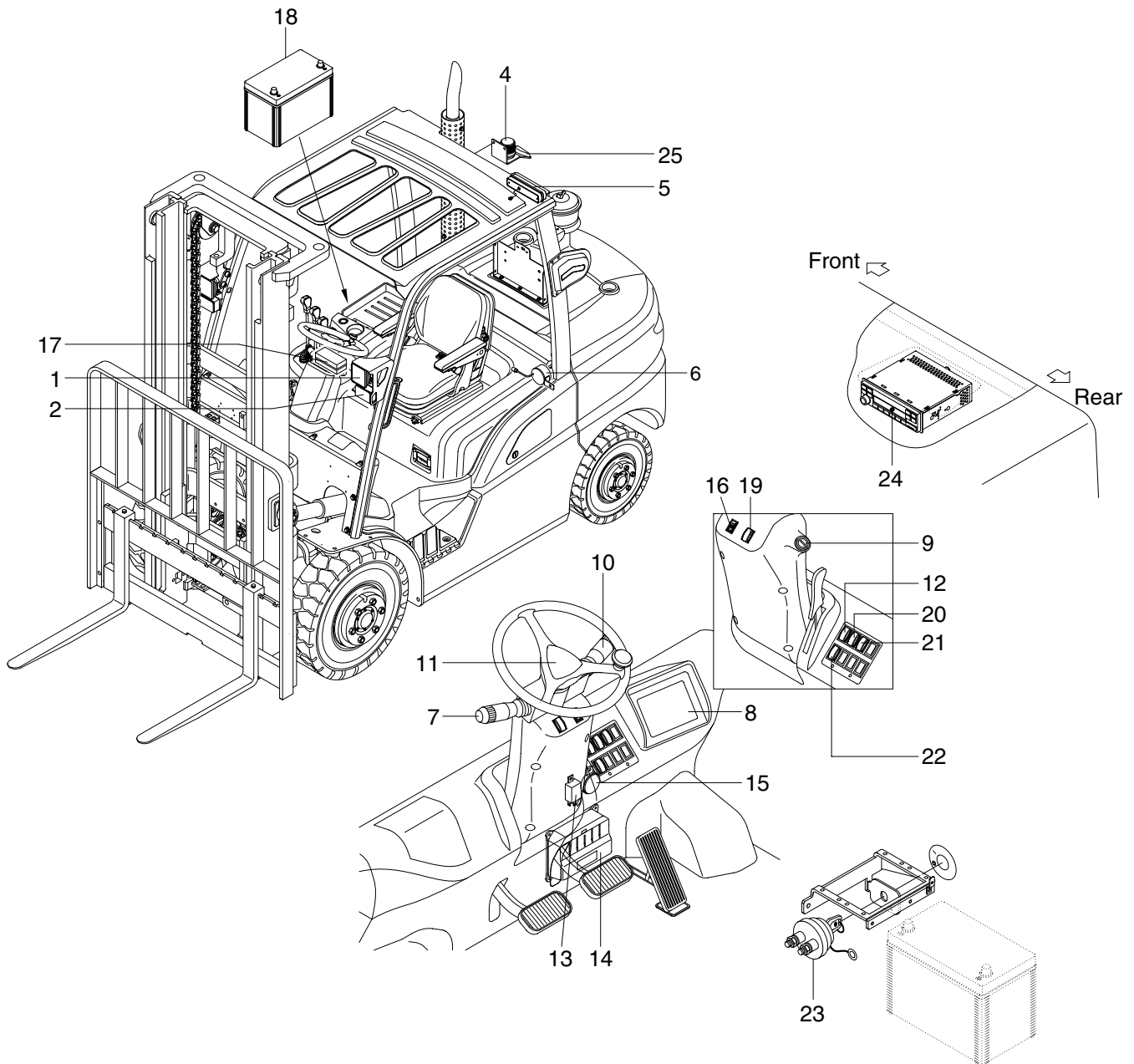


SECTION 7 ELECTRICAL SYSTEM

Group 1	Component location	7-1
Group 2	Electrical circuit	7-2
Group 3	Component specification	7-17
Group 4	Connector destination	7-18
Group 5	Troubleshooting	7-21

SECTION 7 ELECTRICAL SYSTEM

GROUP 1 COMPONENT LOCATION

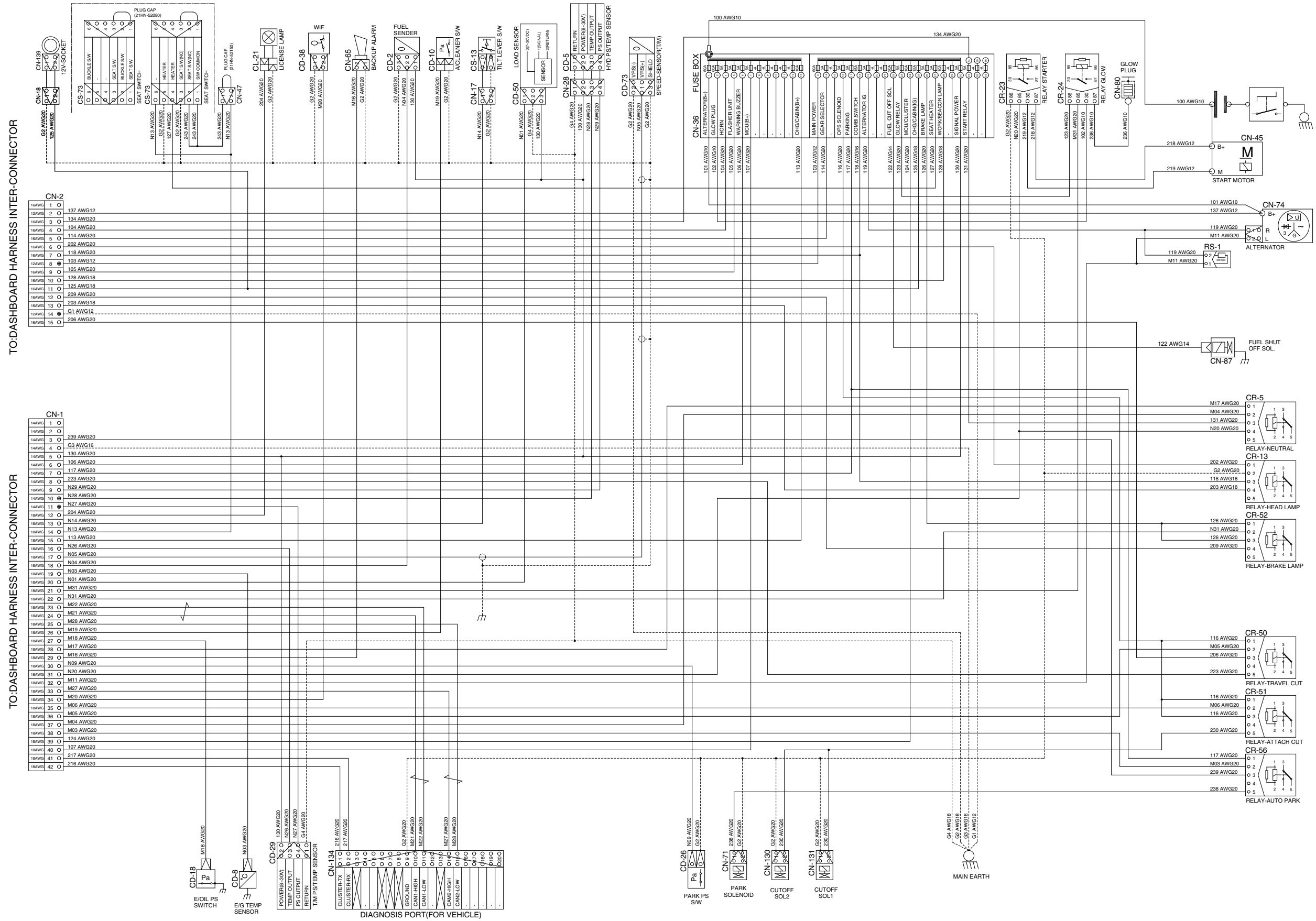


22D9EEL01

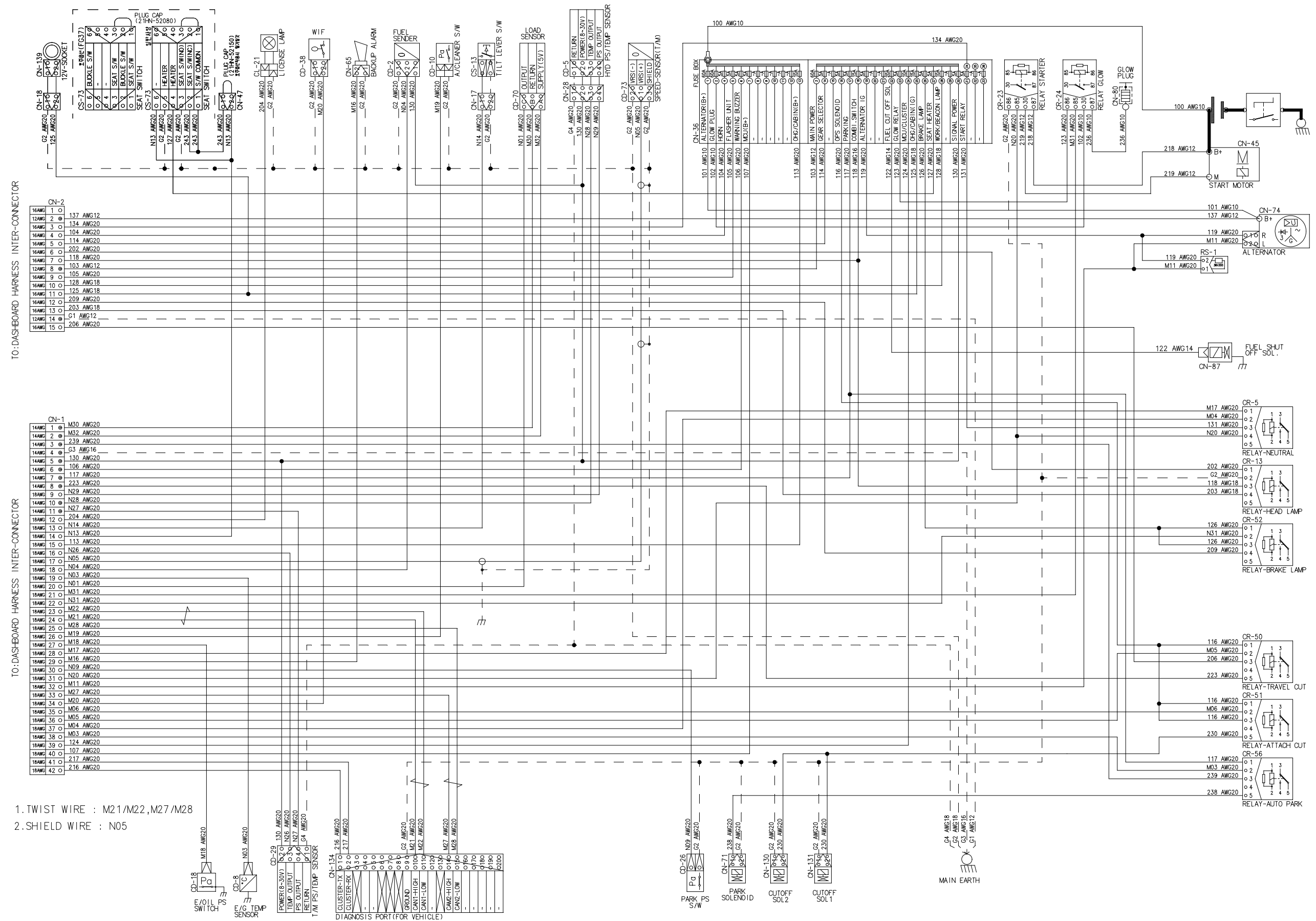
- | | | |
|-------------------------|--------------------------------|------------------------------------|
| 1 Head lamp | 10 Head lamp switch | 17 Fuse box |
| 2 Turn signal lamp | Clearance lamp switch | 18 Battery |
| 3 Horn assembly | Turn signal switch | 19 Parking switch |
| 4 Beacon lamp (opt) | 11 Horn button | 20 Beacon switch (opt) |
| 5 Combination lamp | 12 Rear work lamp switch (opt) | 21 Front wiper/washer switch (opt) |
| 6 Back buzzer | 13 Flasher unit | 22 Heater switch (opt) |
| 7 Forward-reverse lever | 14 MCU | 23 Master switch (opt) |
| 8 Cluster | 15 Buzzer | 24 Radio and USB player (opt) |
| 9 Start switch | 16 Hazard lamp switch (opt) | 25 Rear camera (opt) |

GROUP 2 ELECTRICAL CIRCUIT

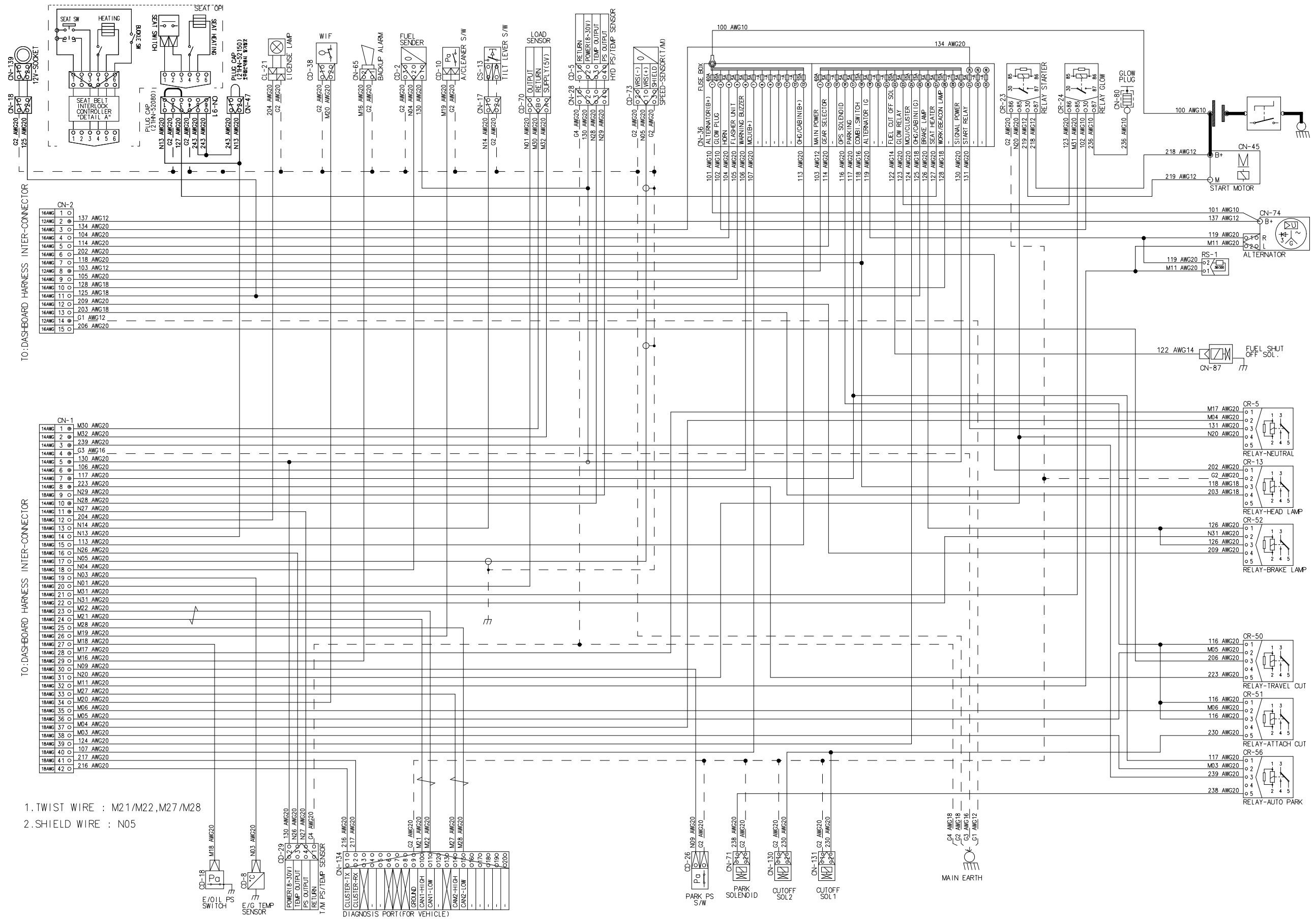
· ELECTRICAL CIRCUIT (STD, FRAME, 22D-9E, 25D-9E : -#0687, 30D-9E : -#0619, 33D-9E : -#0178)



