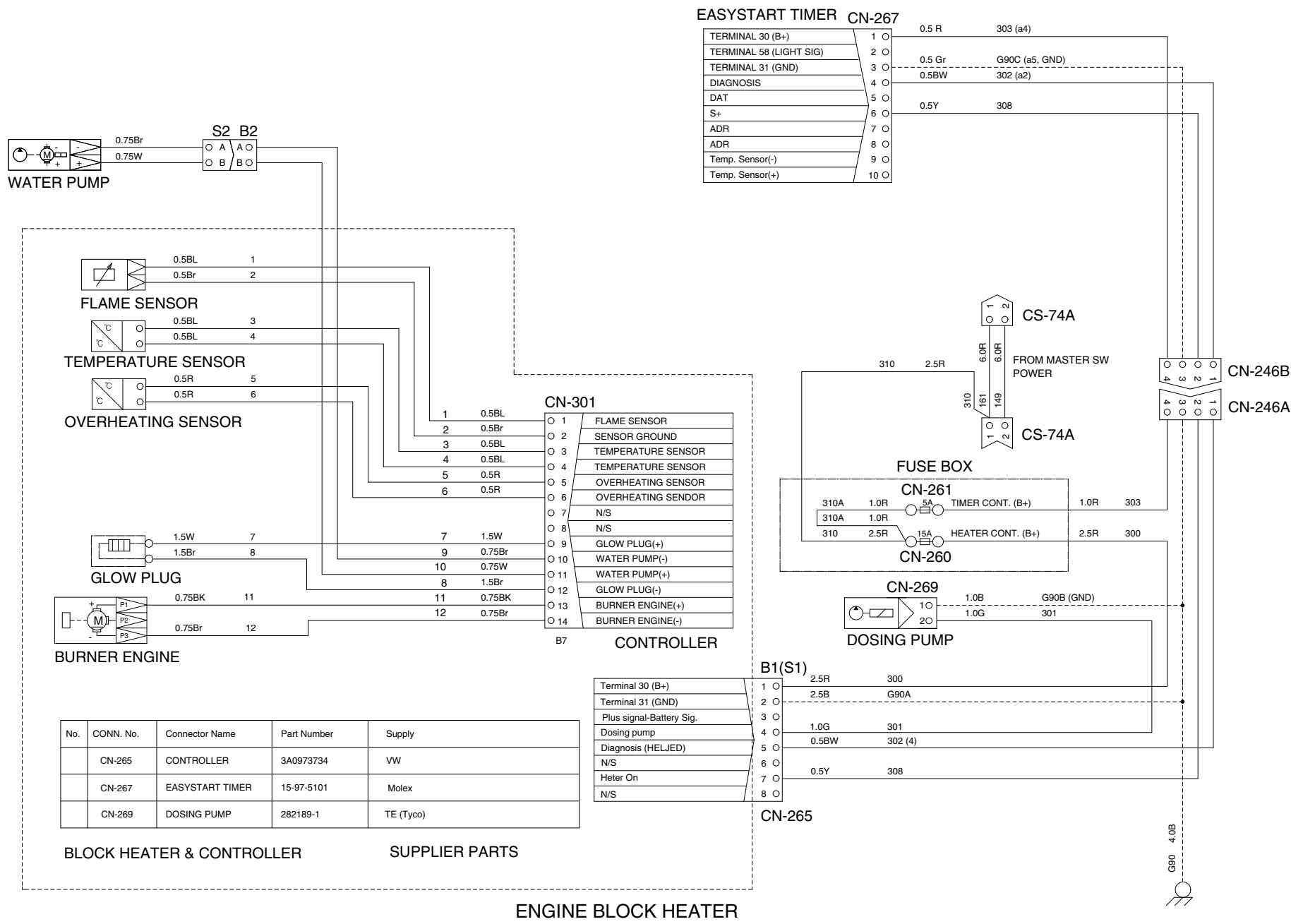
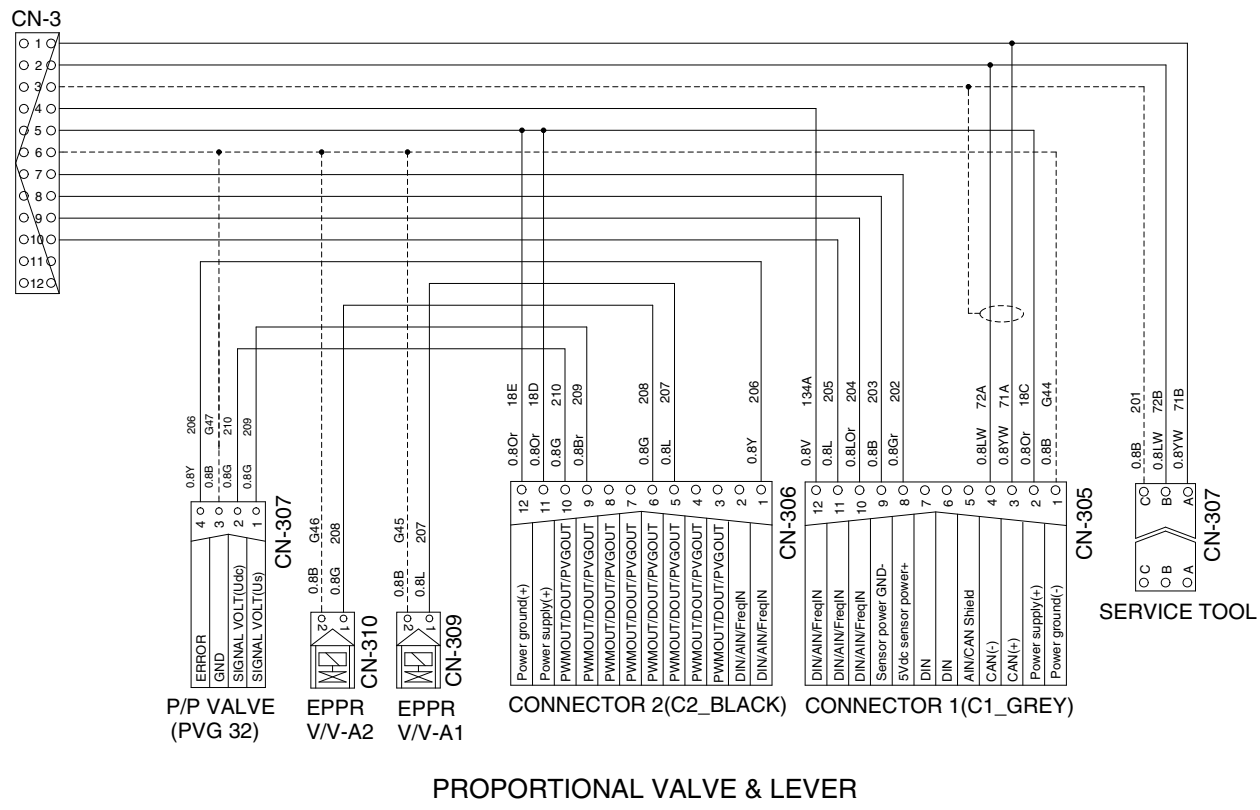
- MACHINE SERIAL NO. : #0183-#0655



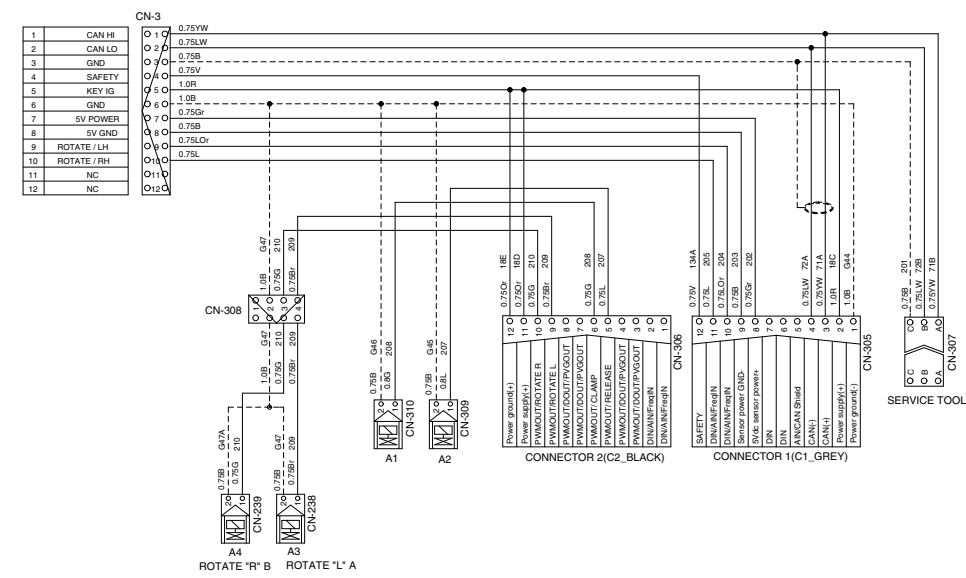
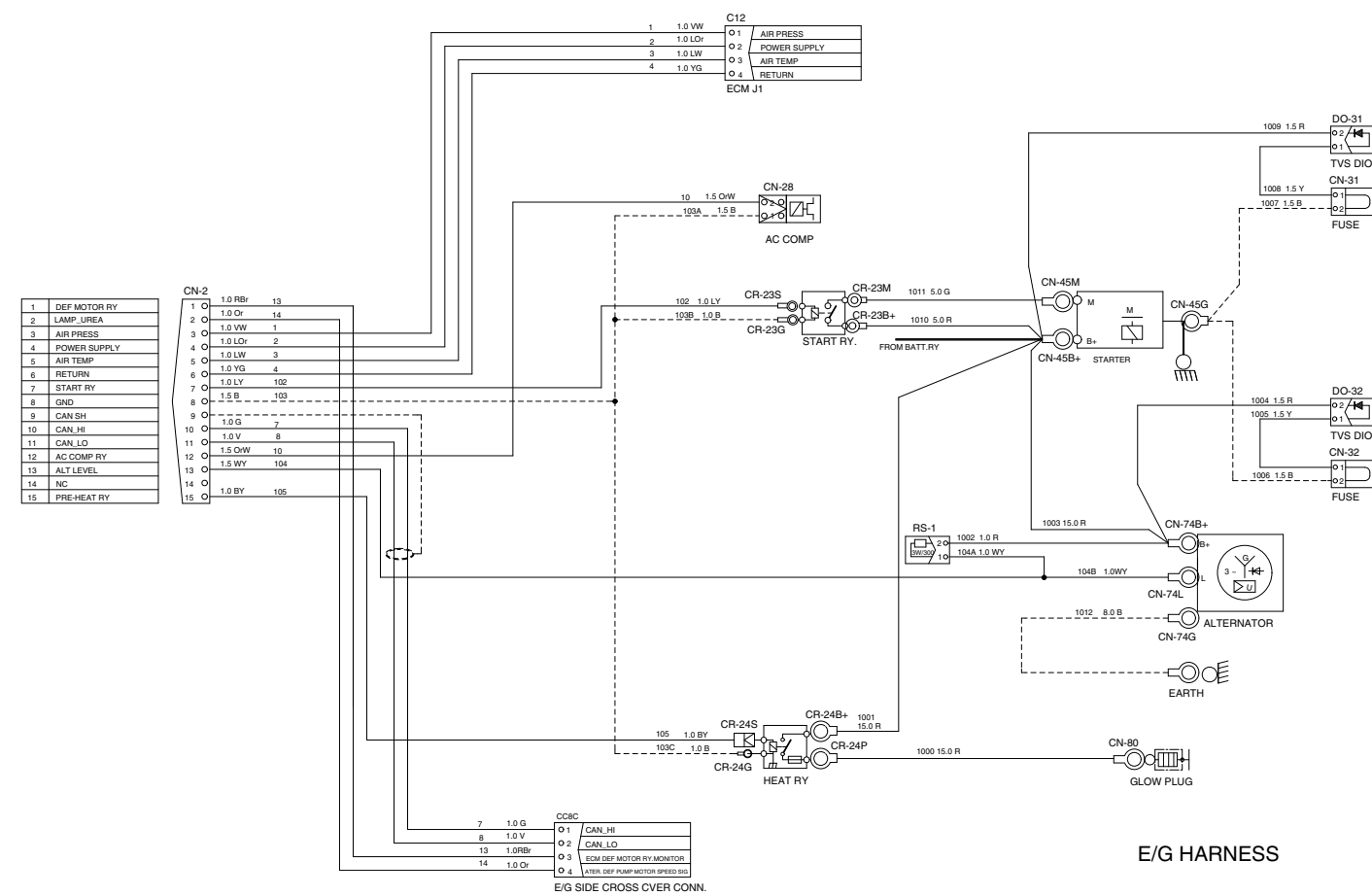
- MACHINE SERIAL NO. : #0656-#0758



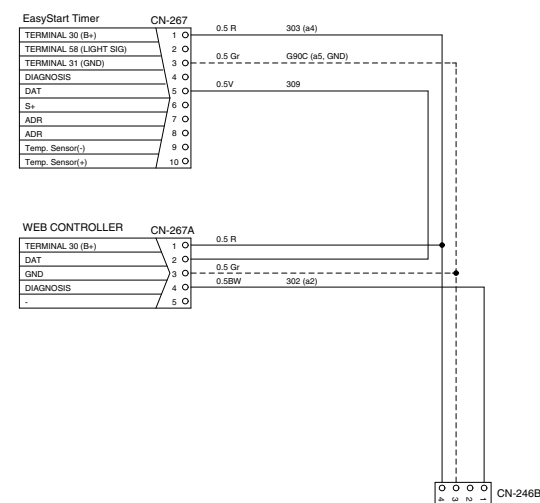
ENGINE HARNESS



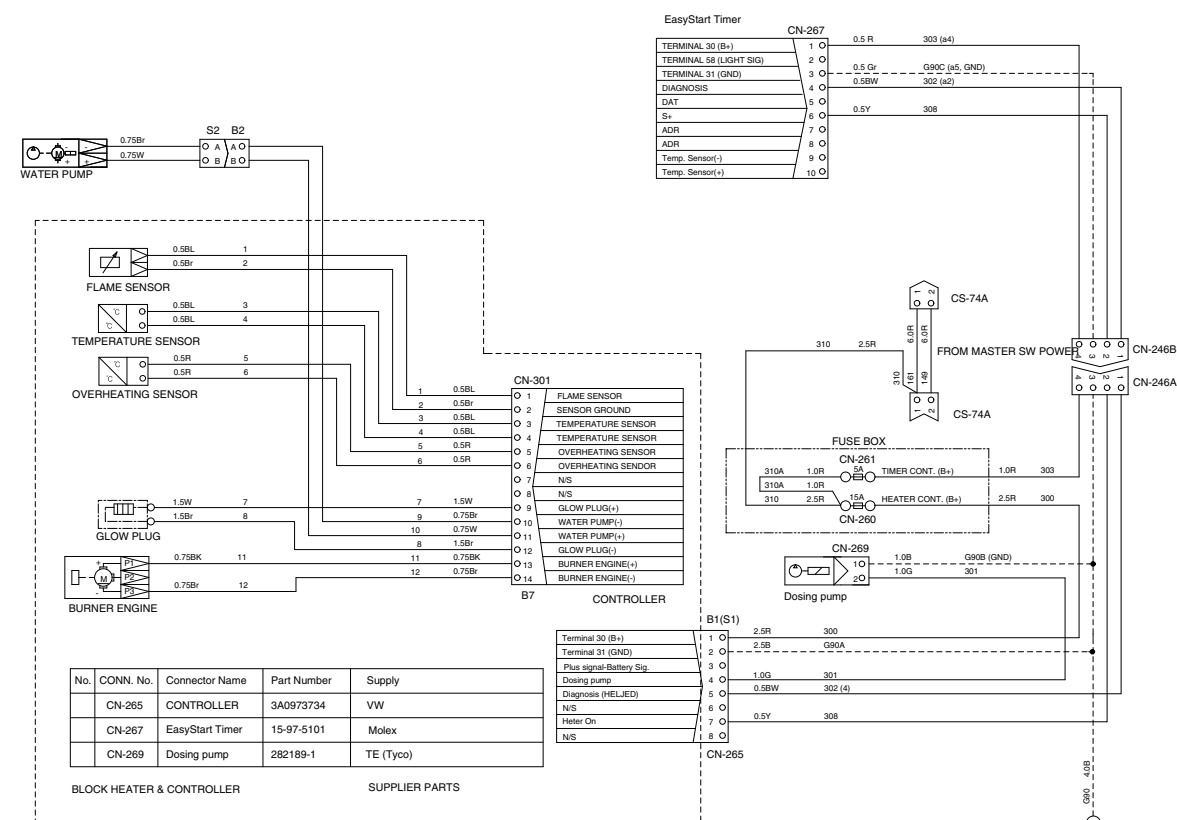
- MACHINE SERIAL NO. : #0759-



PROPORTIONAL VALVE & LEVER

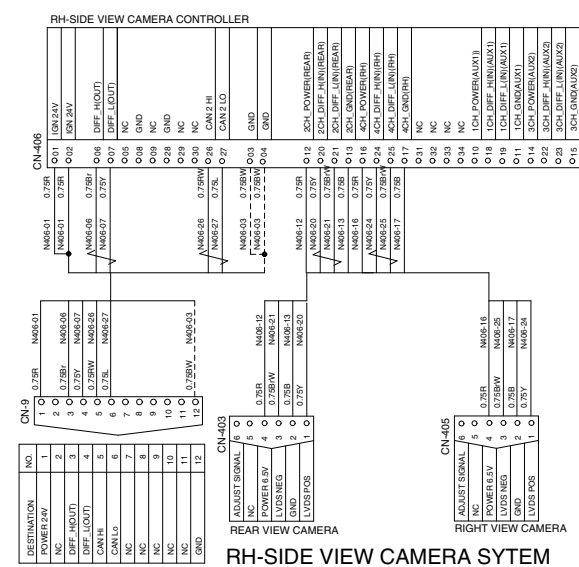
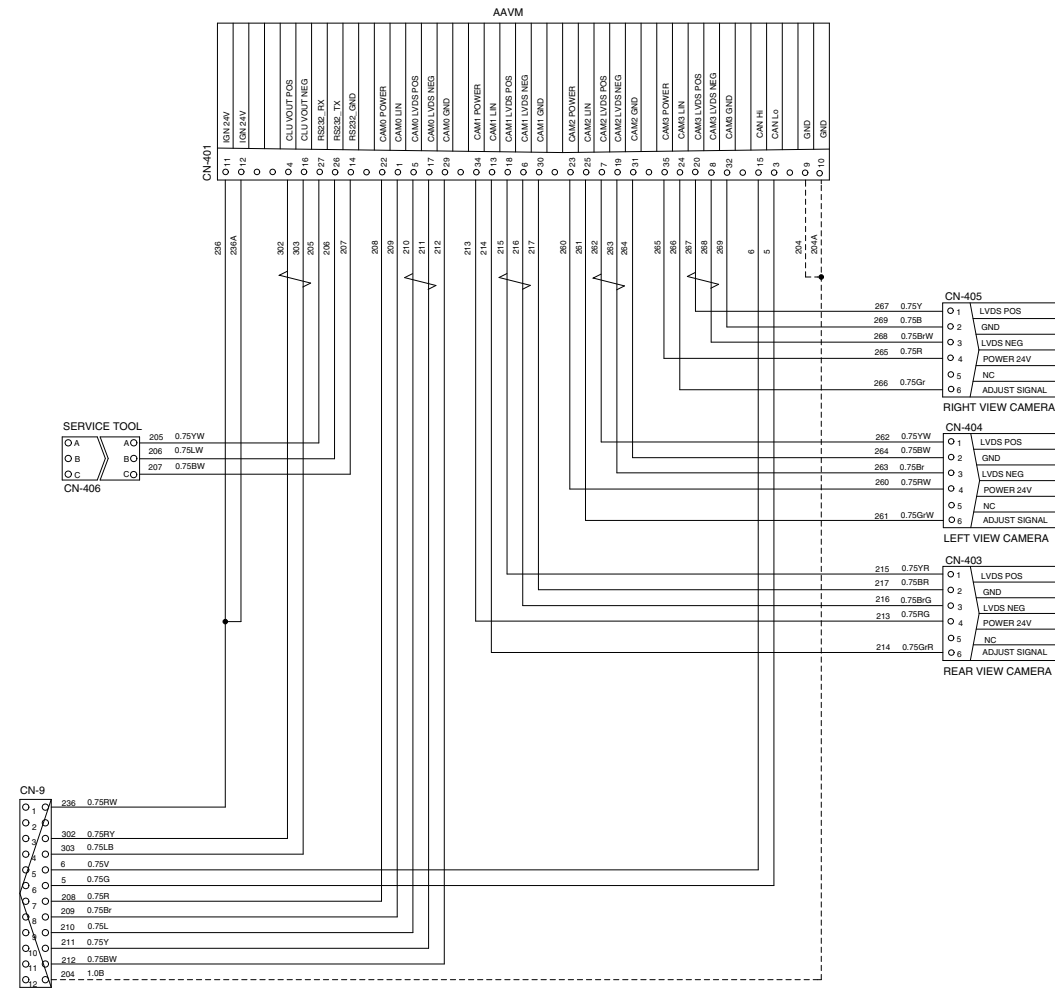


PREHEATER HARNESS (TIMER+WEB)

