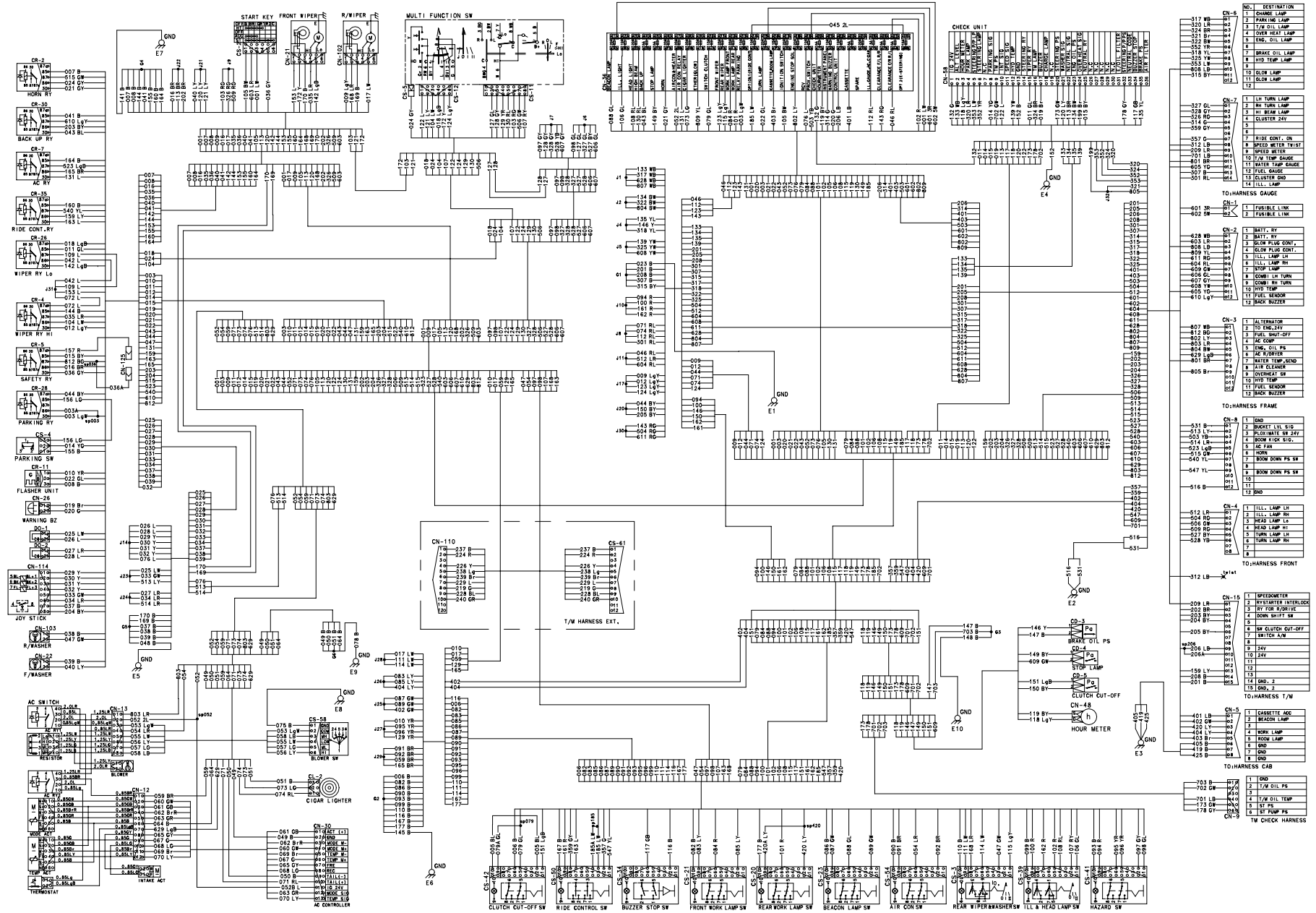
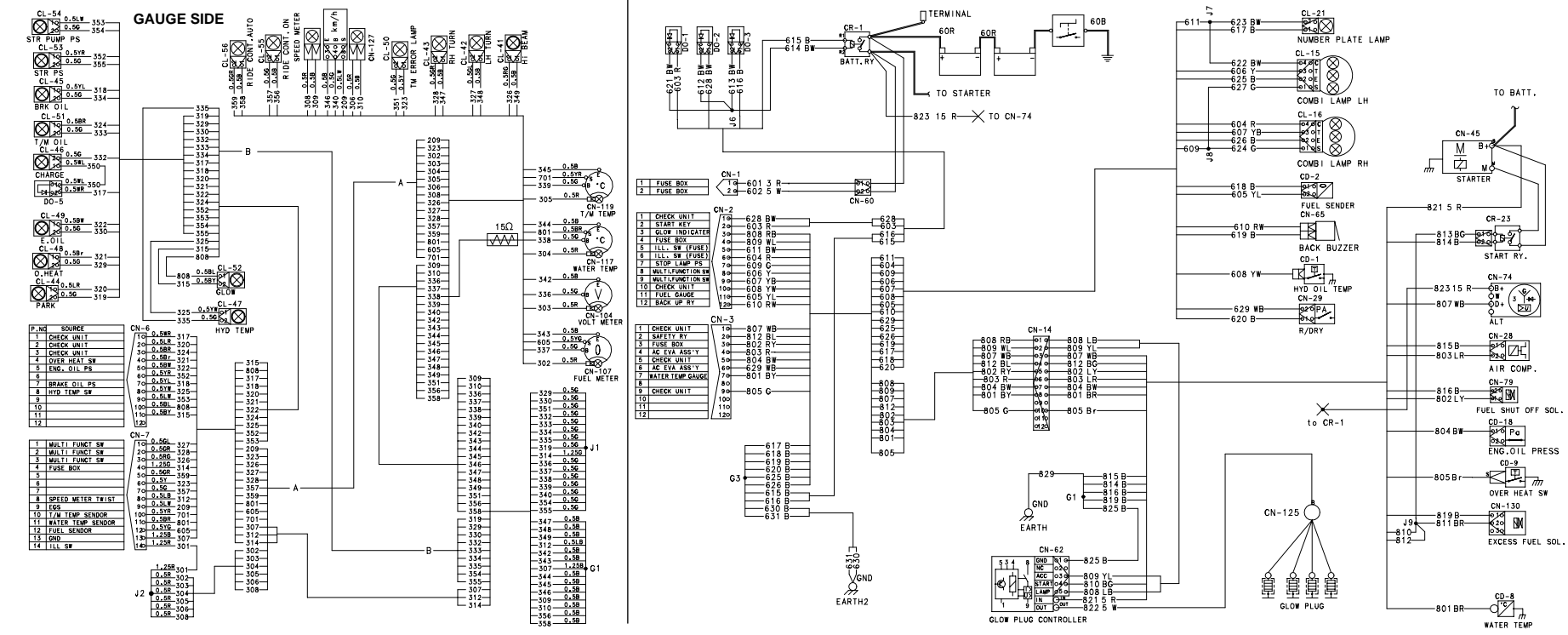
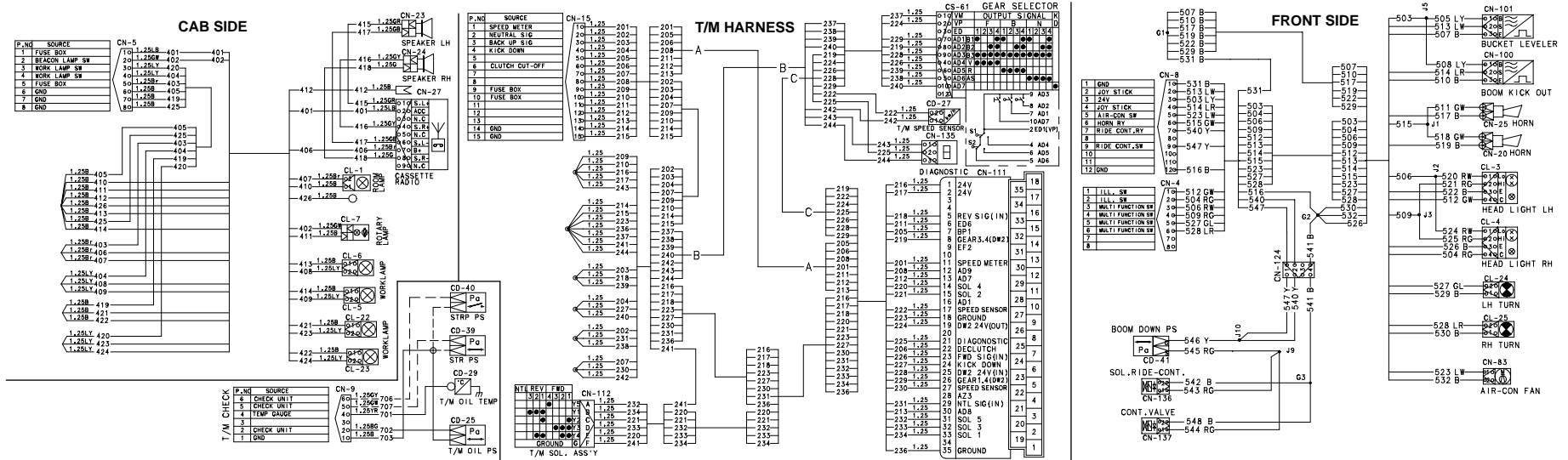


