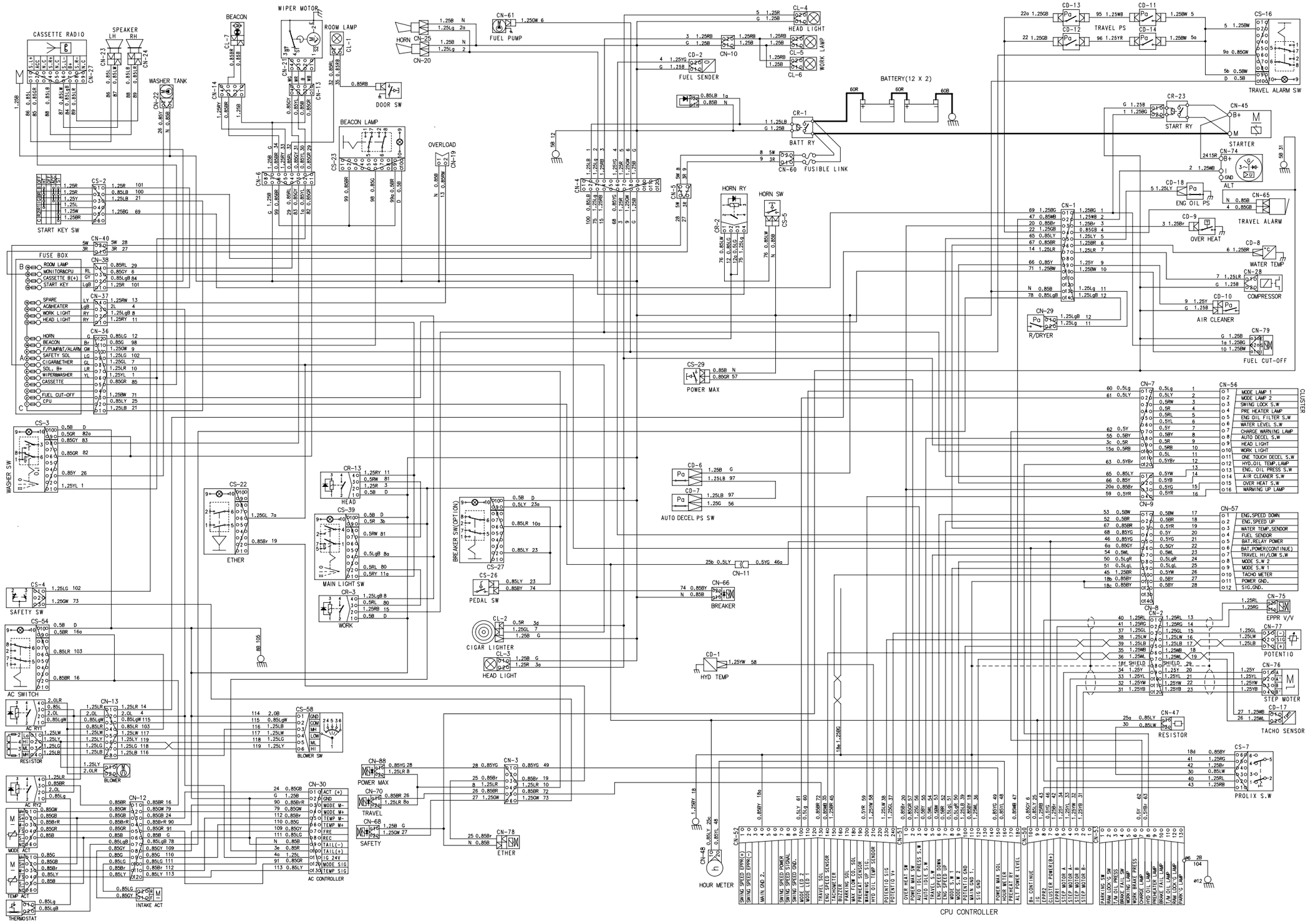
GROUP 2 ELECTRICAL CIRCUIT



1. POWER CIRCUIT

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

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

1) OPERATING FLOW

Battery → Battery relay → Fusible link (CN-60(1)) → I/conn (CN-5(1)) → I/conn (CN-40(1)) →