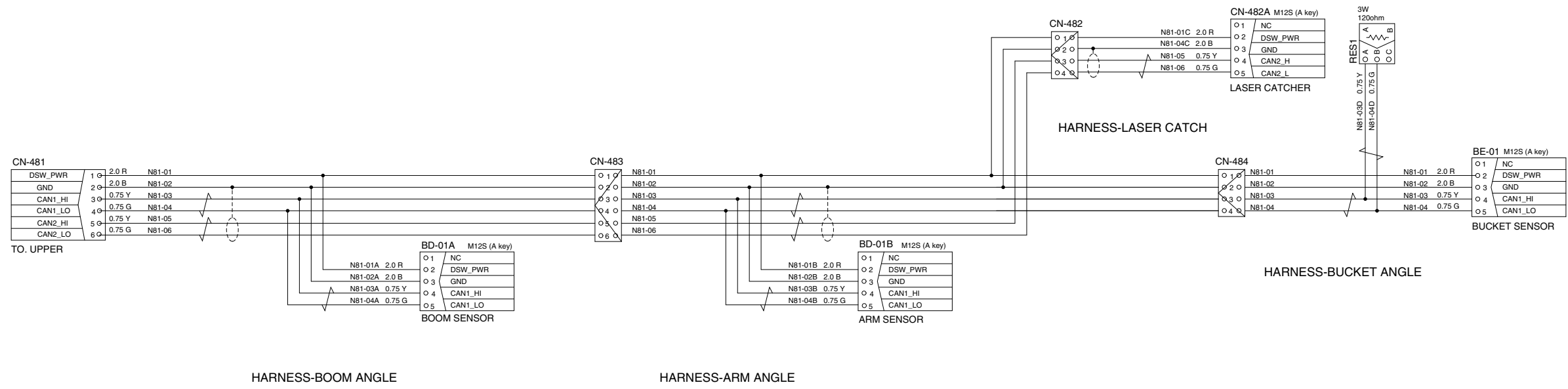
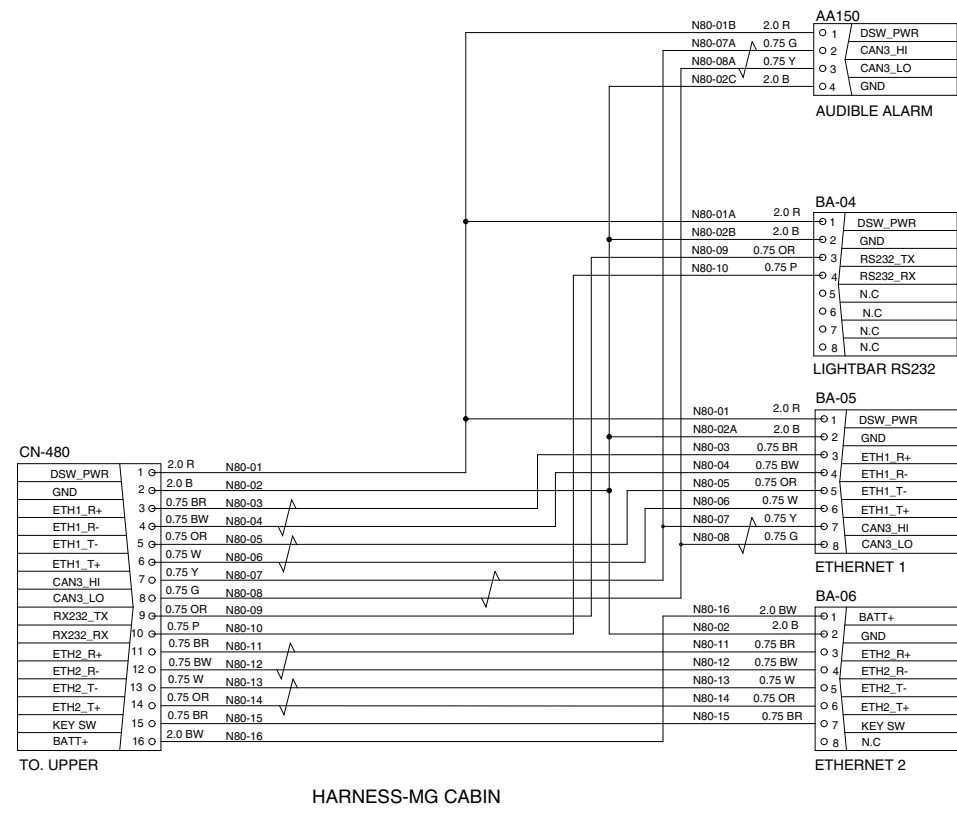
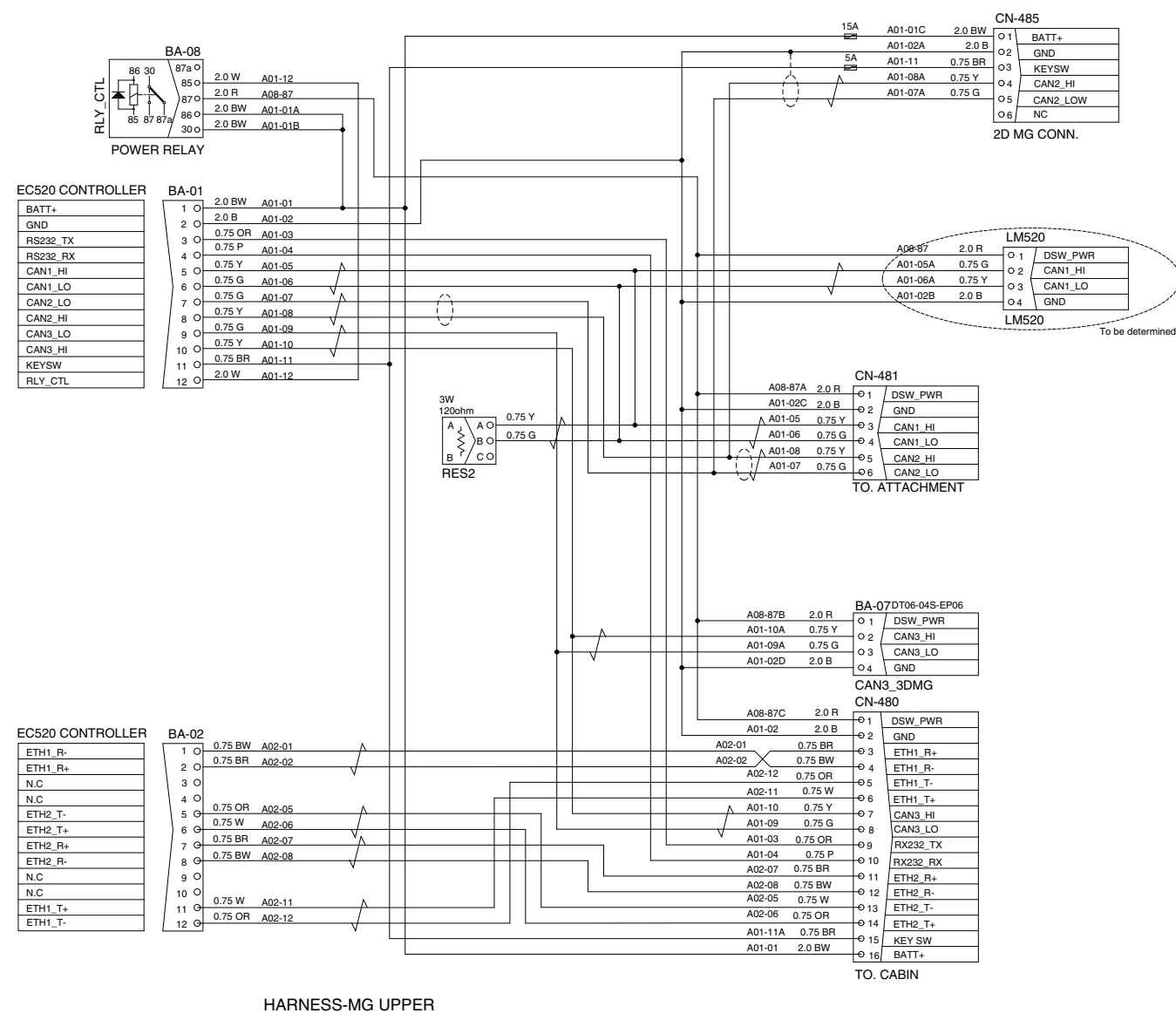


Engine Block Heater

PREHEATER HARNESS (ONLY TIMER)



ELECTRICAL CIRCUIT (4/4, OPTION : 2D MG)



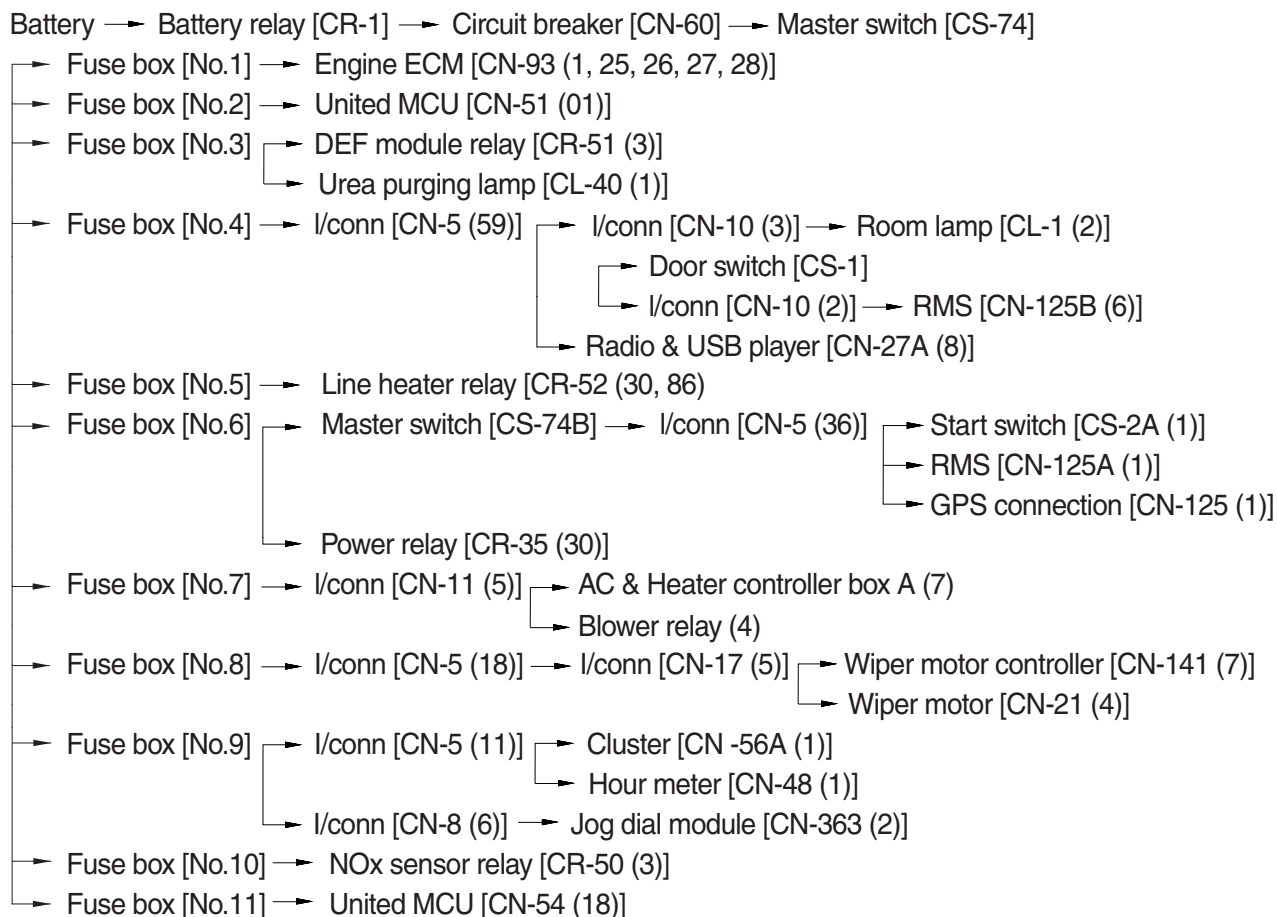
MEMORANDUM

1. POWER CIRCUIT (MACHINE SERIAL NO. : -#0655)

The negative terminal of battery is grounded to the machine chassis directly.

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

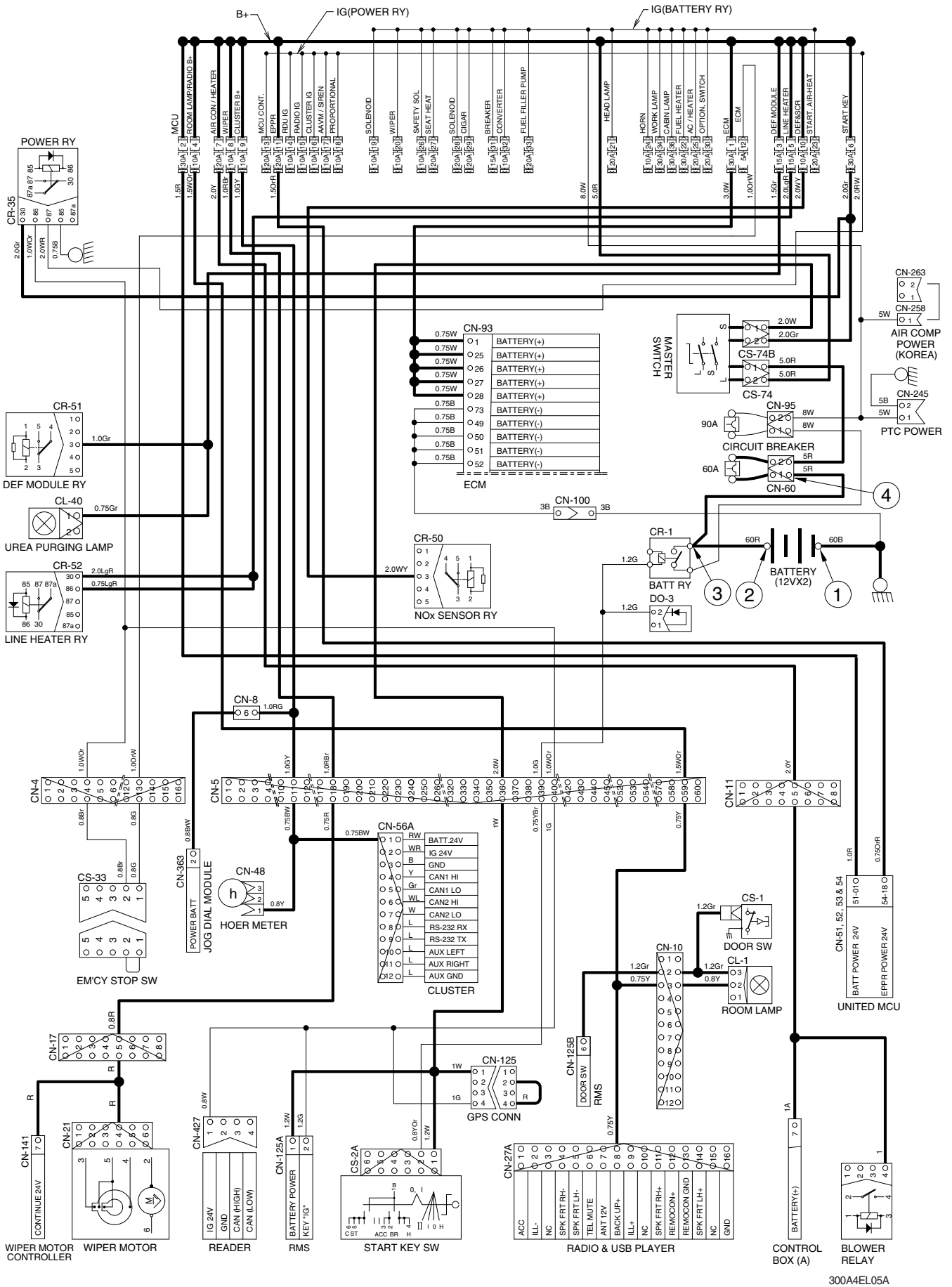
2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	OFF	① - GND (battery 1EA)	10~12.5V
		② - GND (battery 2EA)	20~25V
		③ - GND (battery relay)	20~25V
		④ - GND (circuit breaker)	20~25V

※ GND : Ground

※ The circuit diagram may differ from the equipment, so please check before a repair.

POWER CIRCUIT (MACHINE SERIAL NO. : -#0655)



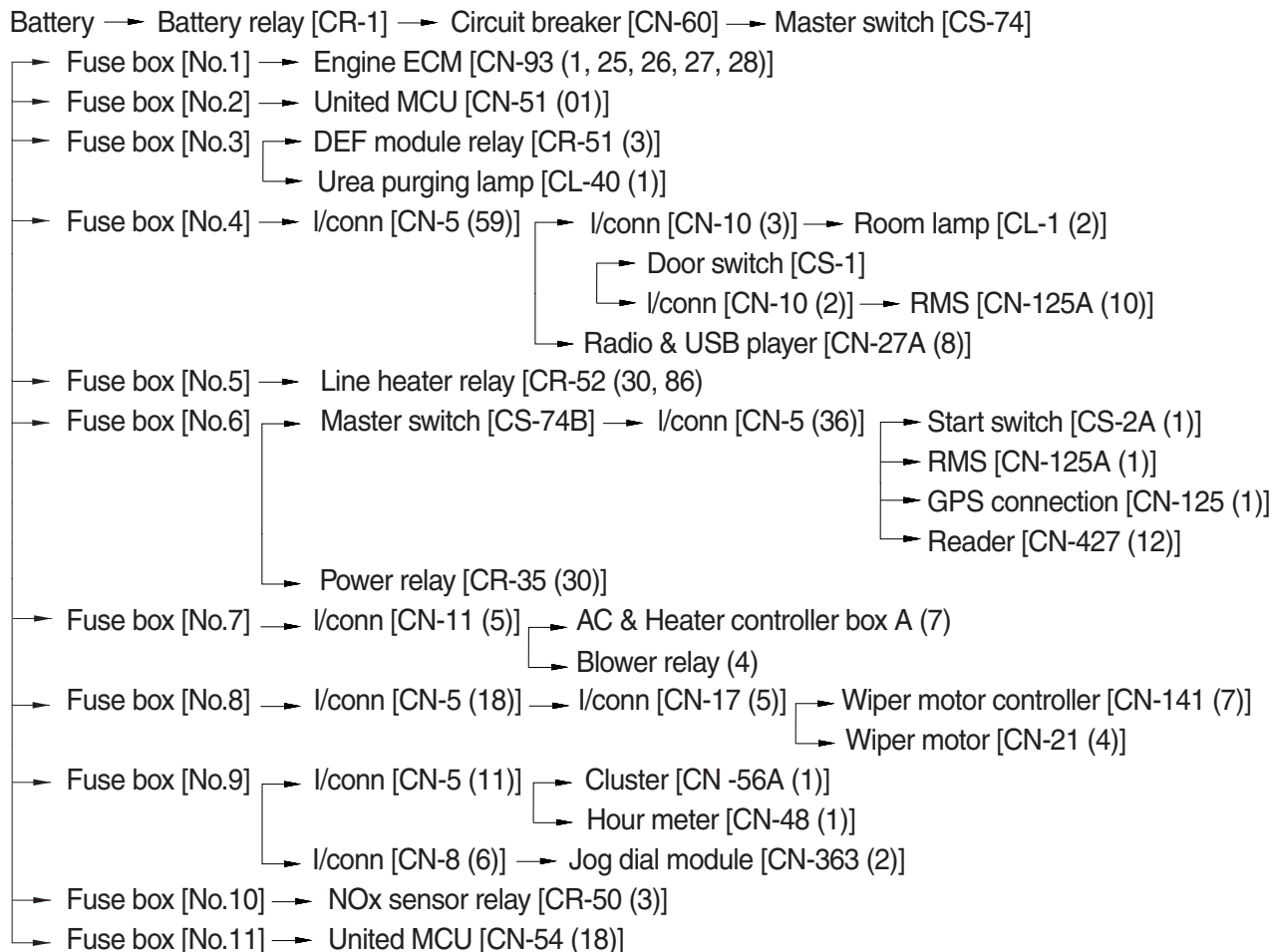
※ The circuit diagram may differ from the equipment, so please check before a repair.

POWER CIRCUIT (MACHINE SERIAL NO. : #0656-)

The negative terminal of battery is grounded to the machine chassis directly.

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

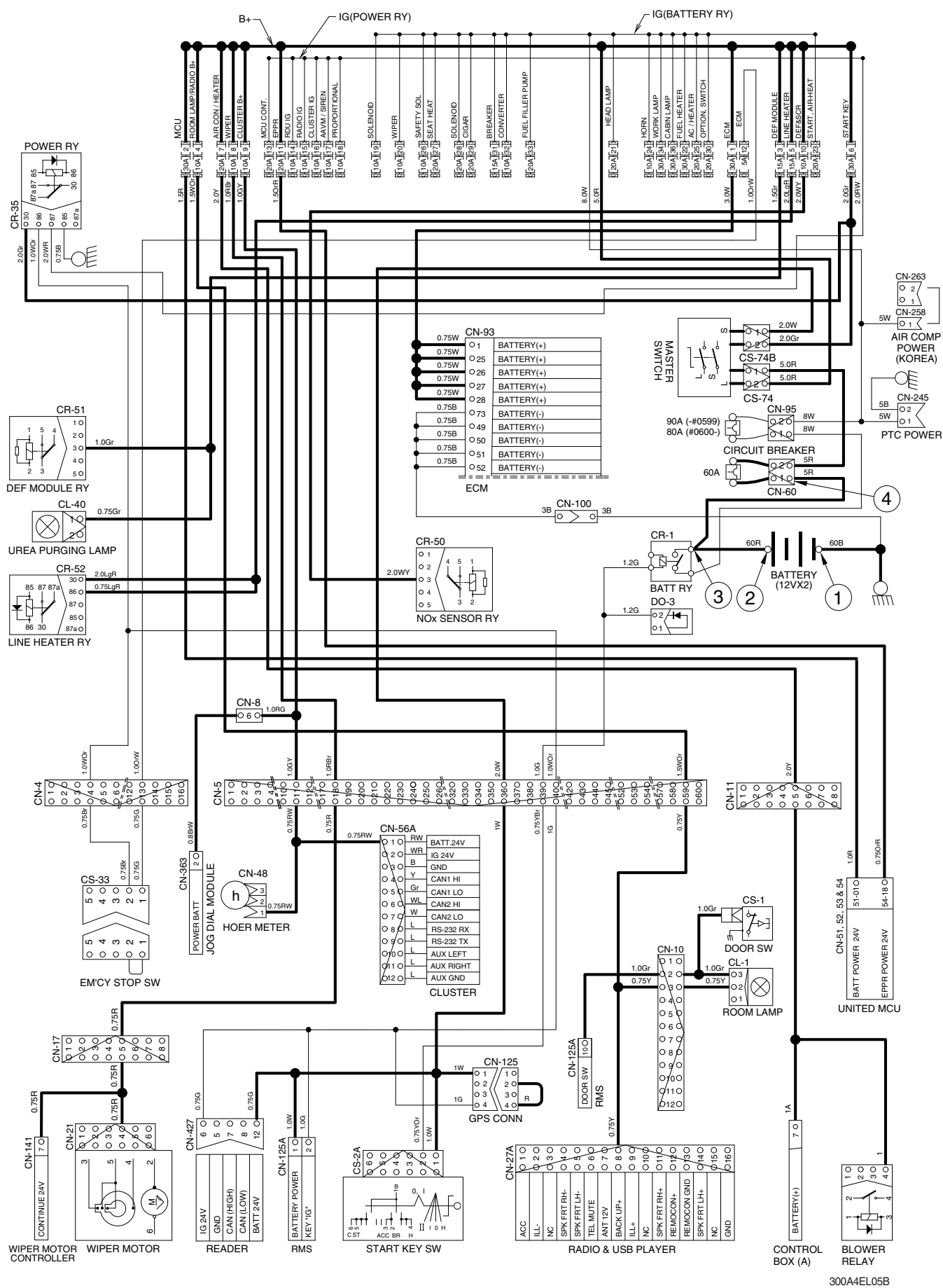
2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	OFF	① - GND (battery 1EA)	10~12.5V
		② - GND (battery 2EA)	20~25V
		③ - GND (battery relay)	20~25V
		④ - GND (circuit breaker)	20~25V

※ GND : Ground

※ The circuit diagram may differ from the equipment, so please check before a repair.

POWER CIRCUIT (MACHINE SERIAL NO. : #0656-)



※ The circuit diagram may differ from the equipment, so please check before a repair.