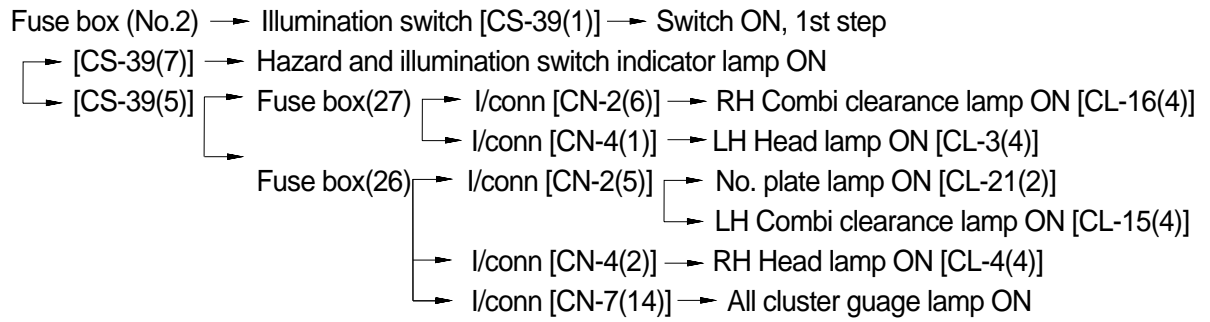
# GROUP 2 ELECTRICAL CIRCUIT





# 1. ILLUMINATION CIRCUIT

## 1) OPERATING FLOW

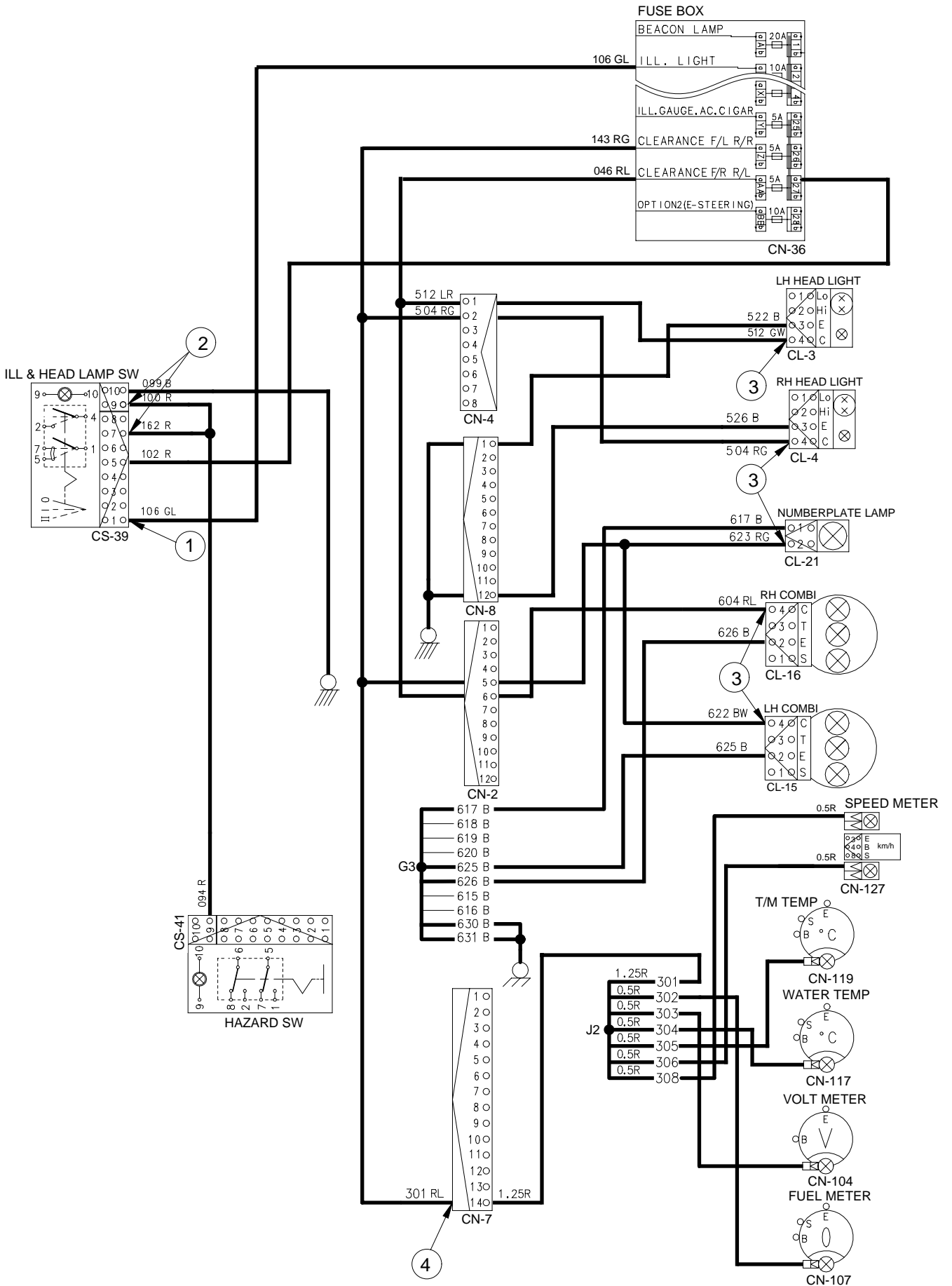


## 2) CHECK POINT

Engine	Key switch	Check point	Voltage
OFF	ON	① - GND (Switch input) ② - GND (Switch output) ③ - GND (To light) ④ - GND (To gauge lamp)	20~25V

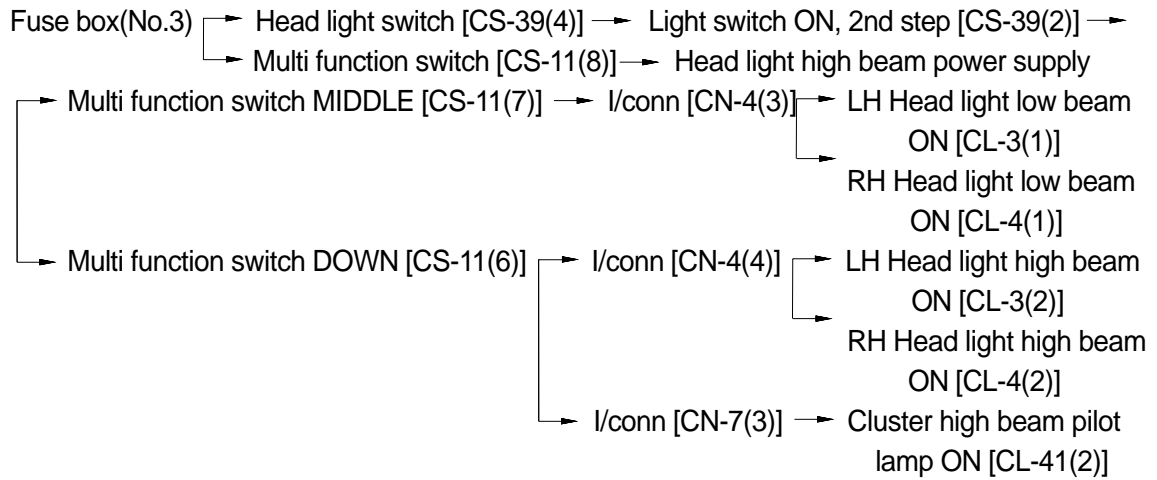
※ GND : Ground