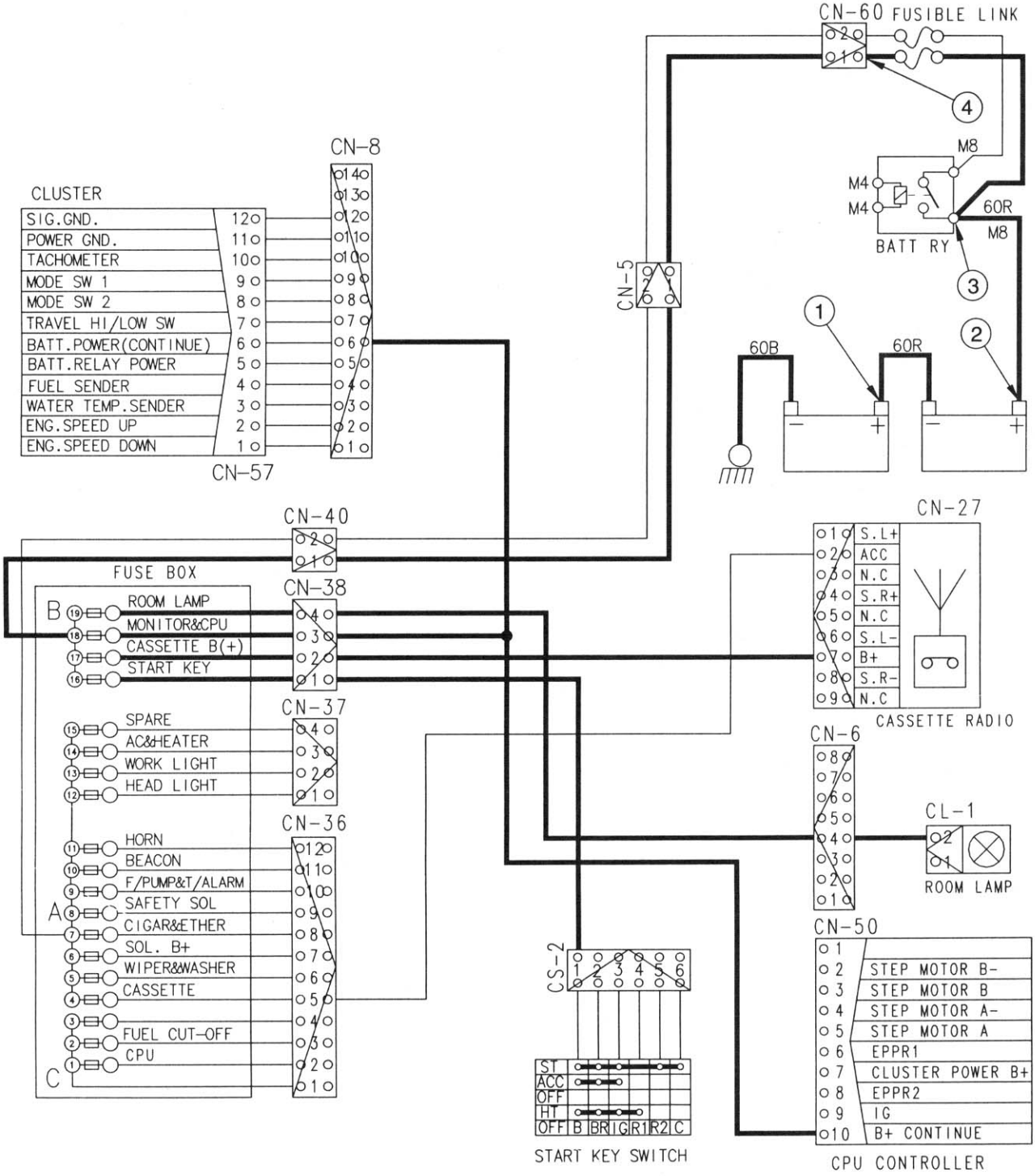
- → Fuse box (No.19) → I/conn (CN-38(4)) → I/conn (CN-6(4)) → Room lamp (CL-1(2))
- → Fuse box (No.18) → I/conn (CN-38(3)) → I/conn (CN-8(6)) → Cluster (CN-57(6))
  - → CPU controller (CN-50(10))
- → Fuse box (No.17) → I/conn (CN-38(2)) → Cassette radio (CN-27(7))
- → Fuse box (No.16) → I/conn (CN-38(1)) → Start key switch (CS-2(1))

2) CHECK POINT

Engine	Key switch	Check point	Voltage
OFF	OFF	① - GND (Battery 1 EA)	10 ~ 12.5V
		② - GND (Battery 2 EA)	20 ~ 25V
		③ - GND (Battery 2 EA)	20 ~ 25V
		④ - GND (Fusible link)	20 ~ 25V

※ GND : Ground

POWER CIRCUIT



2. STARTING CIRCUIT

1) OPERATING FLOW

Battery(+) terminal → Battery relay(M8, B^+ terminal) → Fusible link [CN-60(1)]
→ I/conn [CN-5(1)] → I/conn [CN-40(1)] → Fuse box[No. 16] → I/conn [CN-38(1)]
→ Start switch [CS-2(1)]

※ When start key switch is in ON position

- Start key switch ON [CS-2(2)] → I/conn [CN-4(2)] → Battery relay [M4 terminal]
  → Battery relay operating(All power is supplied with the electric component)
- Start key switch ON [CS-2(3)] → I/conn [CN-36(1)]
  - Fuse box(No. 1)
  - Fuse box(No. 2) → I/conn [CN-36(3)] → I/conn [CN-1(10)]
    → Fuel cut-off [CN-79(1)]
  - Fuse box(No. 3)