2. STARTING CIRCUIT (MACHINE SERIAL NO. : -#0047)

1) OPERATING FLOW

Battery (+) terminal → Battery relay [CR-1] → Circuit breaker [CN-60] → Master switch [CS-74]
→ Fuse box [No.6] → Master switch [CS-74B] → I/conn [CN-5 (36)] → Start switch [CS-2A (1)]
 ↳ Power relay [CR-35 (30)]

(1) When start key switch is in ON position

```

graph LR
    A[Start switch ON [CS-2A (2)]] --> B[I/conn [CN-5 (39)]]
    B --> C[Battery relay [CR-1]]
    C --> D[Battery relay operating (all power is supplied with the electric component)]
    A --> E[Start switch ON [CS-2A (3)]]
    E --> F[GPS conn [CN-125 (2) → (4)]]
    E --> G[I/conn [CN-5 (40)]]
    G --> H[Power relay [CR-35 (86) → (87)]]
    H --> I[Fuse box [IG (power relay)]]
    G --> J[I/conn [CN-4 (4)]]
    J --> K[Emergency engine stop sw [CS-33 (2) → (1)]]
    J --> L[I/conn [CN-4 (13)] → Fuse box [No. 12]]
    J --> M[Engine ECM [CN-93 (5)]]
    E --> N[Reader [CN-427 (1)]]
    E --> O[RMS [CN-125A (2)]]
  
```

(2) When start key switch is in START position

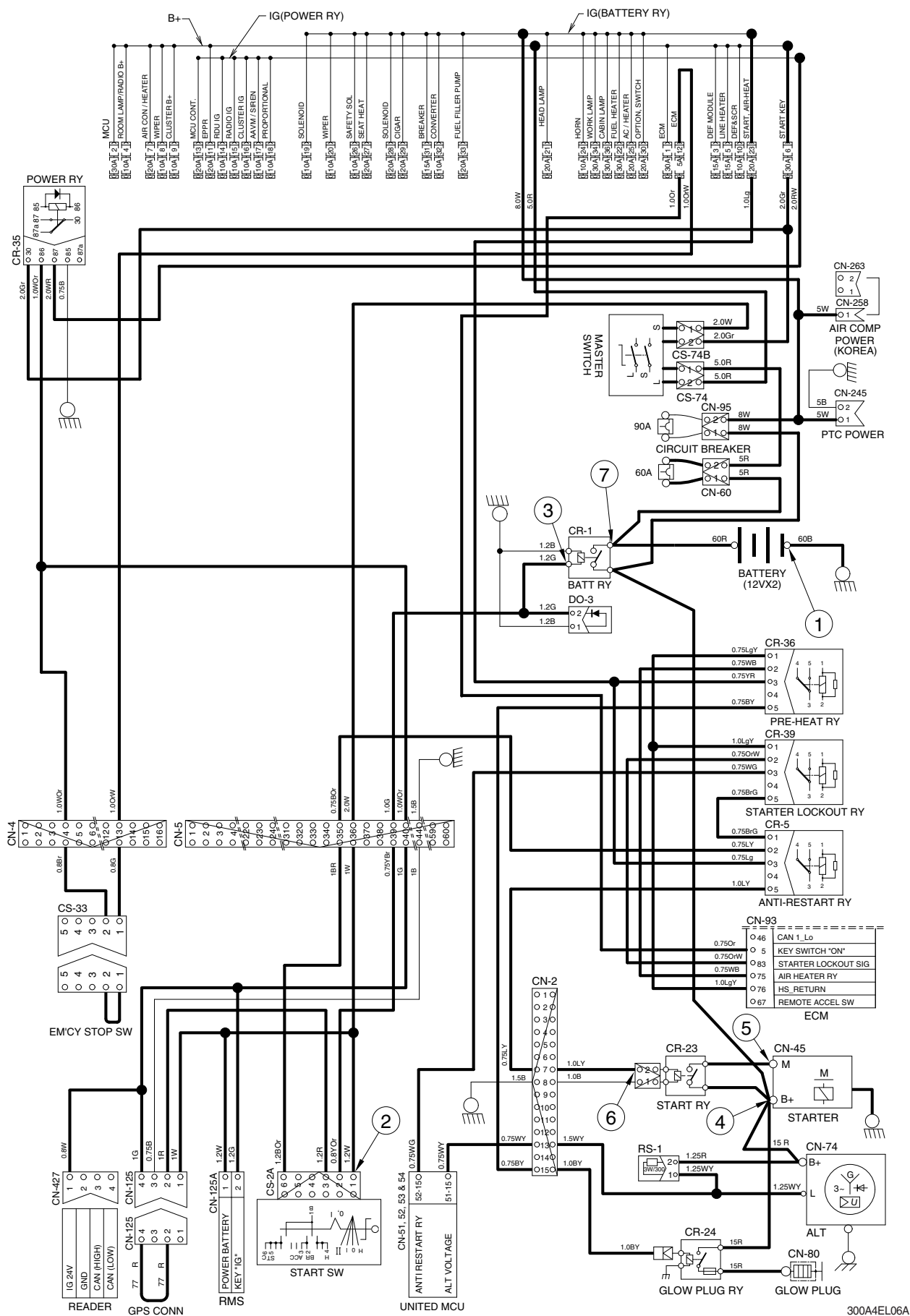
Start switch START [CS-2A (6)] → I/conn [CN-5 (35)] → Anti-restart relay [CR-5 (2) → (5)]
→ I/conn [CN-2 (7)] → Start relay [CR-23 (2)] → Starter motor operating

2) CHECK POINT

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

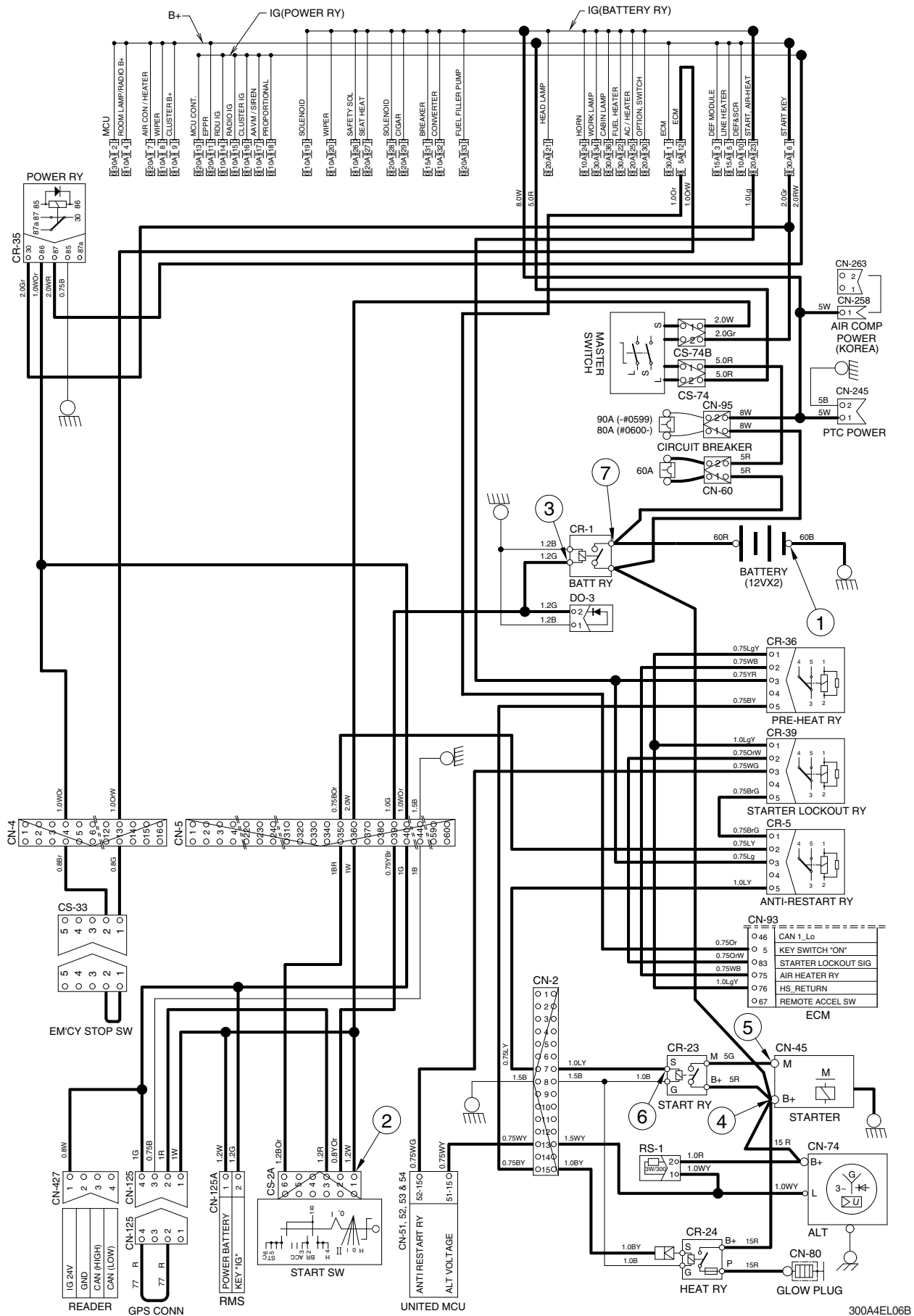
※ The circuit diagram may differ from the equipment, so please check before a repair.

STARTING CIRCUIT (MACHINE SERIAL NO. : -#0047)



※ The circuit diagram may differ from the equipment, so please check before a repair.

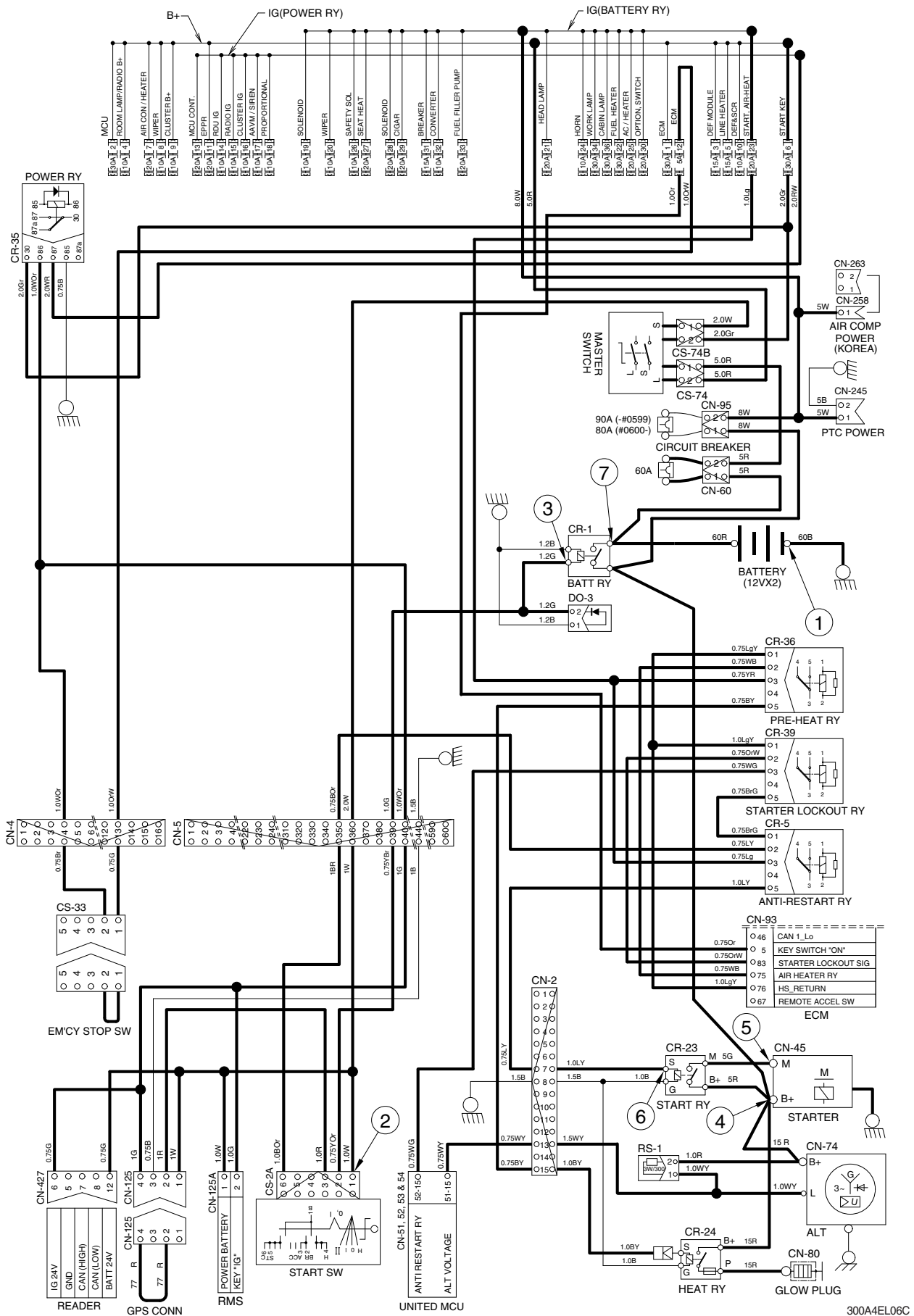
STARTING CIRCUIT (MACHINE SERIAL NO. : #0048-#0655)



300A4EL06B

※ The circuit diagram may differ from the equipment, so please check before a repair.

STARTING CIRCUIT (MACHINE SERIAL NO. : #0656-)



※ The circuit diagram may differ from the equipment, so please check before a repair.

3. CHARGING CIRCUIT (MACHINE SERIAL NO. : -#0047)

When the starter is activated and the engine is started, the operator releases the start 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)] → United MCU alternator voltage [CN-51 (15)]
→ Cluster charging warning lamp (Via CAN interface)

(2) Charging flow

Alternator "B⁺" terminal → Starter [CN-45 (B⁺)] → Battery relay (CR-1)
→ Battery (+) terminal
→ Circuit breaker [CN-60] → Master switch [CS-74] → Fuse box [B⁺]
→ Circuit breaker [CN-95] → Fuse box [IG, battery] → Power relay [CR-35 (30)→(87)]
→ Fuse box [IG, power]
→ PTC power [CN-245 (1)]
→ Air comp power [CN-258 (1)]

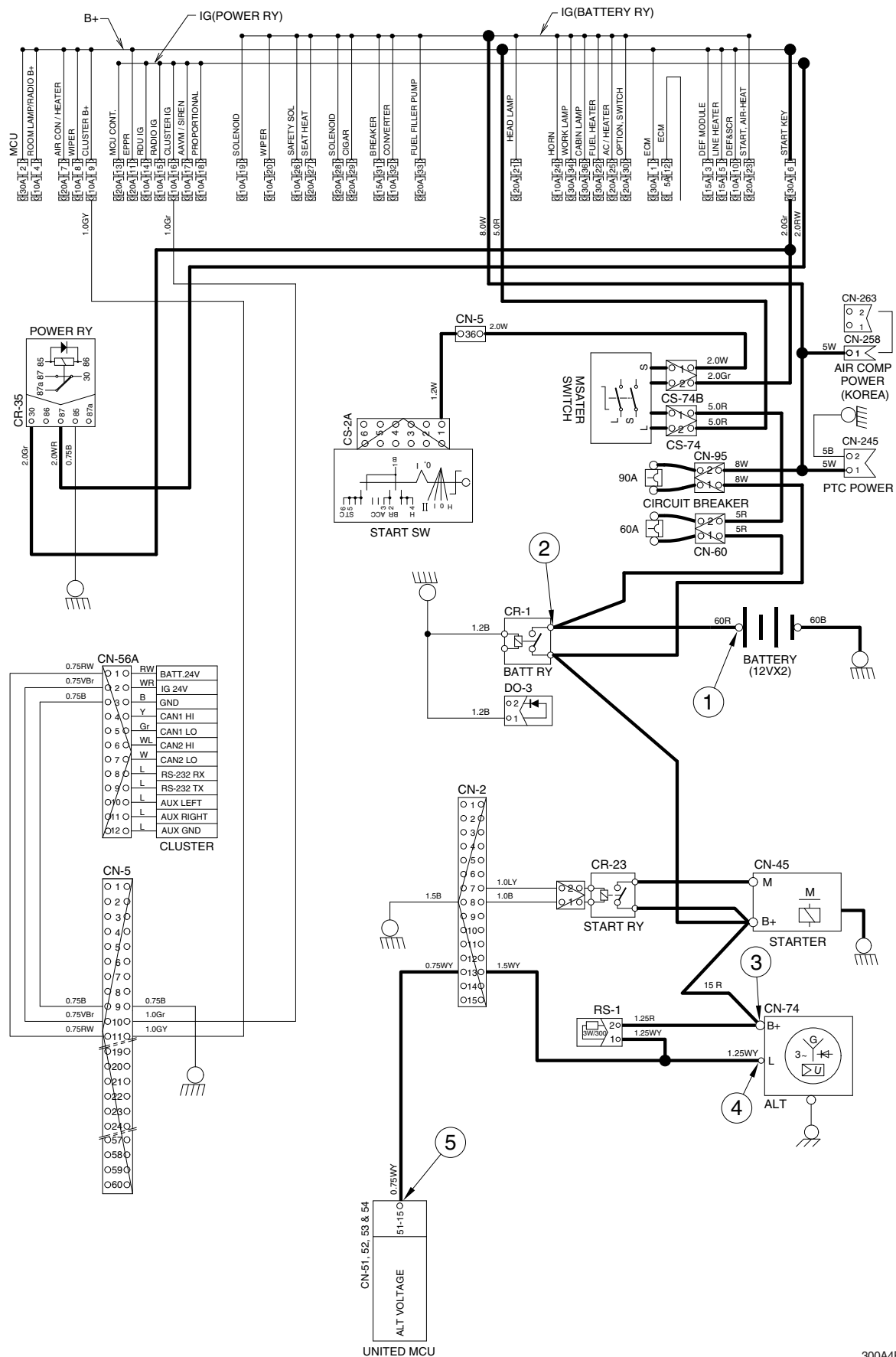
2) CHECK POINT

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

※ GND : Ground

※ The circuit diagram may differ from the equipment, so please check before a repair.

CHARGING CIRCUIT (MACHINE SERIAL NO. : -#0047)



300A4EL07A

※ The circuit diagram may differ from the equipment, so please check before a repair.

CHARGING CIRCUIT (MACHINE SERIAL NO. : #0048-)

When the starter is activated and the engine is started, the operator releases the start 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)] → United MCU alternator voltage [CN-51 (15)]
→ Cluster charging warning lamp (Via CAN interface)

(2) Charging flow

Alternator "B⁺" terminal → Starter [CN-45 (B⁺)] → Battery relay (CR-1)
→ Battery (+) terminal
→ Circuit breaker [CN-60] → Master switch [CS-74] → Fuse box [B⁺]
→ Circuit breaker [CN-95] → Fuse box [IG, battery] → Power relay [CR-35 (30)→(87)]
→ Fuse box [IG, power]
→ PTC power [CN-245 (1)]
→ Air comp power [CN-258 (1)]

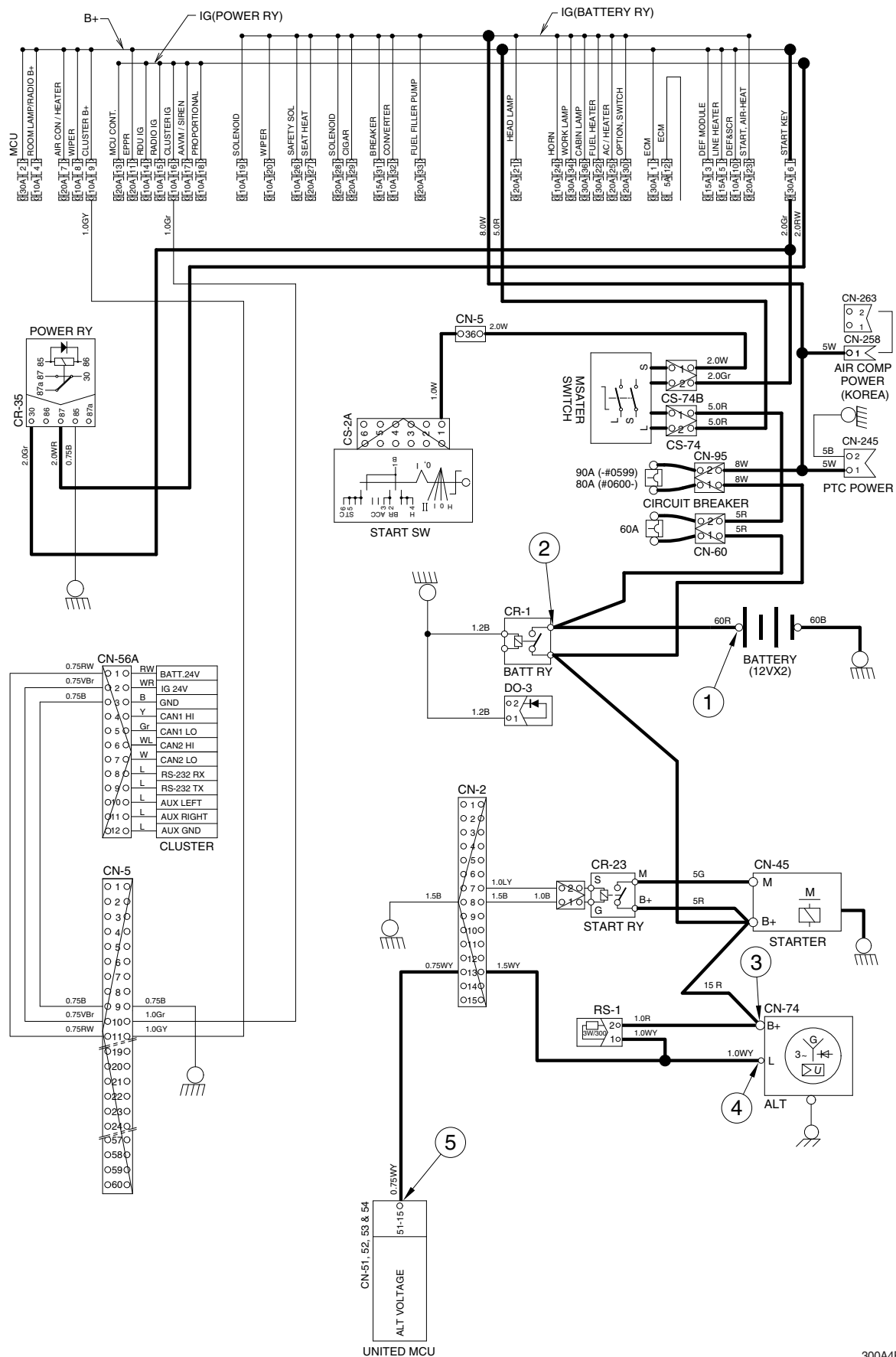
2) CHECK POINT

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

※ GND : Ground

※ The circuit diagram may differ from the equipment, so please check before a repair.

CHARGING CIRCUIT (MACHINE SERIAL NO. : #0048-)



※ The circuit diagram may differ from the equipment, so please check before a repair.

4. HEAD AND WORK LIGHT CIRCUIT (MACHINE SERIAL NO. : -#0655)

1) OPERATING FLOW

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

Fuse box (No.34) → Work light relay [CR-4 (30, 86)]

Fuse box (No.14) → RDU membrane controller [CN-376 (1)]

(1) Head light switch ON

Head light switch ON [CN-376 (13)] → 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 lighter [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 (4)] → Work light relay [CR-4 (85) → (87)]

→ I/conn [CN-12 (1)] → Work light ON [CL-5 (1), CL-6 (1)]

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 input) ⑦ - GND (work light relay) ⑧ - GND (work light)	20~25V

※ GND : Ground

※ The circuit diagram may differ from the equipment, so please check before a repair.

[illegible]

※ The circuit diagram may differ from the equipment, so please check before a repair.

4. HEAD AND WORK LIGHT CIRCUIT (MACHINE SERIAL NO. : #0656-)

1) OPERATING FLOW

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

Fuse box (No.34) → Work light relay [CR-4 (30, 86)]

Fuse box (No.14) → RDU membrane controller [CN-376 (1)]

(1) Head light switch ON

Head light switch ON [CN-376 (13)] → 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 lighter [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 (4)] → Work light relay [CR-4 (85) → (87)]

→ I/conn [CN-12 (1)] → Work light ON [CL-5 (1), CL-6 (1)]

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 input) ⑦ - GND (work light relay) ⑧ - GND (work light)	20~25V

※ GND : Ground

※ The circuit diagram may differ from the equipment, so please check before a repair.

[illegible]

※ The circuit diagram may differ from the equipment, so please check before a repair.

5. BEACON LAMP AND CAB LIGHT CIRCUIT (MACHINE SERIAL NO. : -#0655)

1) OPERATING FLOW

Fuse box (No.30) → Beacon lamp relay [CR-85 (2, 3)]

Fuse box (No.36) → Cab light relay [CR-9 (30, 86)]

Fuse box (No.14) → RDU membrane controller [CN-376 (1)]

(1) Beacon lamp switch ON

Beacon lamp switch ON [CN-376 (15)] → Beacon lamp relay [CR-85 (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 (5)] → 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 input) ⑧ - GND (cab light)	20~25V

※ GND : Ground

※ The circuit diagram may differ from the equipment, so please check before a repair.

※ The circuit diagram may differ from the equipment, so please check before a repair.