# ILLUMINATION CIRCUIT



## 2. HEAD LIGHT CIRCUIT

### 1) OPERATING FLOW

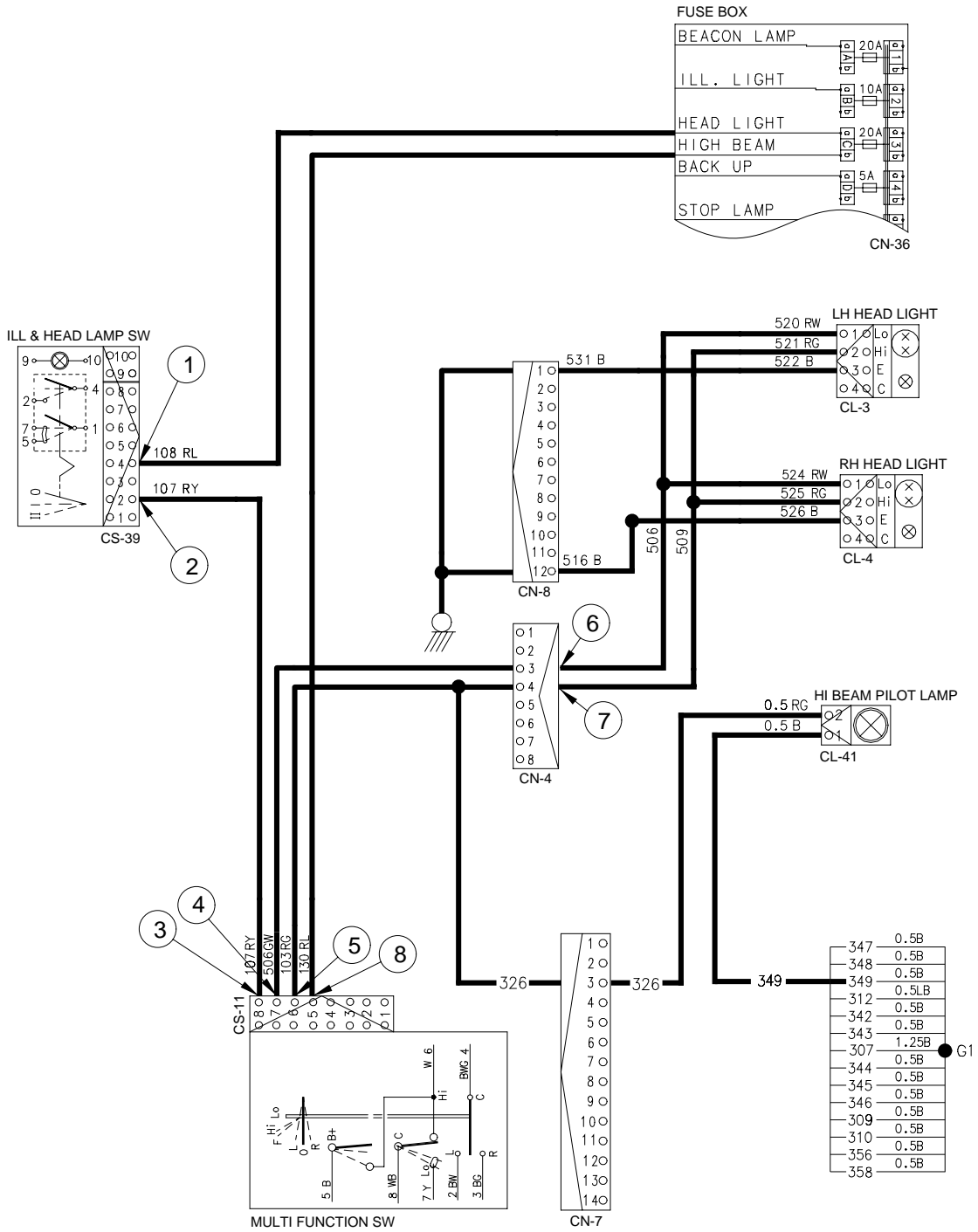


### 2) CHECK POINT

Engine	Key switch	Check point	Voltage
OFF	ON	① - GND (Switch input) ② - GND (Switch output) ③ - GND (Multi function input) ④ - GND (Multi function output) ⑤ - GND (Multi function output) ⑥ - GND (Low beam) ⑦ - GND (High beam) ⑧ - GND (Passing B+)	20~25V