※ When start key switch is in START position

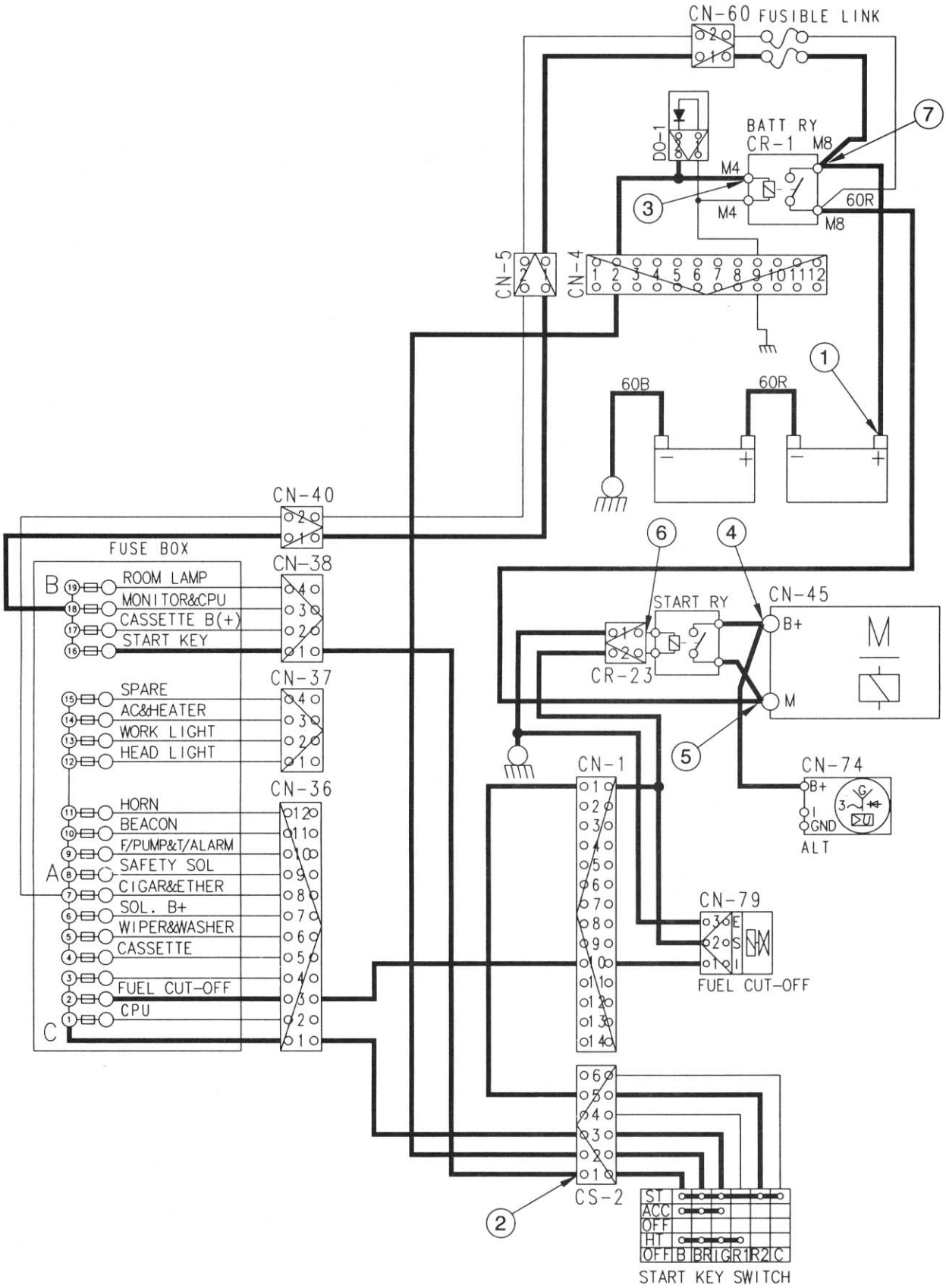
Start key switch START [CS-2(5)] → I/conn [CN-1(1)] → Start relay [CR-23(2)]
→ Fuel cut-off [CN-79(2)]

2) CHECK POINT

Engine	Key switch	Check point	Voltage
Operating	Start	① - GND (Battery) ② - GND (Start key) ③ - GND (Battery relay M4) ④ - GND (Start B) ⑤ - GND (Start S) ⑥ - GND (Start relay) ⑦ - GND (Battery relay M8)	20 ~ 25V

※ 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 "I" terminal → I/conn [CN-1(2)] → CPU Alternator power level[CN-51(18)],
Charging lamp[CN-53(7)] → I/conn [CN-7(7)] → Cluster charging warning lamp[CN-56(7)]