BEACON LAMP AND CAB LIGHT CIRCUIT (MACHINE SERIAL NO. : #0656-)

1) OPERATING FLOW

Fuse box (No.30) → Beacon lamp relay [CR-85 (2, 3)]

Fuse box (No.36) → Cab light relay [CR-9 (30, 86)]

Fuse box (No.14) → RDU membrane controller [CN-376 (1)]

(1) Beacon lamp switch ON

Beacon lamp switch ON [CN-376 (15)] → Beacon lamp relay [CR-85 (1)→ (5)]

→ I/conn [CN-5 (50)] → I/conn [CN-10 (10)] → Beacon lamp ON [CL-7 (2)]

(2) Cab light switch ON

Cab light switch ON [CN-376 (5)] → 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)]

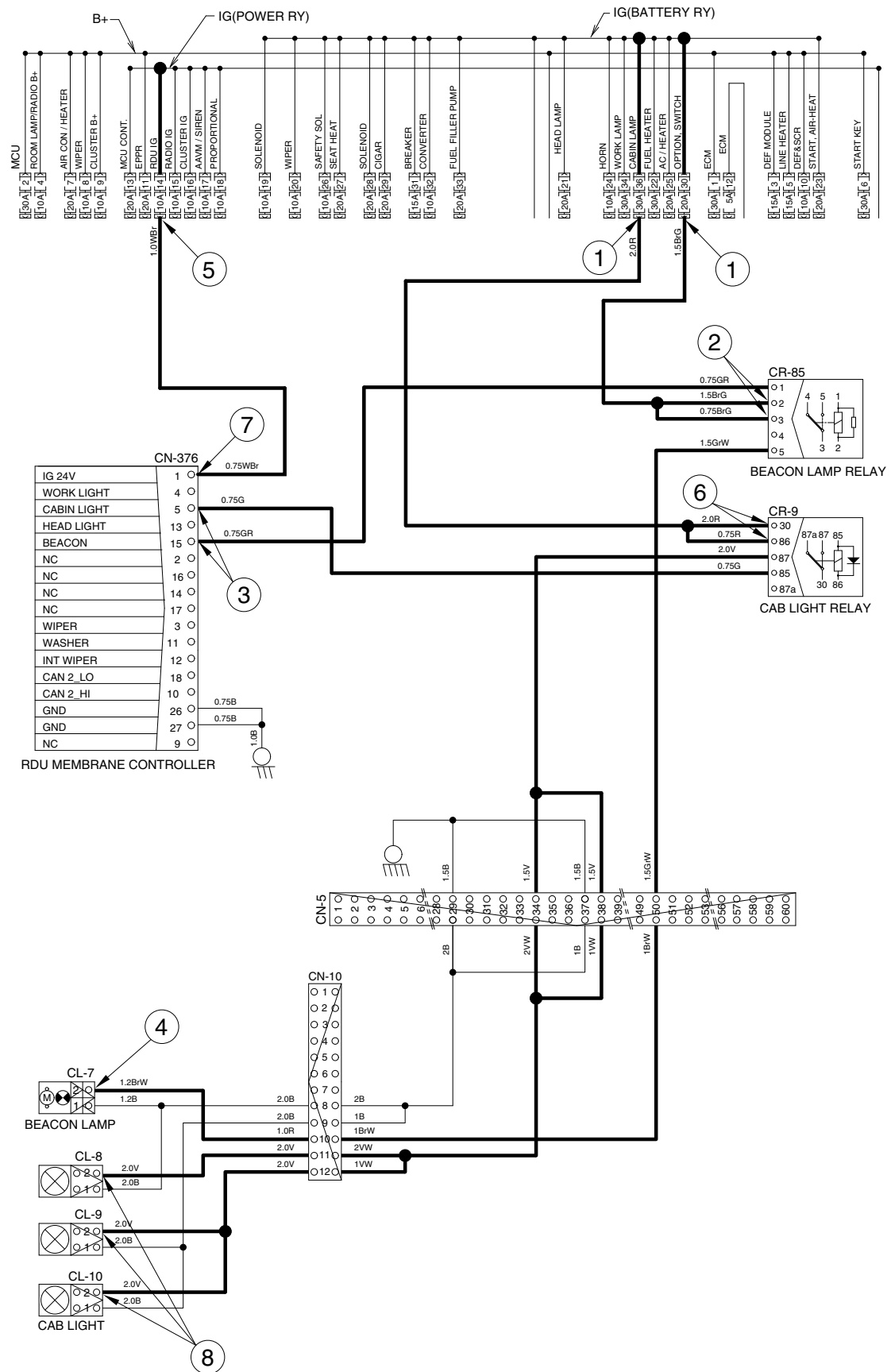
2) CHECK POINT

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 input) ⑧ - GND (cab light)	20~25V

※ GND : Ground

※ The circuit diagram may differ from the equipment, so please check before a repair.

BEACON LAMP AND CAB LIGHT CIRCUIT (MACHINE SERIAL NO. : #0656-)



300A4EL09B

※ The circuit diagram may differ from the equipment, so please check before a repair.

6. WIPER AND WASHER CIRCUIT (MACHINE SERIAL NO. : -#0655)

1) OPERATING FLOW

(1) Key switch ON

Fuse box (No.14) → RDU membrane controller [CN-376 (1)]

Fuse box (No.8) → I/conn [CN-5 (18)] → I/conn [CN-17 (5)] → Wiper motor controller [CN-141 (7)]
 → Wiper motor [CN-21 (4)]

Fuse box (No.20) → I/conn [CN-5 (16)] → I/conn [CN-17 (4)] → Wiper motor controller [CN-141 (6)]
 → Low wiper motor [CN-407 (3)]
 → Washer pump [CN-22 (2)]

(2) Wiper switch ON (Intermittent)

Wiper switch ON [CN-376 (12)] → I/conn [CN-5 (20)] → I/conn [CN-17 (8)]

→ Wiper motor controller [CN-141 (10)→(3)] → Wiper motor [CN-21 (6)] → Intermittently operating

(3) Wiper switch ON (continual)

Wiper switch ON [CN-376 (3)] → I/conn [CN-5 (15)] → I/conn [CN-17 (2)]

→ Wiper motor controller [CN-141 (2) → (4)] → Wiper motor [CN-21 (2)] → Continual operating

(4) Washer switch ON

Washer switch ON [CN-376 (11)] → I/conn [CN-5 (17)] → I/conn [CN-17 (7)]

→ Wiper motor controller [CN-141 (9) → (8)] → I/conn [CN-17 (6)] → I/conn [CN-5 (19)]

→ Washer pump [CN-22 (1)] → Washer operating

Wiper switch ON [CN-376 (3)] → I/conn [CN-5 (15)] → I/conn [CN-17 (2)]

→ Wiper motor controller [CN-141 (2) → (4)] → Wiper motor [CN-21 (2)] → Continual operating

(5) Auto parking (when switch OFF)

Switch OFF [CN-376 (3, 12)] → Wiper motor parking position by wiper motor controller

2) OPERATING FLOW (LOW WIPER)

(1) Key switch ON

Fuse box (No. 30) → I/conn [CN-7 (8)] → Low wiper switch [CS-79 (1, 5)]

(2) Wiper switch ON (1st)

Wiper switch ON [CS-79 (1 → 2)] → I/conn [CN-7 (5)] → Wiper motor [CN-407 (4)] → Wiper operating

(3) Wiper switch ON (2nd)

Wiper switch ON [CS-79 (5 → 4)] → I/conn [CN-7 (6)] → I/conn [NC-18 (2)] → Washer pump [CN-407 (2)]

→ Washer operating

Wiper switch ON [CS-79 (1 → 2)] → I/conn [CN-7 (5)] → Wiper motor [CN-407 (4)] → Wiper operating

3) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box)	20~25V
		② - GND (switch power input)	
		③ - GND (wiper power input)	
		④ - GND (switch power output)	
		⑤ - GND (switch power output)	0 ~ 5V
		⑥ - GND (wiper switch power input)	
		⑦ - GND (wiper power output)	24V
		⑧ - GND (wiper motor)	0 or 24V

※ GND : Ground

※ The circuit diagram may differ from the equipment, so please check before a repair.

※ The circuit diagram may differ from the equipment, so please check before a repair.



WIPER AND WASHER CIRCUIT (MACHINE SERIAL NO. : #0656-)

1) OPERATING FLOW

(1) Key switch ON

Fuse box (No.14) → RDU membrane controller [CN-376 (1)]

Fuse box (No.8) → I/conn [CN-5 (18)] → I/conn [CN-17 (5)] → Wiper motor controller [CN-141 (7)]
 → Wiper motor [CN-21 (4)]

Fuse box (No.20) → I/conn [CN-5 (16)] → I/conn [CN-17 (4)] → Wiper motor controller [CN-141 (6)]
 → Low wiper motor [CN-407 (3)]
 → Washer pump [CN-22 (2)]

(2) Wiper switch ON (Intermittent)

Wiper switch ON [CN-376 (12)] → I/conn [CN-5 (20)] → I/conn [CN-17 (8)]

→ Wiper motor controller [CN-141 (10)→(3)] → Wiper motor [CN-21 (6)] → Intermittently operating

(3) Wiper switch ON (continual)

Wiper switch ON [CN-376 (3)] → I/conn [CN-5 (15)] → I/conn [CN-17 (2)]

→ Wiper motor controller [CN-141 (2) → (4)] → Wiper motor [CN-21 (2)] → Continual operating

(4) Washer switch ON

Washer switch ON [CN-376 (11)] → I/conn [CN-5 (17)] → I/conn [CN-17 (7)]

→ Wiper motor controller [CN-141 (9) → (8)] → I/conn [CN-17 (6)] → I/conn [CN-5 (19)]

→ Washer pump [CN-22 (1)] → Washer operating

Wiper switch ON [CN-376 (3)] → I/conn [CN-5 (15)] → I/conn [CN-17 (2)]

→ Wiper motor controller [CN-141 (2) → (4)] → Wiper motor [CN-21 (2)] → Continual operating

(5) Auto parking (when switch OFF)

Switch OFF [CN-376 (3, 12)] → Wiper motor parking position by wiper motor controller

2) OPERATING FLOW (LOW WIPER)

(1) Key switch ON

Fuse box (No. 30) → I/conn [CN-7 (8)] → Low wiper switch [CS-79 (1, 5)]

(2) Wiper switch ON (1st)

Wiper switch ON [CS-79 (1 → 2)] → I/conn [CN-7 (5)] → Wiper motor [CN-407 (4)] → Wiper operating

(3) Wiper switch ON (2nd)

Wiper switch ON [CS-79 (5 → 4)] → I/conn [CN-7 (6)] → I/conn [NC-18 (2)] → Washer pump [CN-407 (2)]

→ Washer operating

Wiper switch ON [CS-79 (1 → 2)] → I/conn [CN-7 (5)] → Wiper motor [CN-407 (4)] → Wiper operating

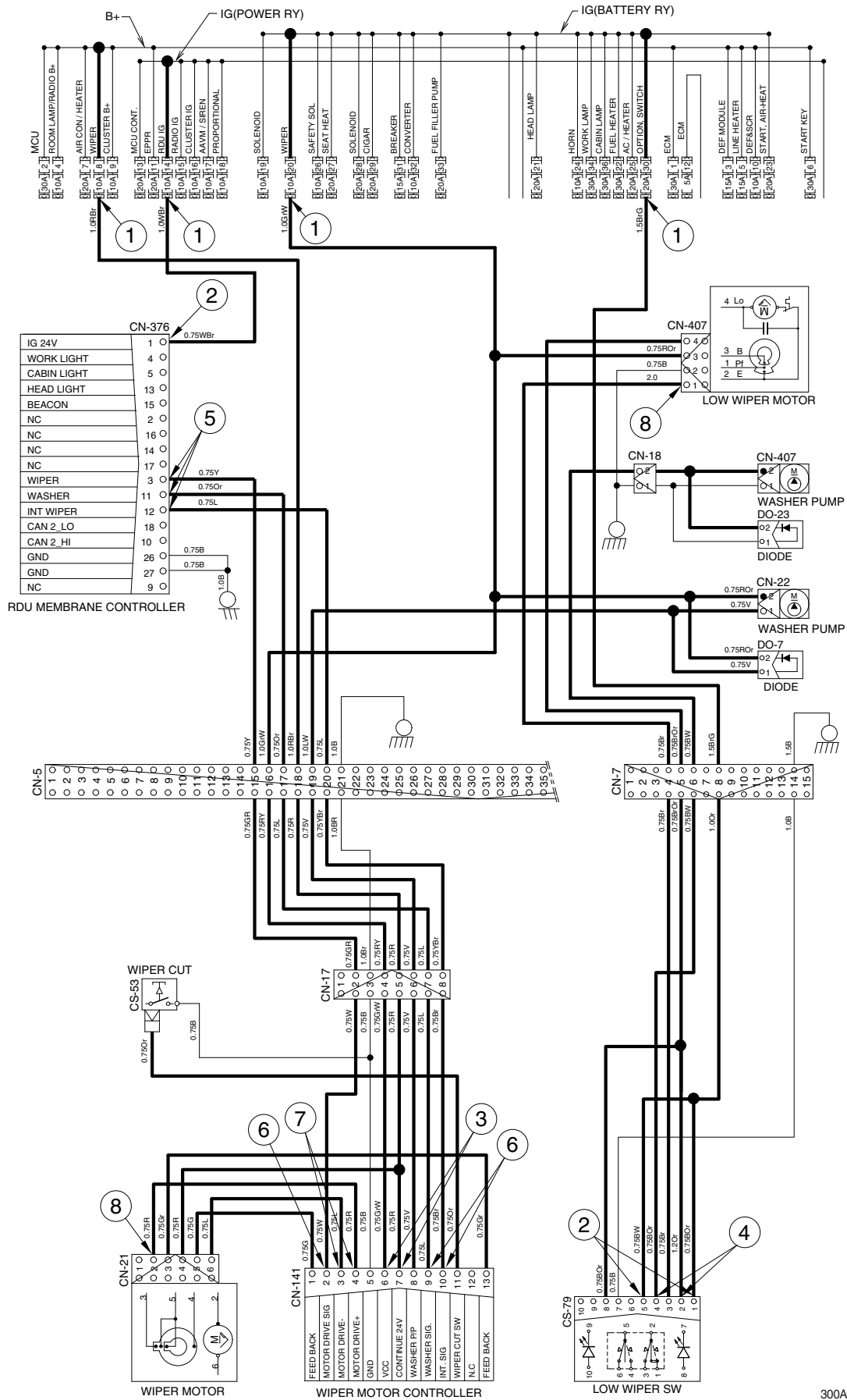
3) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box)	20~25V
		② - GND (switch power input)	
		③ - GND (wiper power input)	
		④ - GND (switch power output)	
		⑤ - GND (switch power output)	0 ~ 5V
		⑥ - GND (wiper switch power input)	
		⑦ - GND (wiper power output)	24V
		⑧ - GND (wiper motor)	0 or 24V

※ GND : Ground

※ The circuit diagram may differ from the equipment, so please check before a repair.

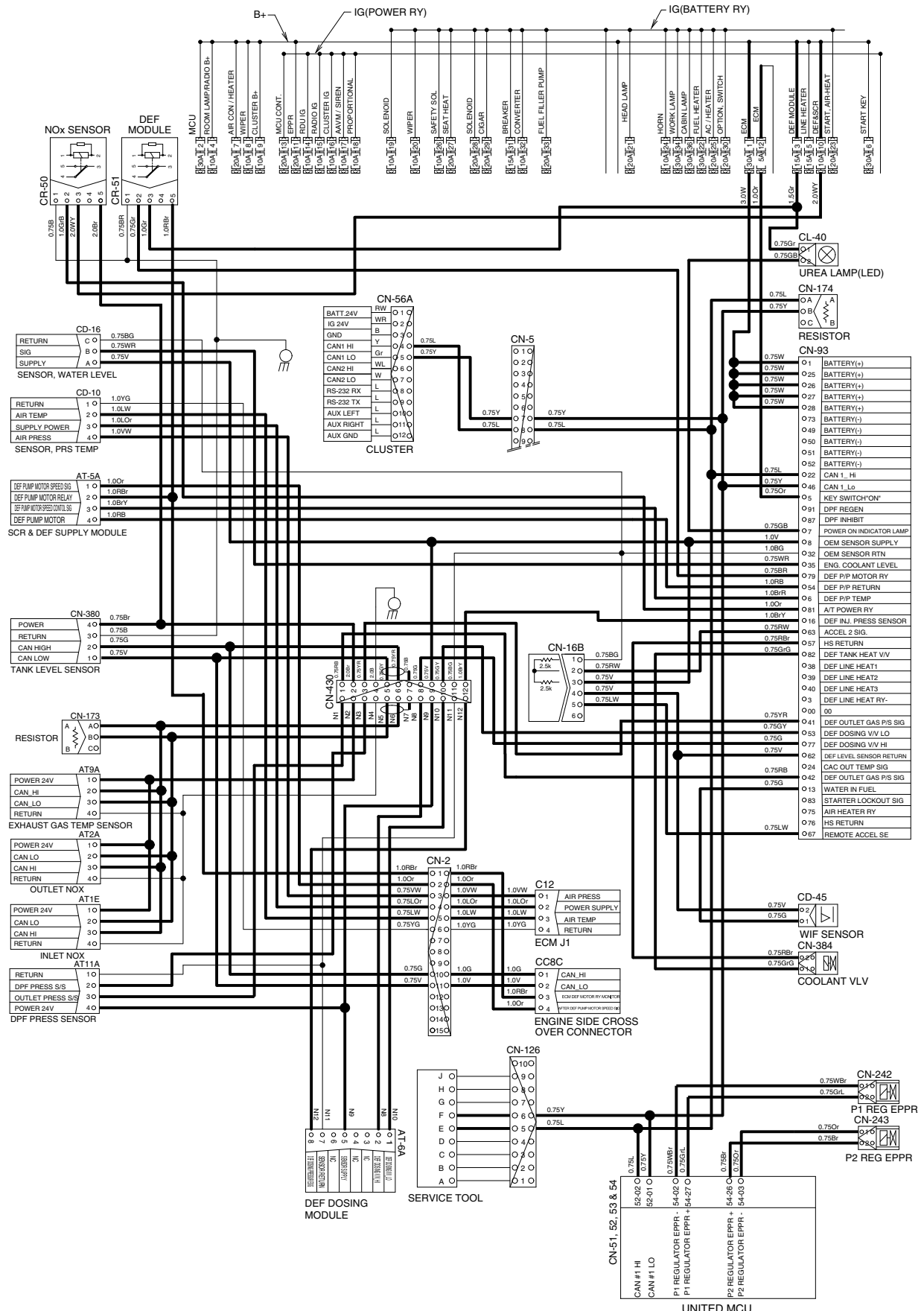
WIPER AND WASHER CIRCUIT (MACHINE SERIAL NO. : #0656-)



300A4EL10B

※ The circuit diagram may differ from the equipment, so please check before a repair.

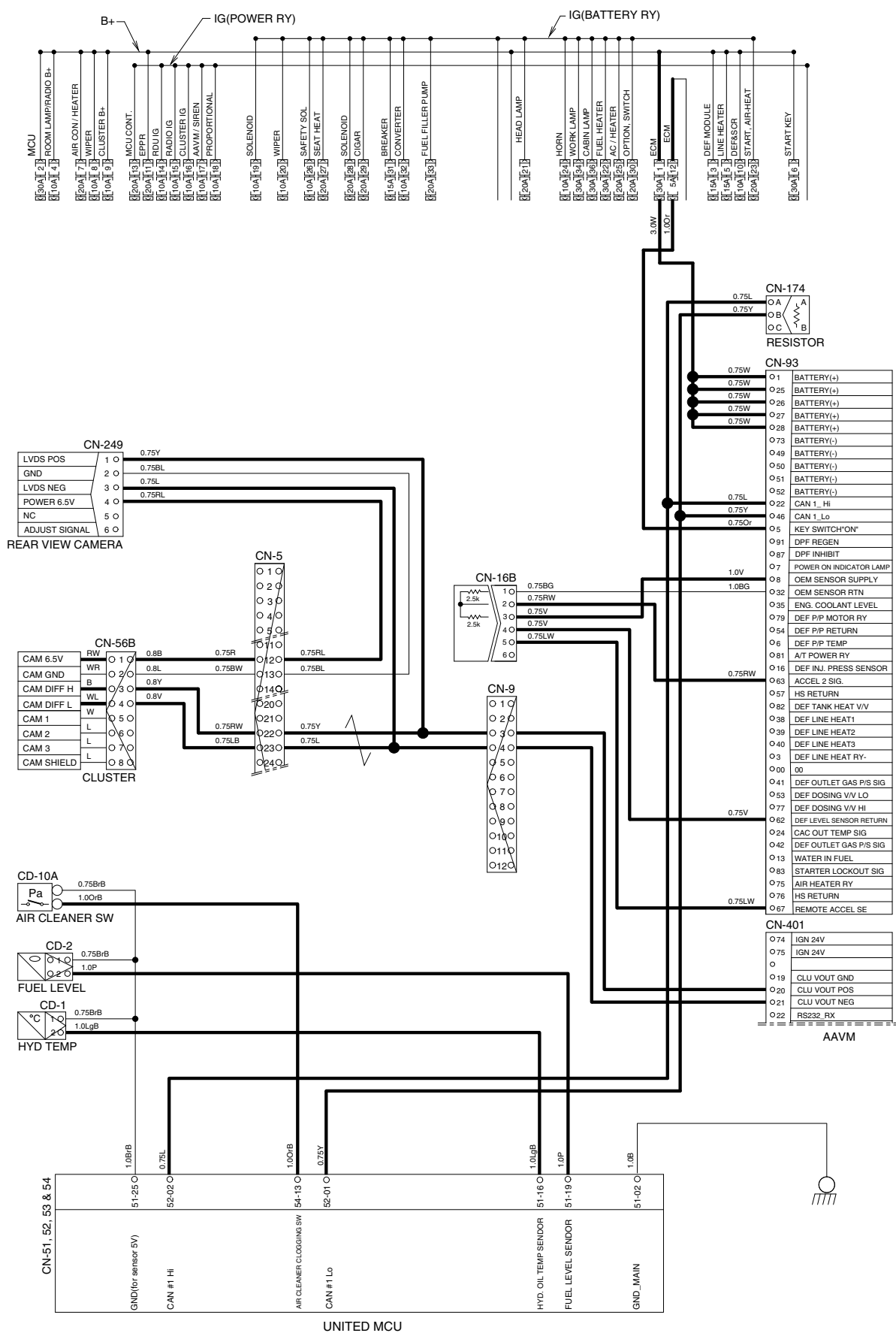
7. CONTROLLER CIRCUIT (MACHINE SERIAL NO. : #0001-)



300A4EL11A

※ The circuit diagram may differ from the equipment, so please check before a repair.

8. MONITORING CIRCUIT (MACHINE SERIAL NO. : -#0047)

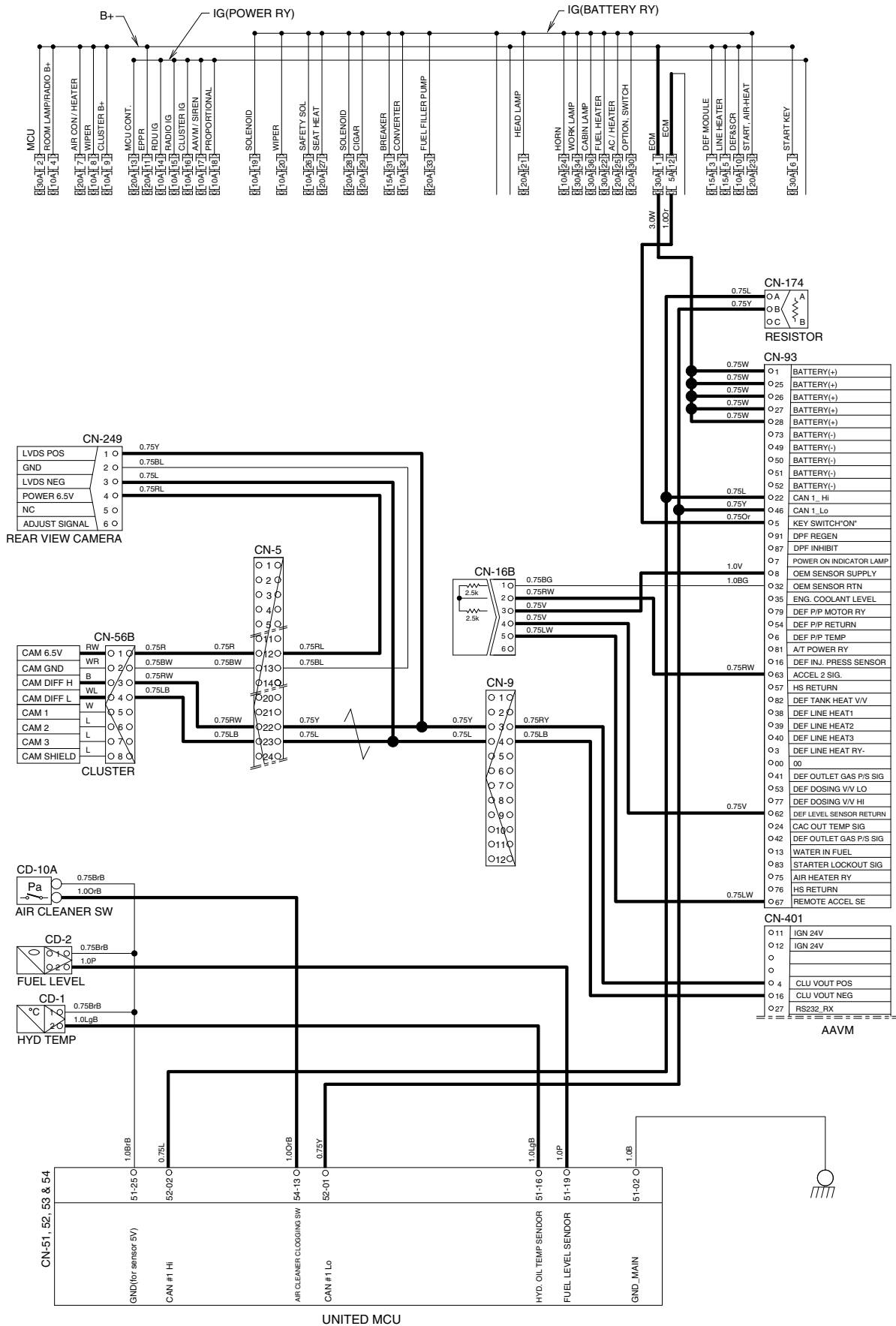


300A4EL12

※ The circuit diagram may differ from the equipment, so please check before a repair.