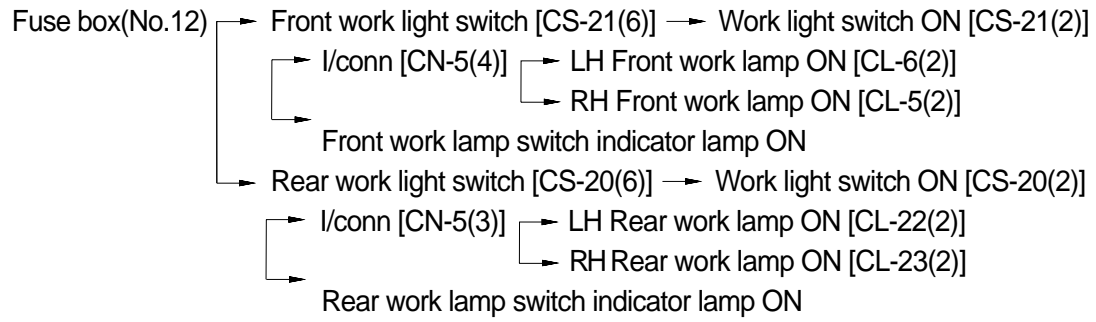
※ GND : Ground

# HEAD LIGHT CIRCUIT



### 3. WORK LIGHT SWITCH

#### 1) OPERATING FLOW

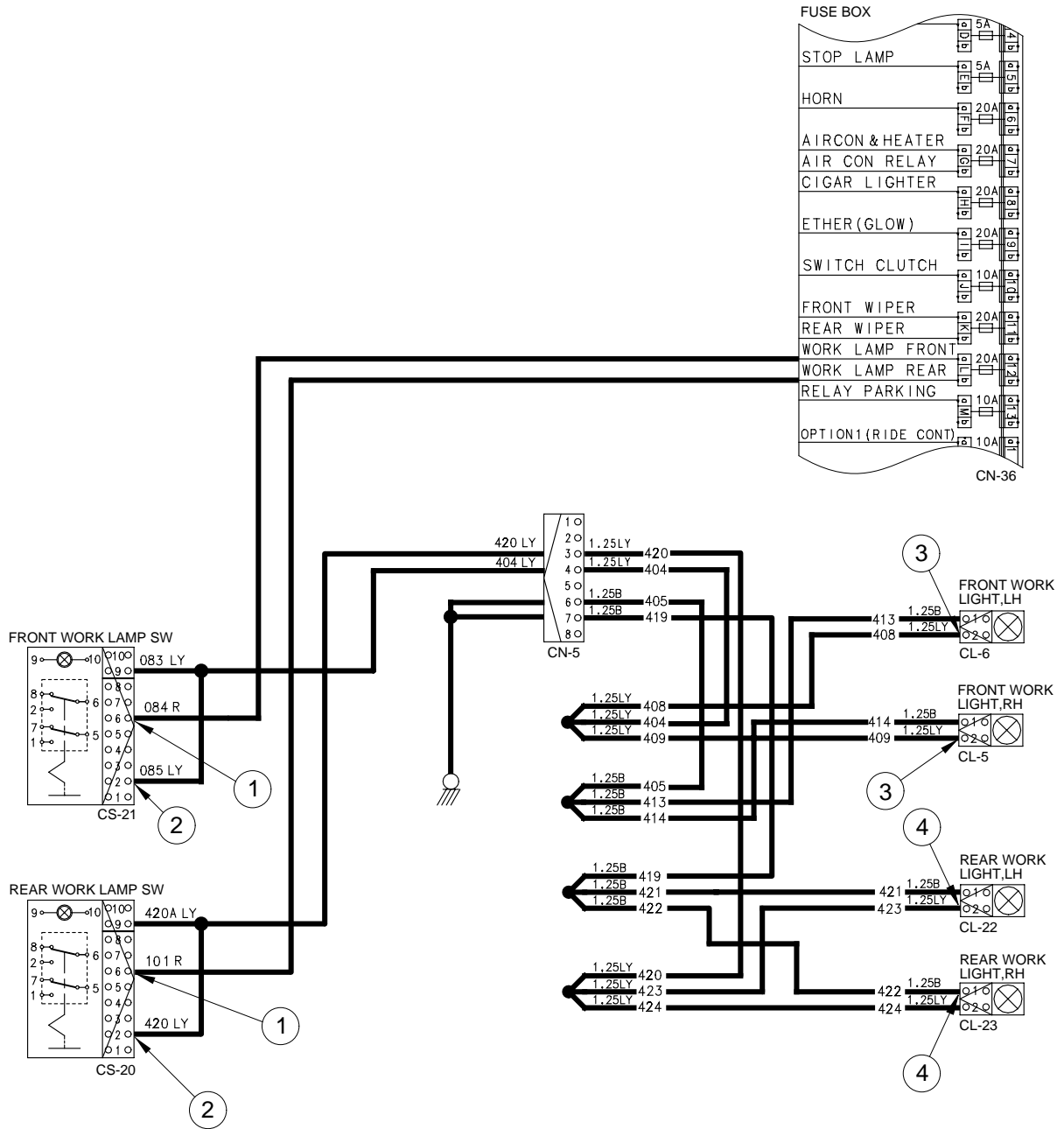


#### 2) CHECK POINT

Engine	Key switch	Check point	Voltage
OFF	ON	① - GND (Switch input) ② - GND (Switch output) ③ - GND (Front work light) ④ - GND (Rear work light)	20~25V

※ GND : Ground

# WORK LIGHT SWITCH





## 4. STARTING CIRCUIT

### 1) OPERATING FLOW

Battery(+) terminal → Battery relay(M8, B<sup>+</sup> terminal) → Fusible link [CN-60(1)]

→ I/conn [CN-1(1)] → Fuse box (No.15) → Start switch [CS-2(1)]

※ The gear selector lever is neutral position. It is necessary condition before the starting.

The gear selector lever has an output signal which is activated whenever the shift lever is in the neutral position. This signal can be used to control a relay and prevent engine from starting whenever the shift lever is not in the neutral position.