(2) Charging flow

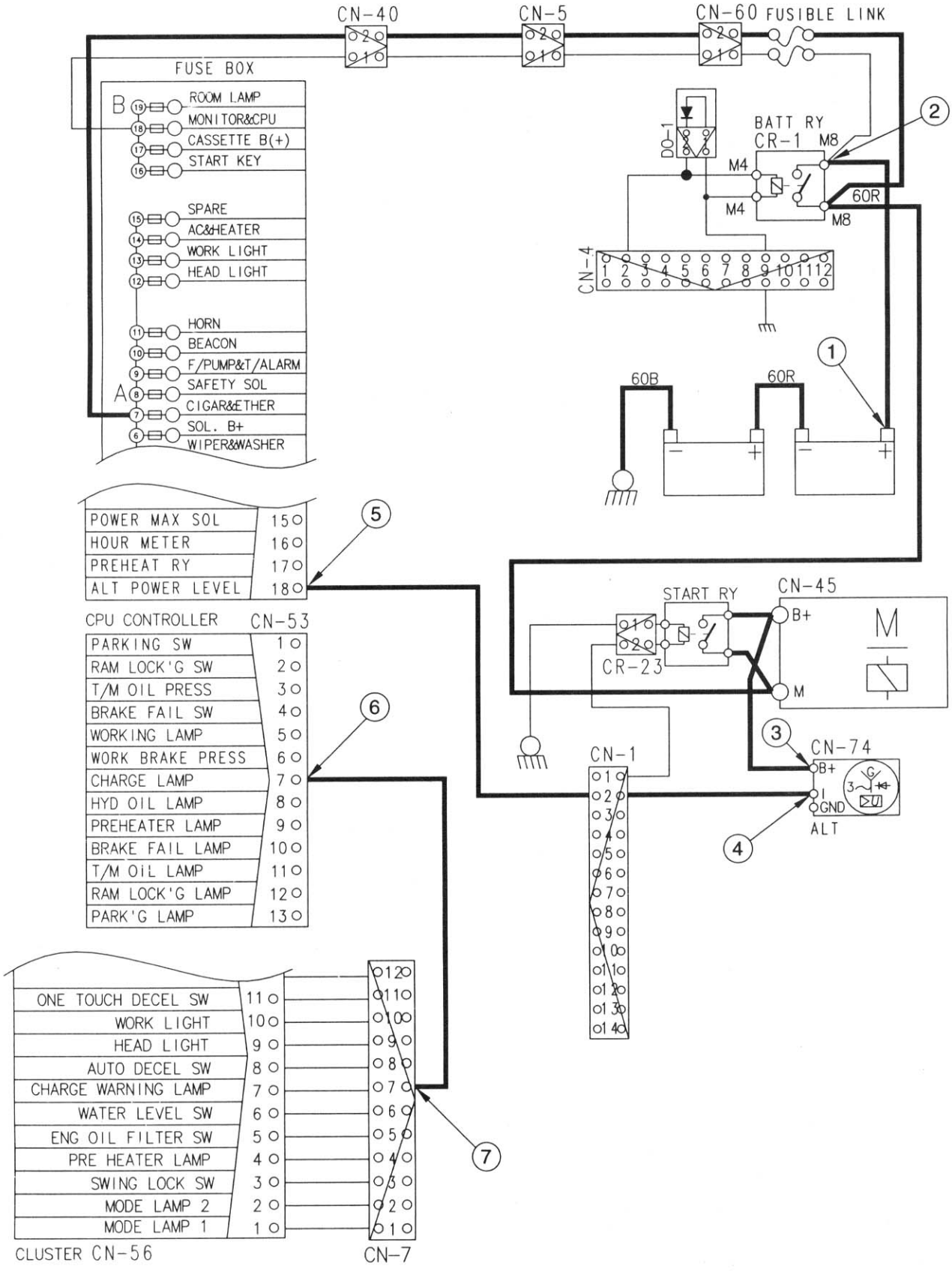
Alternator B^+ terminal → Battery relay (M8) → Battery(+) terminal
→ Fusible link [CN-60(2)] →
I/conn [CN-5(2)] → I/conn [CN-40(2)] → Fuse Box(No.4~15)

2) CHECK POINT

Engine	Key switch	Check point	Voltage
ON	ON	① - GND (Battery voltage) ② - GND (Battery relay) ③ - GND (Alternator B terminal) ④ - GND (Alternator I terminal) ⑤ - GND CPU ⑥ - GND CPU ⑦ - GND Cluster	20 ~ 27V

※ GND : Ground

CHARGING CIRCUIT



4. HEAD AND WORK LIGHT CIRCUIT

1) OPERATING FLOW

Fuse box (No.12) → I/conn [CN-37(1)] → Main light switch [CS-39(1)]
→ Head light relay [CR-13(4)]

Fuse box (No.13) → I/conn [CN-37(2)] → Main light switch [CS-39(4)]
→ Work light relay [CR-3(4)]

(1) Head light switch ON : 1st step

Head light switch ON [CS-39(7)] → Head light relay [CR-13(3) → (1)] → Ground
→ Head light relay [CR-13(4) → (2)] →

→ Head light ON [CL-3(2)]
→ I/conn [CN-4(7)] → Head light ON [CL-4(2)]
→ I/conn [CN-7(9)] → Cluster illumination lamp [CN-56(9)]
→ Switch indicator lamp ON [CS-39(9)]

(2) Work light switch ON : 2nd step

Work light switch ON [CS-39(2)] → Work light relay [CR-3(3) → (1)] → Ground
→ Work light relay [CR-3(4) → (2)] →

