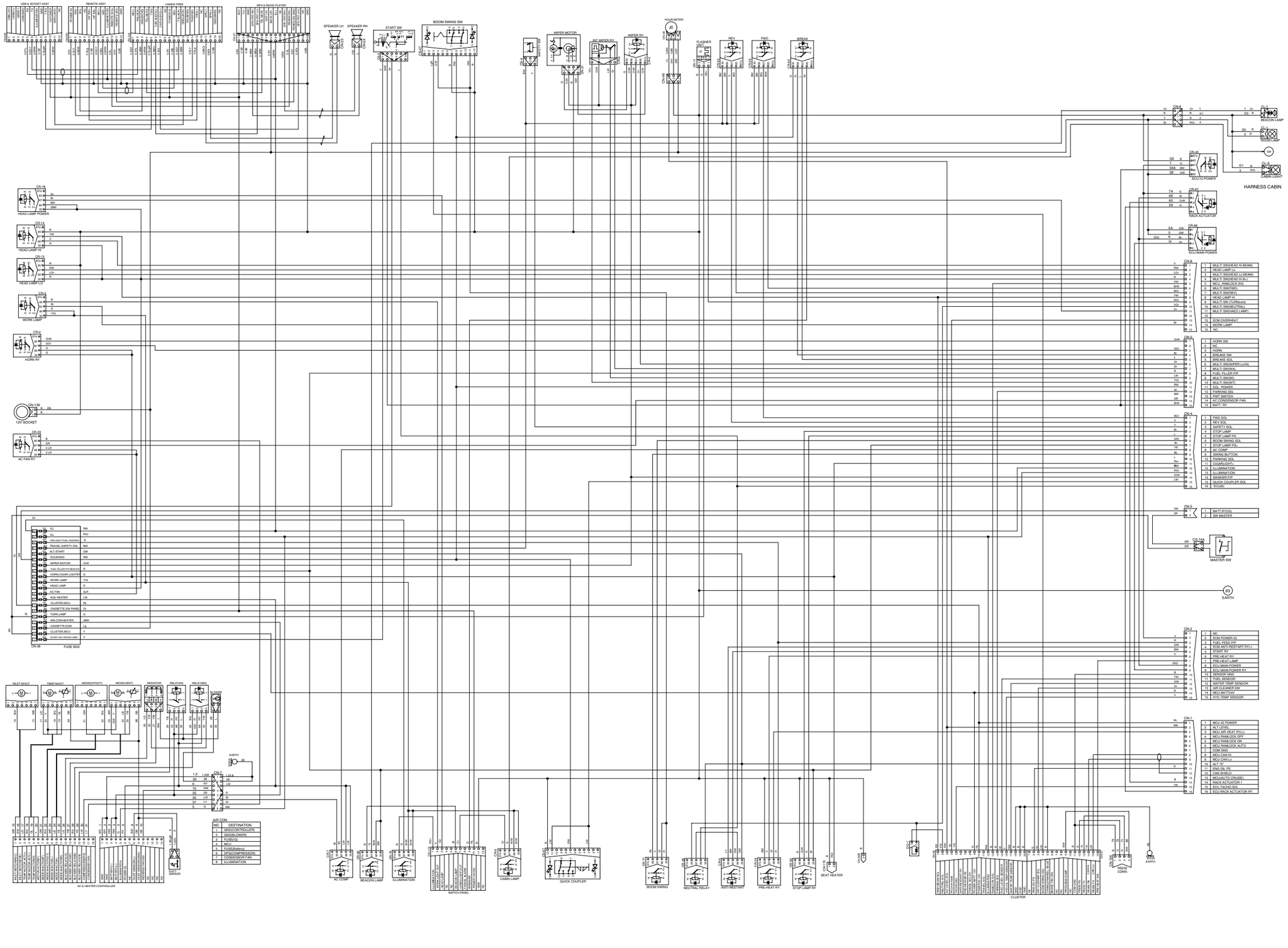
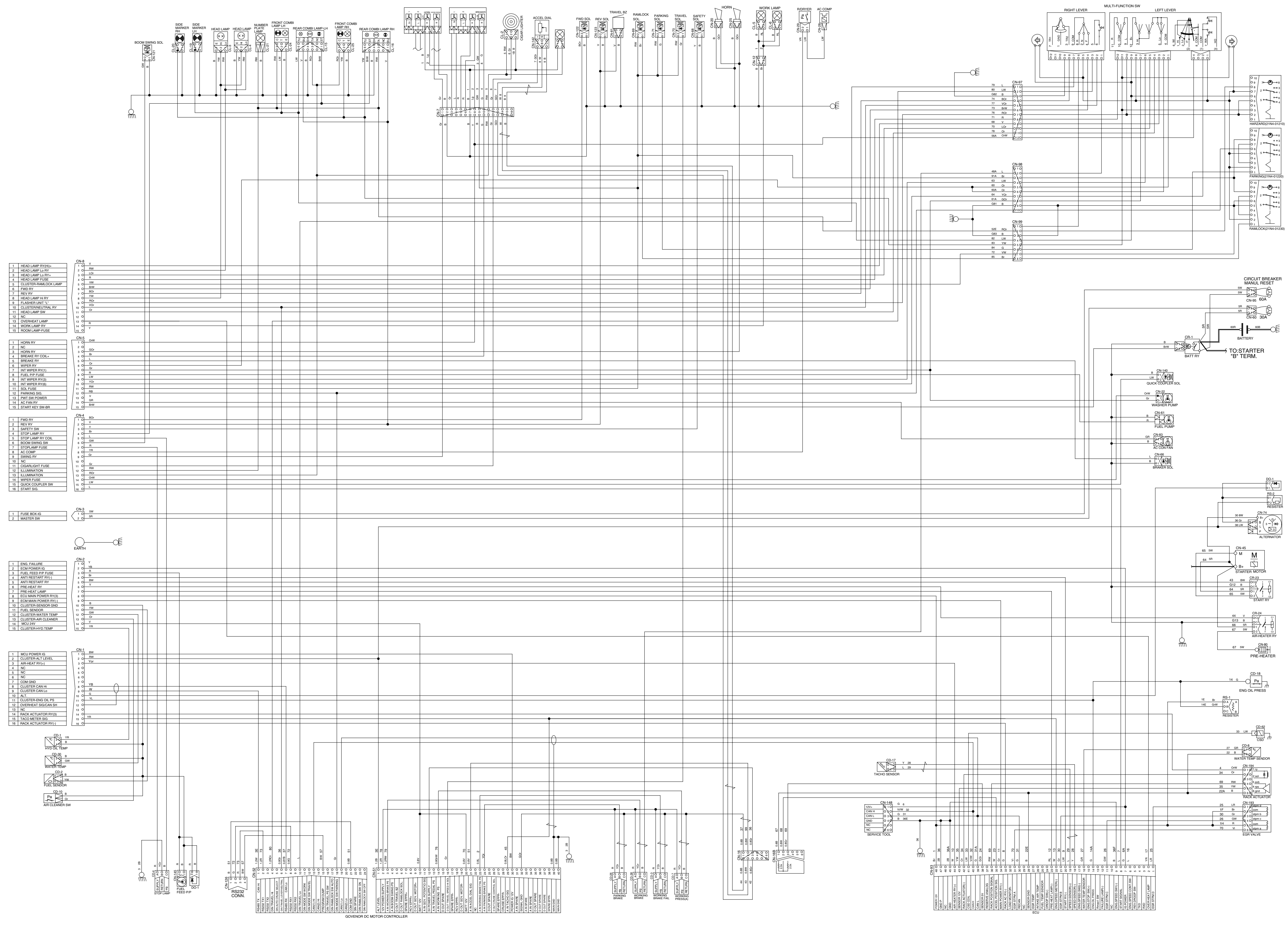