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

Start switch ON → Start switch [CS-2(2)] → I/conn [CN-2(2)] → Battery relay [CR-1]  
 → Battery relay operating(All power is supplied with the electric component)  
 Start switch [CS-2(3)] → Fuse box [No.19] → I/conn [CN-3(3)]  
 → I/conn [CN-13(5)] → Fuel shut off solenoid [CN-79]

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

Start switch START [CS-2(5)] → Start safety relay [CR-5(30)] → Start safety relay [CR-5(87)]  
 → I/conn [CN-3(2)] → I/conn [CN-13(4)] → Start relay [CR-23(1)]  
 → Starter(Terminal B<sup>+</sup> and M connector of start motor)

### 2) CHECK POINT

Engine	Key switch	Check point	Voltage
Running	ON	① - GND (Battery B <sup>+</sup> ) ② - GND (Fusible link) ③ - GND (Start key B <sup>+</sup> ) ④ - GND (Start key BR terminal) ⑤ - GND (I/conn CN-2(2)) ⑥ - GND (Start key R2 terminal) ⑦ - GND (Start safety relay output) ⑧ - GND (Check unit) ⑨ - GND (Start key IG terminal) ⑩ - GND (Fuel shut off solenoid)	20~28V

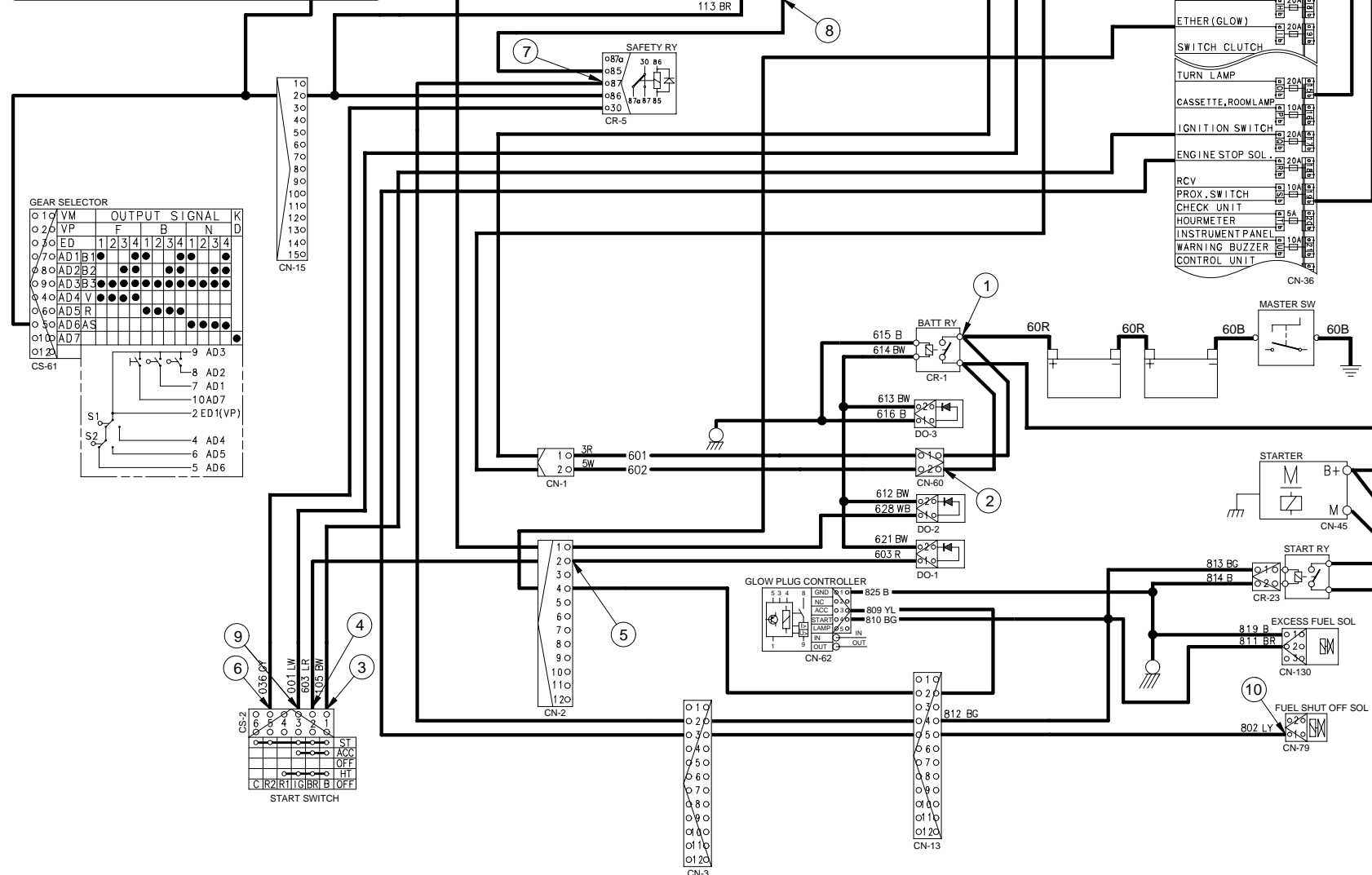
※ GND : Ground

CN-111

18	35	17
1	24V	3
2	24V	3
3	REV SIG(IN)	4
4	REV SIG(IN)	4
5	BB1	7
6	BB1	7
7	GEAR3,4(0W2)	8
8	GEAR3,4(0W2)	8
9	EF2	9
10	EF2	9
11	SPEED METER	11
12	AD9	12
13	AD7	13
14	SOL 4	14
15	SOL 2	15
16	SOL 2	15
17	SPEED SENSOR	17
18	GROUND	18
19	DW2.24(VOUT)	19
20	GROUND	20
21	DIAGNOSTIC	21
22	DECLUTCH	22
23	DECLUTCH	22
24	KICK DOWN	24
25	DW2.4V(IN)	25
26	DW2.4V(IN)	25
27	SPEED SENSOR	27
28	AZ3	28
29	NLT SIG(IN)	29
30	AD8	30
31	SOL 5	31
32	SOL 3	32
33	SOL 1	33
34	GROUND	34
35	GROUND	35

CHECK UNIT

CN-59	01	IG 24V
02	ALT LEVEL	
03	HOUR METER	
04	PARK LAMP	
05	STEERING P/P LP	
06	STEERING LAMP	
07	N.C.	
08	PARKING SIG	
09	TM FS	
10	INT SIG	
11	SPEED SIG	
12	HYD TEMP	
13	GND	
14	STEERING RY	
15	WIPER RY	
16	TM LAMP	
17	BUZZER	
18	CHARGE LAMP	
19	N.C.	
20	STEERING PS	
21	WASH SIG	
22	NEUTRAL SIG	
23	ENG OIL PS	
24	OVER HEAT SIG	
25	NEUTRAL RY	
26	N.C.	
27	N.C.	
28	N.C.	
29	N.C.	
30	N.C.	
31	E/OIL FILTER	
32	STEERING P/P PS	
33	NEUTRAL CODE	
34	BUZZER STOP	
35	BRAKE PS	
36	AIR FILTER	



## 5. FUEL SHUT OFF CIRCUIT

### 1) OPERATING FLOW

Start key OFF [CS-2(3)] → Fuse box (No.19) → I/conn [CN-3(3)] → I/conn [CN-13(5)]  
→ Fuel shut off solenoid [CN-79(1)]