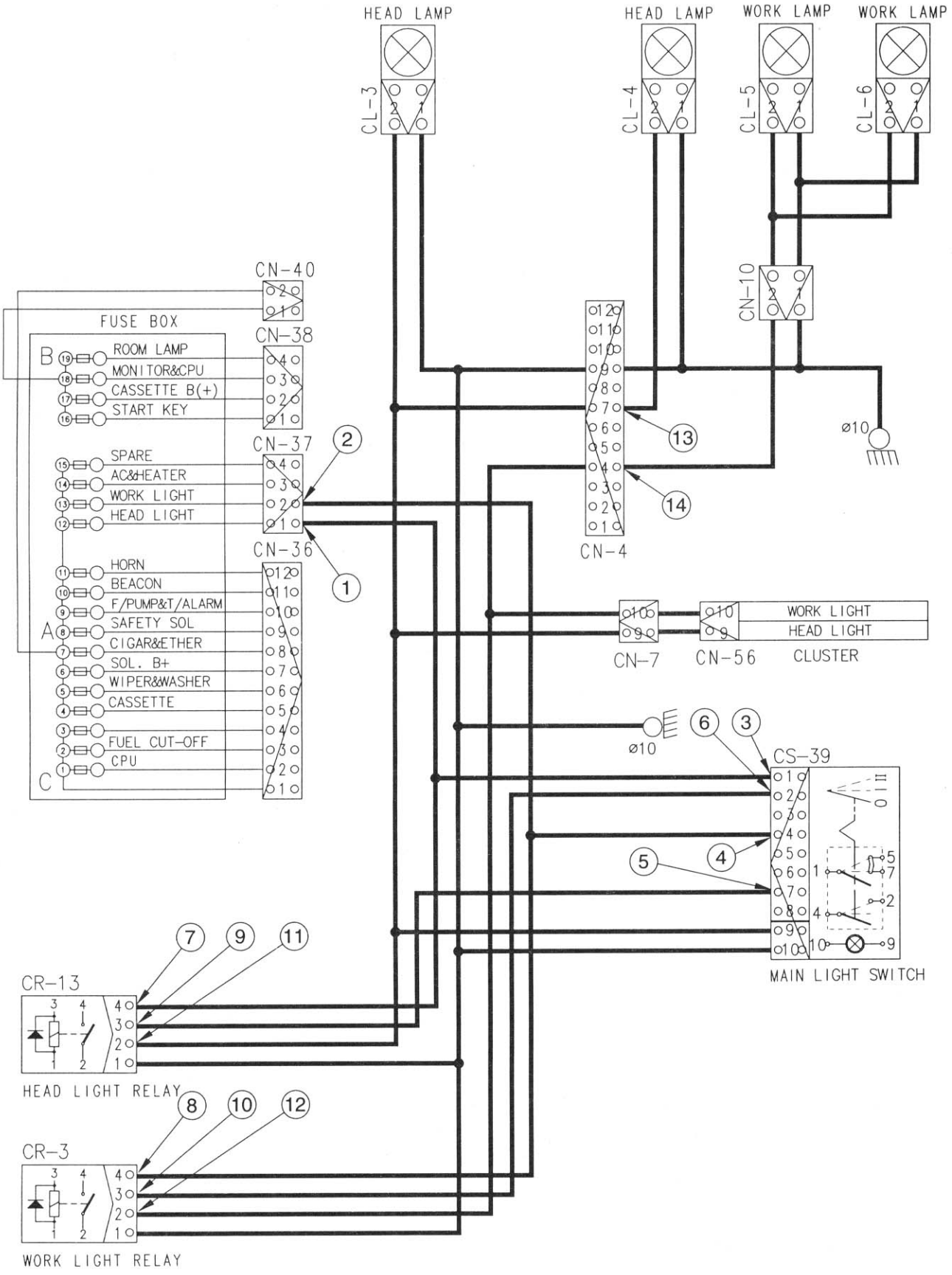
→ I/conn [CN-7(10)] → Cluster work light ON [CN-56(10)]
→ I/conn [CN-4(4)] → I/conn [CN-10(2)] → Work light ON [CL-6(2), CL-5(2)]

2) CHECK POINT

Engine	Key switch	Check point	Voltage
STOP	ON	① - GND (Fuse box) ② - GND (Fuse box) ③ - GND (Switch power input) ④ - GND (Switch power input) ⑤ - GND (Switch power output) ⑥ - GND (Switch power output) ⑦ - GND (Relay input) ⑧ - GND (Relay input) ⑨ - GND (Relay coil) ⑩ - GND (Relay coil) ⑪ - GND (Relay output) ⑫ - GND (Relay output) ⑬ - GND (Head light) ⑭ - GND (Work light)	20 ~ 25V

※ GND : Ground

HEAD & WORK LIGHT CIRCUIT



5. BEACON LAMP CIRCUIT

1) OPERATING FLOW

Fuse box (No.10) → I/conn [CN-36(11)] → Beacon lamp switch [CS-23(6)]