USB & SOCKET ASSY
REMOTE ASSY
HANDS FREE
MP3 & RADIO PLAYER
SPEAKER LH
SPEAKER RH
START SW
BOOM SWING SW
HOUR METER
WIPER MOTOR
INT WIPER RY
WIPER RY
FLASHER UNIT
REV
FWD
BREAK
SAFETY SW
BEACON LAMP
ROOM LAMP
CABIN LIGHT
HARNESS CABIN
ECU IG POWER
RACK ACTUATOR
ECU MAIN POWER
HEAD LAMP POWER
HEAD LAMP HI
HEAD LAMP LO
WORK LAMP
HORN RY
12V SOCKET
AC FAN RY
FUSE BOX
MASTER SW
EARTH
INLET M.ACT
TEMP M.ACT
MODE(FOOT)
MODE(VENT)
RESISTOR
RELAY(H)
RELAY(W)
BLOWER
AC & HEATER CONTROLLER
AIR CON
NO. DESTINATION
1 GND(CONTROLLER)
2 GND(BLOWER)
3 FUSE(IG)
4 MCU
5 FUSE(Battery)
6 OP.SOL(COMPRESSOR)
7 CONDENSOR FAN
8 ILLUMINATION
A/C COMP
BEACON LAMP
ILLUMINATION
SWITCH PANEL
CABIN LAMP
QUICK COUPLER
BOOM SWING
NEUTRAL RELAY
ANTI-RESTART
PRE-HEAT RY
STOP LAMP RY
SEAT HEATER
CLUSTER
RS232C CONN.
CN-8
1 MULTI SW(HEAD HI BEAM)
2 HEAD LAMP Lo
3 MULTI SW(HEAD Lo BEAM)
4 MULTI SW(HEAD HI B+)
5 MCU_RAMLOCK SIG.
6 MULTI SW(HAZ)
7 MULTI SW(REV)
8 HEAD LAMP HI
9 MULTI SW (TURN)com)
10 MULTI SW(NEUTRAL)
11 MULTI SW(HAED LAMP)
12
13 ECM OVERHEAT
14 WORK LAMP
15 NC
CN-6
1 HORN SW
2 N/C
3 HORN
4 BREAKE SW
5 BREAKE SOL
6 MULTI SW(WIPER Lo/Hi)
7 MULTI SW(WA)
8 FUEL FILLER P/P
9 MULTI SW(WI)
10 MULTI SW(WT)
11 SOL. POWER
12 PARKING SIG.
13 PWT SWITCH
14 AC CONDENSOR FAN
15 BATT. RY
CN-4
1 FWD SOL
2 REV SOL
3 SAFETY SOL
4 STOP LAMP
5 STOP LAMP PS
6 BOOM SWING SOL
7 STOP LAMP PS+
8 AC COMP
9 SWING BUTTON
10 PARKING SOL
11 CIGARLIGHT+
12 ILLUMINATION
13 ILLUMINATION
14 WASHER P/P
15 QUICK COUPLER SOL
16 ECU(B)
CN-3
1 BATT.RY(IG)
2 SW.MASTER
CN-2
1 NC
2 ECM POWER IG
3 FUEL FEED P/P
4 ECM ANTI-RESTART RY(-)
5 START RY
6 PRE-HEAT RY
7 PRE-HEAT LAMP
8 ECU MAIN POWER
9 ECU MAIN POWER RY
10 SENSOR GND
11 FUEL SENSOR
12 WATER TEMP SENSOR
13 AIR CLEANER SW
14 MCU BATT24V
15 HYD.TEMP SENDOR
CN-1
1 MCU IG POWER
2 ALT LEVEL
3 MCU AIR HEAT RY(+)
4 MCU RAMLOCK OFF
5 MCU RAMLOCK ON
6 MCU RAMLOCK AUTO
7 COM GND
8 MCU CAN H
9 MCU CAN L
10 ALT "S"
11 ENG.OIL PS
12 CAN SHIELD
13 MCU(AUTO CRUISE)
14 RACK ACTUATOR 1
15 ECU TACHO SIG
16 ECU RACK ACTUATOR RY

55W94EL03

ELECTRICAL CIRCUIT (2-2)



55W94EL04

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

Battery → Battery relay → Fusible link (CN-60) → I/conn [CN-3 (2)] → Master switch [CS-74]

- → Fuse box [No.2]
  - → Cluster [CN-56 (2)]
  - → I/conn [CN-2 (14)]
    - → DC motor controller [CN-51 (10)]
    - → DC motor controller [CN-51 (20)]
- → Fuse box [No.3]
  - → 12V socket [CN-139 (2)]
  - → I/conn [CN-6 (3)] → Room lamp [CL-1 (2)]
  - → Radio & CD / MP3 player [CN-27 (8)]
  - → I/conn [CN-48 (3)] → Hour meter [CN-48 (1)]
- → Fuse box [No.4] → Aircon & heater controller [CN-7 (5)]