### 2) CHECK POINT

Engine	Key switch	Check point	Voltage
OFF	OFF	⑨ - GND (Start key IG terminal) ⑩ - GND (Fuel shut off solenoid)	0V

※ GND : Ground

### 3) WIRING DIAGRAM - See page 7-12.

## 6. 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 [CN-74(D<sup>+</sup>)] → I/conn [CN-13(3)] → I/conn [CN-3(1)]

↳ Check unit [CN-58(2)]

↳ I/conn [CN-6(1)] → Cluster charge warning lamp ON [CL-46(1), Below 24V]

↳ J1(332)→(336) → Volt meter [CN-104(B)]

#### (2) Charging flow

Alternator [CN-74(B<sup>+</sup>)] → Battery relay [CR-1]

↳ Battery(+) terminal → Charging

↳ I/conn [CN-60(1),(2)] → I/conn [CN-1(1),(2)] → Fuse box

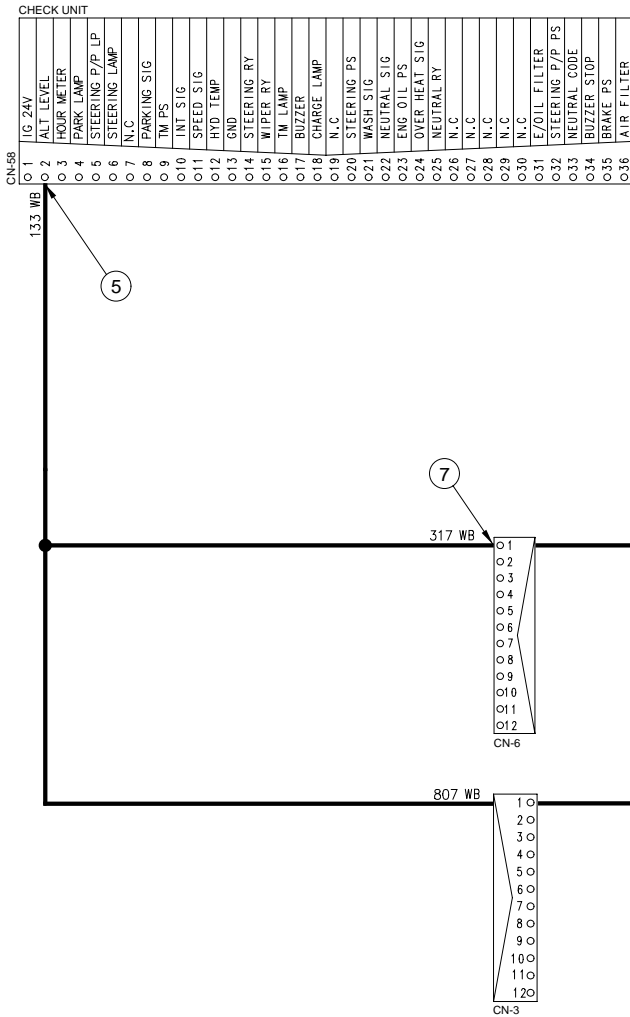
### 2) CHECK POINT

Engine	Key switch	Check point	Voltage
Running	ON	① - GND (Battery) ② - GND (Battery relay) ③ - GND (ALT B <sup>+</sup> ) ④ - GND (ALT D <sup>+</sup> ) ⑤ - GND (Check unit) ⑥ - GND (Fuse box)	20~28V

Engine	Key switch	Check point	Resistance
Running	ON	⑦ - GND (Cluster)	∞ Ω

※ GND : Ground

# CHARGING CIRCUIT



FUSE BOX	
BEACON LAMP	20A
ILL. LIGHT	10A
HEAD LIGHT	20A
HIGH BEAM	20A
BACK UP	5A
STOP LAMP	5A
HORN	20A
AIRCON & HEATER	20A
AIR CON RELAY	20A
CIGAR LIGHTER	20A
ETHER (GLOW)	20A
SWITCH CLUTCH	10A
FRONT WIPER	20A
REAR WIPER	20A
WORK LAMP FRONT	20A
WORK LAMP REAR	20A
RELAY PARKING	10A
OPTION1 (RIDE CONT)	10A
TURN LAMP	20A
CASSETTE, ROOM LAMP	20A

## 7. ELECTRIC PARKING, DECLUTCH CIRCUIT

### 1) OPERATING FLOW

#### (1) Parking OFF

Fuse box (No.13) → Parking switch [CS-4(1)→(3)] →  
 Parking relay [CR-28(30)→(87)] → Parking brake released

#### (2) Parking ON

Fuse box (No.13) → Parking relay [CR-28(30)→(87a)] → I/conn [CN-15(6)]  
 → Control unit [CN-111(22)] → T/M declutch  
 Parking switch [CS-4(1)→(2)] → Check unit [CN-58(8)→(4)] → Parking switch indicator lamp ON  
 → Parking brake applied