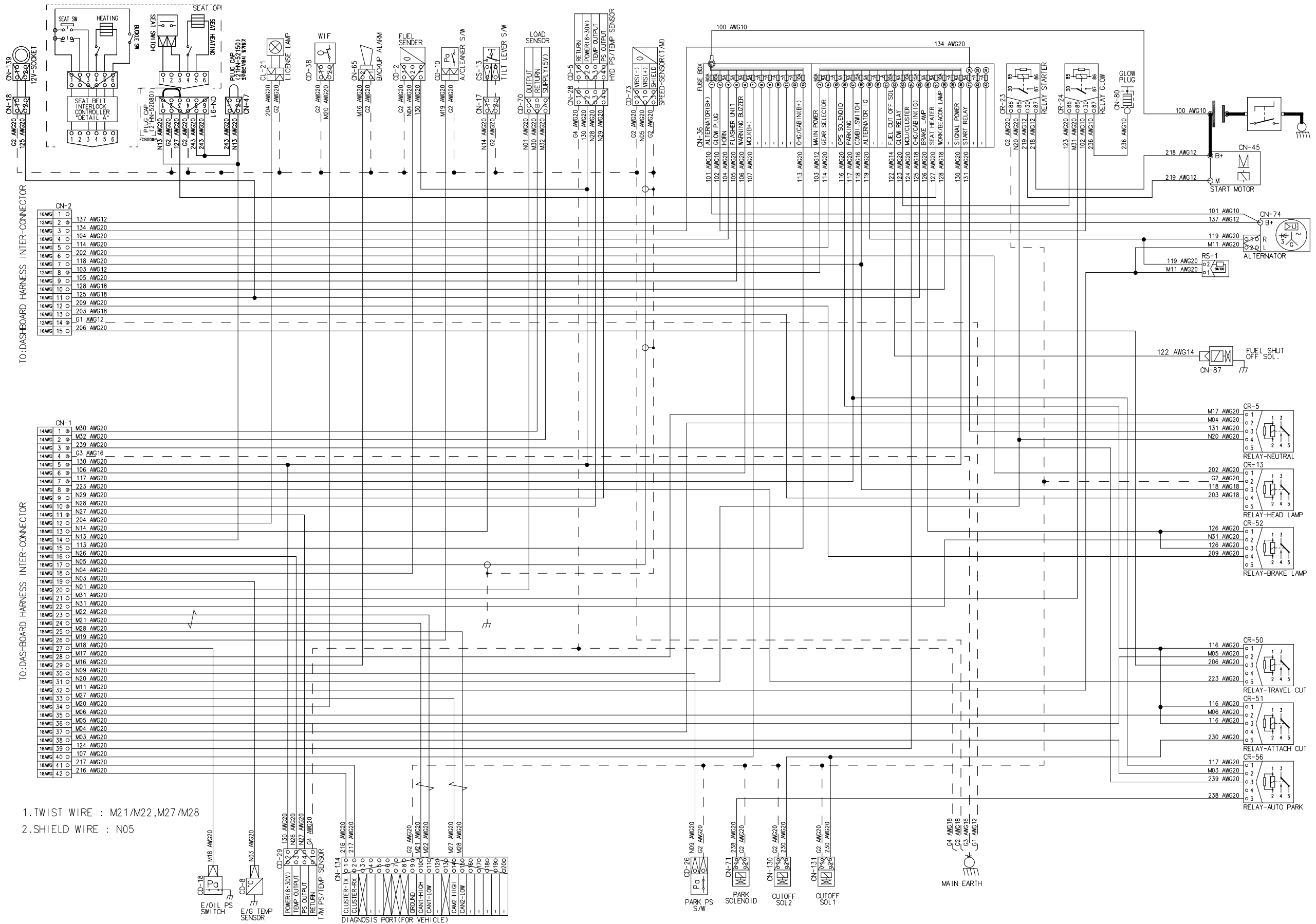
· ELECTRICAL CIRCUIT (STD, FRAME, 25D-9E : #0688-#0810, 30D-9E : #0620-#0736, 33D-9E : #0179-#0200)



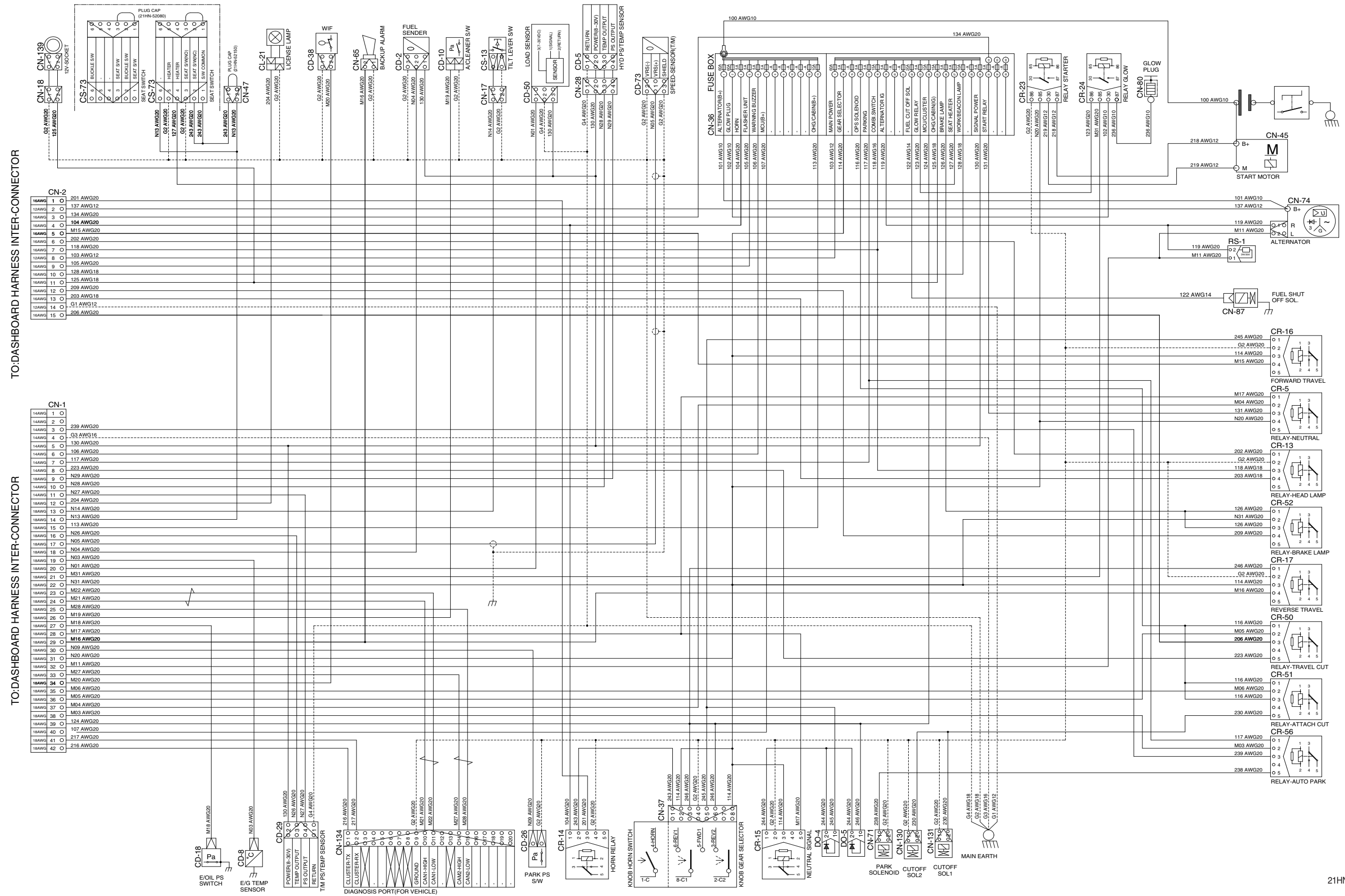
· ELECTRICAL CIRCUIT (STD, FRAME, 25D-9E : #0811-#0860, 30D-9E : #0737-#0804, 33D-9E : #0201-#0222)



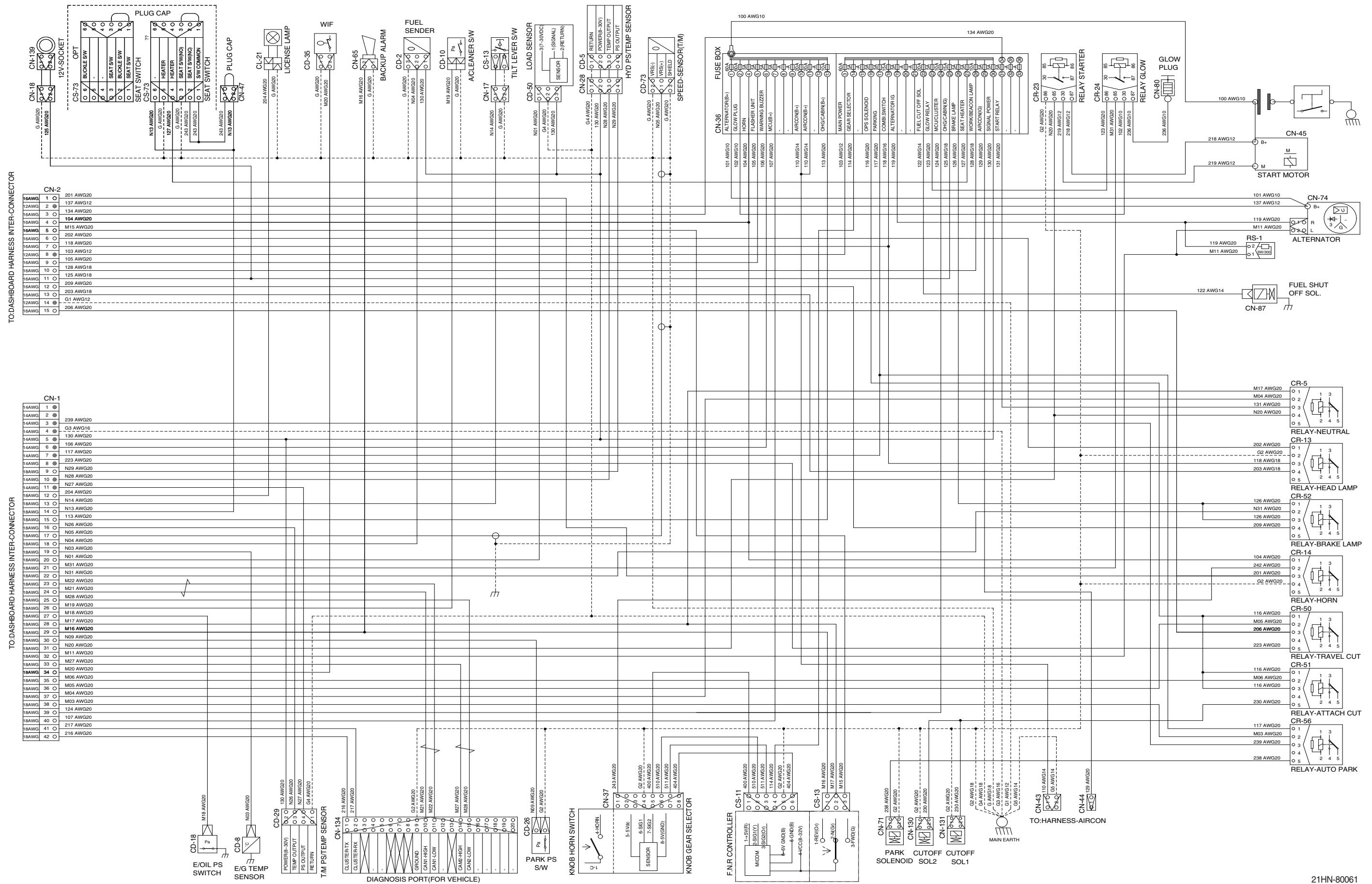
· ELECTRICAL CIRCUIT (STD, FRAME, 25D-9E : #0861-, 30D-9E : #0805-, 33D-9E : #0223-)



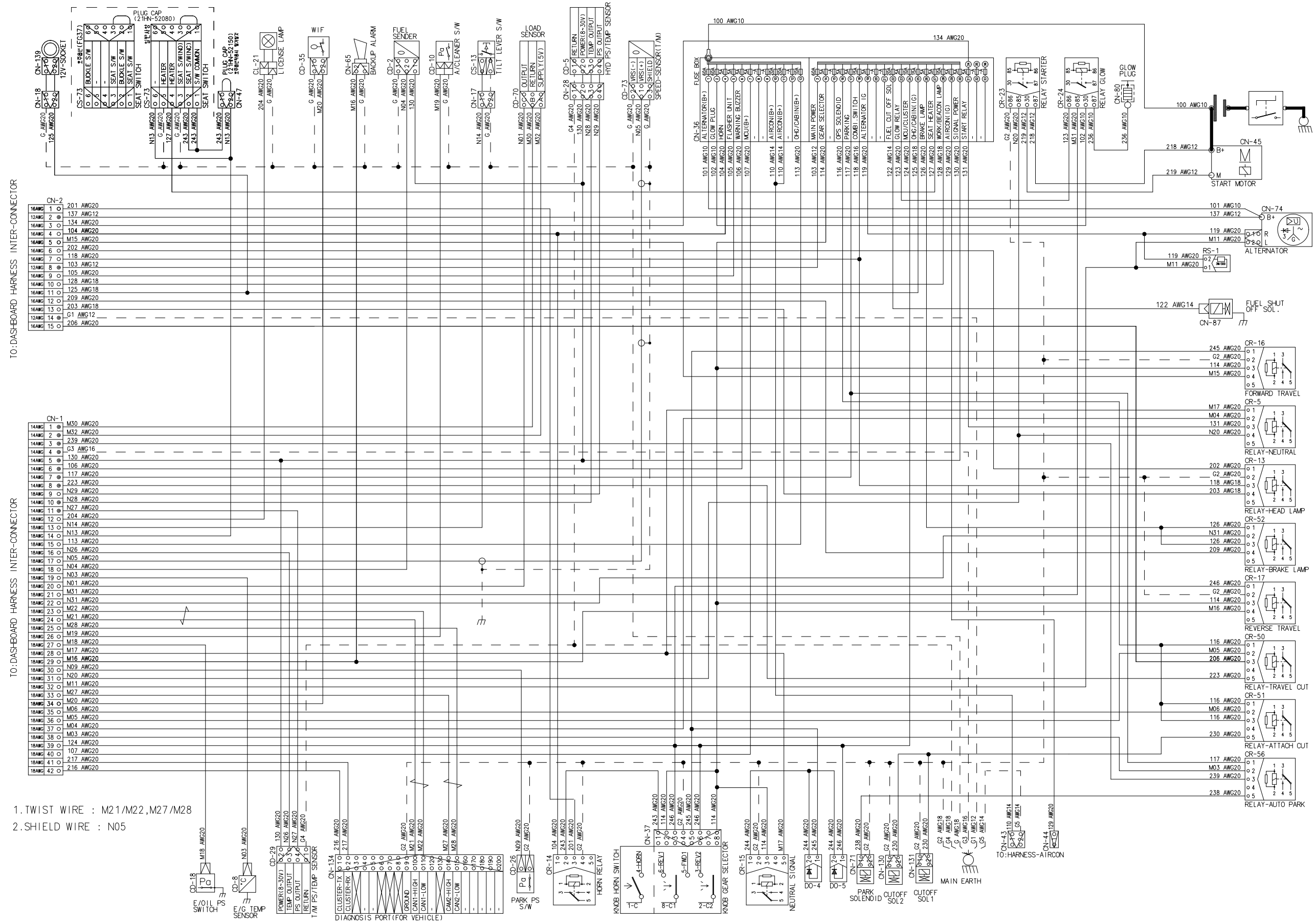
· ELECTRICAL CIRCUIT (KNOB FNR, FRAME, 22D-9E : -#0008, 25D-9E : -#0065, 30D-9E : -#0074, 33D-9E : -#0027)