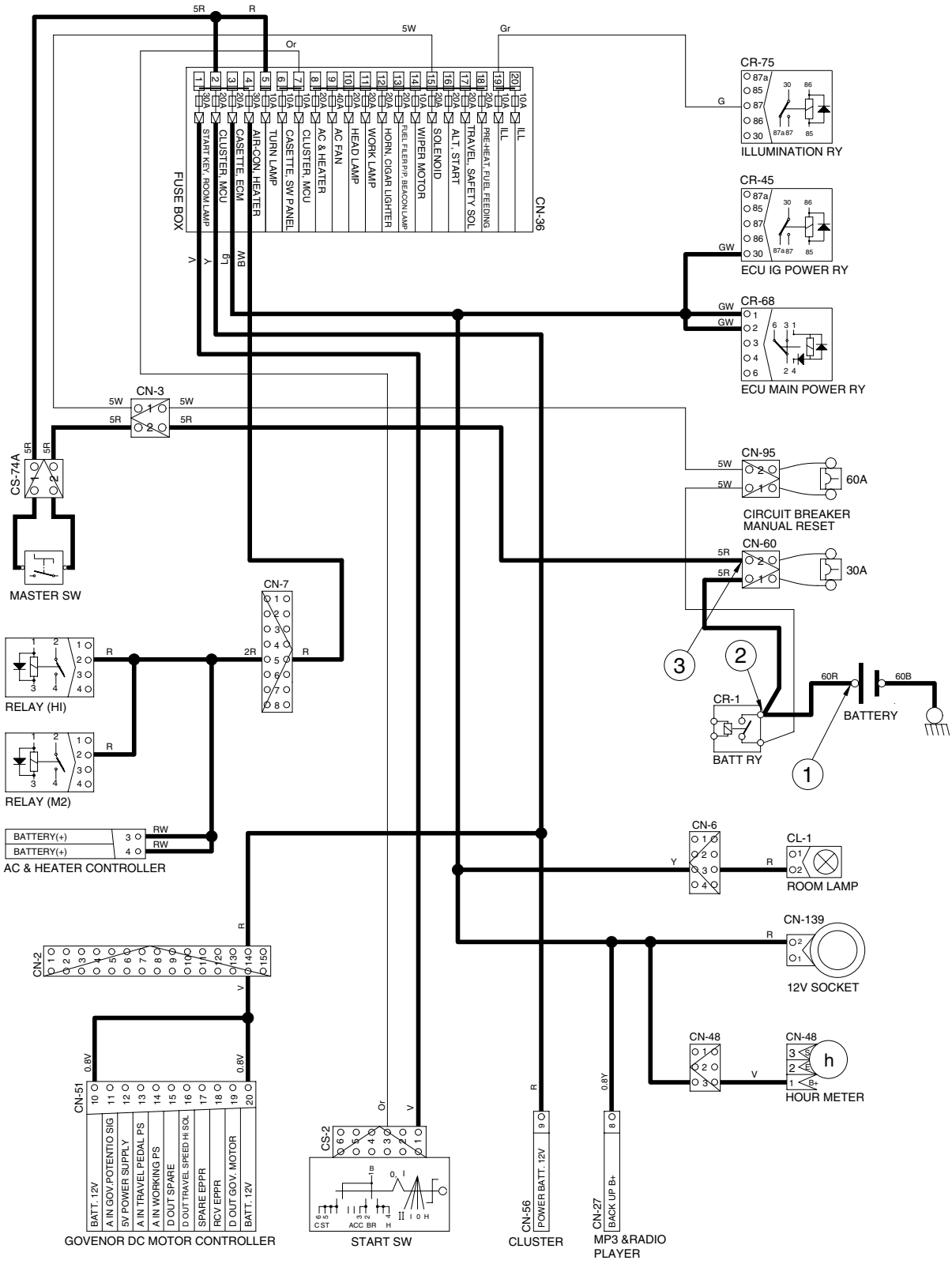
※ I/conn : Intermediate connector

2) CHECK POINT

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

※ GND : Ground

POWER CIRCUIT



55W94EL05

2. STARTING CIRCUIT

1) OPERATING FLOW

Battery (+) terminal → Battery relay[CR-1] → Fusible link [CN-60]
→ I/conn [CN-3 (2)] → Master switch [CS-74] → Fuse box No.1 → Start key [CS-2 (1)]

※ Start switch : ON

→ Start switch ON [CS-2 (2)] → I/conn [CN-5 (15)]→
Battery relay [CR-1] : Battery relay operating (all power is supplied with the electric component)
→ Start switch ON [CS-2 (3)] → Fuse box (all power is supplied with electric component)

※ Start switch : START

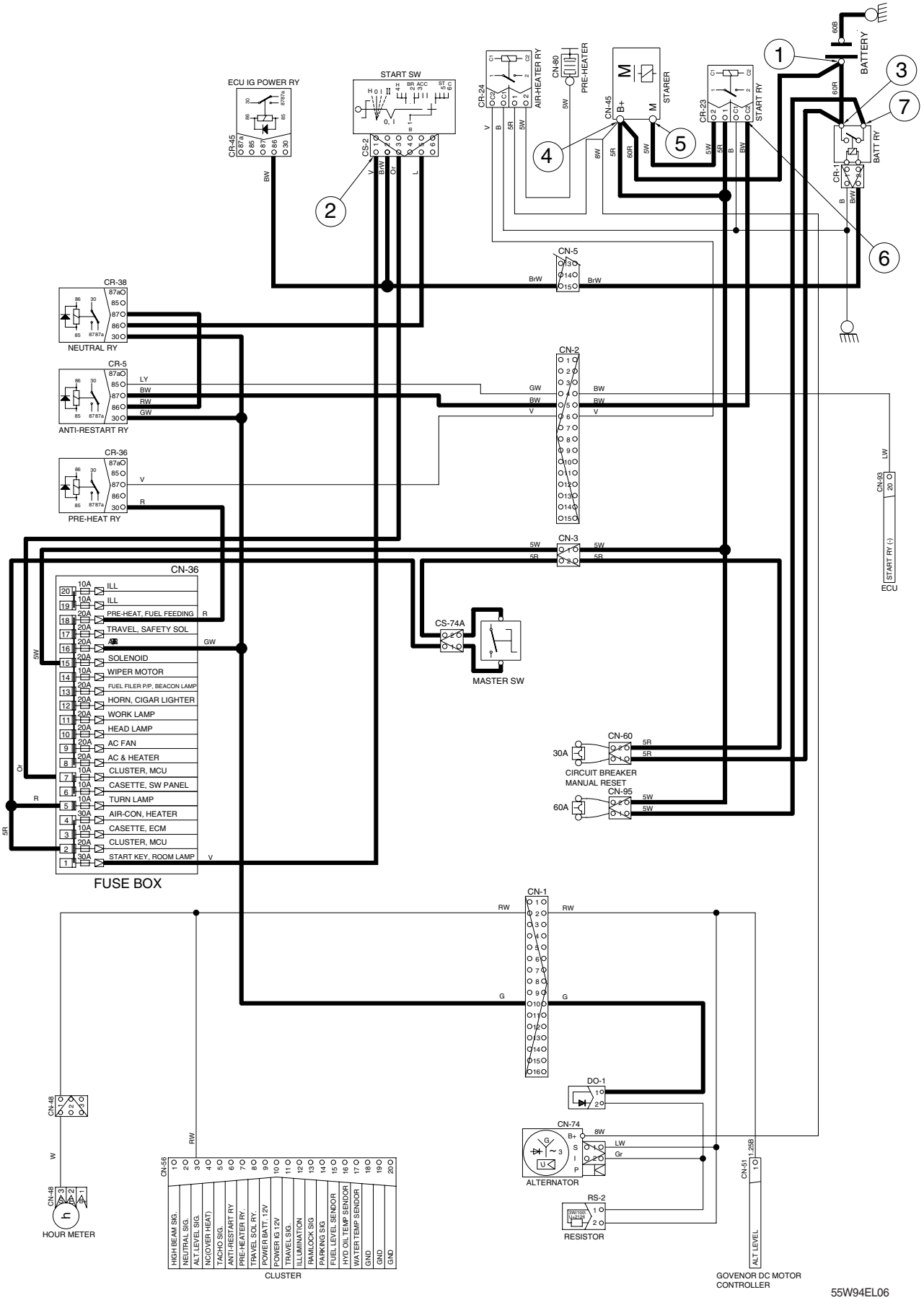
Start switch START [CS-2 (5)] → Anti-restart relay [CR-5 (86)→(87)] → I/conn [CN-2 (5)]
→ Start relay [CR-23 (2)→(2)] → Start motor operating