4-20-1

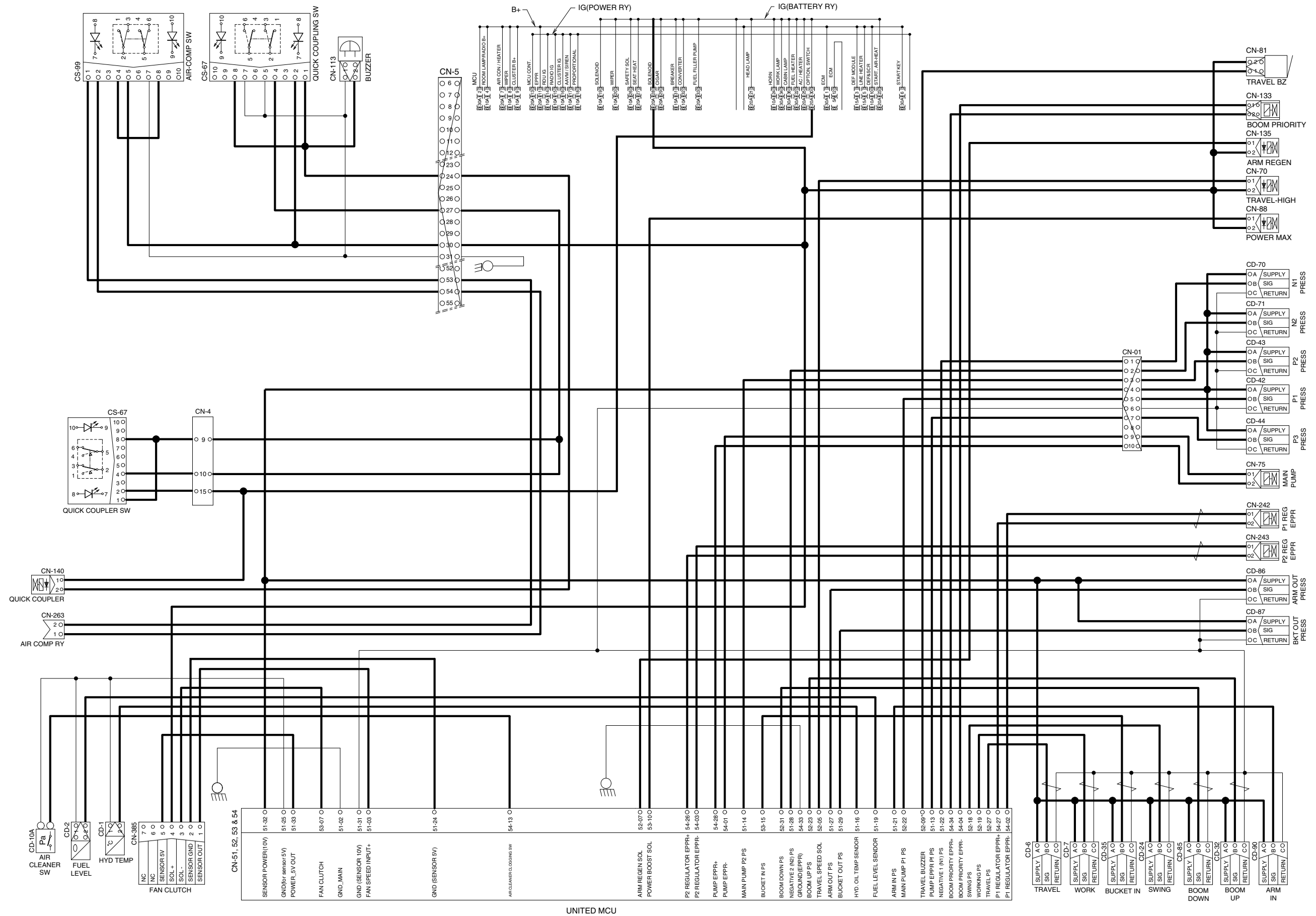
MONITORING CIRCUIT (MACHINE SERIAL NO. : #0656-)



300A4EL12B

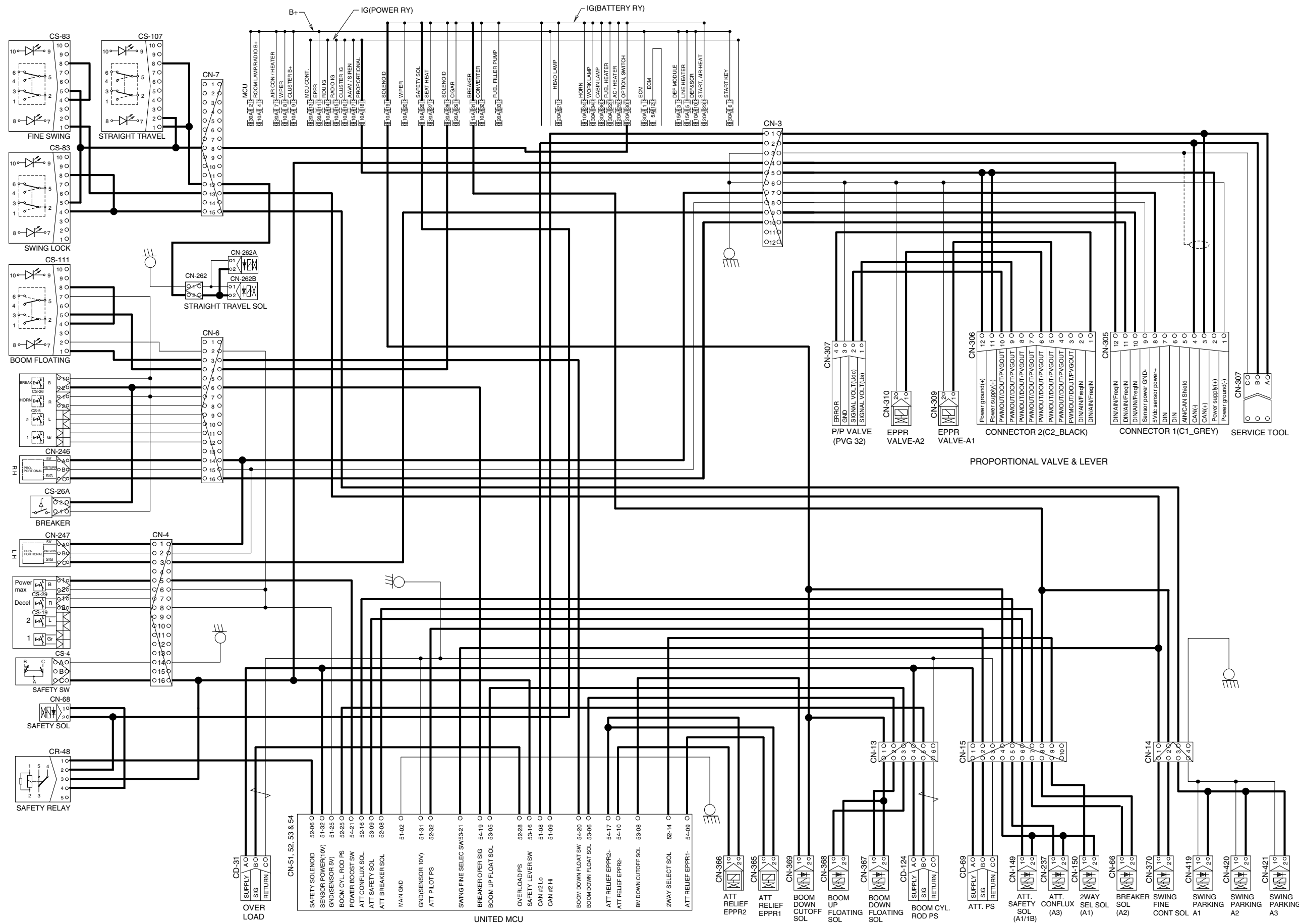
※ The circuit diagram may differ from the equipment, so please check before a repair.

9. ELECTRIC CIRCUIT FOR HYDRAULIC (1/2, MACHINE SERIAL NO. : #0001-)



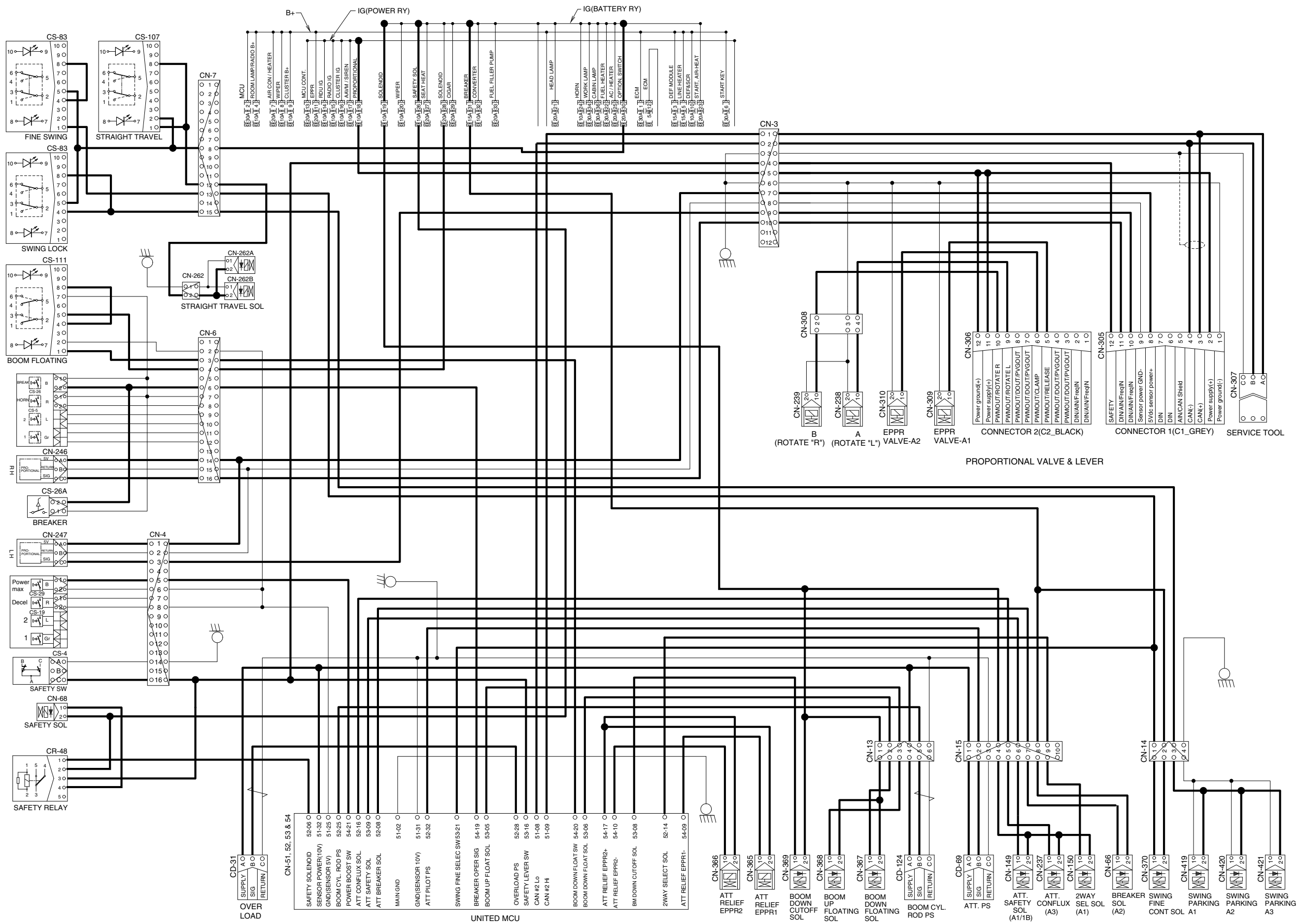
※ The circuit diagram may differ from the equipment, so please check before a repair.

10. ELECTRIC CIRCUIT FOR HYDRAULIC (2/2, MACHINE SERIAL NO. : -#0047)



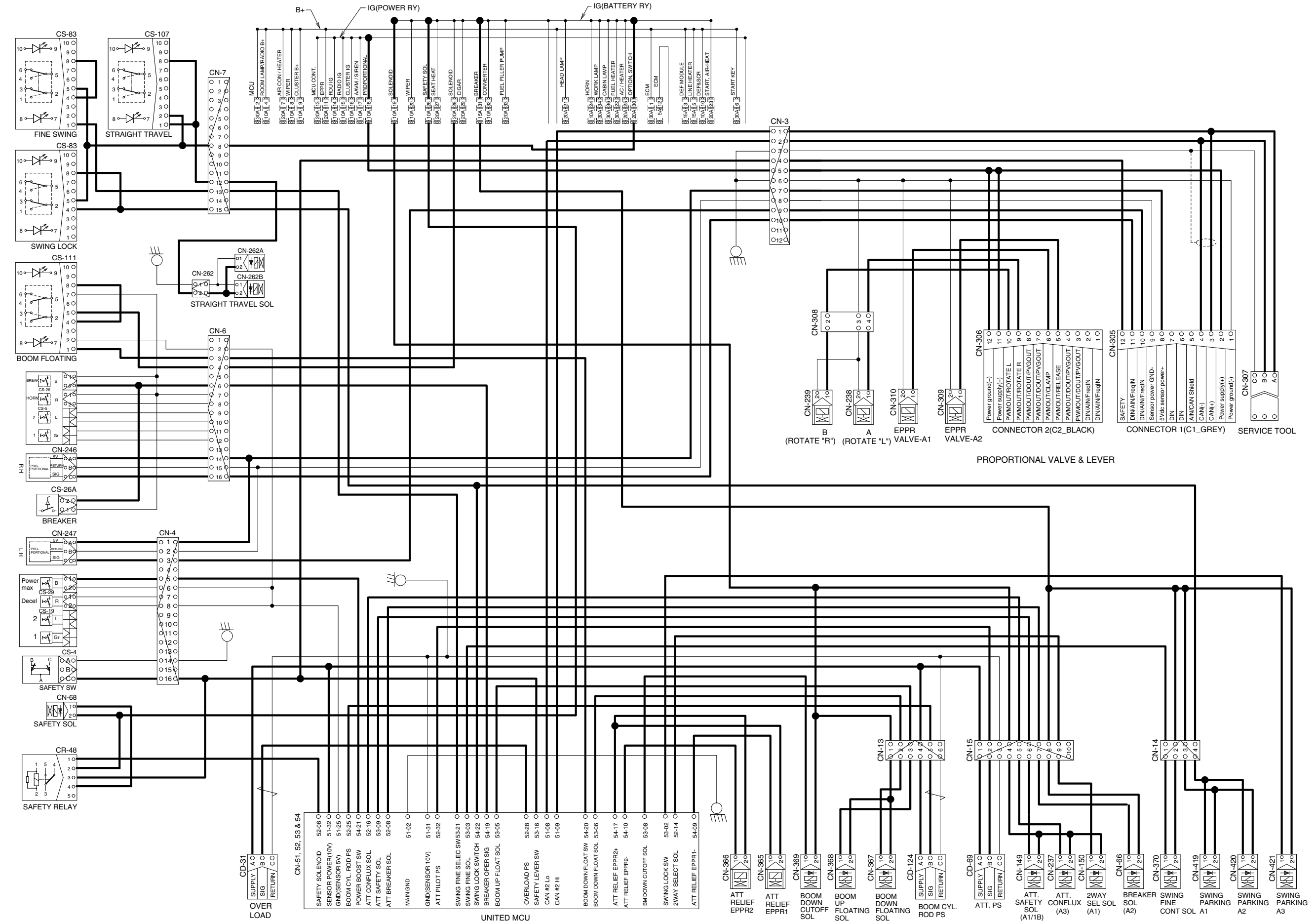
※ The circuit diagram may differ from the equipment, so please check before a repair.

ELECTRIC CIRCUIT FOR HYDRAULIC (2/2, MACHINE SERIAL NO. : #0048-#0599)



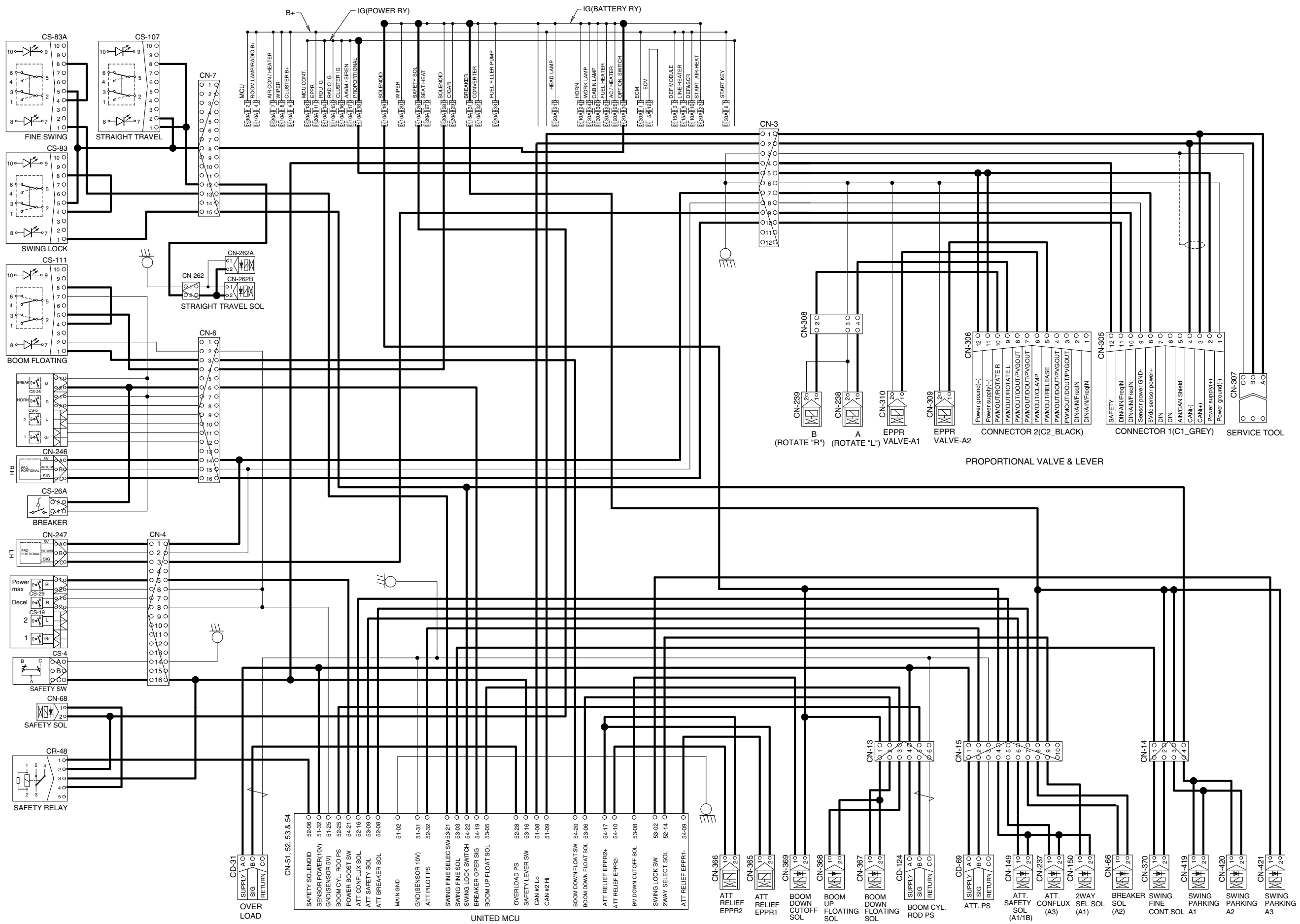
※ The circuit diagram may differ from the equipment, so please check before a repair.

ELECTRIC CIRCUIT FOR HYDRAULIC (2/2, MACHINE SERIAL NO.: #0600-#0655)



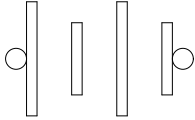
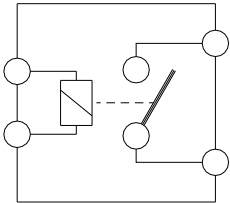
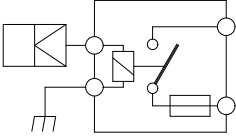
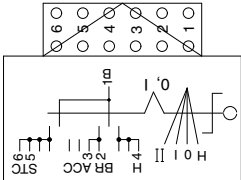
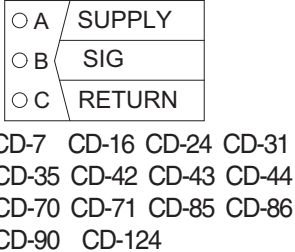
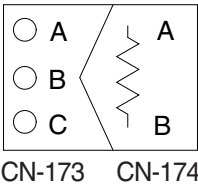
※ The circuit diagram may differ from the equipment, so please check before a repair.

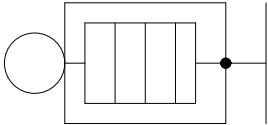
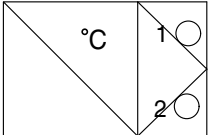
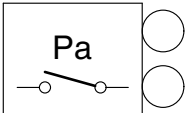
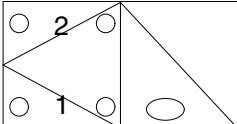
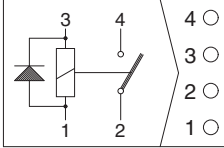
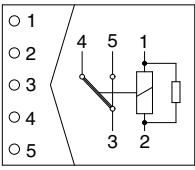
ELECTRIC CIRCUIT FOR HYDRAULIC (2/2, MACHINE SERIAL NO. : #0656-)

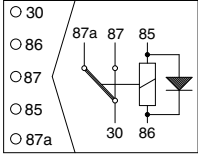
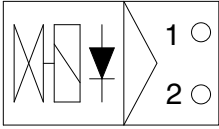
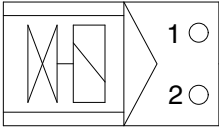
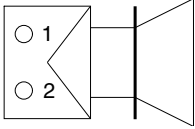
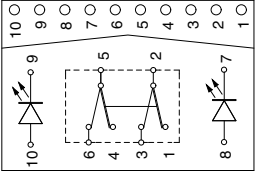
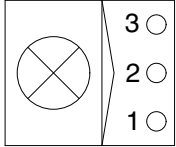


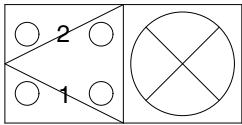
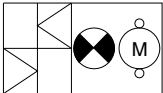
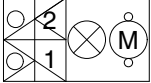
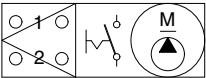
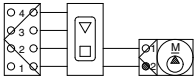
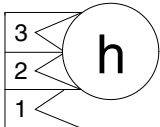
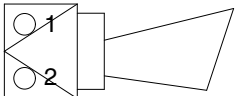
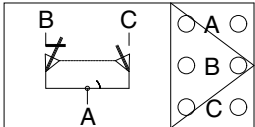
※ The circuit diagram may differ from the equipment, so please check before a repair.