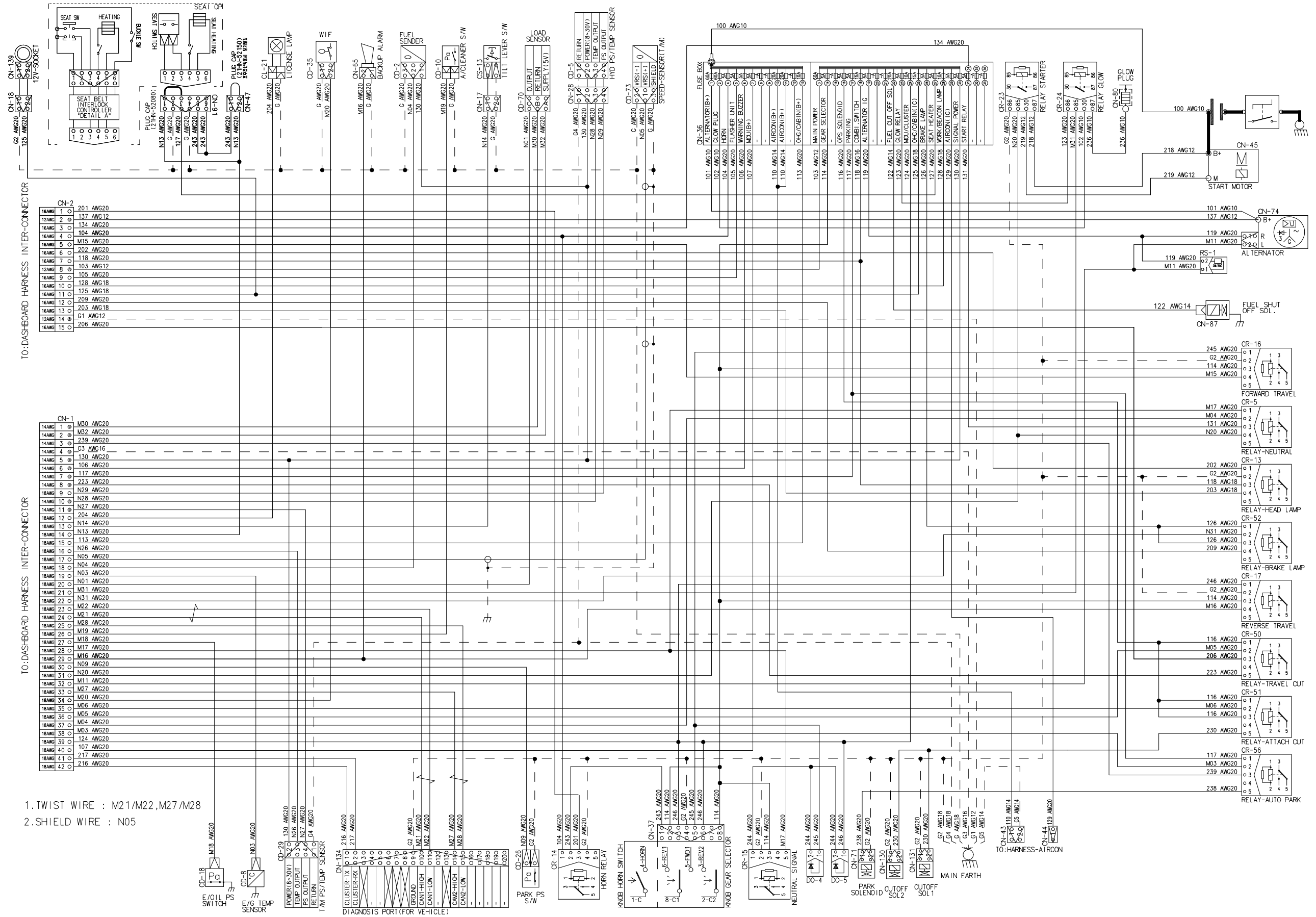
· ELECTRICAL CIRCUIT (KNOB FNR, FRAME, 22D-9E : #0009-, 25D-9E : #0066-#0687, 30D-9E : #0075-#0619, 33D-9E : #0028-#0178)



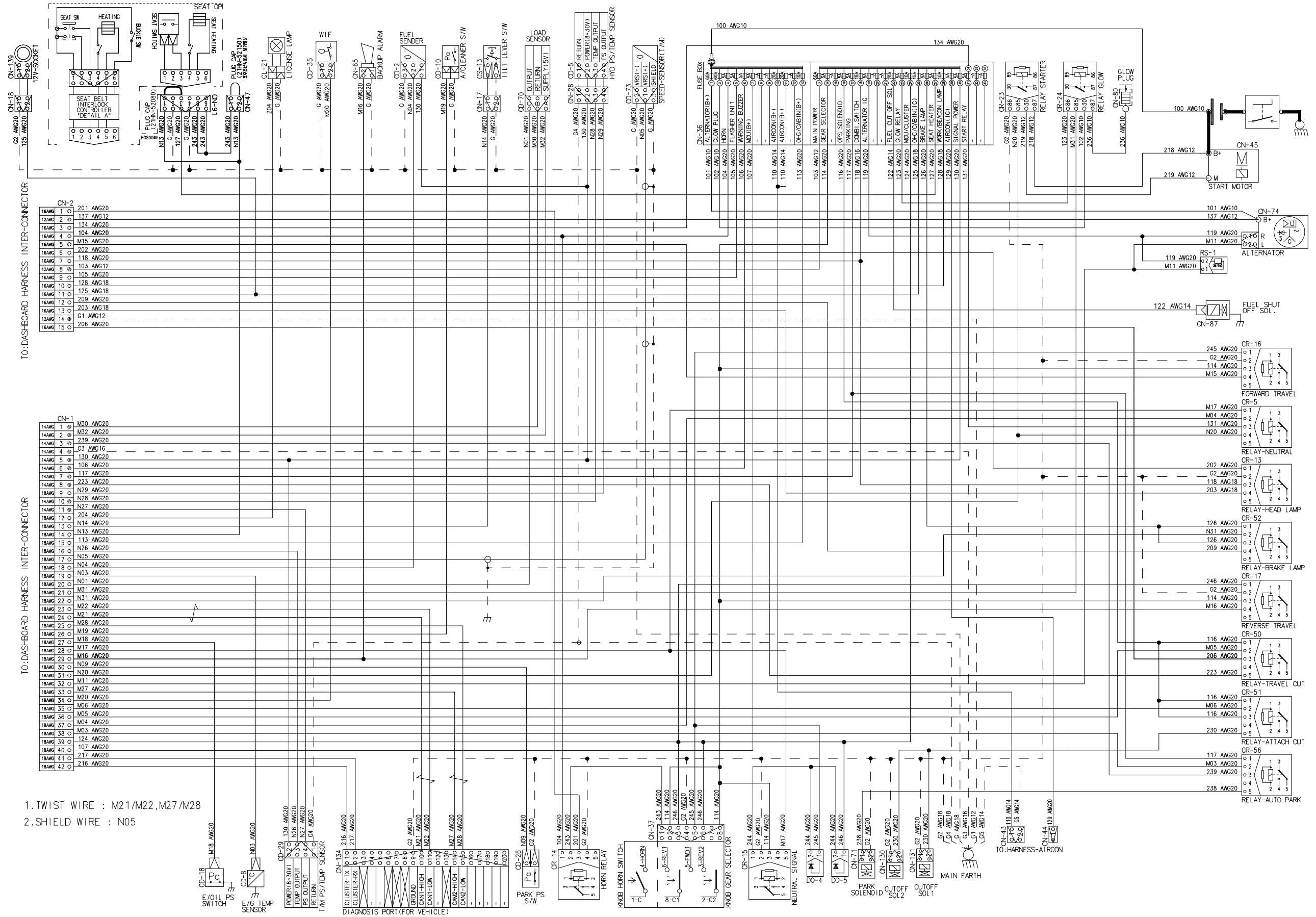
· ELECTRICAL CIRCUIT (KNOB FNR, FRAME, 25D-9E : #0688-#0810, 30D-9E : #0620-#0736, 33D-9E : #0179-#0200)



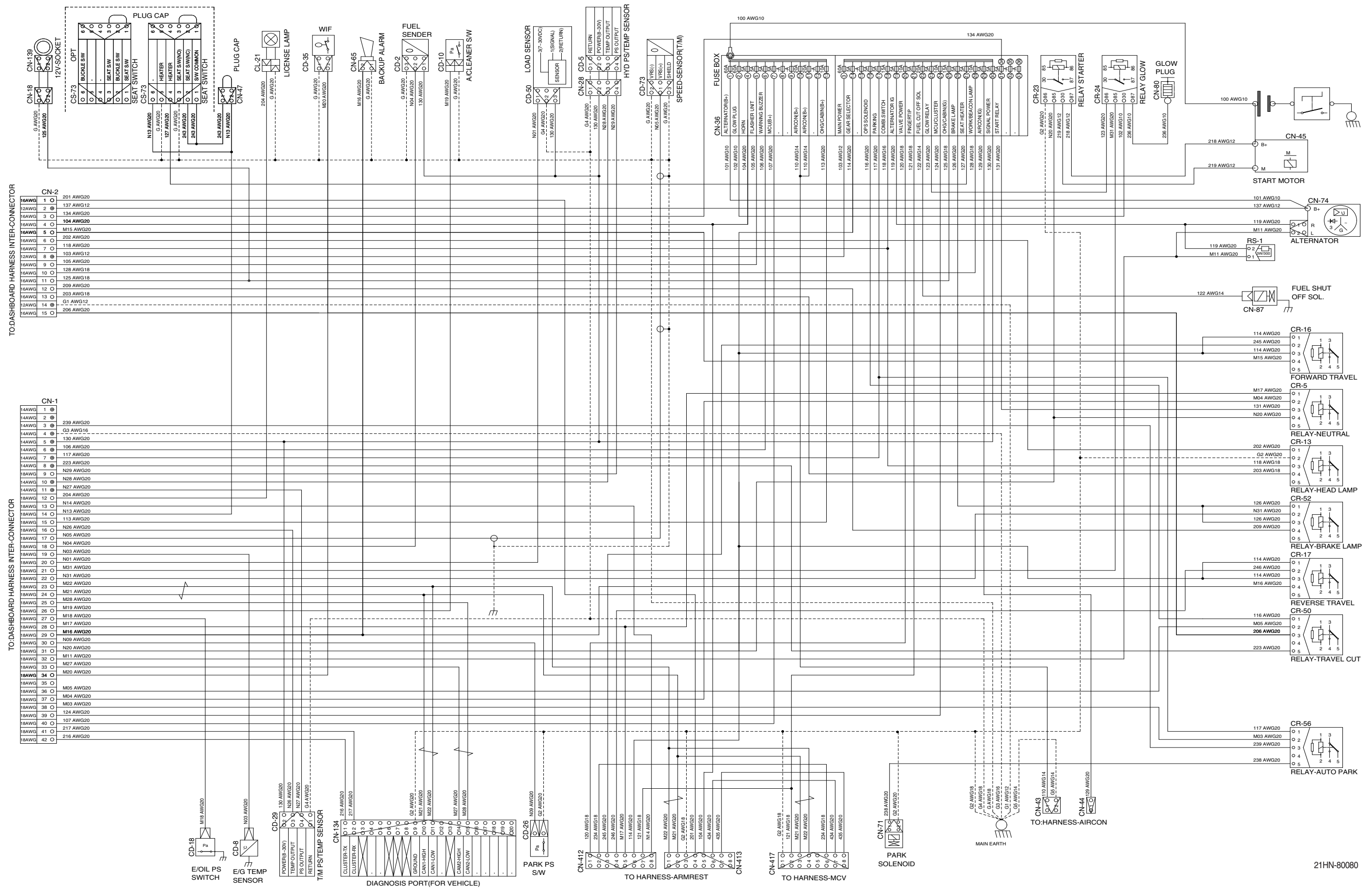
· ELECTRICAL CIRCUIT (KNOB FNR, FRAME, 25D-9E : #0811-#0860, 30D-9E : #0737-#0804, 33D-9E : #0201-#0222)



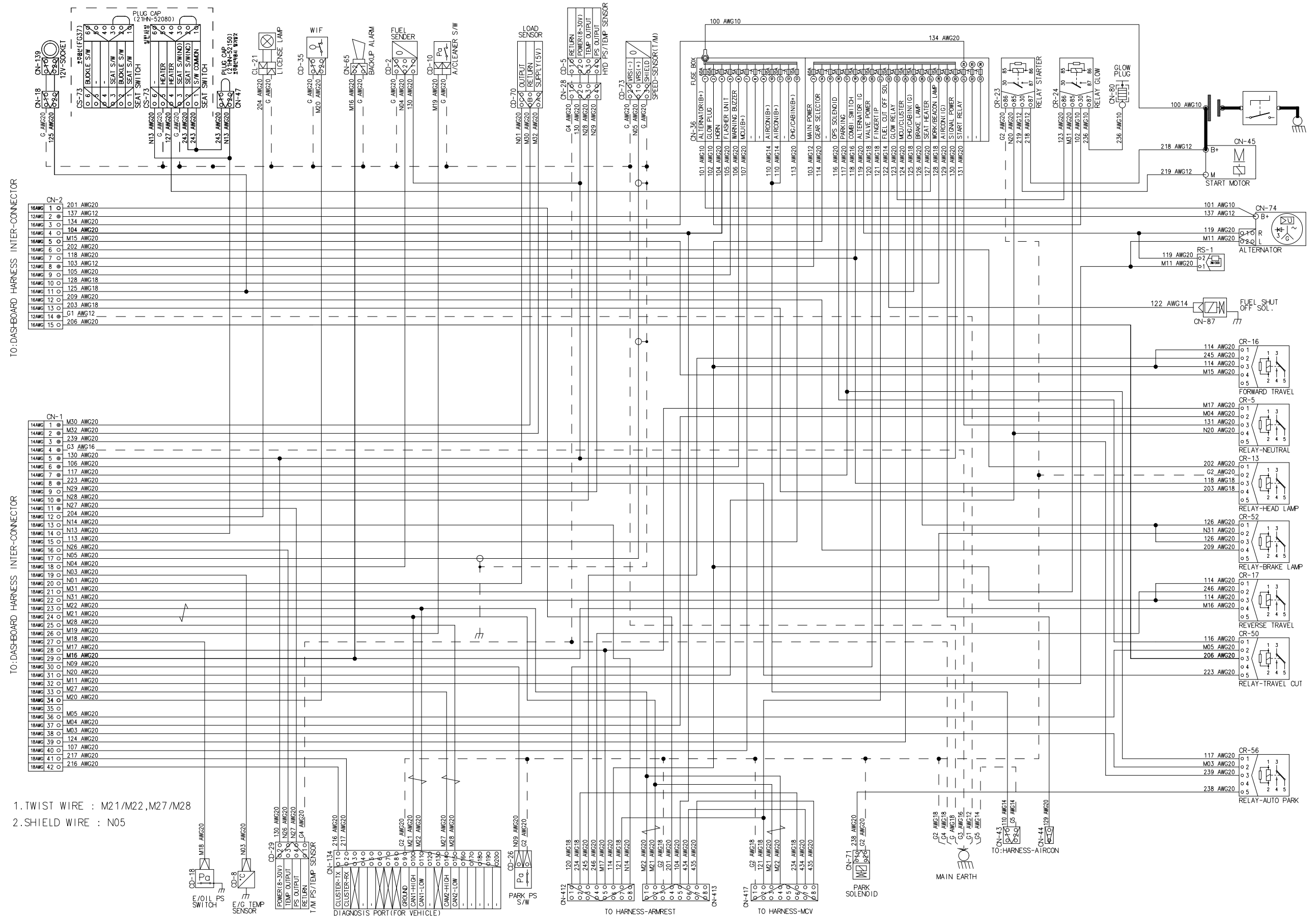
· ELECTRICAL CIRCUIT (KNOB FNR, FRAME, 25D-9E : #0861-, 30D-9E : #0805-, 33D-9E : #0223-)