2) CHECK POINT

Engine	Start switch	Check point	Voltage
Operating	Start	① - GND (battery) ② - GND (battery) ③ - GND (fusible link) ④ - GND (starter B^+) ⑤ - GND (starter M) ⑥ - GND (start relay) ⑦ - GND (battery relay M8)	10~12.5V

※ GND : Ground

STARTING CIRCUIT



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-1 (2)] → Cluster [CN-56 (3)] → Cluster warning lamp
Alternator "L" terminal → DC motor controller [CN-51 (1)]

(2) Charging flow

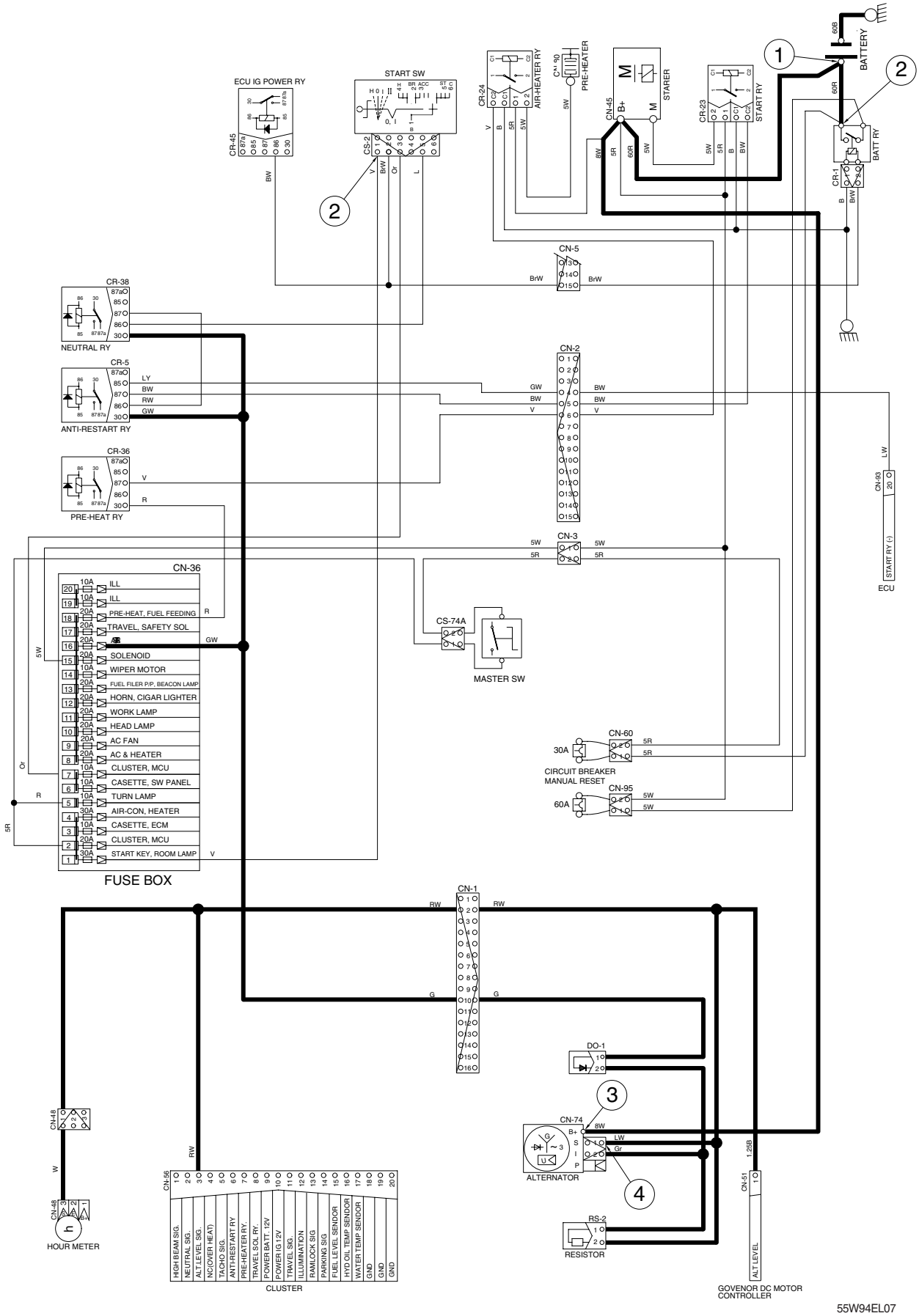
Alternator "B^+" terminal → Battery relay → Battery (+) terminal

2) CHECK POINT

Engine	Start switch	Check point	Voltage
ON	ON	① - GND (battery voltage) ② - GND (battery relay) ③ - GND (alternator B^+ terminal) ④ - GND (alternator L terminal) ⑤ - GND (cluster)	10~12.5V

※ GND : Ground

CHARGING CIRCUIT



55W94EL07

4. HEAD AND WORK LIGHT CIRCUIT

1) OPERATING FLOW

Fuse box (No.10) → Head lamp relay [CR-13 (30)→(86)] → I/conn [CN-8 (3)]
I/conn [CN-97 (10)] → Multifunction switch left lever
Head lamp power relay [CR-78 (30)→(85)] → Switch panel [CN-116 (3)]
Fuse box (No.11) → Work lamp relay [CR-3 (30)→(85)] → Switch panel [CN-116 (2)]

(1) Main light switch ON : 1st step

Head light switch ON [CN-116 (3)] → Head lamp power relay [CR-78 (85)→(87)]
→ I/conn [CN-8 (11)] → I/conn [CN-97 (11)] → Multifunction sw left lever (4)→(5)
→ I/conn [CN-97 (10)] → I/conn [CN-8 (3)] → Head light low relay [CR-13 (86),(87)]
→ I/conn [CN-8 (2)] → Head light ON [CL-3 (1), CL-4 (1)] : Head light ON