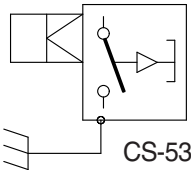
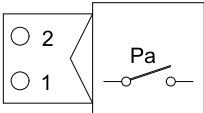
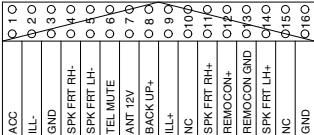
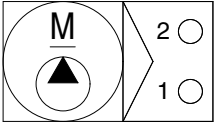
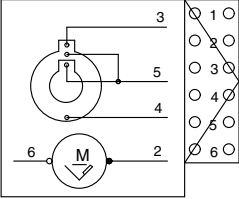
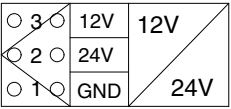
GROUP 3 ELECTRICAL COMPONENT SPECIFICATION

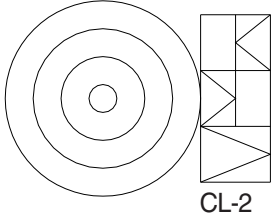
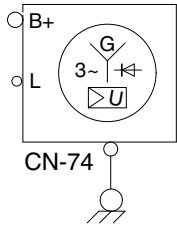
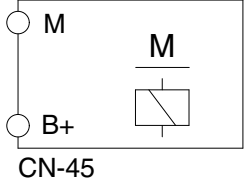
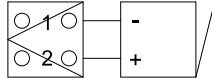
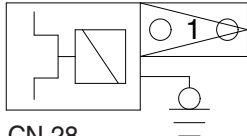
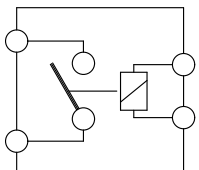
Part name	Symbol	Specifications	Check
Battery		12V×160Ah (2EA)	※ Check specific gravity 1.280 over : Over charged 1.280 ~ 1.250 : Normal 1.250 below : Recharging
Battery relay	 CR-1	Rated load : 24V 100A (continuity) 1000A (30seconds)	※ Check coil resistance(M4 to M4) Normal : About 50Ω ※ Check contact Normal : ∞Ω
Glow plug relay	 CR-24	24V 200A	※ Check contact Normal : 0.942Ω (for terminal 1-GND)
Start key	 CS-2A	B-BR : 24V 1A B-ACC : 24V 10A B-ST : 24V 40A	※ Check contact OFF : ∞Ω (for each terminal) ON : 0Ω (for terminal 1-3 and 1-2) START : 0Ω (for terminal 1-6)
Pressure sensor		8~30V	※ Check contact Normal : 0.1Ω
Resistor	 CN-173 CN-174	3W	※ Check resistance A-B : 120Ω

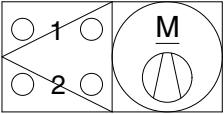
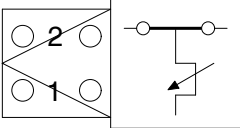
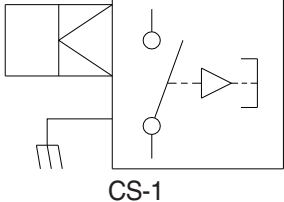
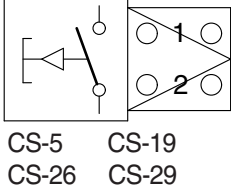
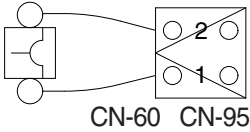
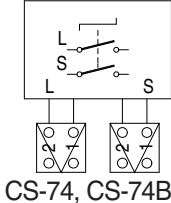
Part name	Symbol	Specifications	Check
Glow plug	 CN-80	24V 200A	※ Check resistance 0.25~0.12Ω
Temperature sensor (hydraulic)	 CD-1	-	※ Check resistance 50°C : 804Ω 80°C : 310Ω 100°C : 180Ω
Air cleaner pressure switch (-#00142)	 CD-10A	(N.O TYPE)	※ Check contact High level : ∞Ω Low level : 0Ω
Fuel sender	 CD-2	-	※ Check resistance Full : 50Ω 6/12 : 350Ω 11/12 : 100Ω 5/12 : 400Ω 10/12 : 150Ω 4/12 : 450Ω 9/12 : 200Ω 3/12 : 500Ω 8/12 : 250Ω 2/12 : 550Ω 7/12 : 300Ω 1/12 : 600Ω Empty warning : 700Ω
Relay (air con blower)		24V 20A	※ Check resistance Normal : About 200Ω (for terminal 1-3) 0Ω (for terminal 2-4)
Relay	 CR-2 CR-5 CR-36 CR-39 CR-48 CR-50 CR-51 CR-85	24V 16A	※ Check resistance Normal : About 160Ω (for terminal 1-2) 0Ω (for terminal 3-4) ∞Ω (for terminal 3-5)

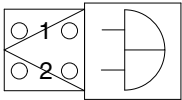
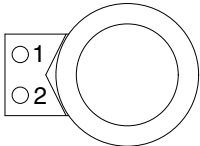
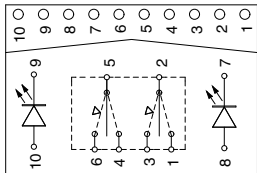
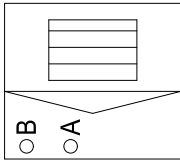
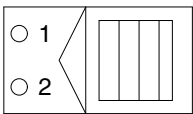
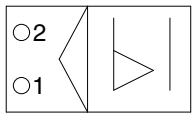
Part name	Symbol	Specifications	Check
Relay	 CR-4 CR-7 CR-9 CR-13 CR-35 CR-46 CR-52	24V 16A	※ Check resistance Normal : About 160 Ω (for terminal 85-86) 0 Ω (for terminal 30-87a) ∞ Ω (for terminal 30-87)
Solenoid valve	 CN-66 CN-68 CN-70 CN-88 CN-135 CN-140 CN-149 CN-150 CN-237 CN-262A CN-262B CN-367 CN-368 CN-369 CN-370 CN-419 CN-420 CN-421	24V 1A	※ Check resistance Normal : 15~25 Ω (for terminal 1-2)
EPPR valve	 CN-75 CN-133 CN-238 (#0048-) CN-239 (#0048-) CN-242 CN-243 CN-309 CN-310 CN-365 CN-366	700mA	※ Check resistance Normal : 15~25 Ω (for terminal 1-2)
Speaker	 CN-23(LH) CN-260 CN-24(RH)	20W	※ Check resistance Normal : A few Ω
Switch (locking type)	 CS-52 CS-67 CS-83 CS-83A (#0656-) CS-99 CS-107 CS-108 CS-111	24V 1.5A	※ Check contact Normal ON : 0 Ω (for terminal 2-3, 5-6) ∞ Ω (for terminal 2-1, 5-4) OFF : ∞ Ω (for terminal 2-3, 5-6) 0 Ω (for terminal 2-1, 5-4)
Room lamp	 CL-1	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)

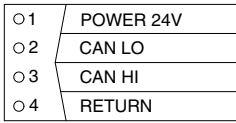
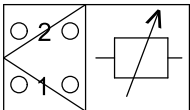
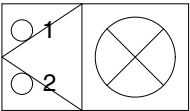
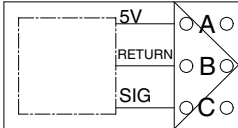
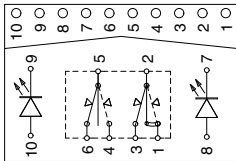
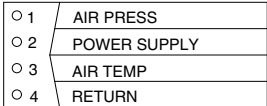
Part name	Symbol	Specifications	Check
Head lamp, Work lamp, Cab lamp	 CL-3 CL-4 CL-5 CL-6 CL-8 CL-9 CL-10 CL-24	24V 65W (H3 Type)	※ Check disconnection Normal : 1.2Ω
Beacon lamp	-#0655  #0656-  CL-7	21V 70W (H1 Type)	※ Check disconnection Normal : A few Ω
Fuel filler pump	-#0599  #0600-  CN-61	24V 10A 35 ℓ /min	※ Check resistance Normal : 1.0Ω
Hour meter	 CN-48	16~32V	※ Check operation Supply power(24V) to terminal No.1 and connect terminal No.2 and ground
Horn	 CN-20 CN-25	DC22~28V 2A	※ Check operation Supply power(24V) to each terminal and connect ground.
Safety switch	 CS-4	24V 15A (N.C TYPE)	※ Check contact Normal : 0Ω (for terminal A-B) ∞Ω (for terminal A-C) Operating : ∞Ω (for terminal A-B) 0Ω (for terminal A-C)

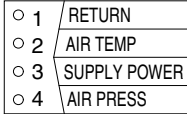
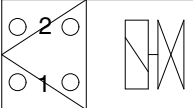
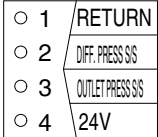
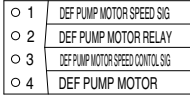
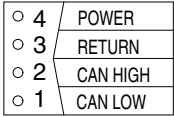
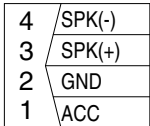
Part name	Symbol	Specifications	Check
Wiper cut switch	 CS-53	24V (N.O TYPE)	※ Check contact Normal : 0Ω (one pin to ground)
Receiver dryer	 CN-29	24V 2.5A	※ Check contact Normal : ∞Ω
Radio & USB player	 CN-27A	24V 2A	※ Check voltage 20~25V (for terminal 1-3, 3-8)
Washer pump	 CN-22 CN-407	24V 3.8A	※ Check contact Normal : 10.7Ω (for terminal 1-2)
Wiper motor	 CN-21	24V 2A	※ Check disconnection Normal : 7Ω (for terminal 2-6)
DC/DC Converter	 CN-138	12V 3A	※ Check voltage 24V (for terminal 1-2) 12V (for terminal 1-3)

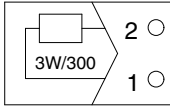
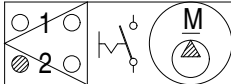
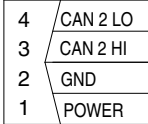
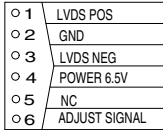
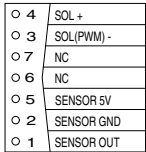
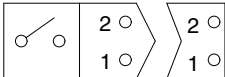
Part name	Symbol	Specifications	Check
Cigar lighter	 CL-2	24V 5A 1.4W	※ Check coil resistance Normal : About 1M Ω ※ Check contact Normal : $\infty \Omega$ Operating time : 5~15sec
Alternator	 CN-74	Denso 24V 95A	※ Check contact Normal : 0 Ω (for terminal B ⁺ -L) Normal : 24~27.5V
Starter	 CN-45	Denso 24V 4.8kW	※ Check contact Normal : 0.1 Ω
Travel alarm	 CN-81	24V 0.5A	※ Check contact Normal : 5.2 Ω
Aircon compressor	 CN-28	24V 79W	※ Check contact Normal : 13.4 Ω
Start relay	 CR-23	24V 300A	※ Check contact Normal : 0.94 Ω (for terminal 1-2)

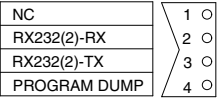
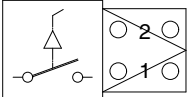
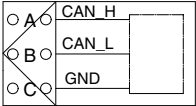
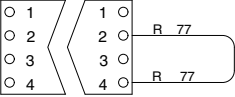
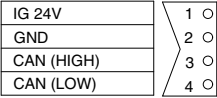
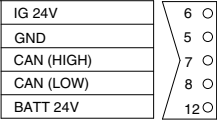
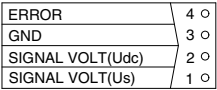
Part name	Symbol	Specifications	Check
Blower motor		24V 9.5A	※ Check resistance Normal : 2.5Ω (for terminal 1-2)
Thermistor (switch)		1°C OFF 4°C ON	※ Check resistance Normal : 0Ω (for terminal 1-2), the atmosphere temp : Over 4°C
Door switch		24V 2W	※ Check resistance Normal : About 5MΩ
Switch (power max, one touch decel, horn, breaker)		24V 6A	※ Check resistance Normal : ∞Ω
Circuit breaker		CN-60 (60A) CN-95 90A (-#0599) 80A (#0600-)	※ Check disconnection Normal : 0Ω (connect ring terminal and check resist between terminal 1 and 2)
Master switch		6-36V	※ Check disconnection Normal : 0.1Ω

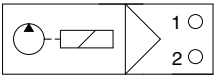
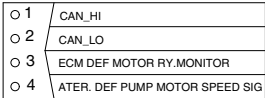
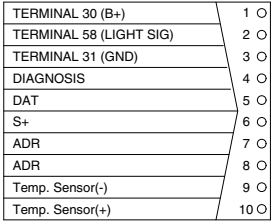
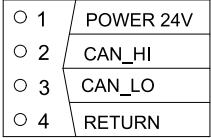
Part name	Symbol	Specifications	Check
Quick coupler buzzer	 CN-113	24V 200mA 107 ± 4dB	
Socket	 CN-139	12V 10A	
Switch	 CS-100	24V 8A	※ Check contact Normal ON : 0Ω (for terminal 2-3, 5-6) ∞Ω (for terminal 2-1, 5-4) OFF : ∞Ω (for terminal 2-3, 5-6) 0Ω (for terminal 2-1, 5-4)
Fuel heater	 CN-96	-	
DEF/AdBlue® line heater	 CN-381 CN-382 CN-383	-	
WIF sensor	 CD-45	-	

Part name	Symbol	Specifications	Check
NOx sensor	 AT1E AT2A AT9A	-	
Temperature sensor (A/C)		-	
DEF/AdBlue® fill up warning lamp (LED)	 CL-40	-	
Proportional valve sensor	 CN-246 CN-247	-	
Switch	 CS-79	24V 8A	※ Check disconnection Normal $\infty \Omega$ (for terminal 2-1, 5-4)
Sensor	 C12	-	

Part name	Symbol	Specifications	Check
Pressure temp sensor	 CD-10	-	
Coolant valve	 CN-384	-	
DPF pressure sensor	 AT11A	-	
SCR and DEF supply module	 AT-5A	-	
Tank level sensor	 CN-380	-	
Siren AMP	 CN-261	-	

Part name	Symbol	Specifications	Check
Resistor	 RS-1	3W	※ Check resistance Normal : 300Ω
Low wiper motor	 CN-407	-	
2D/3D MG	 CN-270	-	
Camera (front, rear, side)	 CN-249 CN-402 CN-403 CN-404 CN-405	-	
Fan clutch	 CN-385	-	
Seat belt sw	 CS-250	-	

Part name	Symbol	Specifications	Check
RMS service tool	 CN-126A	-	
Breaker switch	 CS-26A	-	
Start button	 CS-2B	-	
GPS connector	 CN-125	-	
Reader	-#0655  #0656-  CN-427	-	
Proportional valve	-#0047  CN-307	-	

Part name	Symbol	Specifications	Check
Dosing pump	 CN-269	-	
Engine side cross over connector	 CC8C	-	
Easystart timer	 CN-267	-	
Exhaust gas temp sensor	 AT9A	-	

GROUP 4 CONNECTORS

1. CONNECTOR DESTINATION

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	AMP	10	I/conn (Frame harness-Pump PS harness)	S816-010002	S816-110002
CN-2	AMP	15	I/conn (Frame harness-Engine harness)	2-85262-1	368301-1
CN-3	AMP	12	I/conn (Frame harness-Pro vlv harness)	174661-2	368537-1
CN-4	AMP	16	I/conn (Console harness LH-Frame harness)	368047-1	368050-1
CN-5	DEUTSCH	60	I/conn (Side harness RH-Frame harness)	DRB16-60SAE-L018	DRB12-60PAE-L018
CN-6	AMP	16	I/conn (Console harness RH-Frame harness)	368047-1	368050-1
CN-7	AMP	15	I/conn (Console harness RH-Frame harness)	2-85262-1	368301-1
CN-8	AMP	10	I/conn (Console harness RH-Frame harness)	S816-010002	174655-2
CN-9	DEUTSCH	12	I/conn (Frame harness-AAVM harness)	DT06-12SA-EP06	DT04-12PA
CN-10	DEUTSCH	12	I/conn (Cab harness-Side harness RH)	DT06-12S-EP06	DT04-12PA-P021
CN-11	DEUTSCH	8	I/conn (Frame harness-Aircon harness)	DT06-8S-EP06	-
CN-12	DEUTSCH	2	I/conn (Frame harness-Boom wire harness)	DT06-2S-EP06	DT04-2P-E004
CN-13	TYCO	6	I/conn (Frame harness-Boom floating harness)	S816-006002	S816-106002
CN-14	AMP/DEUTSCH	4	I/conn (Frame harness-Swing p. & fine control harness)	174257-2	DT04-4P-E005
CN-15	TE	10	I/conn (Frame harness-2-way harness)	174655-2	174657-2
CN-16	TYCO	6	Emergency engine start & speed control	S816-006002	S816-106002
CN-16B	-	6	Resistor	S816-006002	21NB-10710
CN-17	AMP	8	I/conn (Wiper harness-Side harness RH)	S816-008002	S816-108002
CN-18	AMP	2	I/conn (Frame harness-Washer pump)	174352-2	174354-2
CN-20	DEUTSCH	2	Horn	DT06-2S-EP06	-
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	KET	2	Aircon compressor	MS610320	-
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	TE	34	United MCU	2-1437285-3	3-6437285-0
CN-52	TE	34	United MCU	4-1437290-1	6473427-1
CN-53	TE	26	United MCU	1473416-1	6473427-1

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-54	TE	34	United MCU	4-1437290-0	6437288-1
CN-56A	AMP	12	Cluster	-	174663-2
CN-56B	AMP	8	Cluster	-	174984-2
CN-60	Y-TYPE	2	Circuit breaker	-	7222-4220-30
CN-61	DEUTSCH	4	Fuel filler pump	DT06-4S-E005	DT04-4P-E005
CN-62	DEUTSCH	2	Auto grease	DT06-2S-EP06	DT04-2P-E005
CN-66	DEUTSCH	2	Breaker solenoid	DT06-2S-EP06	-
CN-68	DEUTSCH	2	Safety solenoid (A1)	DT06-2S-EP06	-
CN-70	DEUTSCH	2	Travel high solenoid (A3)	DT06-2S-EP06	-
CN-74	RING-TERM	1	Alternator "I" terminal	S820-105000	-
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 (A2)	DT06-2S-EP06	-
CN-93	DELPHI	96	ECM	13964577	-
CN-95	Y TYPE	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	GPS connector	S816-004002	S816-104002
CN-125A	DEUTSCH	12	GPS	DT06-12S-P021	DT04-12PA-P021
CN-126	-	10	Service tool	-	1-967325-1
CN-133	DEUTSCH	2	Boom priority solenoid (A5)	DT06-2S-EP06	-
CN-135	DEUTSCH	2	Arm regeneration solenoid (A4)	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 coupler solenoid	DT06-2S-EP06	DT04-2P-E005
CN-141	AMP	13	Wiper motor controller	172498-1	-
CN-147	AMP	2	Fuel heater	18330027	-
CN-149	DEUTSCH	2	Attach safety solenoid	DT06-2S-EP06	-
CN-150	DEUTSCH	2	2 way select solenoid	DT06-2S-EP06	-
CN-156	DEUTSCH	2	Air seat	DT06-2S	DT04-2P
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 confluent solenoid	DT06-2S-EP06	-
CN-242	DEUTSCH	2	P1 regulator EPPR (A1)	DT06-2S-EP06	-
CN-243	DEUTSCH	2	P2 regulator EPPR (A2)	DT06-2S-EP06	-
CN-245	KET	2	PTC power	MG620558	-

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
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	6	Rear view camera	DT06-6S-EP06	DT04-6P-E005
CN-258	KET	1	Air compressor power	MG640944-5	MG650943-5
CN-259	AMP	6	Camera	S816-006002	S816-106002
CN-260	AMP	2	Siren lamp	174352-2	174354-2
CN-261	TE-KET	4	Siren AMP	1473416-1	MG620046
CN-262	DEUTSCH	2	Straight travel solenoid	DT06-2S-EP06	DT04-2P-E005
CN-263	DEUTSCH	2	Air compressor relay	DT06-2S-EP06	DT04-2P-E005
CN-270	DEUTSCH	4	2D/3D MG	DT06-4S-E005	DT04-4P-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	2-967056-1	-
CN-309	DEUTSCH	2	Proportional-EPPR valve 1	DT06-2S-EP06	-
CN-310	DEUTSCH	2	Proportional-EPPR valve 2	DT06-2S-EP06	-
CN-363	AMP	12	Jog dial module	174045-2	-
CN-365	DEUTSCH	2	Attach relief EPPR valve 1-LH	DT06-2S-EP06	DT04-2P-E005
CN-366	DEUTSCH	2	Attach relief EPPR valve 2-RH	DT06-2S-EP06	DT04-2P-E005
CN-367	DEUTSCH	2	Boom down floating solenoid	DT06-2S-EP06	DT04-2P-E005
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	34	Membrane controller	4-1437290-1	-
CN-378	DEUTSCH	2	Attach EPPR 2	DT06-2S-EP06	-
CN-379	TYCO	12	SCR & DEF/AdBlue® supply module	2-1703639-1	-
CN-380	DEUTSCH	4	DEF/AdBlue® tank level sensor	DT06-4S-E005	-
CN-381	DEUTSCH	2	DEF line heater 3	DT06-2S-EP06	-
CN-382	DEUTSCH	2	DEF line heater 2	DT06-2S-EP06	-
CN-383	DEUTSCH	2	DEF line heater 1	DT06-2S-EP06	-
CN-384	K2 MAYONET	2	Coolant valve	DIN72585	-
CN-385	PA46-GF30	7	Fan clutch	965570	-
CN-398	DEUTSCH	4	RS232	DT04-4S-E005	DT06-4P-E005
CN-401	FCI	90	AAVM controller	-	-
CN-402	DEUTSCH	6	Front view camera	DT06-6S-P021	DT04-6P-EP14
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	Service tool	DT06-3S-EP06	DT04-3P-E005