※ When lamp switch ON

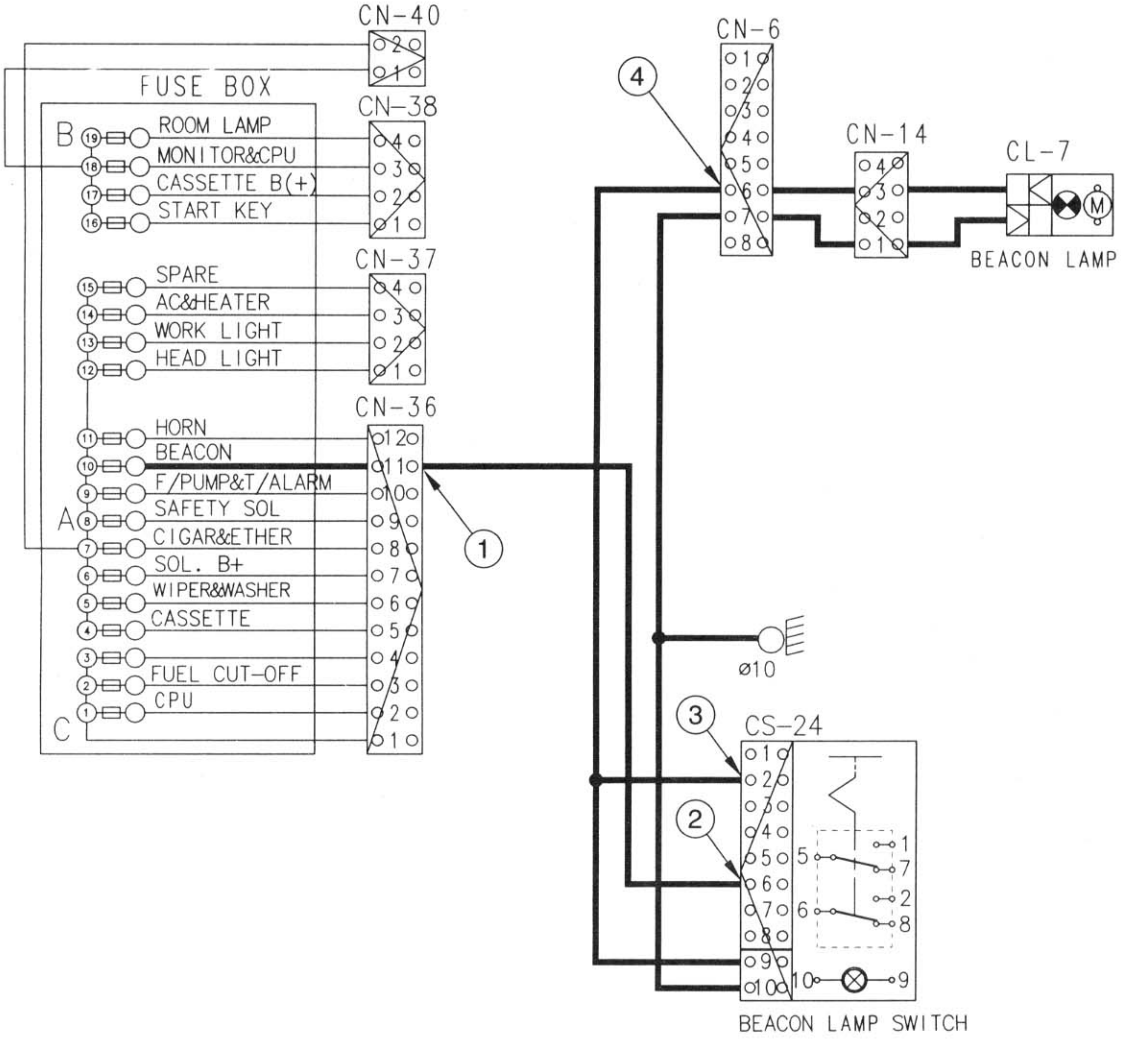
Beacon lamp switch ON [CS-23(2)] → I/conn [CN-6(6)] → I/conn [CN-14(3)] → Beacon lamp ON [CL-7]

2) CHECK POINT

Engine	Key switch	Check point	Voltage
STOP	ON	① - GND (Fuse box) ② - GND (Switch power input) ③ - GND (Switch power output) ④ - GND (Beacon lamp)	20 ~ 25V

※ GND : Ground

BEACON LIGHT CIRCUIT



6. WIPER AND WASHER CIRCUIT

1) OPERATING FLOW

(1) Wiper motor switch ON : 1st step

Fuse box (No.5) → I/conn [CN-36(6)] → Wiper and washer switch [CS-3(1) → (6)] →
I/conn [CN-6(1)] → I/conn [CN-13(1)] →
Wiper operation [CS-21(1)]

(2) Washer switch ON : 2nd step

Fuse box (No.5) → I/conn [CN-36(6)] → Wiper & washer switch [CS-3(1) → (3)] →
Washer tank [CN-22(2) → (1)] →
Washer operation

I/conn [CN-36(6)] → I/conn [CN-6(1)] → I/conn [CN-13(1)] →
Wiper motor operation [CN-21(1)]

(3) Auto - parking (When switch OFF)