(2) Main light switch ON : 2nd step

Head light switch [CN-116 (3)] → Head lamp power relay [CR-78 (85)→(87)]
→ I/conn [CN-8 (11)] → I/conn [CN-97 (11)] → Multifunction sw left lever (4)→(3)
→ I/conn [CN-97 (9)] → I/conn [CN-8 (1)]
→ Head light high relay [CR-14 (86)→(87)] → I/conn [CN-8 (8)]
Cluster [CN-56 (1)]
→ Head light ON [CL-3 (2), CL-4 (2)] : Head light high beam ON

(3) Work lamp switch ON :

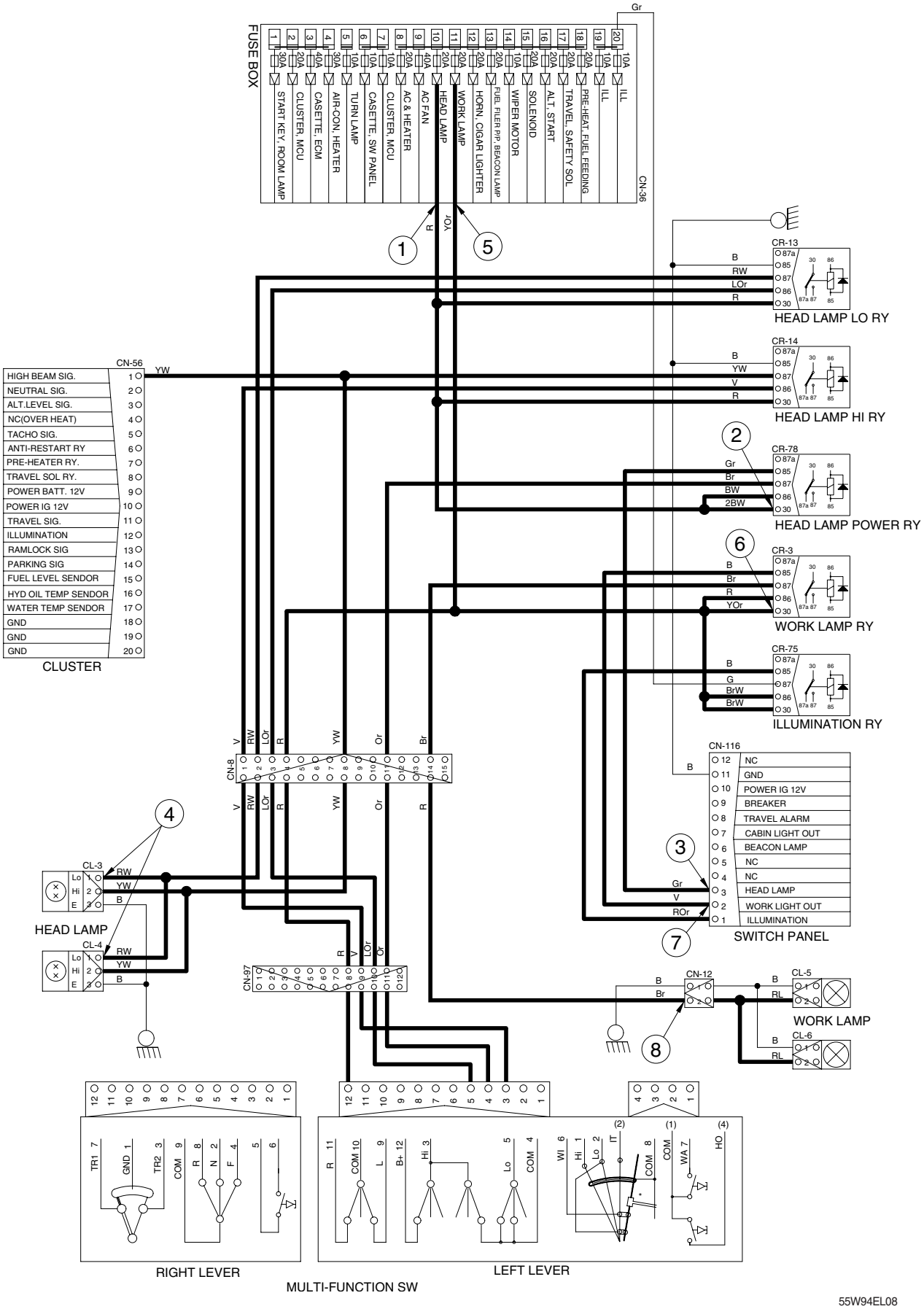
Work lamp switch ON [CS-116 (2)] → Work lamp relay [CR-3 (85)→(87)] → I/conn [CN-8 (14)]
→ I/conn [CN-12 (2)] → Work lamp ON [CL-5 (2), CL-6 (2)] : Work lamp ON

2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box) ② - GND (switch power input) ③ - GND (switch power output) ④ - GND (head light)	10~12.5V
STOP	ON	⑤ - GND (fuse box) ⑥ - GND (switch power input) ⑦- GND (switch power output) ⑧ - GND (work light)	10~12.5V

※ GND : Ground

HEAD AND WORK LAMP CIRCUIT



55W94EL08

5. BEACON LAMP AND CAB LAMP CIRCUIT

1) OPERATING FLOW

Fuse box (No.13) → Beacon lamp relay [CR-85 (30)→(85)] → Switch panel [CN-116 (6)]
Fuse box (No.11) → Cab lamp relay [CR-9 (30)→(85)] → Switch panel [CN-116 (7)]

(1) Beacon lamp switch ON

Switch panel [CN-116 (6)] → Beacon lamp relay [CR-85 (85)→(87)] → I/conn [CN-6 (1)]
→ Beacon lamp [CL-7]