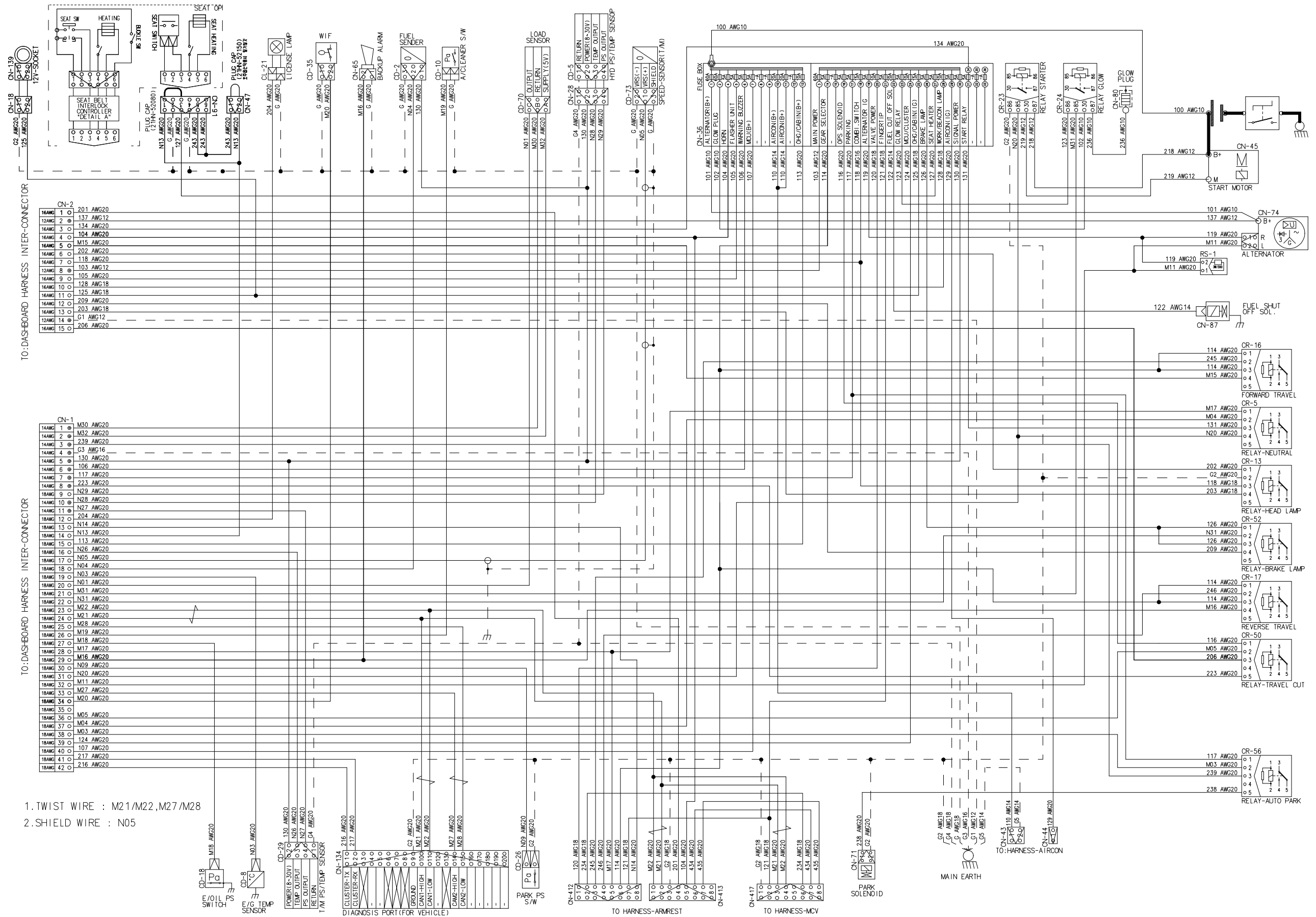
· ELECTRICAL CIRCUIT (FINGERTIP, FRAME, 22D-9E : #0010-, 25D-9E : #0054-#0687, 30D-9E : #0058-#0619, 33D-9E : #0022-#0178)



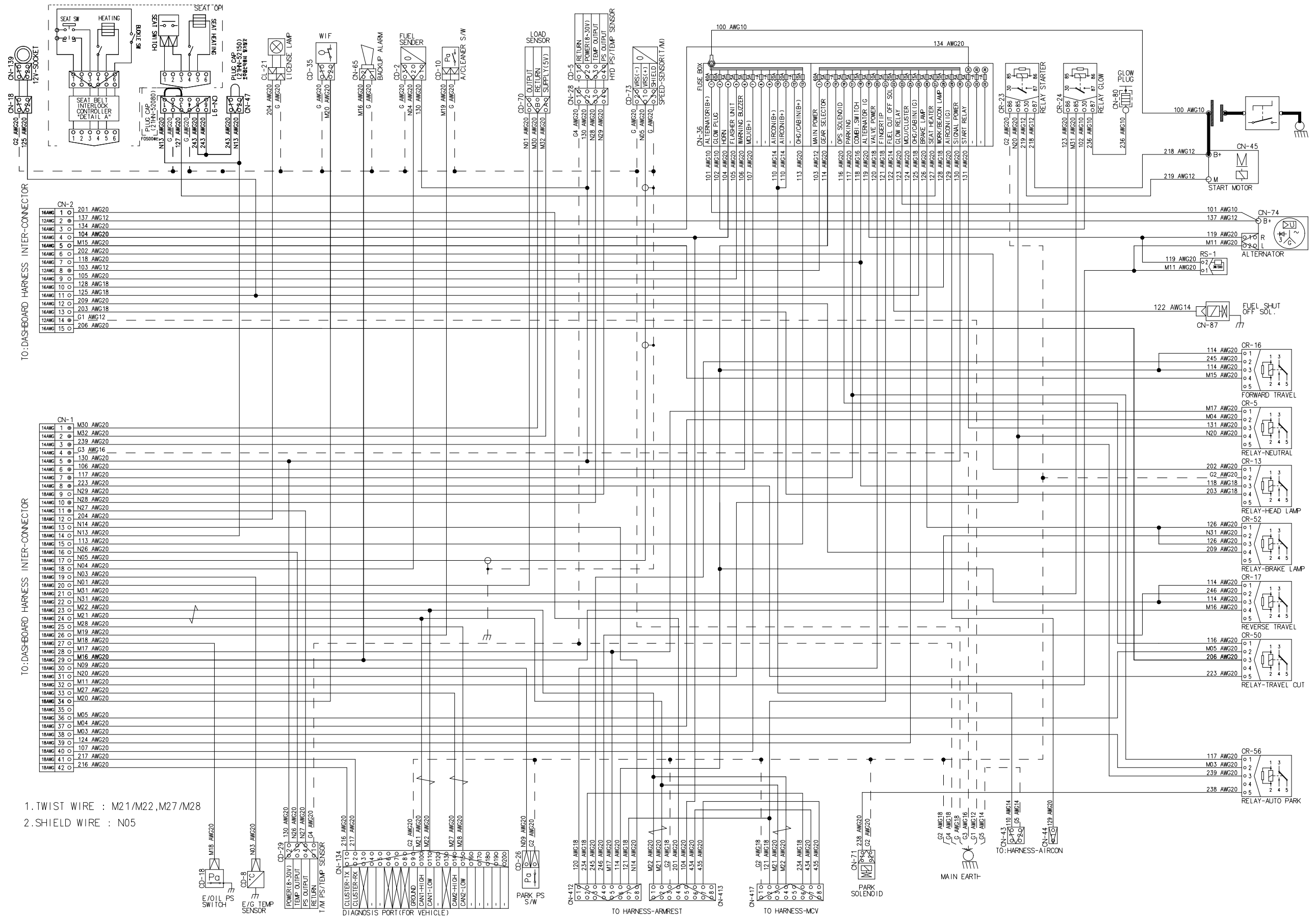
· ELECTRICAL CIRCUIT (FINGERTIP, FRAME, 25D-9E : #0688-#0810, 30D-9E : #0620-#0736, 33D-9E : #0179-#0200)



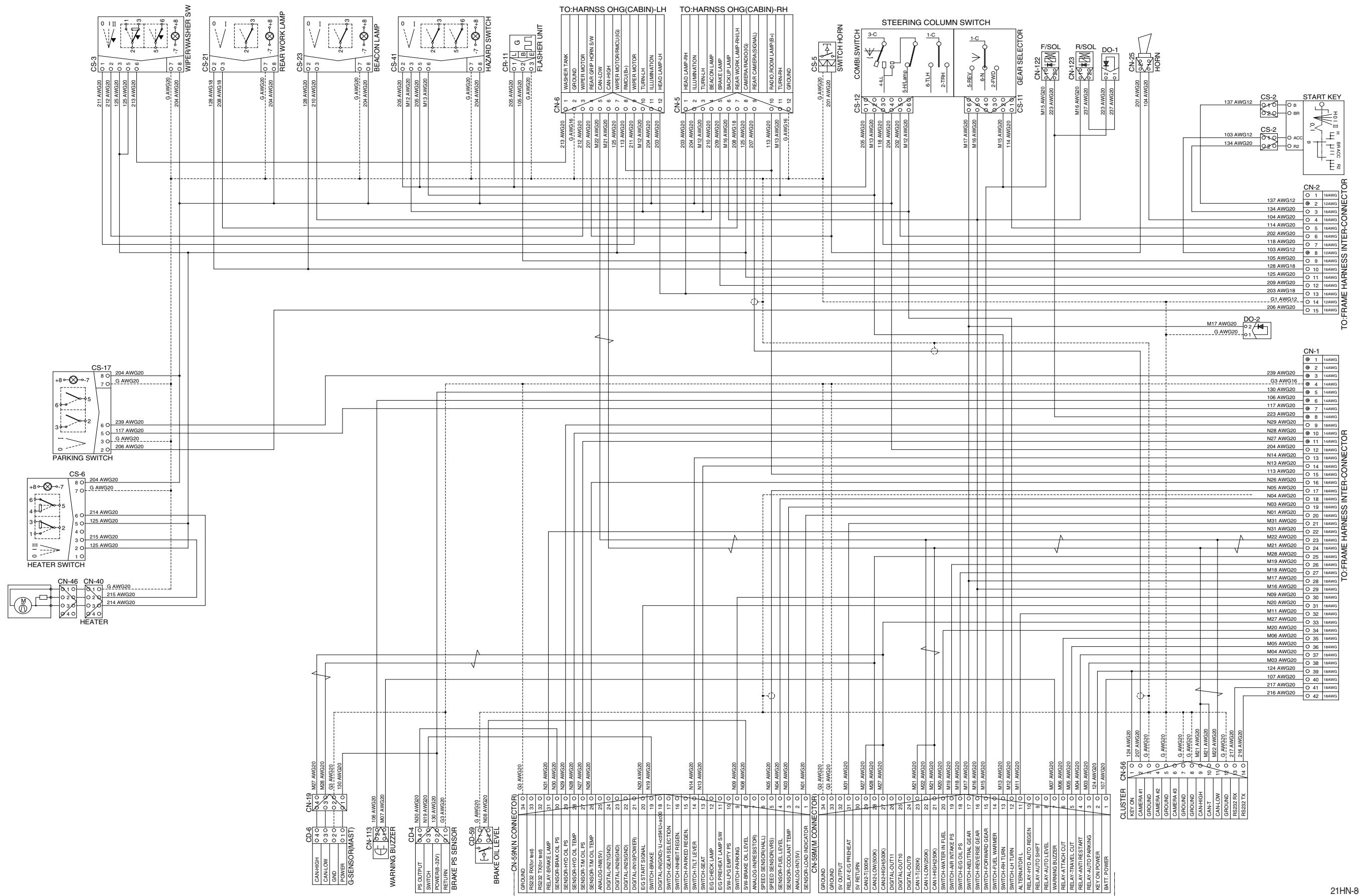
· ELECTRICAL CIRCUIT (FINGERTIP, FRAME, 25D-9E : #0811-#0860, 30D-9E : #0737-#0804, 33D-9E : #0201-#0222)