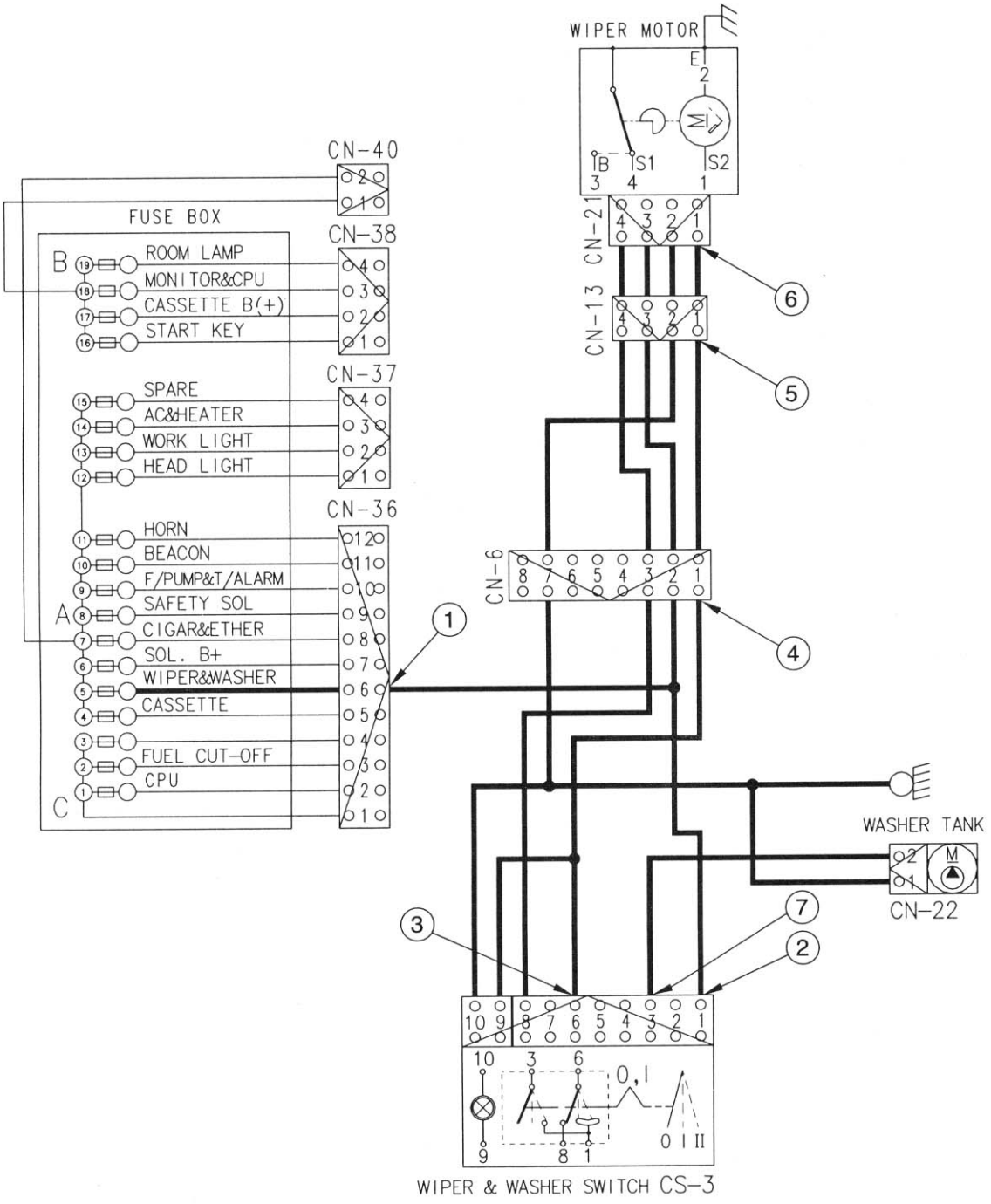
Wiper and washer switch OFF [CS-3(6) → (8)] → Wiper motor [CN-21(1)] →
Fuse box(No.5) → I/conn [CN-36(6)] → I/conn [CN-6(2)] → I/conn [CN-13(3)] →
Wiper and washer switch [CN-21(3) → (4)] → Wiper motor stop

2) CHECK POINT

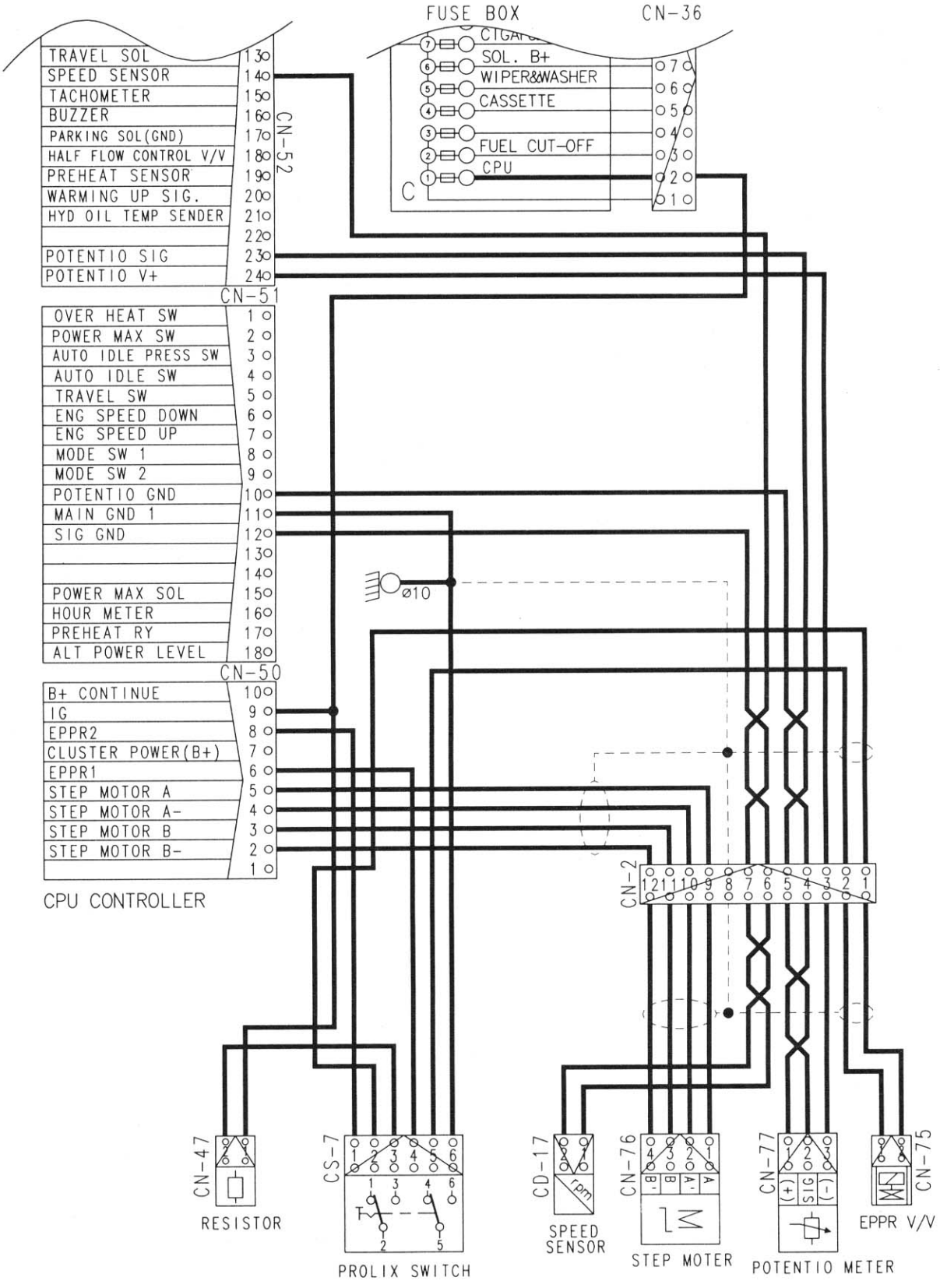
Engine	Key switch	Check point	Voltage
OFF	ON	① - GND (Fuse box) ② - GND (Switch power input) ③ - GND (Switch power input) ④ - GND (Wiper power input) ⑤ - GND (Wiper power input) ⑥ - GND (Wiper motor) ⑦ - GND (Switch power output)	20 ~ 25V