(2) Cab lamp switch ON

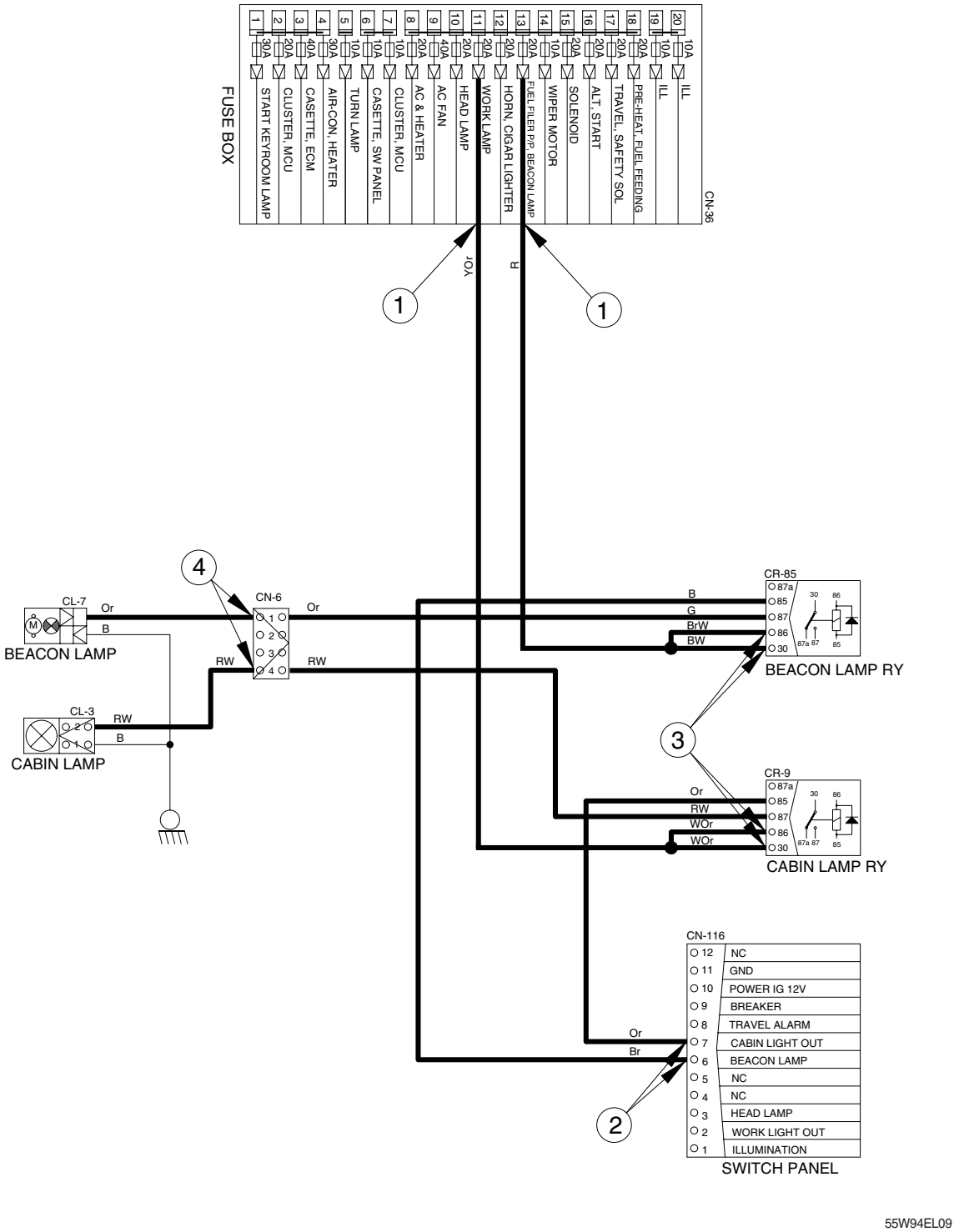
Switch panel [CN-116 (7)] → Cab lamp relay [CR-9 (85)→(87)] → I/conn [CN-6 (4)]
→ Cab lamp [CL-9 (2)]

2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box) ② - GND (switch power input) ③ - GND (switch power output) ④ - GND (beacon & cab lamp)	10~12.5V

※ GND : Ground

BEACON LAMP AND CAB LAMP CIRCUIT



55W94EL09

6. WIPER AND WASHER CIRCUIT

1) OPERATING FLOW

(1) Key switch ON

Fuse box (No.14) → Wiper motor [CN-21 (3)]
→ Int wiper relay [CR-6 (4)]
→ Wiper relay [CR-4 (86)]
→ Wiper relay [CR-4 (87)]
→ I/conn [CN-4 (11)] → Washer pump [CN-22 (21)]

(2) Wipe switch ON : 1st step (intermittent)

Multifunction switch left lever (2) → I/conn [CN-98 (7)] → I/conn [CN-5 (10)]
→ Int wiper relay [CR-6 (6)] : Wiper motor intermittently operating → Int wiper relay [CR-6 (6)→(3)]
→ I/conn [CN-5 (9)] → I/conn [CN-98 (4)] → Multifunction switch left lever (6)→(2)
→ I/conn [CN98 (6)] → I/conn [CN-5 (6)] → Wiper relay [CR-4 (85)] : Wiper relay operating
→ Wiper relay [CR-4 (87)→(30)] → Wiper motor [CN-21 (4)] : Wiper motor operating

(3) Wiper switch ON : 2nd or 3rd step

Multifunction switch left lever (2) → I/conn [CN-98 (5)] → I/conn [CN-5 (6)]
→ Wiper relay [CR-4 (85)] : Wiper relay operating → Wiper relay [CR-4 (87)→(30)]
→ Wiper motor operating [CN-21(1)] : Wiper motor operating

(4) Auto parking (when switch OFF)

Wiper switch OFF → Wiper relay OFF
→ Int wiper relay OFF
→ Wiper motor [CN-21 (3)→(1)] → Wiper relay [CR4 (87a)→(30)]
→ Wiper motor [CN-21 (4)] : Wiper motor parking position

(5) Washer switch ON

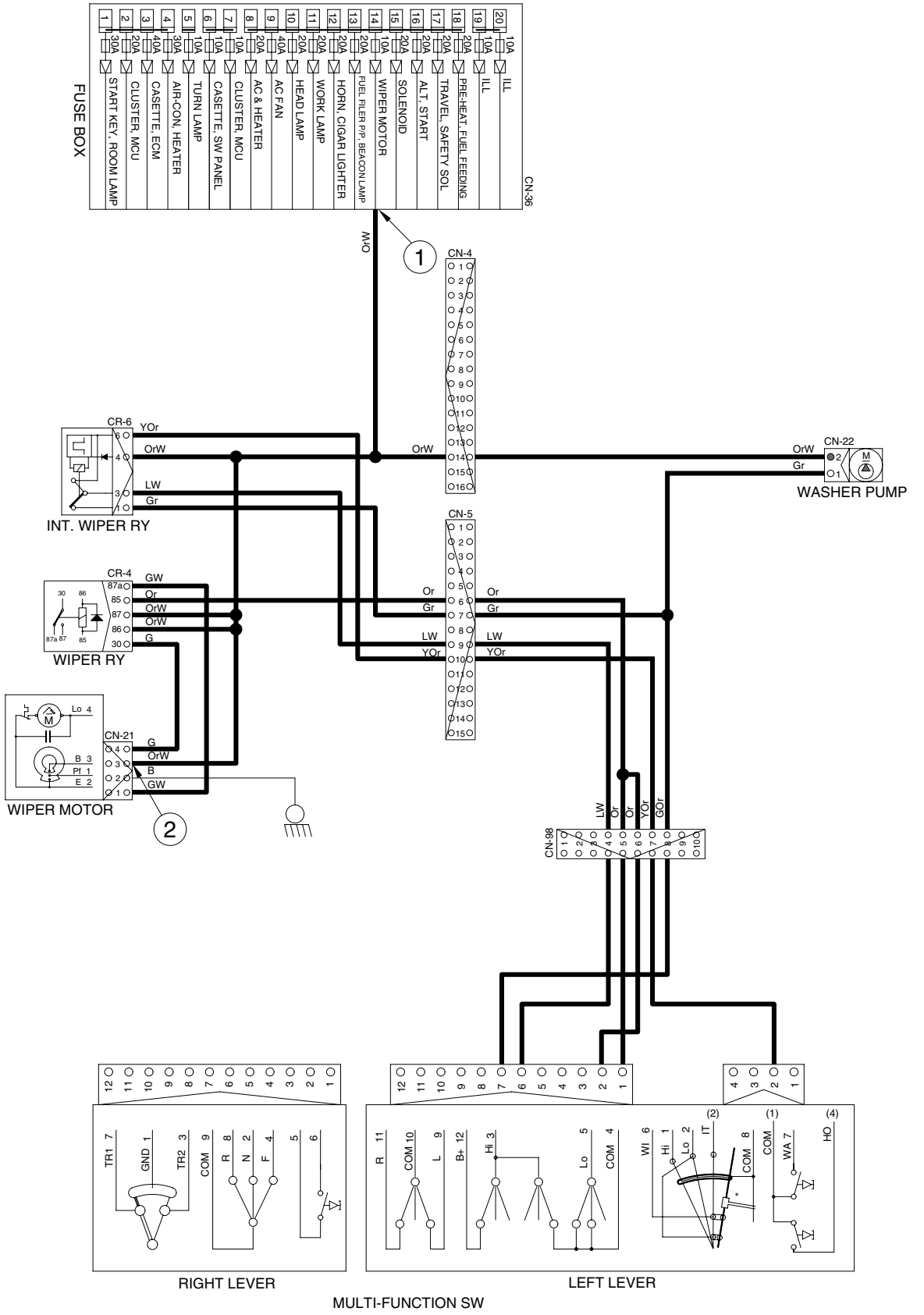
Multifunction sw left lever (7) → I/conn [CN-98 (8)] → Washer pump [CN-22 (1)] : Washer pump operating