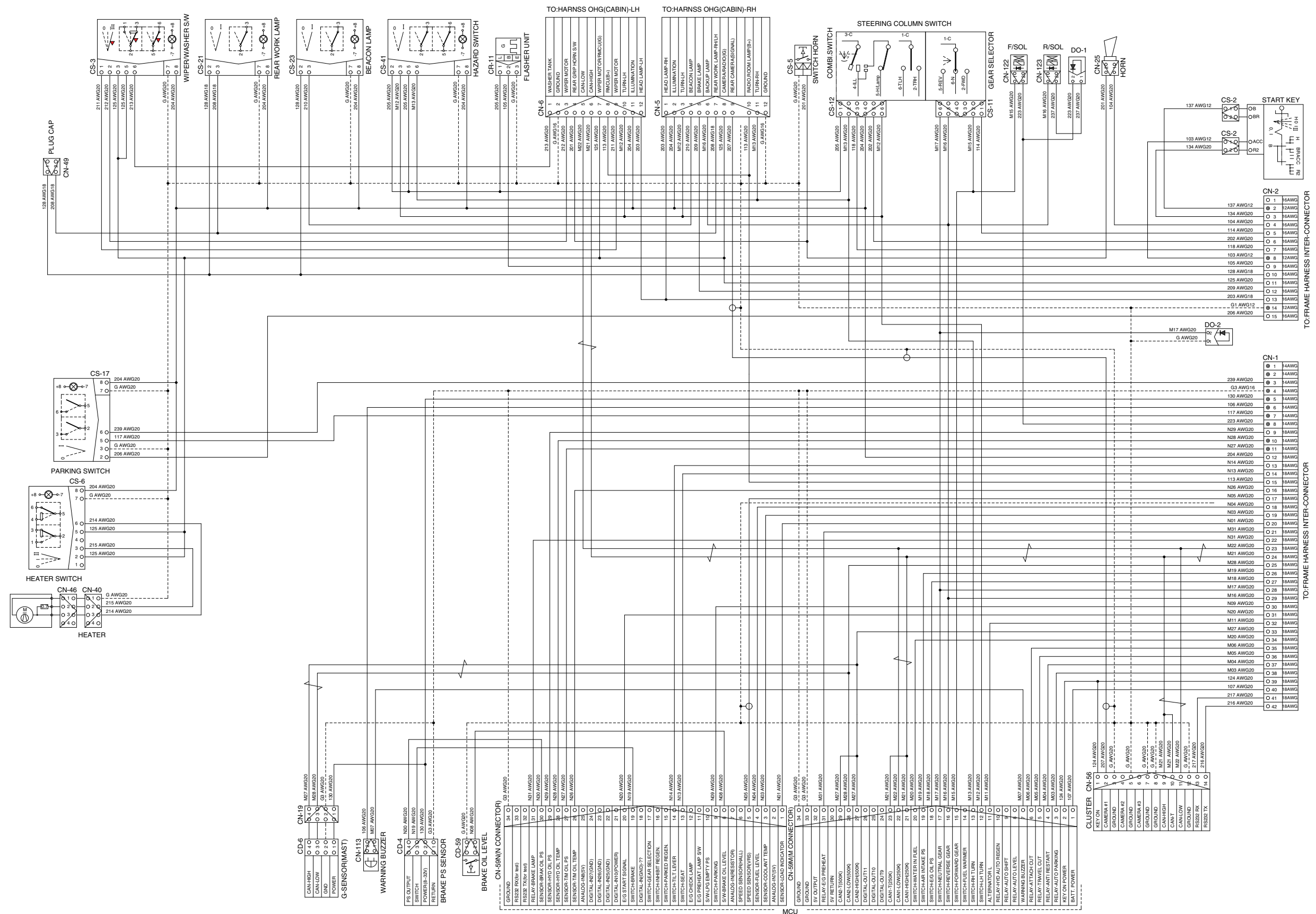
· ELECTRICAL CIRCUIT (FINGERTIP, FRAME, 25D-9E : #0861-, 30D-9E : #0805-, 33D-9E : #0223-)



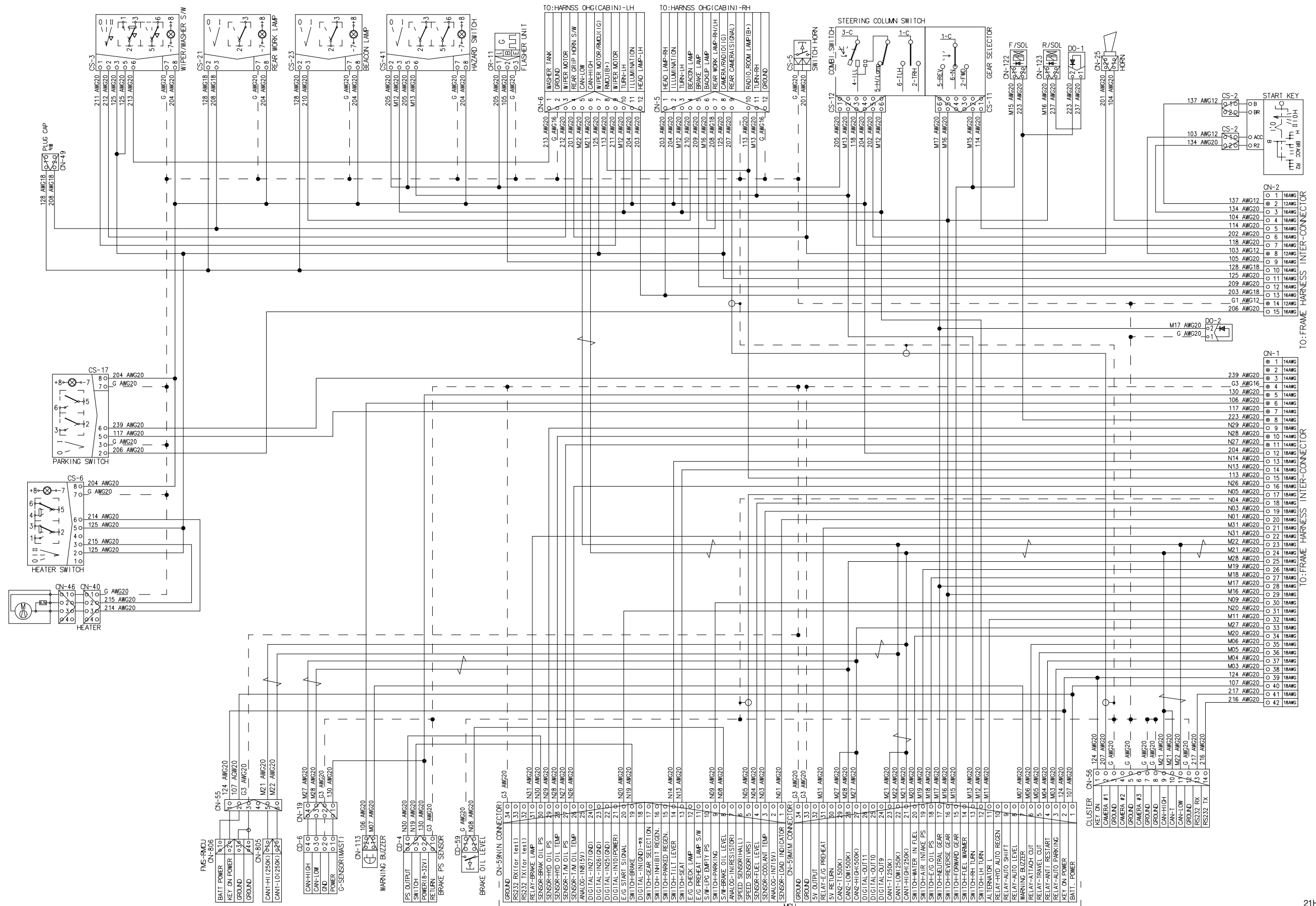
· ELECTRICAL CIRCUIT (STD, DASHBOARD, 22D-9E : -#0008, 25D-9E : -#0065, 30D-9E : -#0074, 33D-9E : -#0027)



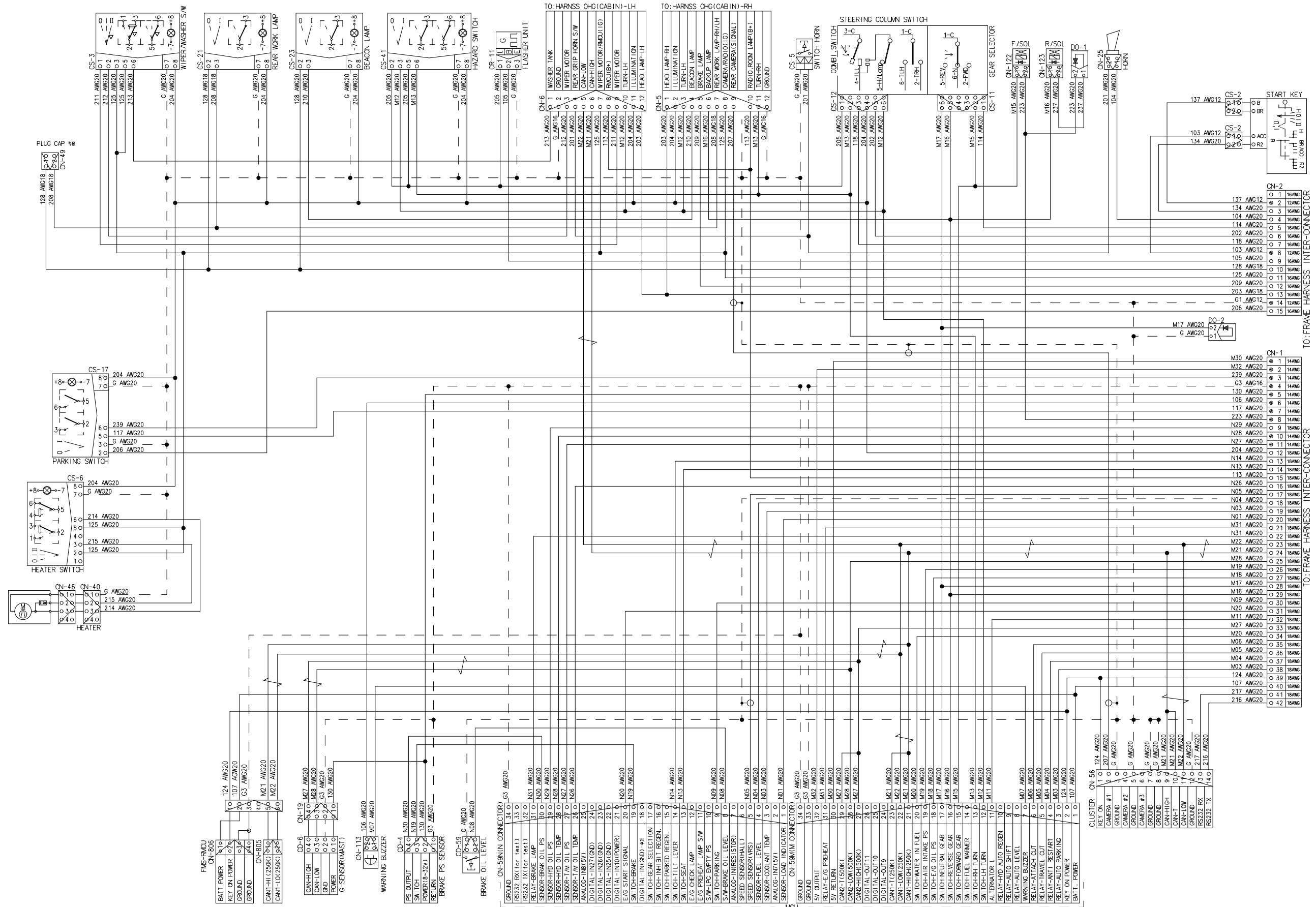
· ELECTRICAL CIRCUIT (STD, DASHBOARD, 22D-9E : #0009-, 25D-9E : #0066-#0459, 30D-9E : #0075-#0400, 33D-9E : #0028-#0105)



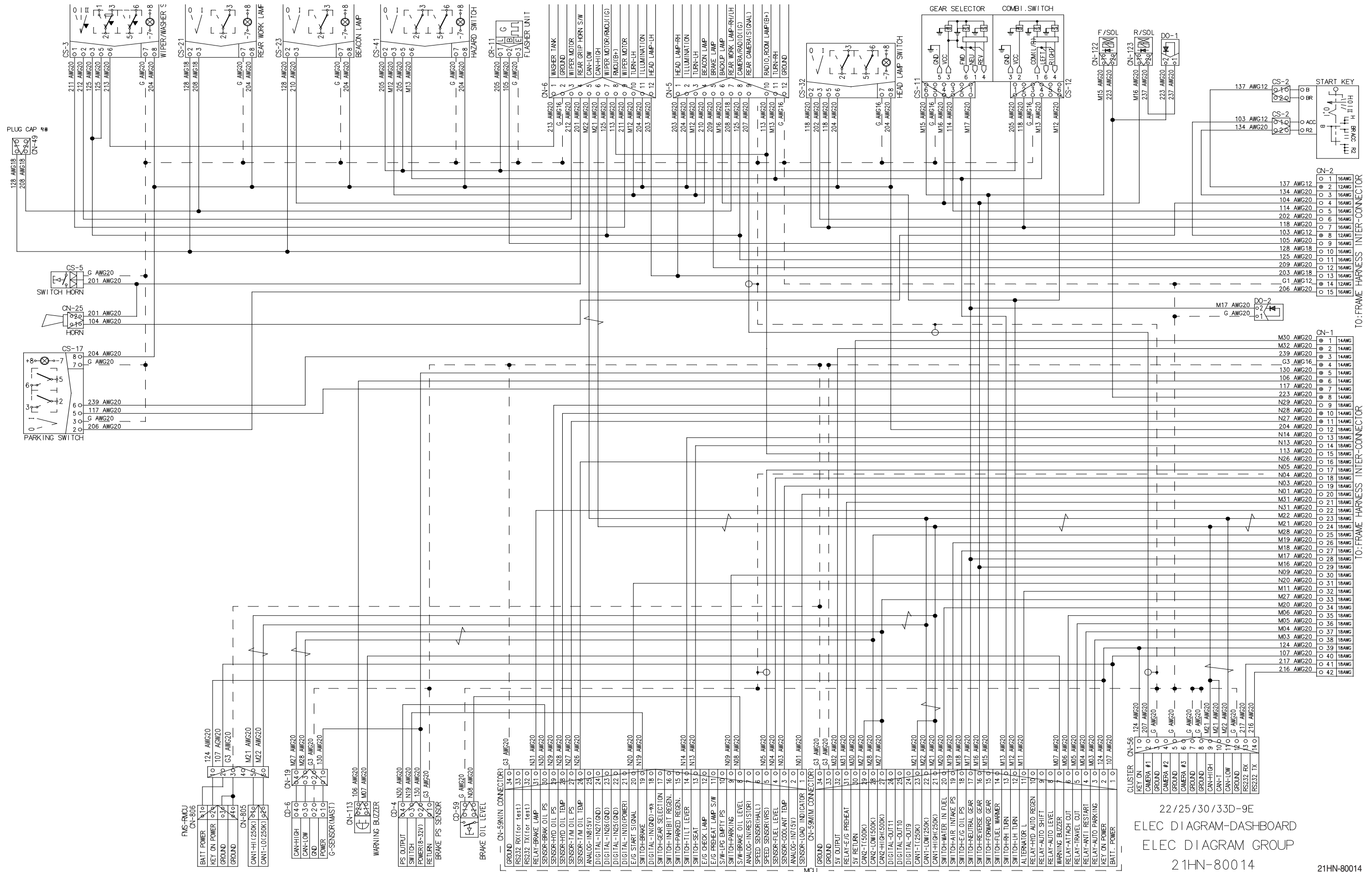
· ELECTRICAL CIRCUIT (STD, DASHBOARD, 25D-9E : #0460-#0687, 30D-9E : #0401-#0619, 33D-9E : #0106-#0178)