#### (3) Declutch ON

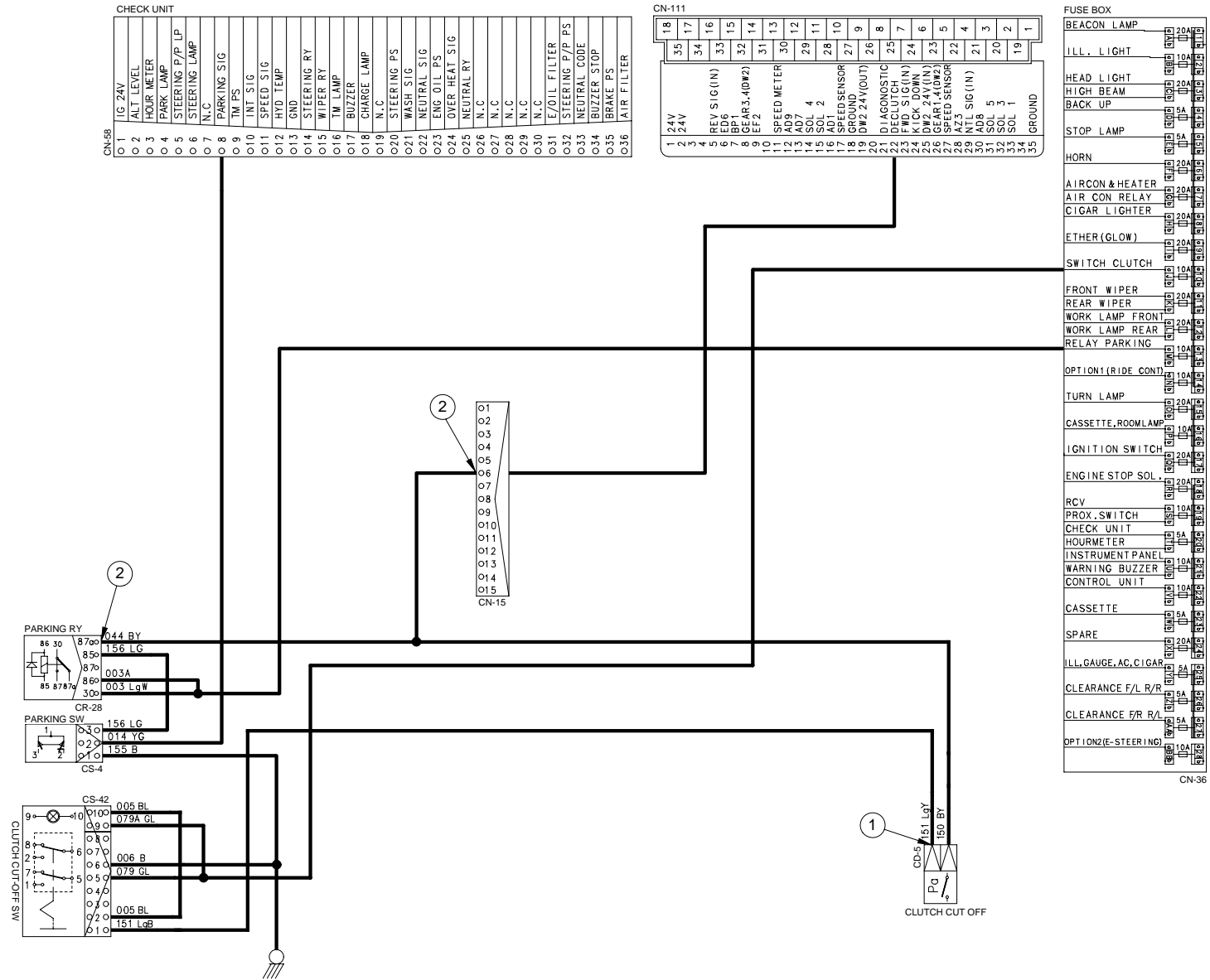
Fuse box (No.10) → Clutch cut-off switch ON → Clutch cut-off switch [CS-42(6)→(2)]  
 → Clutch cut-off switch indicator lamp ON  
 Clutch cut-off switch [CS-42(5)→(1)]  
 → Service brake applied  
 → Service brake pressure switch ON [CD-5]  
 → I/conn [CN-15(6)] → Control unit [CN-111(22)] → Declutch

### 2) CHECK POINT

Engine	Key switch	Check point	Voltage
Running	ON	① - GND (Clutch cut-off press switch) ② - GND (Declutch input signal)	20~28V

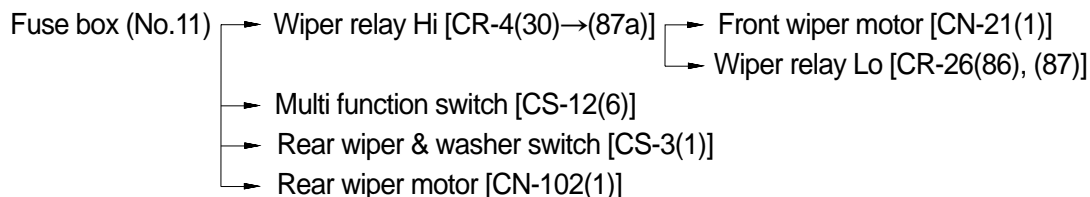
※ GND : Ground

# ELECTRIC PARKING, DECLUTCH CIRCUIT

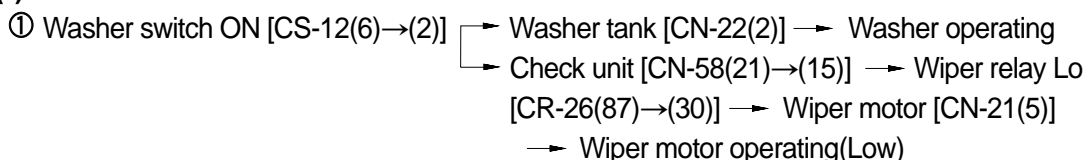


## 8. WIPER AND WASHER CIRCUIT

### 1) OPERATING FLOW



#### (1) Front washer switch ON



#### (2) Front wiper switch ON

##### ① INT position

Wiper switch ON [CS-12(6)→(1)] → Check unit [CN-58(10)→(15)] intermittent signal → Wiper relay Lo [CR-26(87)→(30)] → Wiper motor [CN-21(5)] → Wiper motor intermittently operating

##### ② Lo position

Wiper switch ON [CS-12(6)→(4)] → Wiper relay Lo [CR-26(87a)→(30)] → Wiper motor [CN-21(5)] → Wiper motor operating (Low)

##### ③ Hi position

Wiper switch ON [CS-12(6)→(3)] → Wiper relay Hi [CR-4(30)→(87)] → Wiper motor [CN-21(4)]

Wiper motor operating(High)

#### (3)

**Auto-parking**(When switch OFF) →

Switch OFF → Fuse box (No.11) → Wiper relay Hi [CR-4(30)→(87a)] → Wiper motor [CN-21(1)→(2)] → Multi function switch [CS-12(5)→(4)] → Wiper relay Lo [CR-26(87a)→(30)]

#### (4)

Front wiper motor [CN-21(5)] → Wiper motor stop

##### ① Rear wiper and washer switch

**Wiper switch ON**(1st step)

Wiper switch ON [CS-3(1)→(6)] → Wiper motor [CN-102(5)] → Wiper motor operating  
Rear wiper and washer switch indicator lamp ON