2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box) ② - GND (wiper motor)	10~12.5V

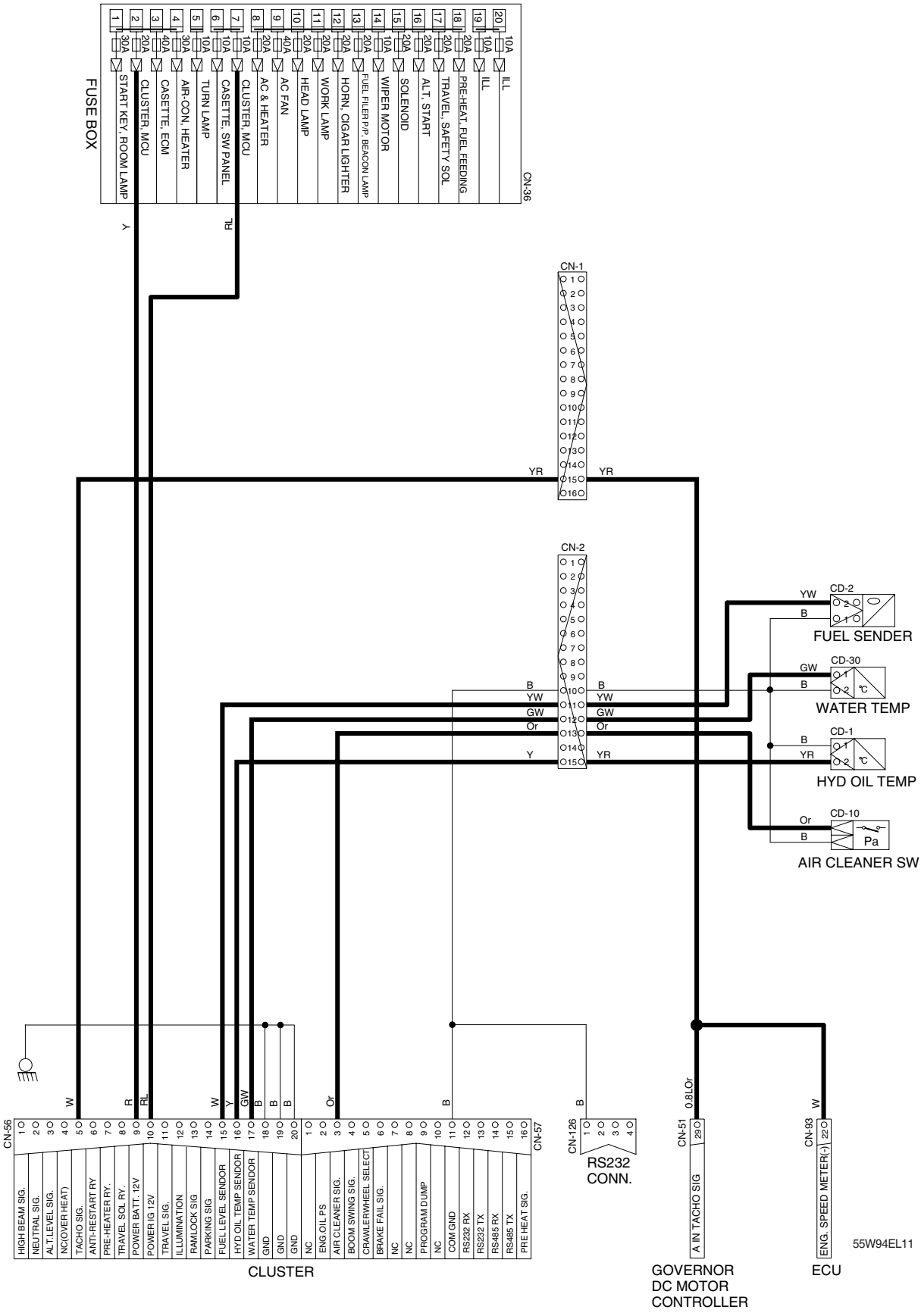
※ GND : Ground

WIPER AND WASHER CIRCUIT