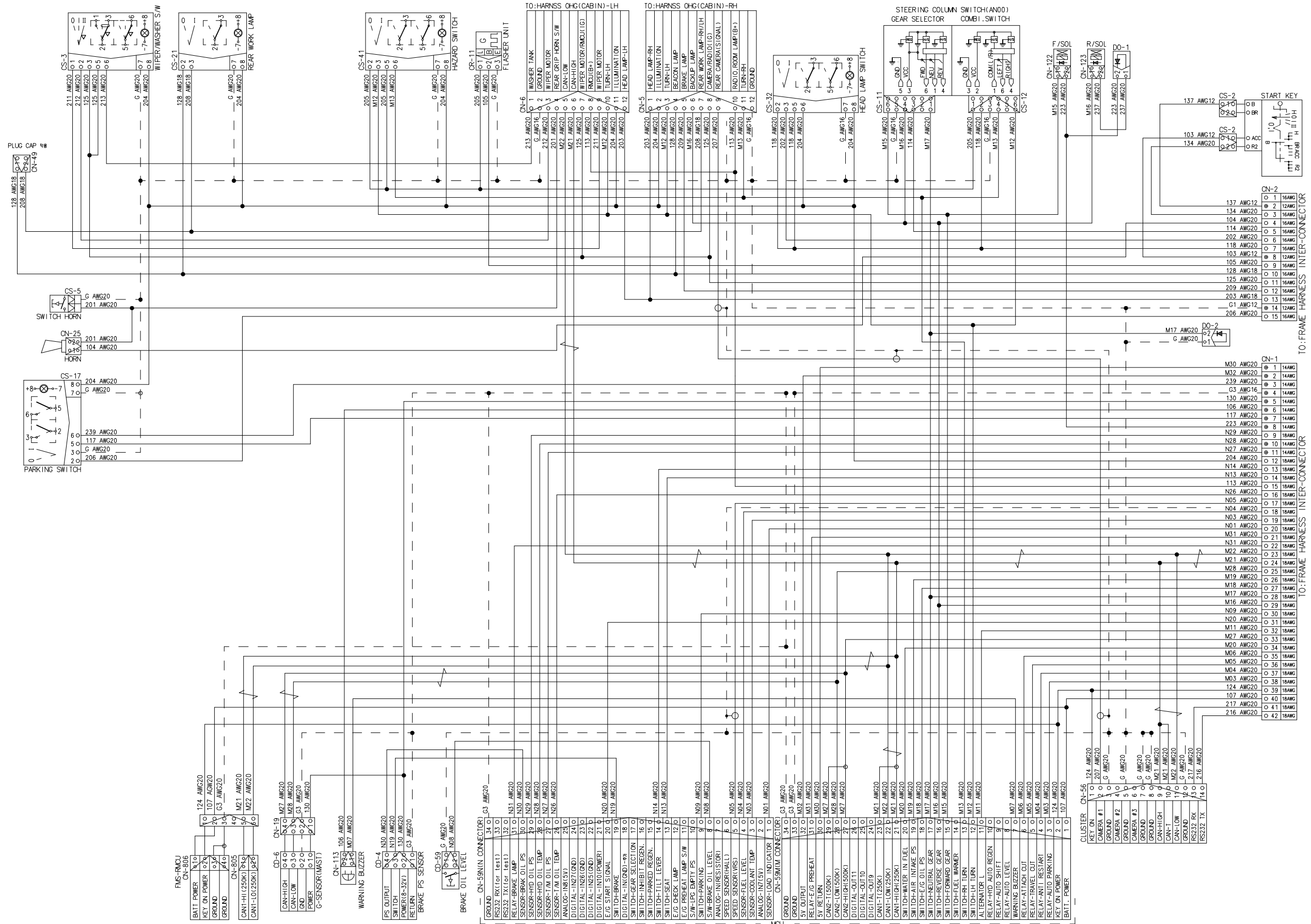
· ELECTRICAL CIRCUIT (STD, DASHBOARD, 25D-9E : #0688-#0741, 30D-9E : #0620-#0660, 33D-9E : #0179-#0186)



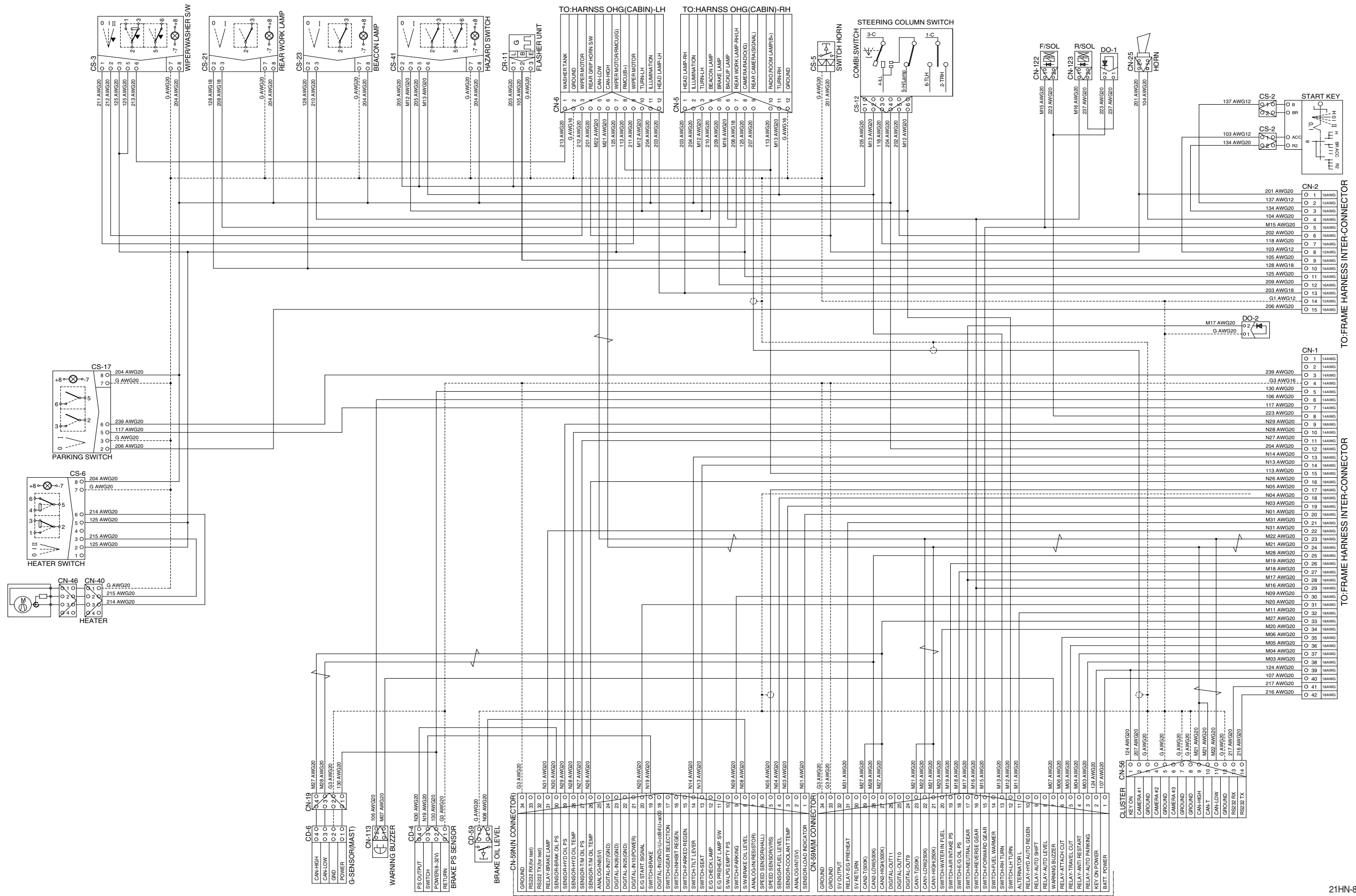
· ELECTRICAL CIRCUIT (STD, DASHBOARD, 25D-9E : #0742-#0915, 30D-9E : #0661-#0861, 33D-9E : #0187-#0255)



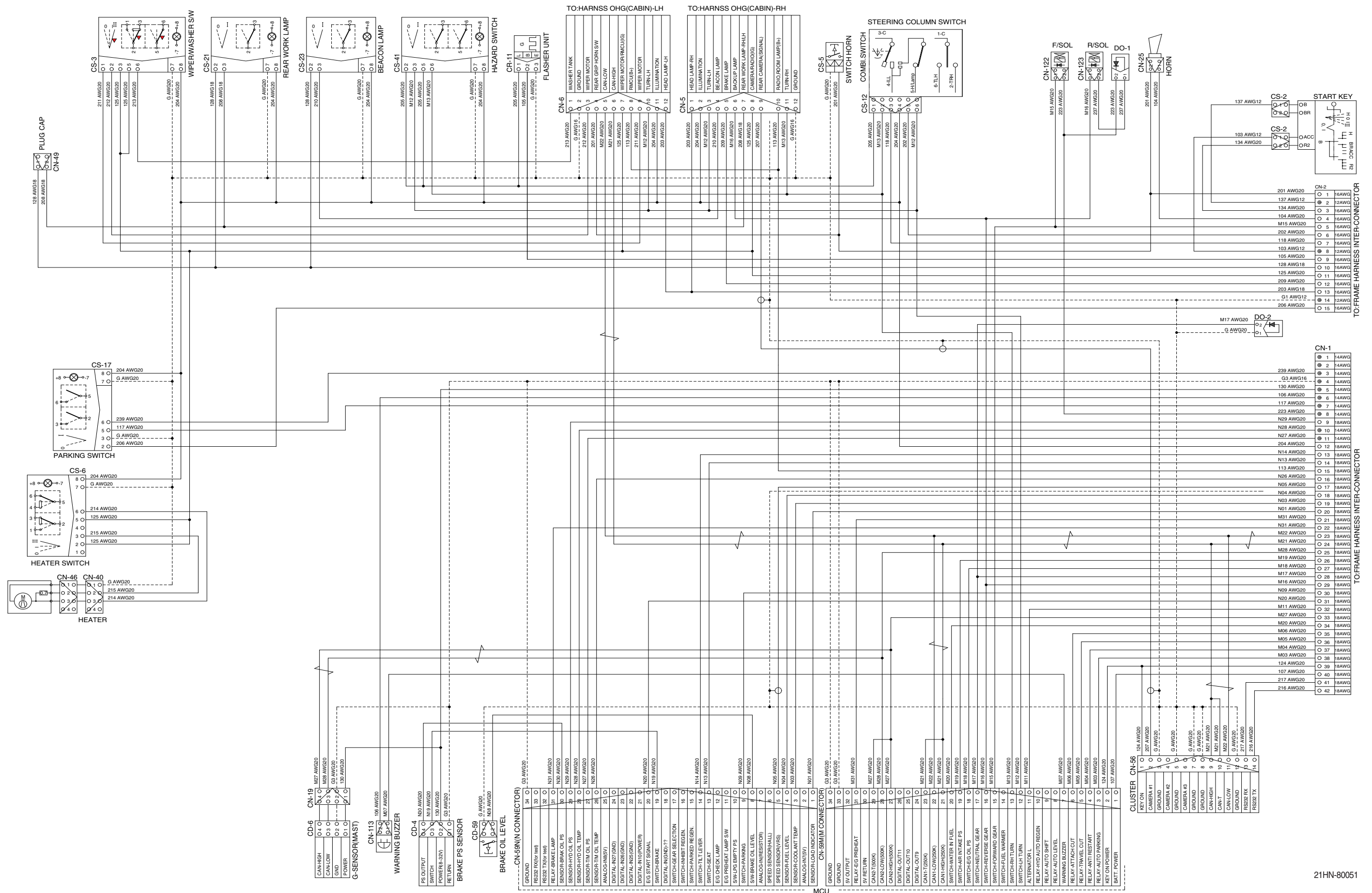
· ELECTRICAL CIRCUIT (STD, DASHBOARD, 25D-9E : #0916-, 30D-9E : #0862-, 33D-9E : #0256-)



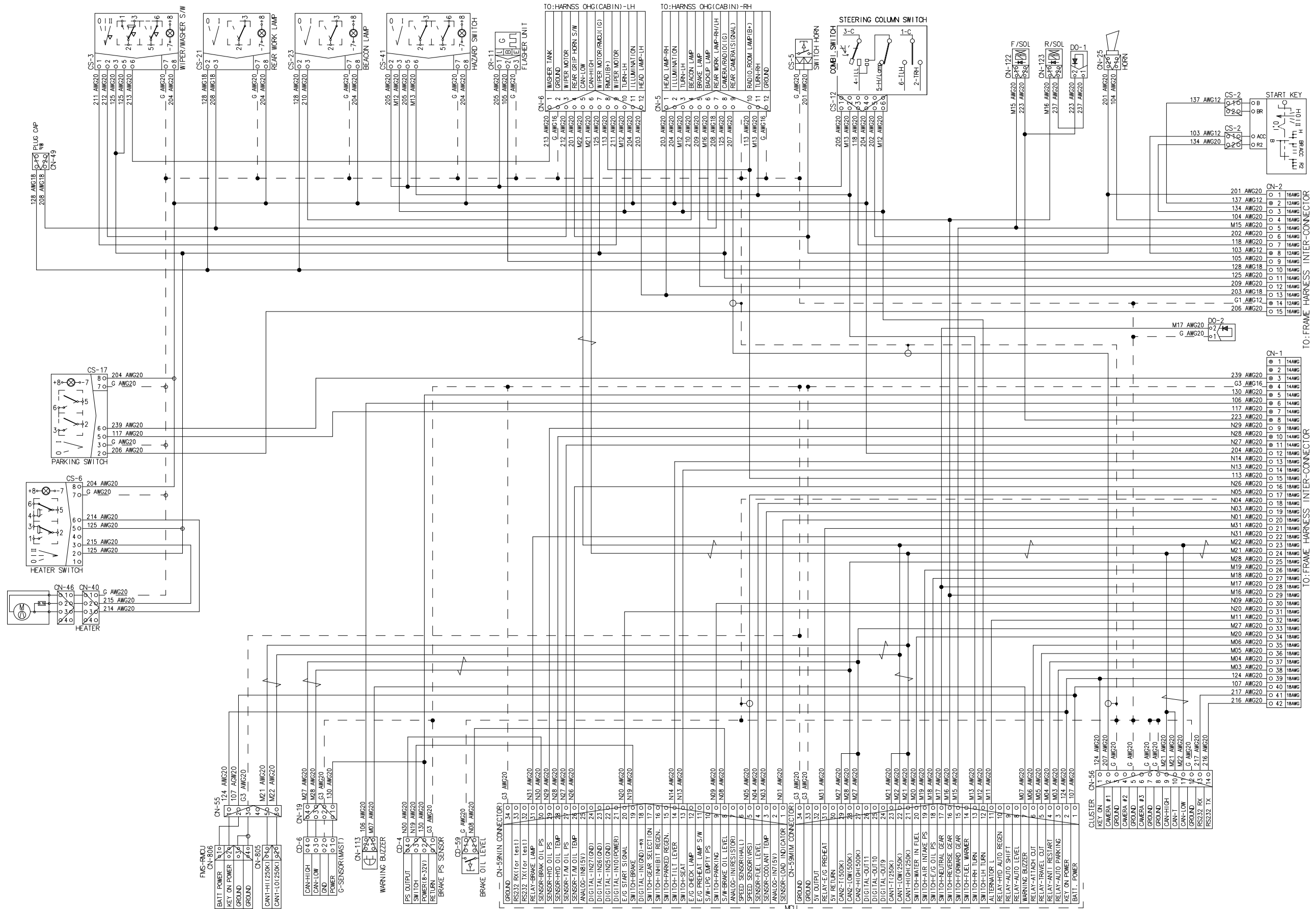
· ELECTRICAL CIRCUIT (KNOB FNR, DASHBOARD, 22D-9E : -#0008, 25D-9E : -#0065, 30D-9E : -#0074, 33D-9E : -#0027)