※ GND : Ground

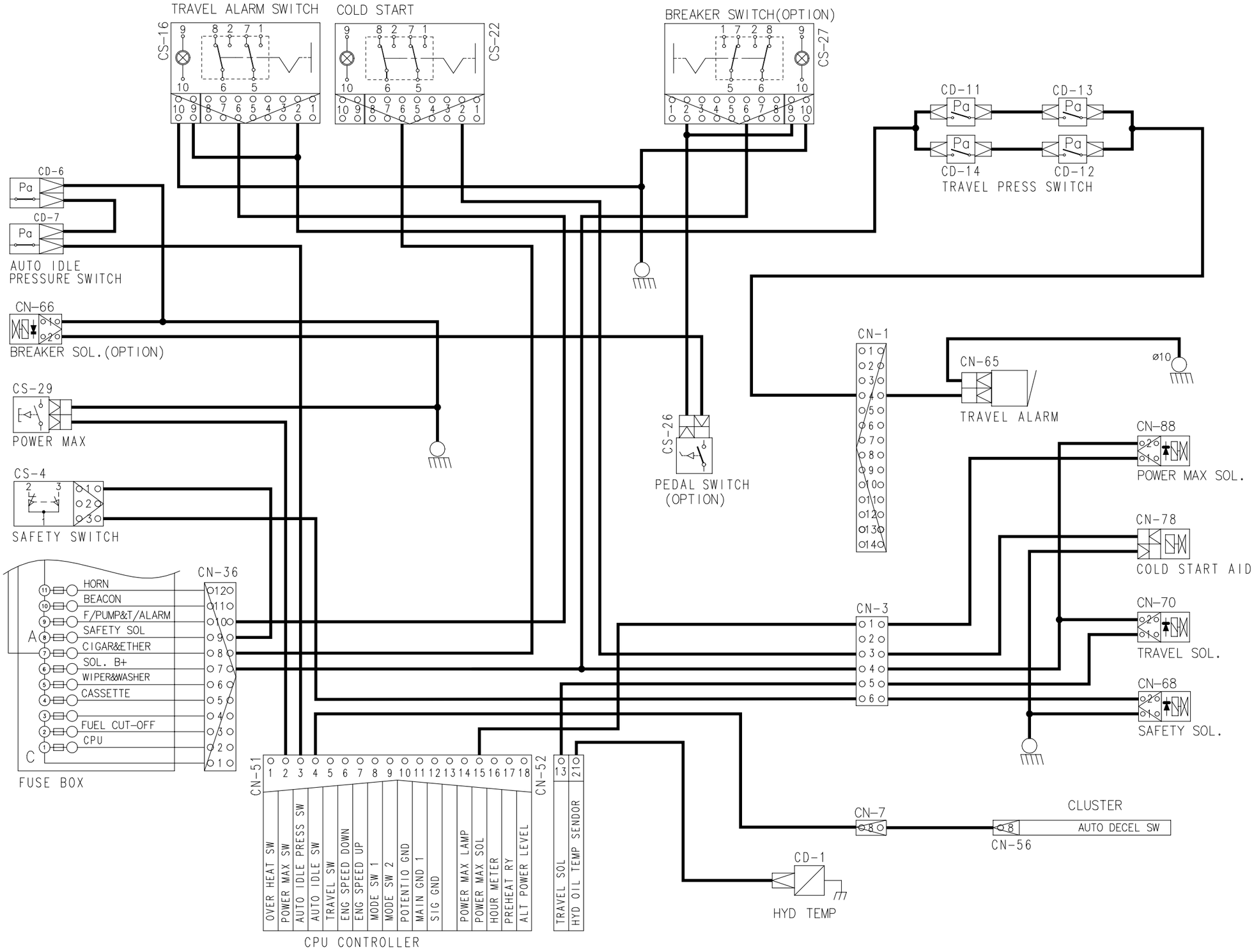
WIPER AND WASHER CIRCUIT



CONTROLLER CIRCUIT



ELECTRICAL CIRCUIT FOR HYDRAULIC



MONITORING CIRCUIT