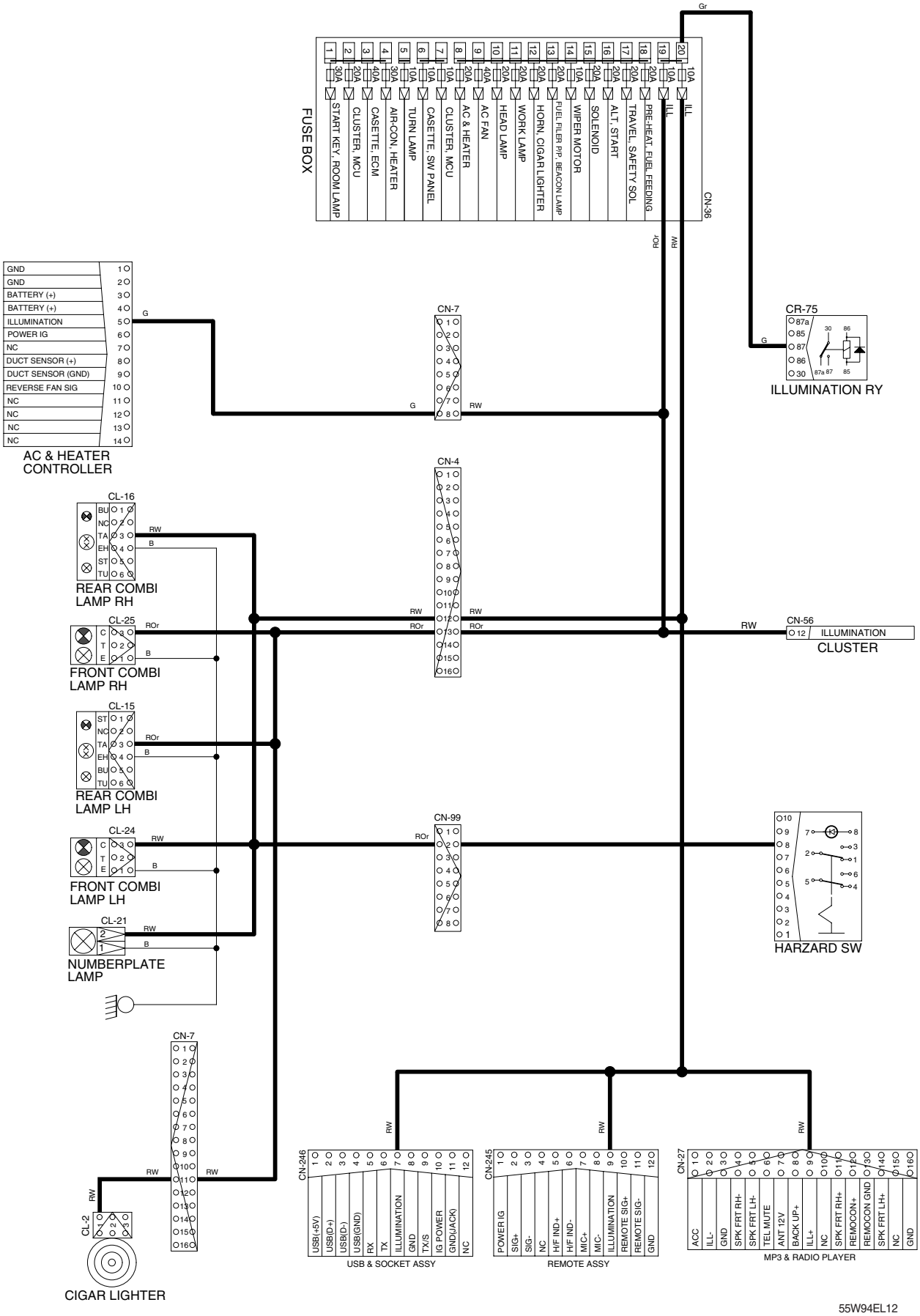


55W94EL10

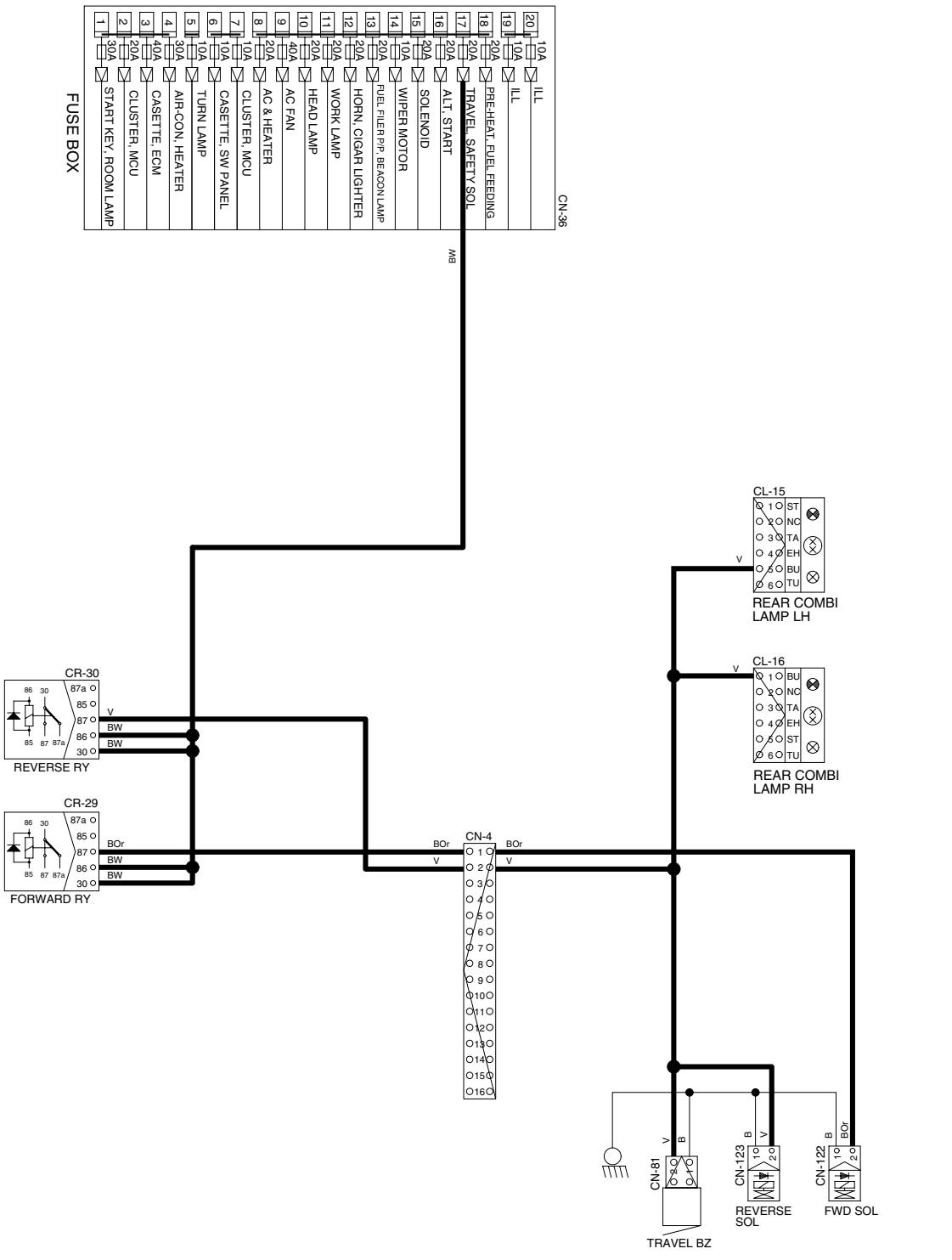
MONITORING CIRCUIT



ILLUMINATION CIRCUIT



COMBINATION LAMP CIRCUIT



55W94EL13

ELECTRIC CIRCUIT FOR HYDRAULIC