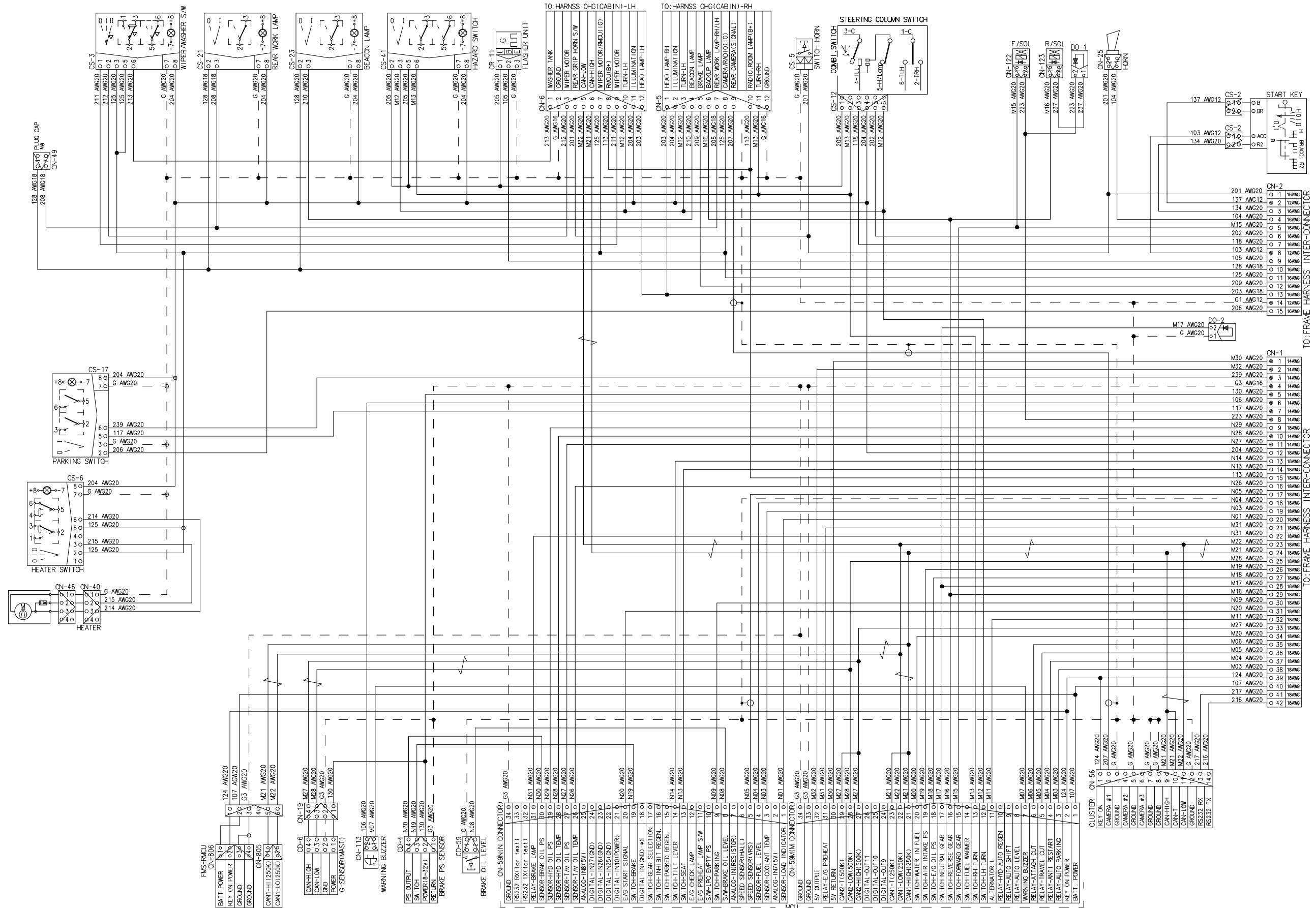
· ELECTRICAL CIRCUIT (KNOB FNR, DASHBOARD, 22D-9E : #0009-, 25D-9E : #0066-#0459, 30D-9E : #0075-#0400, 33D-9E : #0028-#0105)



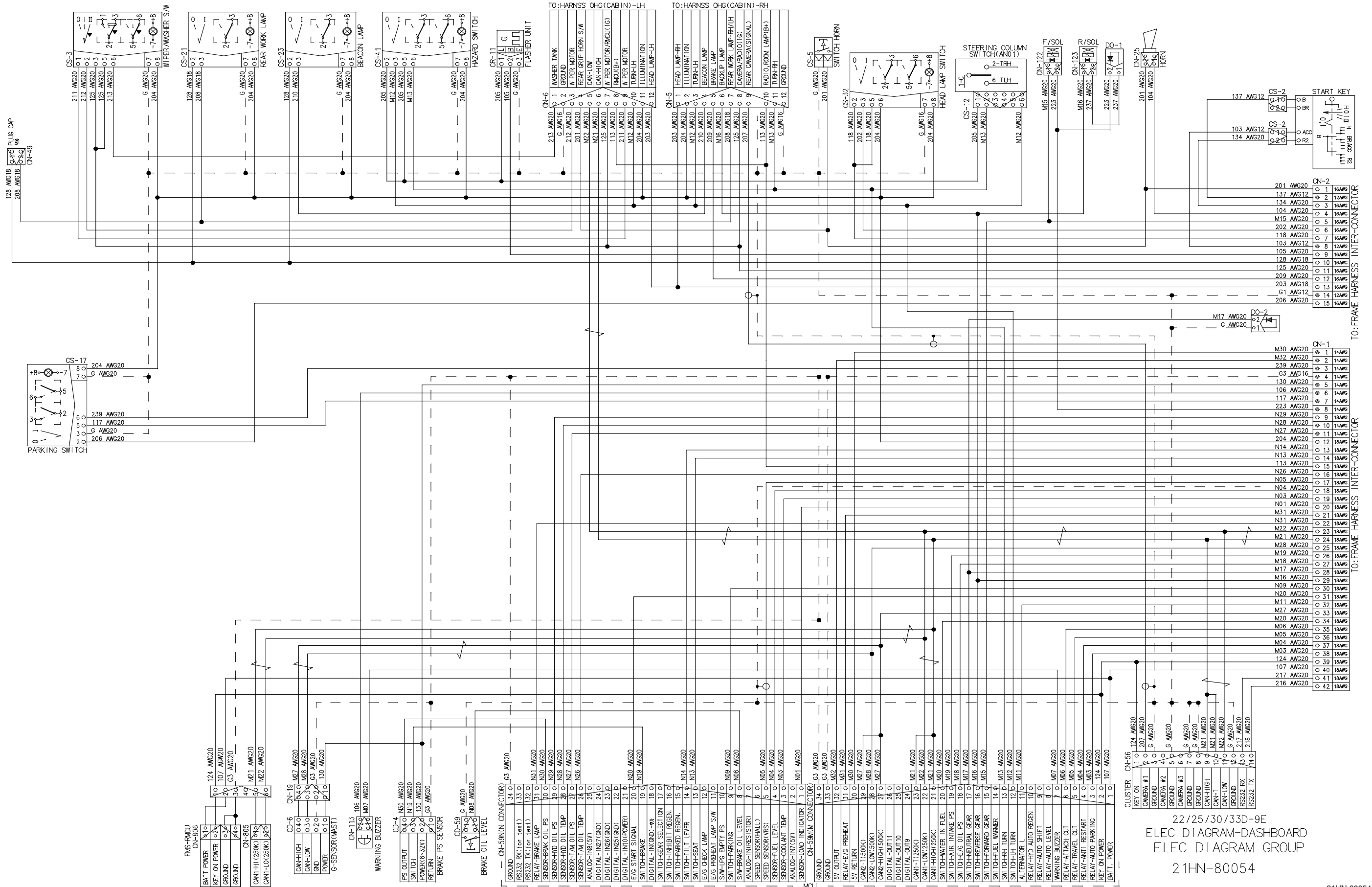
· ELECTRICAL CIRCUIT (KNOB FNR, DASHBOARD, 25D-9E : #0460-#0687, 30D-9E : #0401-#0619, 33D-9E : #0106-#0178)



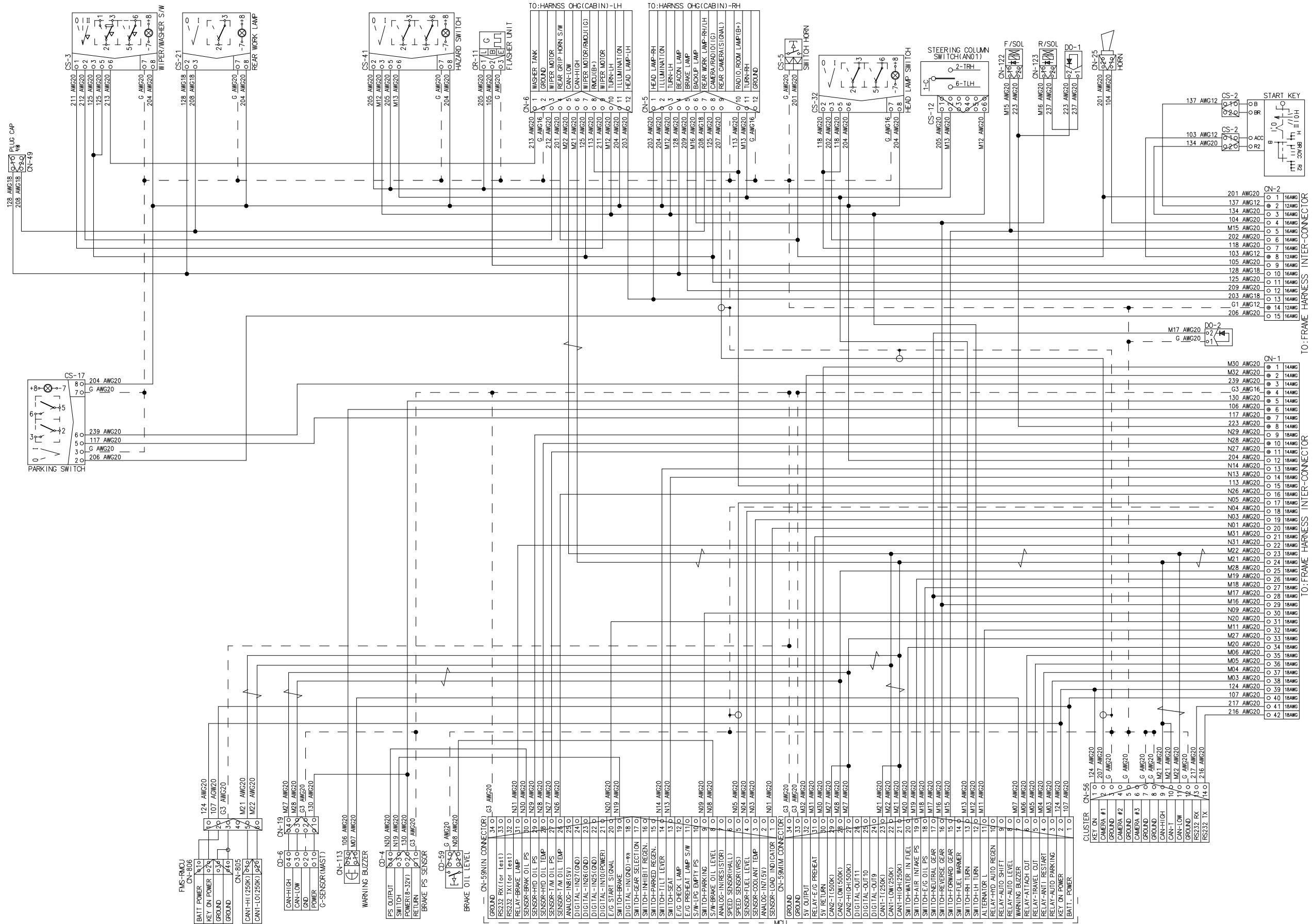
· ELECTRICAL CIRCUIT (KNOB FNR, DASHBOARD, 25D-9E : #0688-#0741, 30D-9E : #0620-#0660, 33D-9E : #0179-#0186)



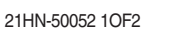
· ELECTRICAL CIRCUIT (KNOB FNR, DASHBOARD, 25D-9E : #0742-#0915, 30D-9E : #0661-#0861, 33D-9E : #0187-#0255)



· ELECTRICAL CIRCUIT (KNOB FNR, DASHBOARD, 25D-9E : #0916-, 30D-9E : #0862-, 33D-9E : #0256-)