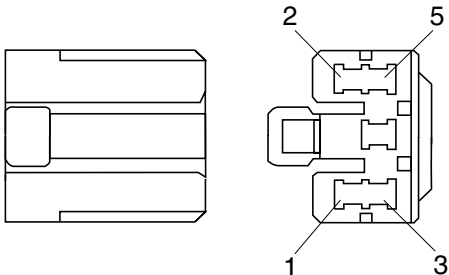
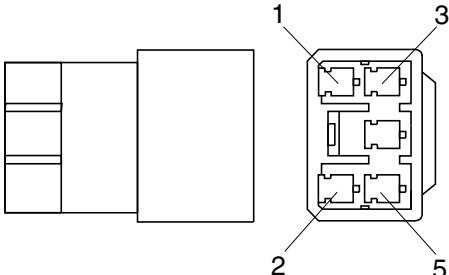
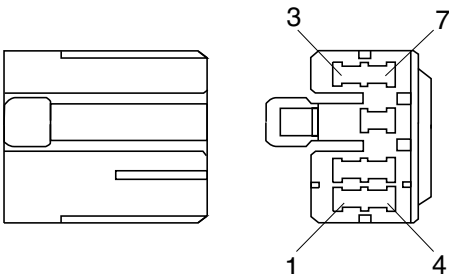
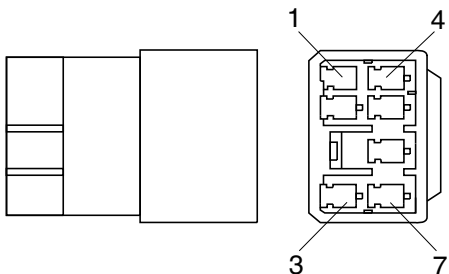
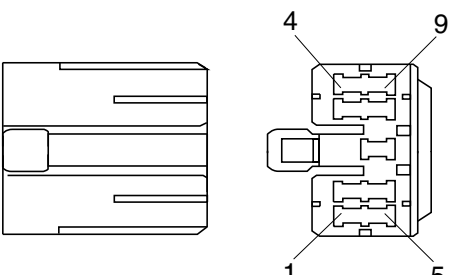
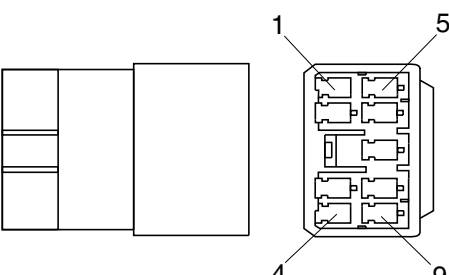
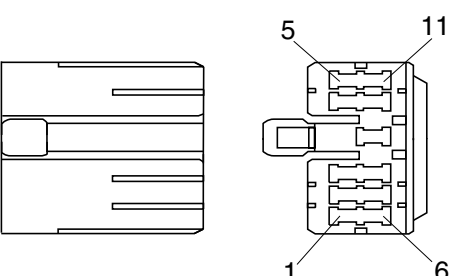
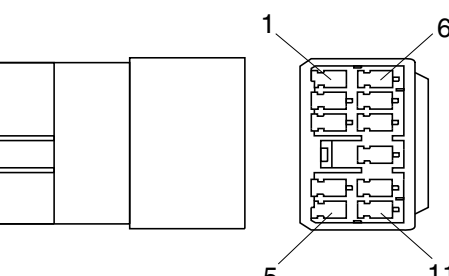
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-407	DEUTSCH	4	Low wiper motor	DT06-4S-EP06	DT04-4P-E005
CN-408	FCI	4	Washer tank	MG640795	-
CN-419	DEUTSCH	2	Swing parking-A1	DT06-2S-EP06	-
CN-420	DEUTSCH	2	Swing parking-A2	DT06-2S-EP06	-
CN-421	DEUTSCH	2	Swing parking-A3	DT06-2S-EP06	-
CN-427	MOLEX	4	Reader-RMS	039012040	026013096
		12		5557-12R	5557-12P
CN-429	DELPHI	4	CAC Out temp	12162197	-
CN-430	AMP	12	Aftertreatment harness	S816-012002	-
AT1E	-	4	Inlet Nox sensor	-	-
AT2A	-	4	Outlet Nox sensor	-	-
AT-5A	TYCO	4	SCR supply module	2-1418390-1	-
AT-6A	-	8	DEF/AdBlue® dosing module	-	-
AT9A	-	4	Exhaust gas temp	-	-
AT11A	-	4	SCR perssure sensor	-	-
CCBC	DEUTSCH	4	Engine side cross over connector	DT06-4S-EP06	-
C-12	FCI	4	Air cleaner (ECM J1)	-	54200417
· 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-46	-	5	Fuel warmer relay	-	-
CR-48	-	5	Safety relay	-	-
CR-50	-	5	NOx sensor relay	-	-
CR-51	-	5	DEF/AdBlue® module relay	-	-
CR-52	-	5	Line heater relay	-	-
CR-85	-	5	Beacon lamp relay	-	-
· Switch					
CS-1	SHUR	1	Door switch	S822-014002	S822-114002
CS-2A	WP	6	Start key switch	S814-006100	-

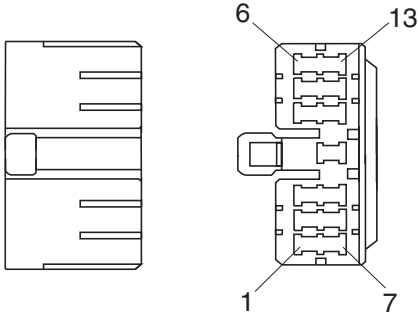
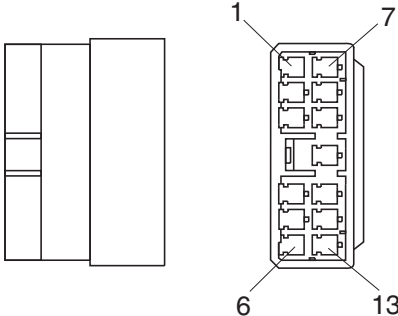
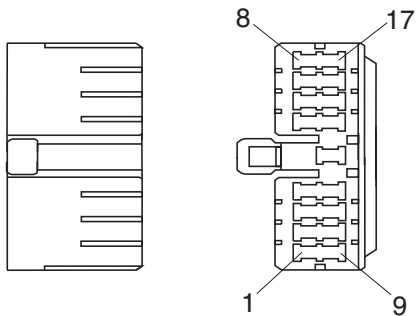
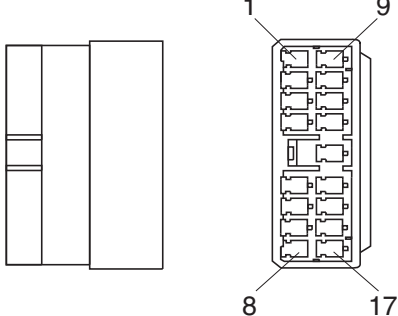
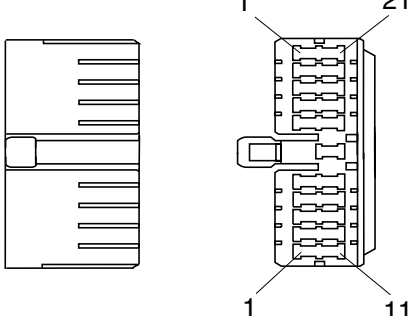
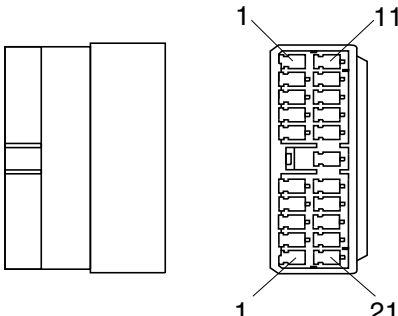
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CS-2B	DEUTSCH	3	Reader-start	DT06-3S-EP06	DT04-3P-E005
CS-4	DEUTSCH	3	Safety switch	DT06-3S-EP06	-
CS-5	DEUTSCH	2	Horn switch	-	DT04-2P
CS-19	DEUTSCH	2	One touch decel switch	-	DT04-2P-E005
CS-26	DEUTSCH	2	Breaker switch	DT06-2S	-
CS-26A	AMP	2	Breaker pedal switch	S816-002002	S816-102002
CS-29	DEUTSCH	2	Power max switch	DT06-2S-EP06	-
CS-33	AMP	5	Emergency engine stop switch	S815-005002	S815-105002
CS-52	CARLING	10	2 Piece switch	VC2-01	-
CS-53	AMP	1	Wiper cut switch	S822-014002	-
CS-61	AMP	2	Float switch	174352-2	174354-2
CS-67	CARLING	10	Quick coupler switch	VC2-01	-
CS-73	CARLING	10	Swing lock switch	VC2-01	-
CS-73A	CARLING	10	Swing fine switch	VC2-01	-
CS-74	DEUTSCH	2	Master switch	DT06-2S-EP06	-
CS-74B	DEUTSCH	2	Master switch	DT06-2S-EP06	-
CS-79	CARLING	10	Lower wiper switch	VC2-01	-
CS-83	CARLING	10	Swing lock switch	VC2-01	-
CS-99	CARLING	10	Air compressor switch	VC2-01	-
CS-100	CARLING	10	Exhaust system cleaning switch	VC2-01	-
CS-107	CARLING	10	Travel straight switch	VC2-01	-
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 lighter	S822-014002 S810-001202	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-RH	DT06-2S-EP06	DT04-2P
CL-24	DEUTSCH	2	Head lamp-rear	DT06-2S-EP06	DT04-2P-E005
CL-40	DEUTSCH	2	DEF/AdBlue® lamp	DT06-2S-EP06	DT04-2P
· Sensor, sender					
CD-1	AMP	2	Hydraulic oil temp sender	85202-1	-

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CD-2	DEUTSCH	2	Fuel sender	DT06-2S-EP06	-
CD-6	DEUTSCH	3	Travel pilot pressure switch	DT06-3S-EP06	-
CD-7	DEUTSCH	3	Working pilot pressure switch	DT06-3S-EP06	-
CD-10	SUMITOMO	4	Air cleaner switch	6098-0144	-
CD-10A	AMP	2	Air cleaner switch (-#00142)	85202-1	-
CD-16	AMP	3	Water level sensor	1211 0293	-
CD-24	DEUTSCH	3	Swing pilot pressure sw	DT06-3S-EP06	-
CD-31	DEUTSCH	3	Overload pressure sensor	DT06-3S-EP06	DT04-3P-E005
CD-32	DEUTSCH	3	Boom up pilot pressure sw	DT06-3S-EP06	-
CD-35	DEUTSCH	3	Bucket in pilot pressure sw	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	3	WIF sensor	DT06-3S-EP06	-
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 pilot pressure sw	DT06-3S-EP06	-
CD-86	DEUTSCH	3	Arm out pilot pressure sw	DT06-3S-EP06	-
CD-87	DEUTSCH	3	Bucket out pilot pressure sw	DT06-3S-EP06	-
CD-90	DEUTSCH	3	Arm in pilot pressure sw	DT06-3S-EP06	-
CD-124	DEUTSCH	3	Boom cylinder rod pressure snensor	DT06-3S-EP06	-

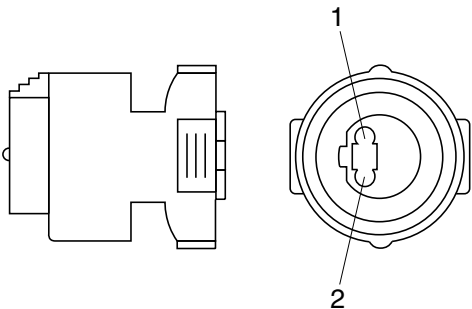
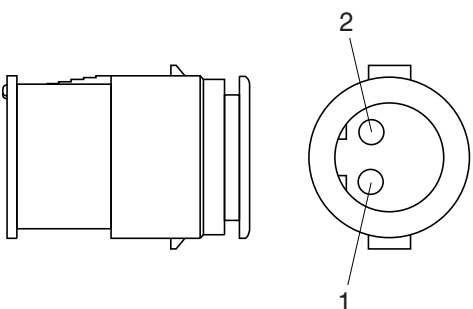
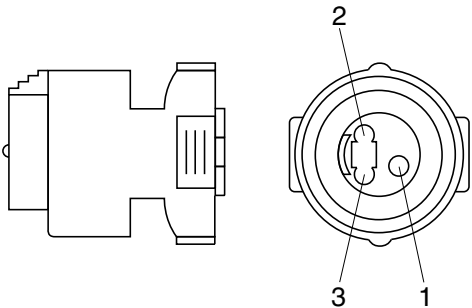
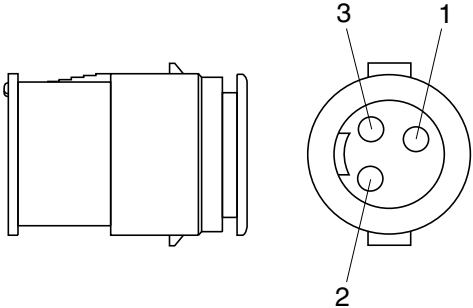
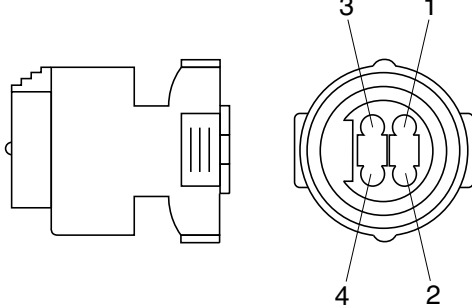
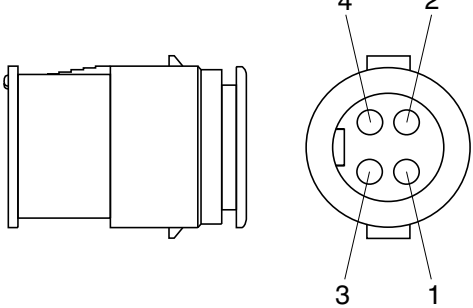
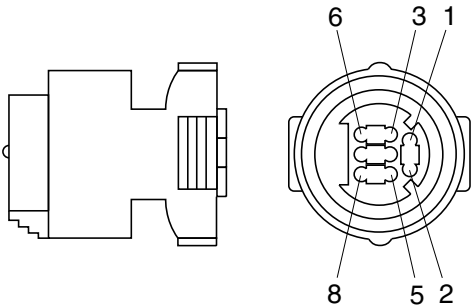
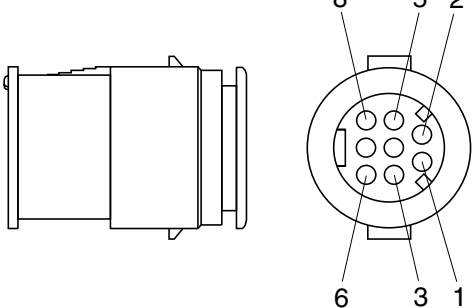
2. CONNECTION TABLE FOR CONNECTORS

1) PA TYPE CONNECTOR

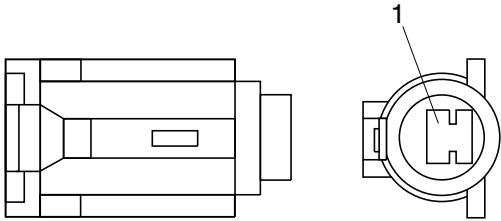
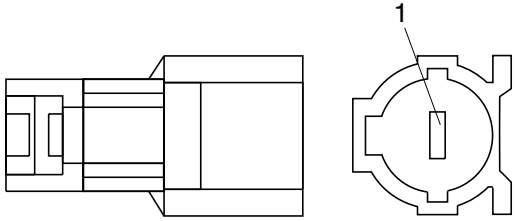
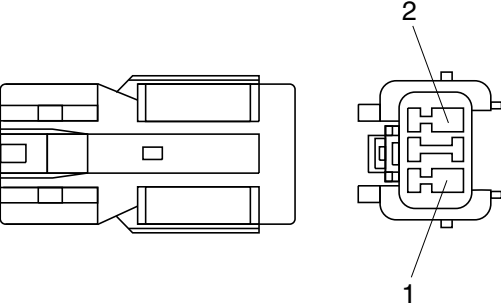
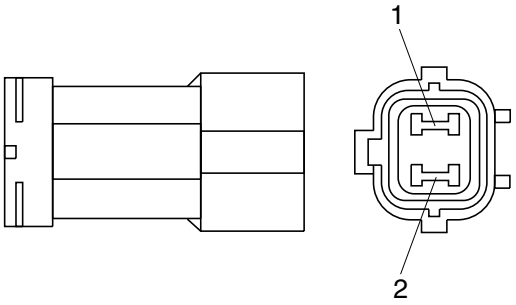
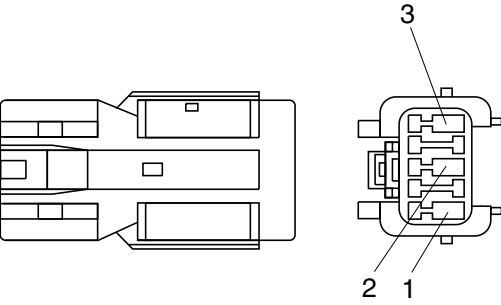
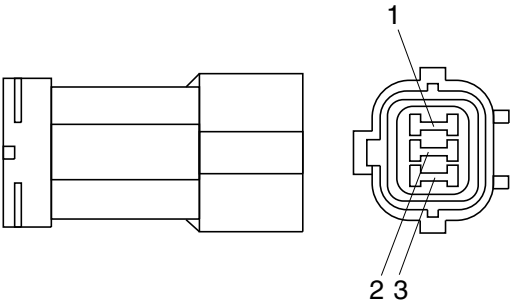
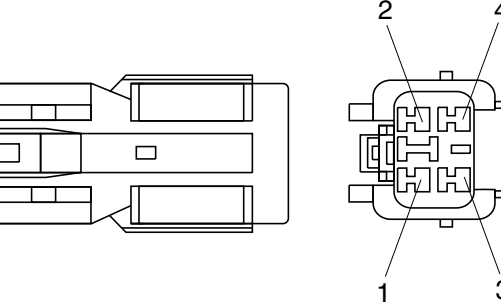
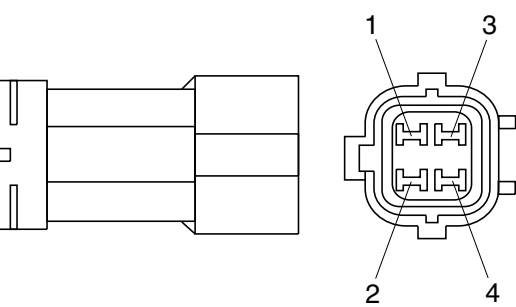
No. of pin	Receptacle connector (female)	Plug connector (male)
5	 S811-005002	 S811-105002
7	 S811-007002	 S811-107002
9	 S811-009002	 3S811-109002
11	 S811-011002	 S811-111002

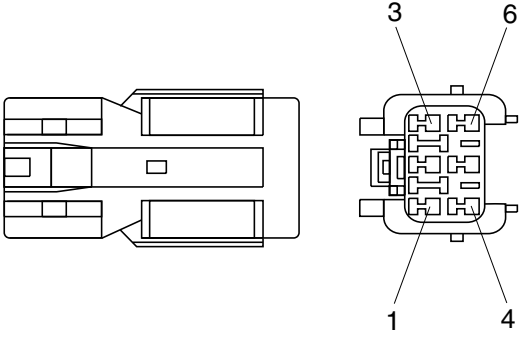
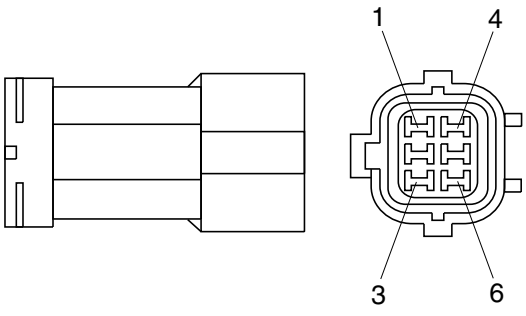
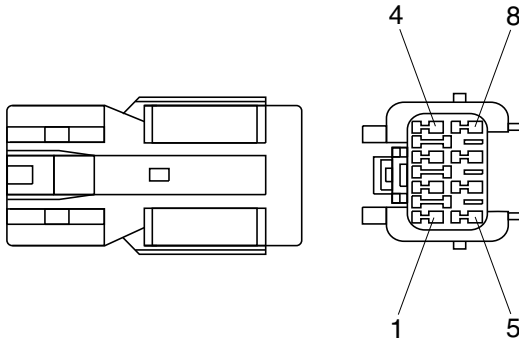
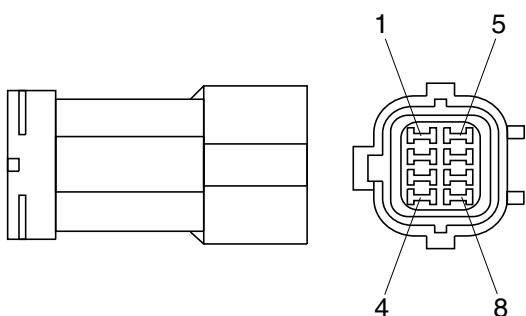
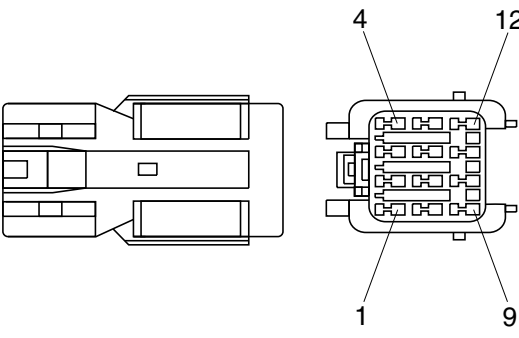
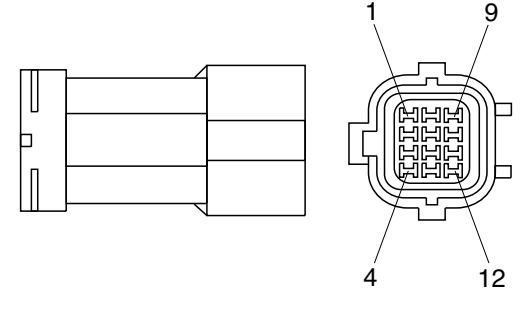
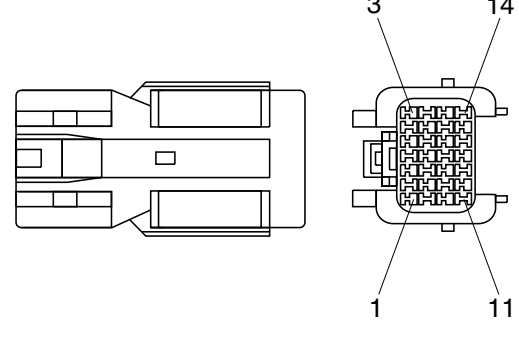
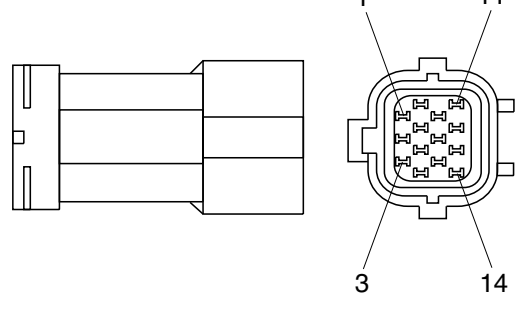
No. of pin	Receptacle connector (female)	Plug connector (male)
13	 S811-013002	 S811-113002
17	 S811-017002	 S811-117002
21	 S811-021002	 S811-121002

2) J TYPE CONNECTOR

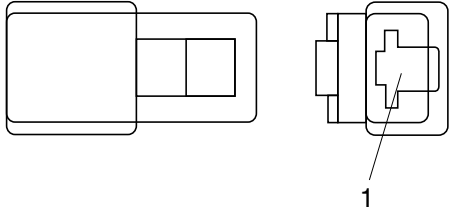
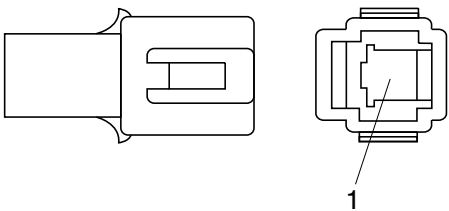
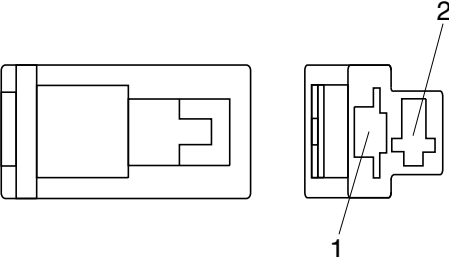
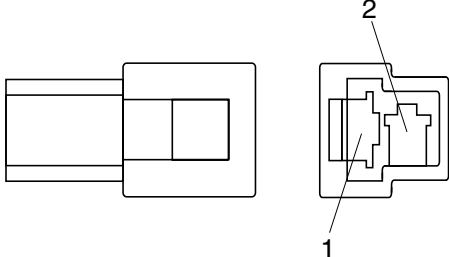
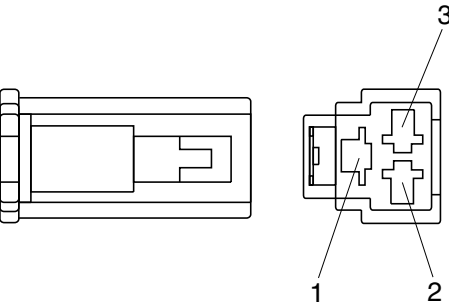
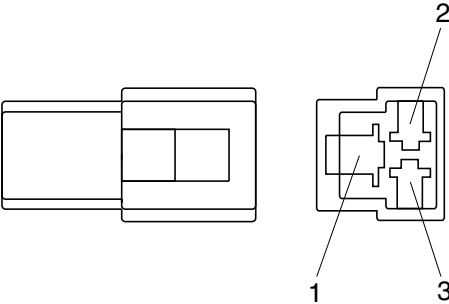
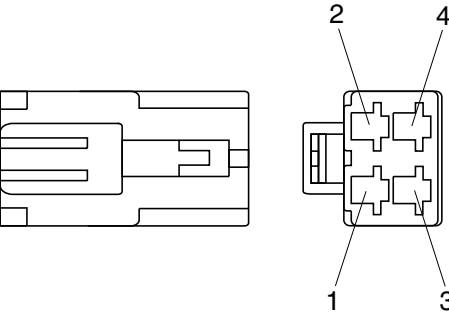
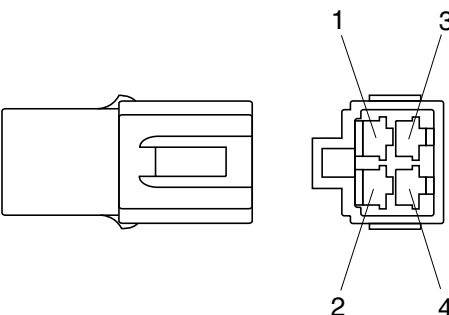
No. of pin	Receptacle connector (female)	Plug connector (male)
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3	 S816-003001	 S816-103001
4	 S816-004001	 S816-104001
8	 S816-008001	 S816-108001