##### ②

**Washer switch ON**(2nd step)

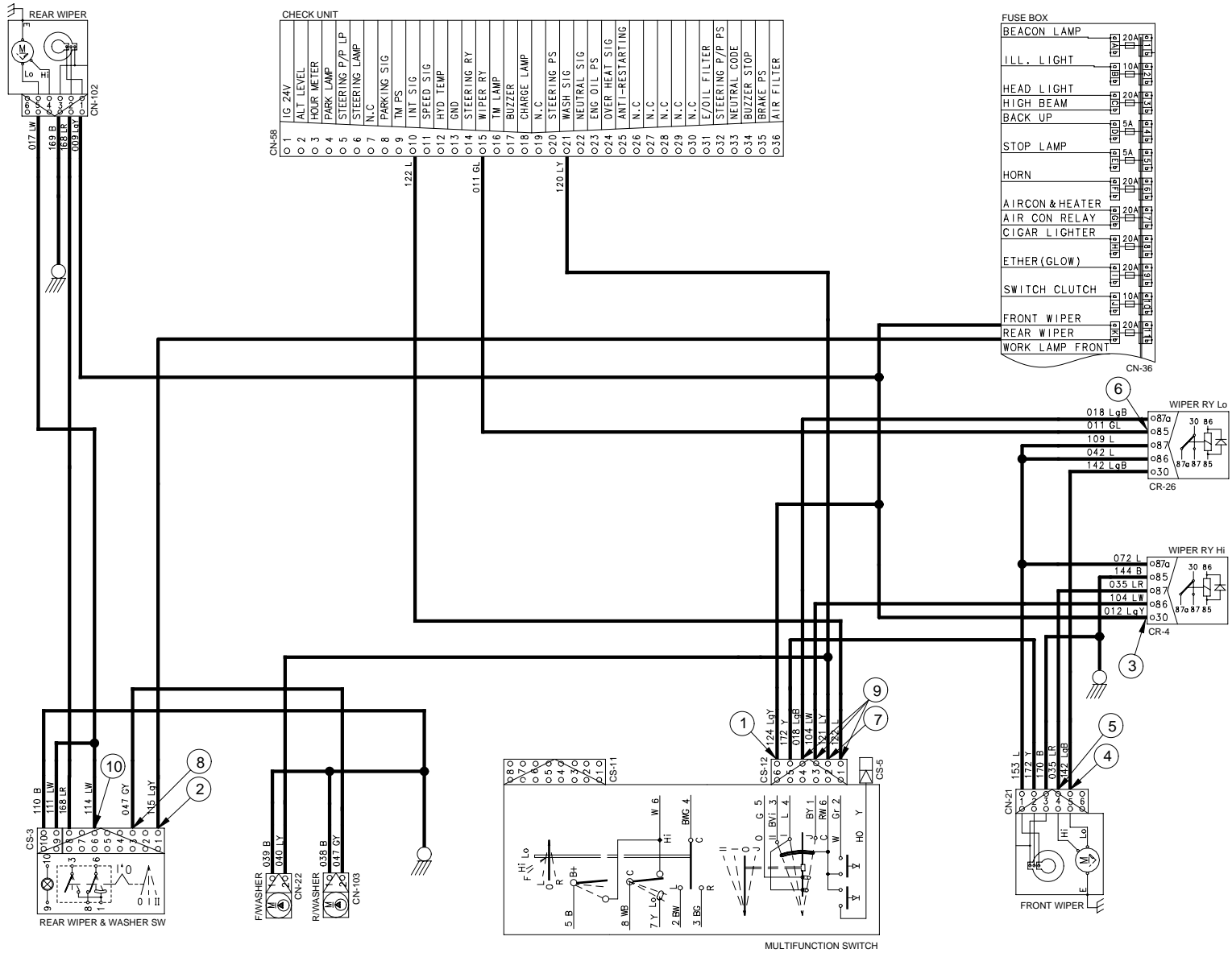
2) Washer switch ON [CS-3(1)→(3)] → Rear washer tank [CN-103(2)] → Washer operating

Engine	Key switch	Check point	Voltage
Stop	ON	① - GND (Front wiper switch power input) ② - GND (Rear wiper switch power input) ③ - GND (Wiper relay power input) ④ - GND (Front wiper motor Lo power input) ⑤ - GND (Front wiper motor High power input) ⑥ - GND (Wiper relay power input) ⑦ - GND (Front washer power output) ⑧ - GND (Rear washer power output) ⑨ - GND (Front wiper motor power output) ⑩ - GND (Rear wiper motor power output)	20~25V

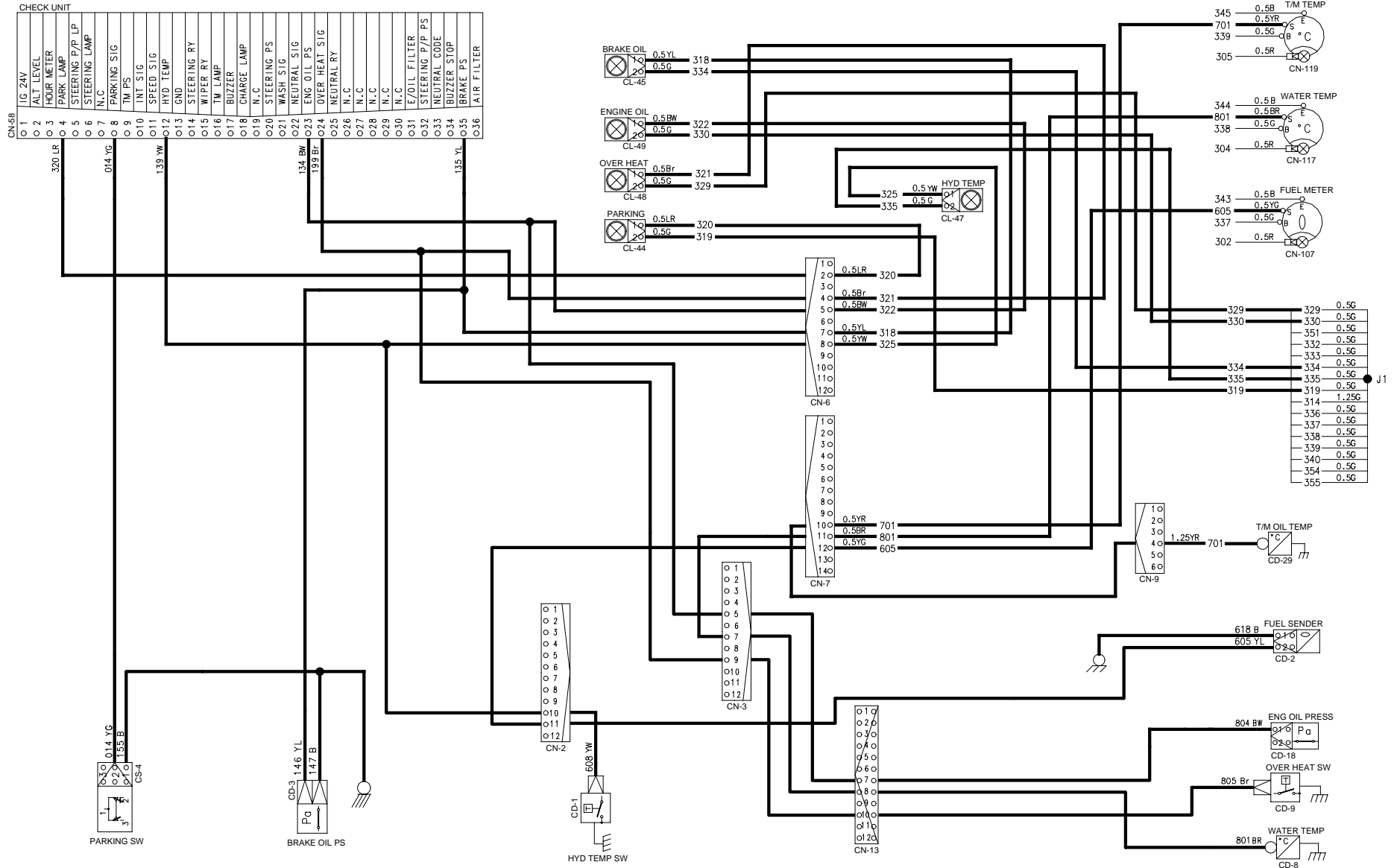
※ GND : Ground



# WIPER AND WASHER CIRCUIT



# MONITORING CIRCUIT



# HAZARD, TURN AND ROTARY CIRCUIT