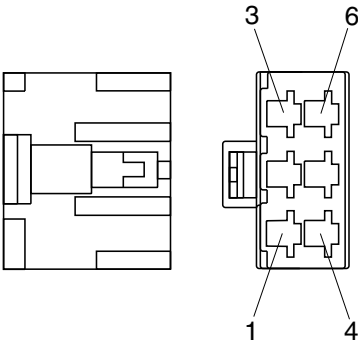
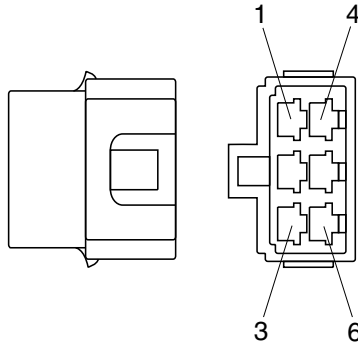
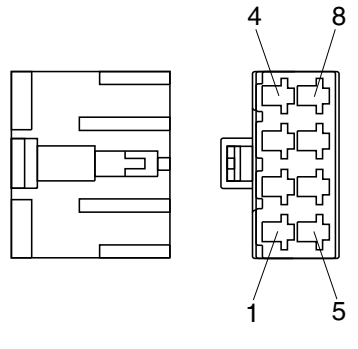
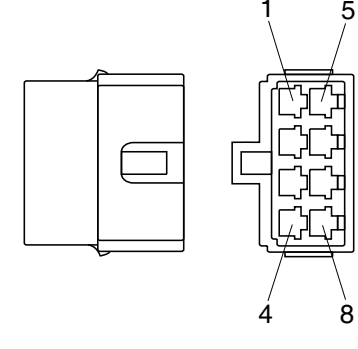
3) SWP TYPE CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
1	 S814-001000	 S814-101000
2	 S814-002000	 S814-102000
3	 S814-003000	 S814-103000
4	 S814-004000	 S814-104000

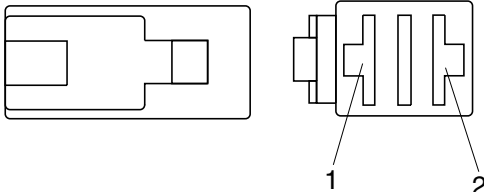
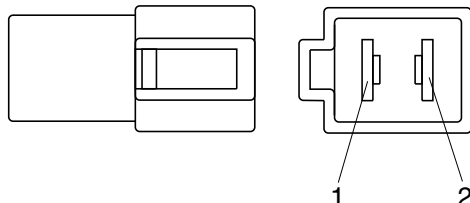
No. of pin	Receptacle connector (female)	Plug connector (male)
6	 S814-006000	 S814-106000
8	 S814-008000	 S814-108000
12	 S814-012000	 S814-112000
14	 S814-014000	 S814-114000

4) CN TYPE CONNECTOR

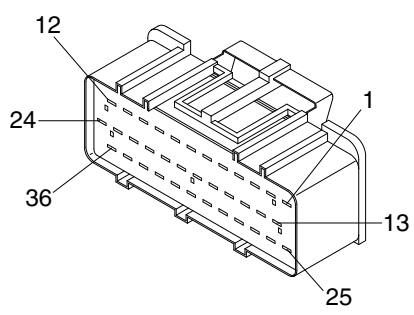
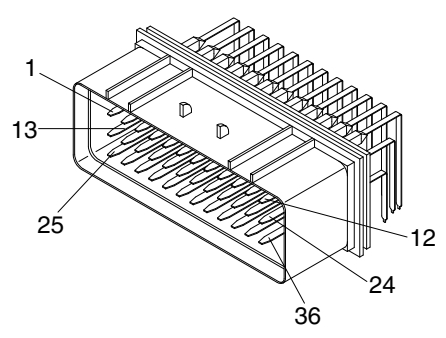
No. of pin	Receptacle connector (female)	Plug connector (male)
1	 S810-001202	 S810-101202
2	 S810-002202	 S810-102202
3	 S810-003202	 S810-103202
4	 S810-004202	 S810-104202

No. of pin	Receptacle connector (female)	Plug connector (male)
6	 S810-006202	 S810-106202
8	 S810-008202	 S810-108202

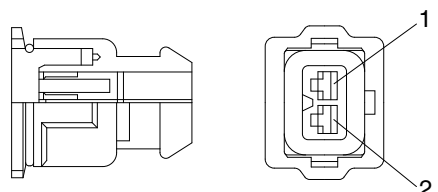
5) 375 FASTEN TYPE CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
2	 S810-002402	 S810-102402

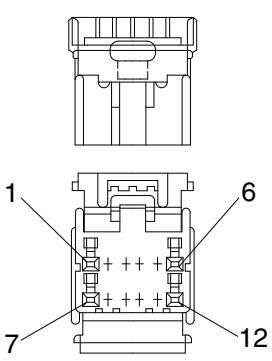
6) AMP ECONOSEAL CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
36	 344111-1	 344108-1

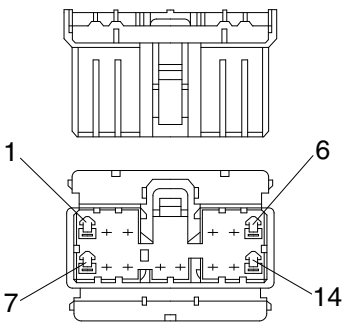
7) AMP TIMER CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
2	 85202-1	

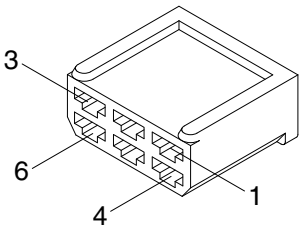
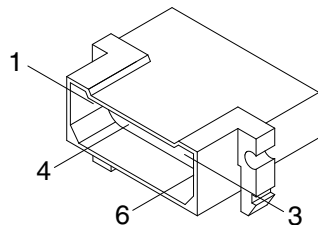
8) AMP 040 MULTILOCK CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
12	 174045-2	

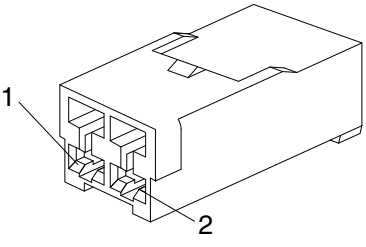
9) AMP 070 MULTILOCK CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
14	 173852	

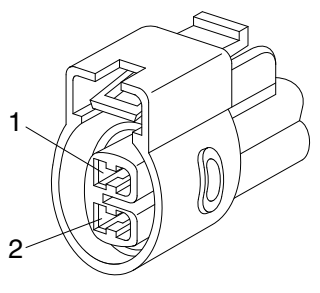
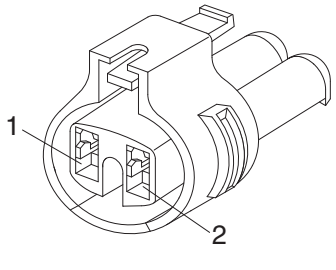
10) AMP FASTIN - FASTON CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
6	 925276-0	 480003-9

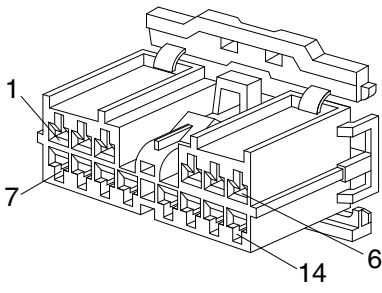
11) KET 090 CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
2	 MG610070	

12) KET 090 WP CONNECTORS

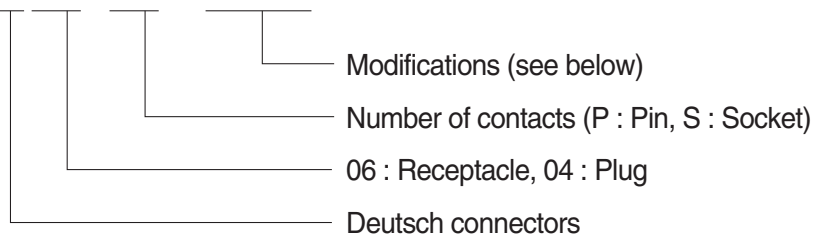
No. of pin	Receptacle connector (female)	Plug connector (male)
2	 MG640605	
2	 MG640795	

13) KET SDL CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
14	 MG610406	

14) DEUTSCH DT CONNECTORS

DT 06 - 3S - ★★☆☆



※ Modification

E003 : Standard end cap - gray

E004 : Color of connector to be black

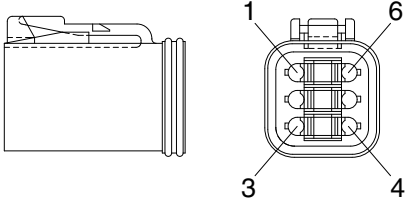
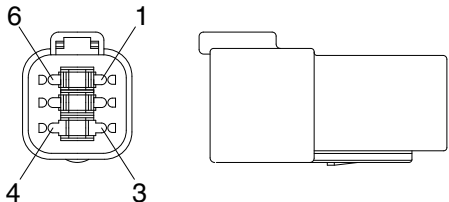
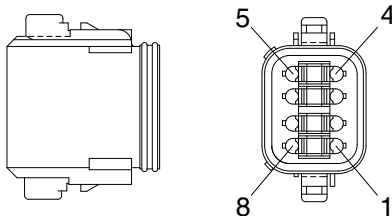
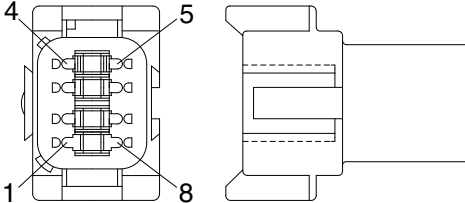
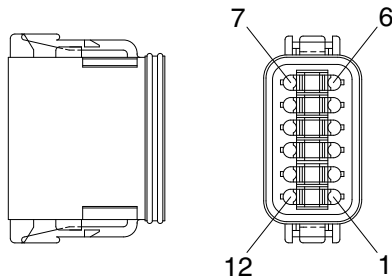
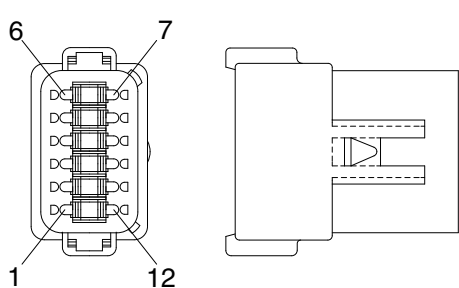
E005 : Combination - E004 & E003

EP04 : End cap

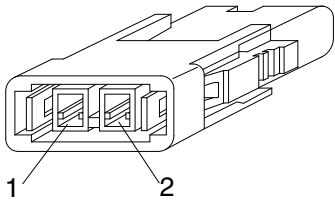
EP06 : Combination P012 & EP04

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

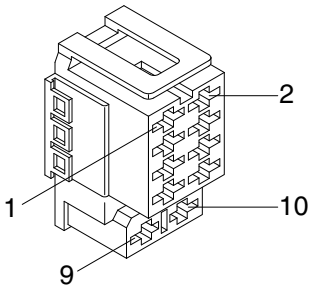
No. of pin	Receptacle connector (female)	Plug connector (male)
2	DT06-2S	DT04-2P
3	DT06-3S	DT04-3P
4	DT06-4S	DT04-4P

No. of pin	Receptacle connector (female)	Plug connector (male)
6	 DT06-6S	 DT04-6P
8	 DT06-8S	 DT04-8P
12	 DT06-12S	 DT04-12P

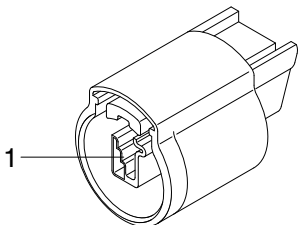
15) MOLEX 2CKTS CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
2	 35215-0200	

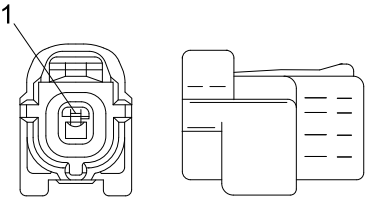
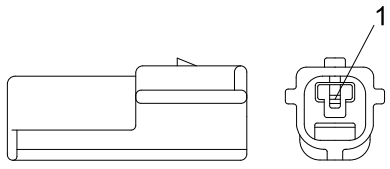
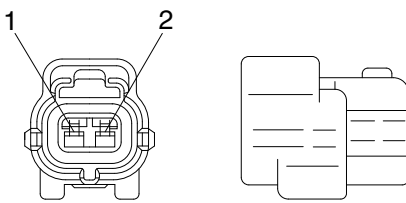
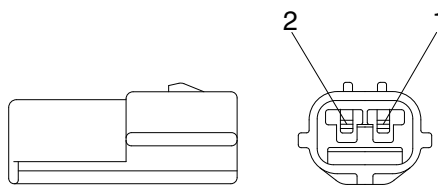
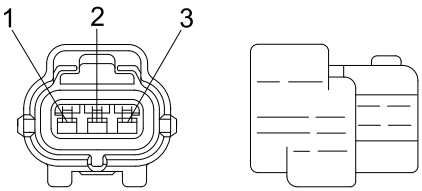
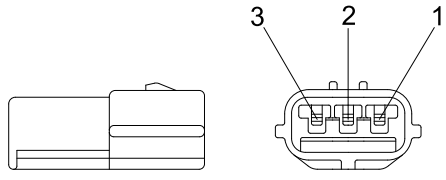
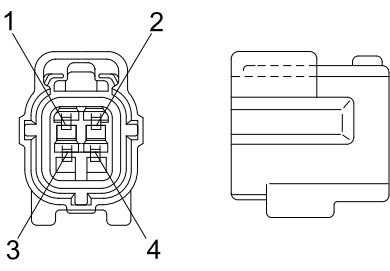
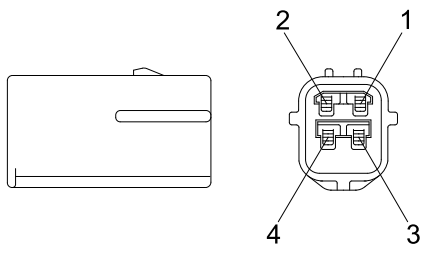
16) ITT SWF CONNECTOR

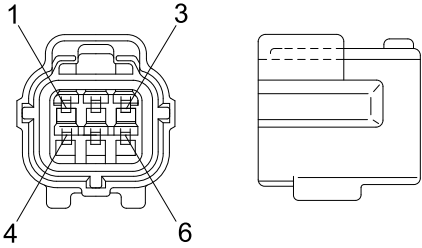
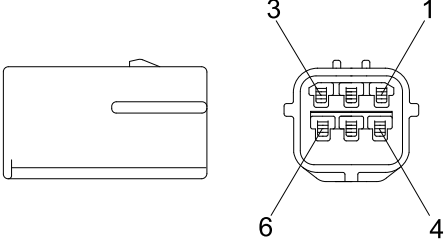
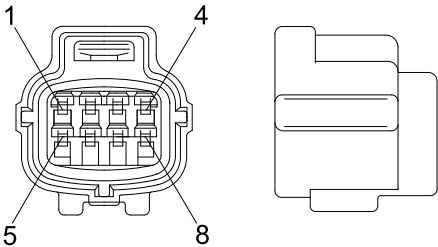
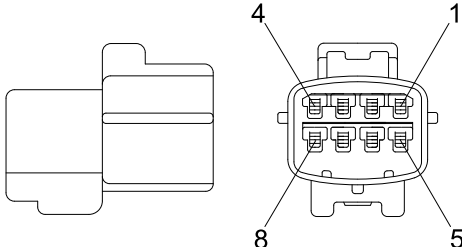
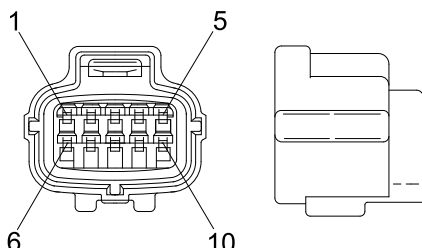
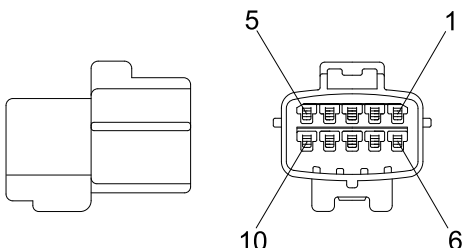
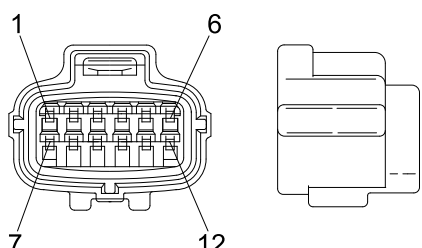
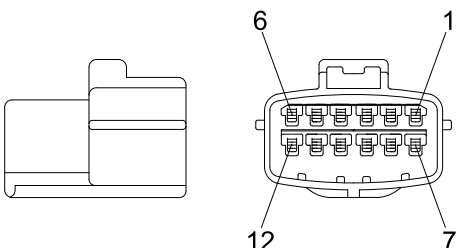
No. of pin	Receptacle connector (female)	Plug connector (male)
10	 SWF593757	

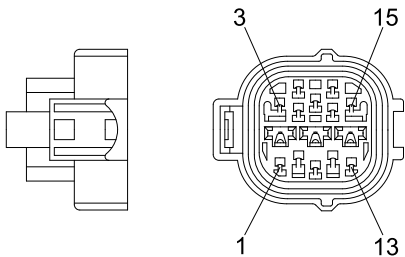
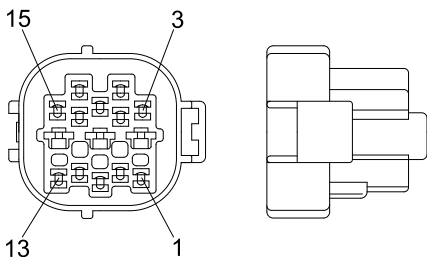
17) MWP NMWP CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
1	 NMWP01F-B	

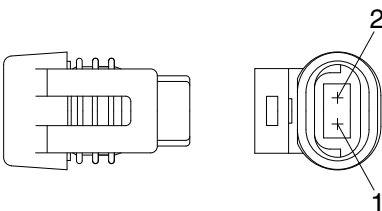
18) ECONOSEAL J TYPE CONNECTORS

No. of pin	Receptacle connector (female)	Plug connector (male)
1	 S816-001002	 S816-101002
2	 S816-002002	 S816-102002
3	 S816-003002	 S816-103002
4	 S816-004002	 S816-104002

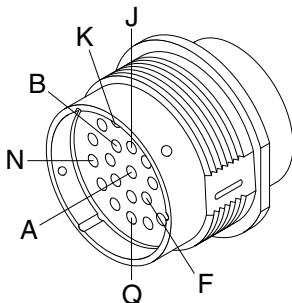
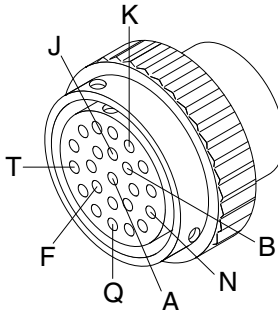
No. of pin	Receptacle connector (female)	Plug connector (male)
6	 S816-006002	 S816-106002
8	 S816-008002	 S816-108002
10	 S816-010002	 S816-110002
12	 S816-012002	 S816-112002

No. of pin	Receptacle connector (female)	Plug connector (male)
15	 368301-1	 2-85262-1

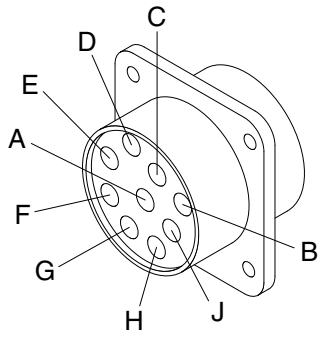
19) METRI-PACK TYPE CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
2	 12040753	

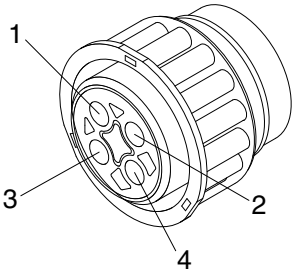
20) DEUTSCH HD30 CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
23	 HD36-24-23SN	 HD34-24-23PN

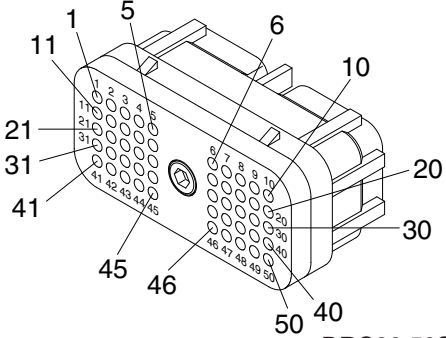
21) DEUTSCH SERVICE TOOL CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
9	 HD10-9-96P	

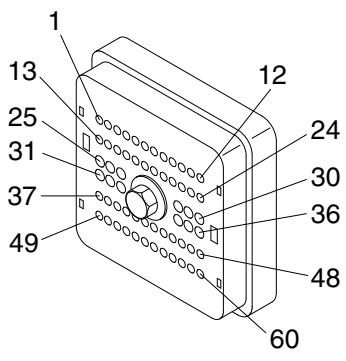
22) AMP FUEL WARMER CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
4	 2-967325-3	

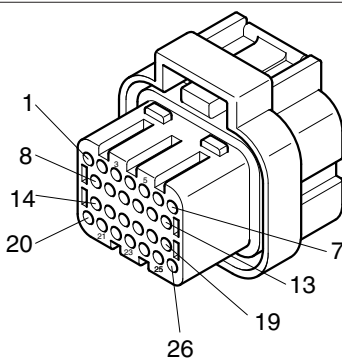
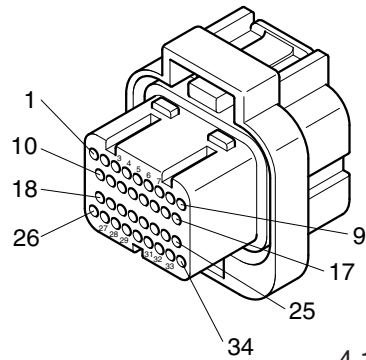
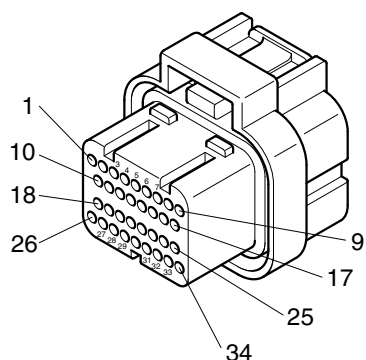
23) DEUTSCH ENGINE ECM CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
50	 DRC26-50S-04	

24) DEUTSCH INTERMEDIATE CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
60	 DRB16-60SAE-L018	

25) TE MCU CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
26	 1473416-1	
34	 4-1437290-0	
34	 4-1437290-1	