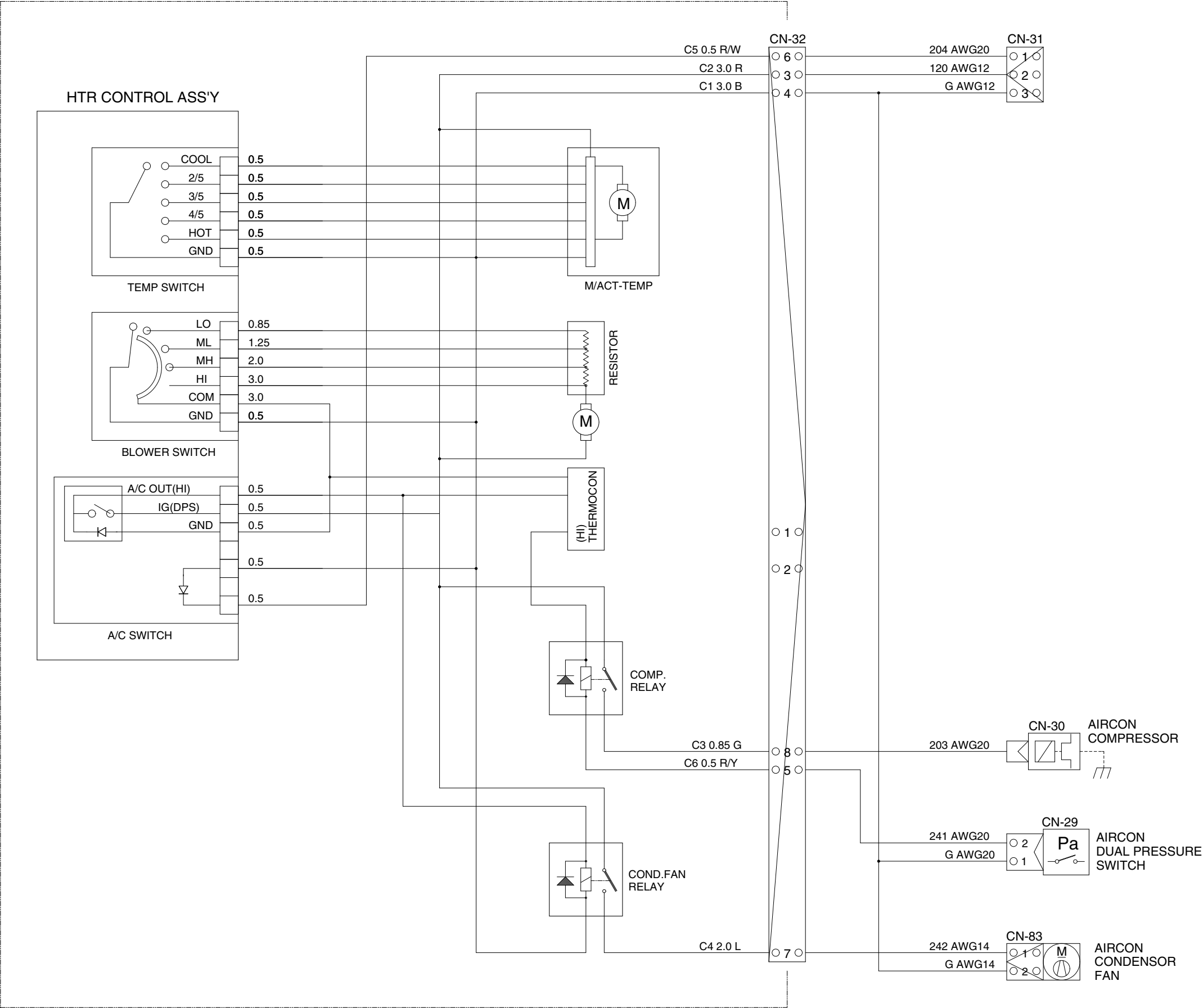


*ELEC.DIAGRAM OF HARNESS CABIN-RH



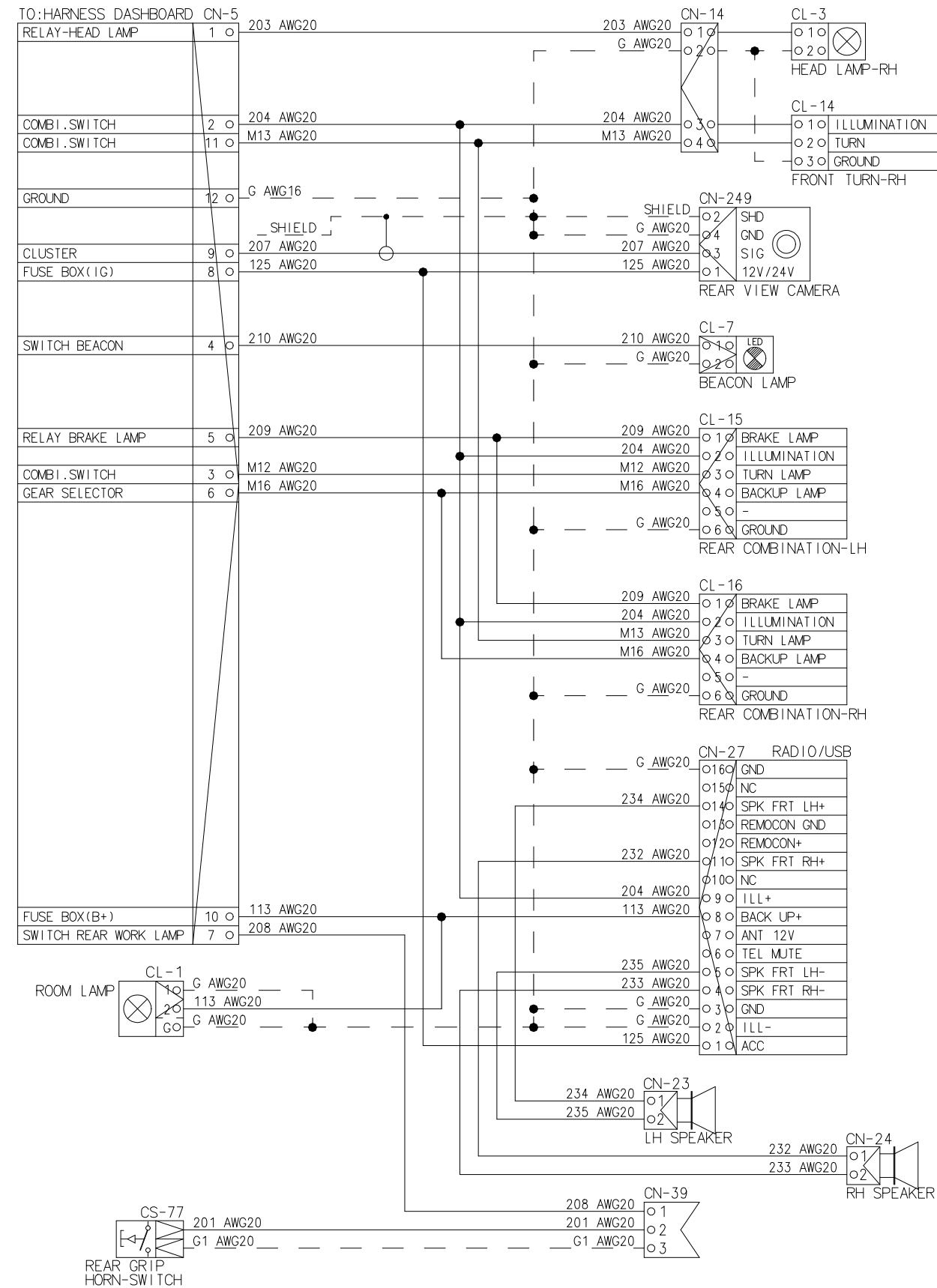
· ELECTRICAL CIRCUIT (CABIN 2/2, 22D-9E, 25D-E : -#0459, 30D-9E : -#0400, 33D-9E : -#0105)

*ELEC. DIAGRAM OF KB AIRCON



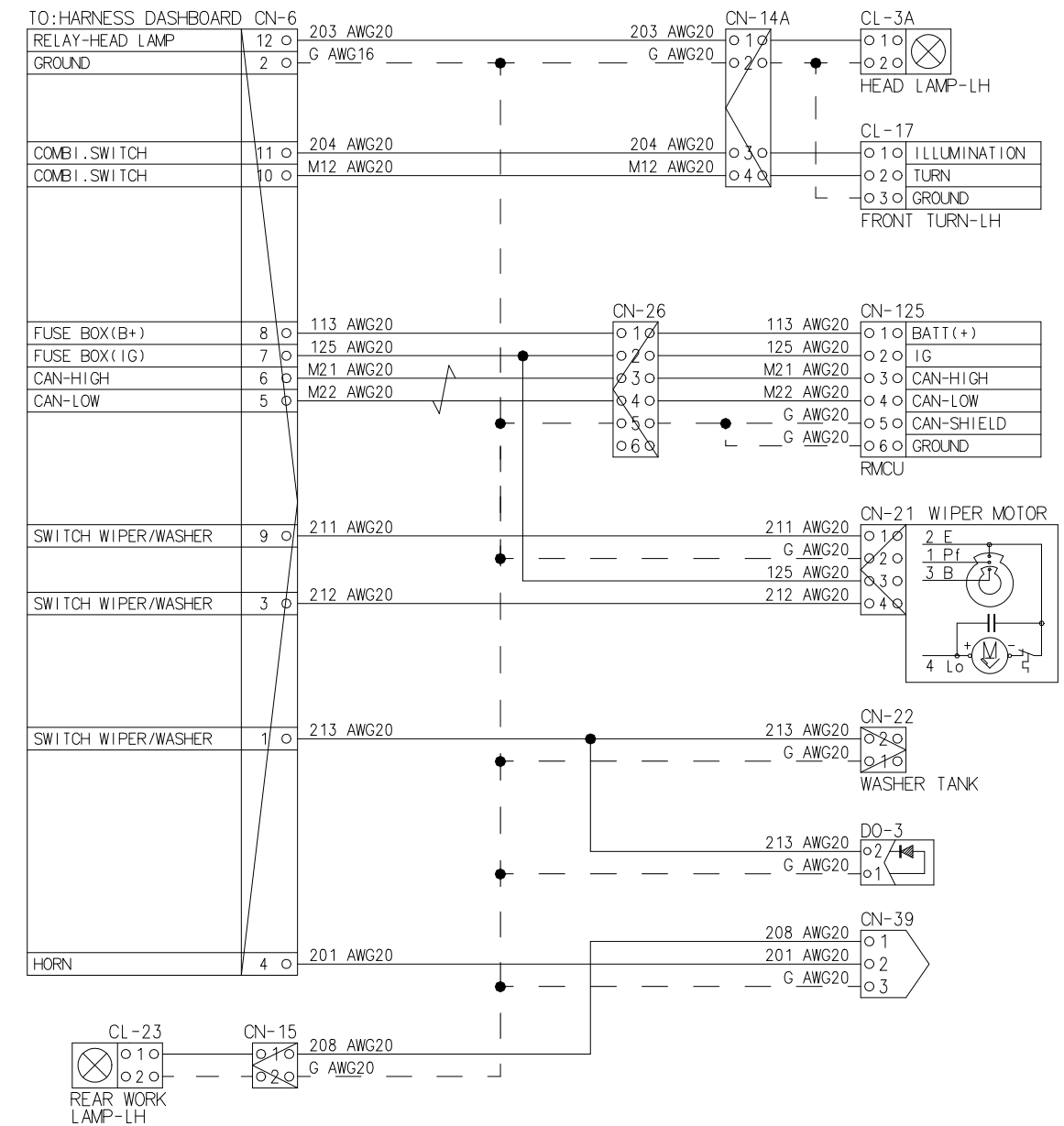
· ELECTRICAL CIRCUIT (CABIN, 25D-E : #0460-, 30D-9E : #0401-, 33D-9E : #0106-)

*ELEC.DIAGRAM OF HARNESS CABIN-RH



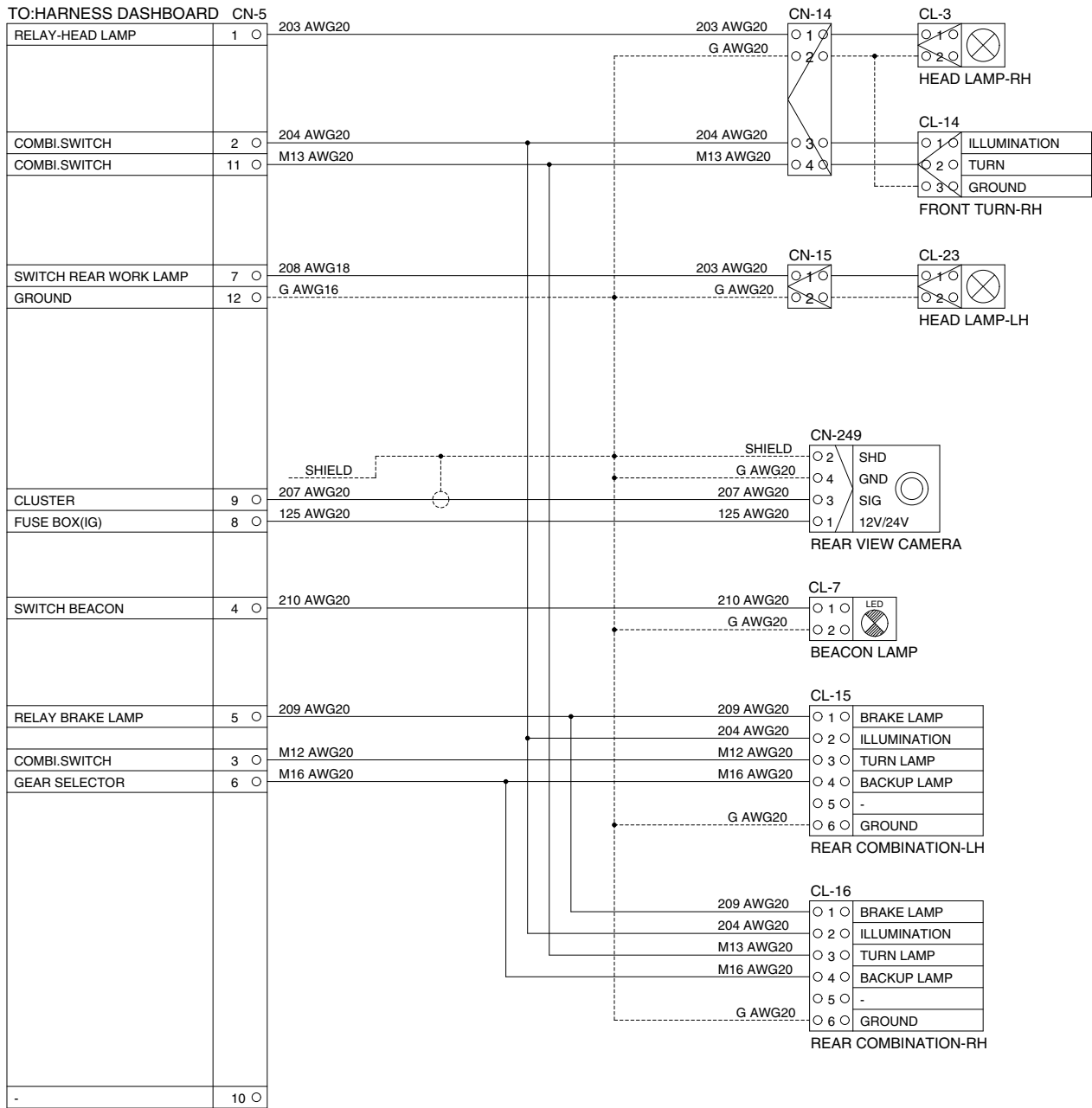
CAMERA 노이즈 개선

*ELEC.DIAGRAM OF HARNESS CABIN-LH

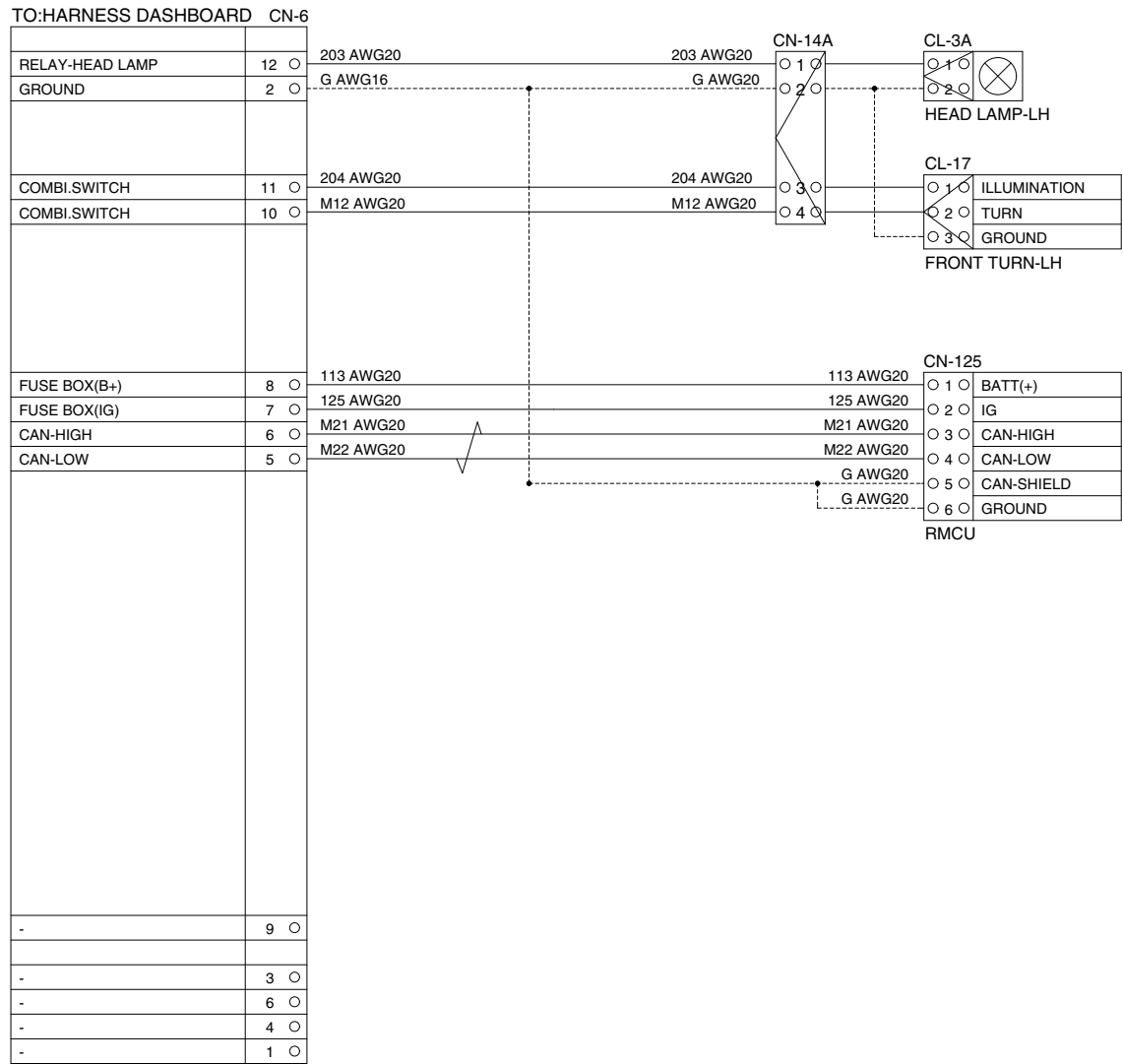


· ELECTRICAL CIRCUIT (OVERHEAD GUARD, 22D-9E : -#0004, 25D-9E : -#0015, 30D-9E : -#0017, 33D-9E : -#0005)

*ELEC.DIAGRAM OF HARNESS OHG-RH

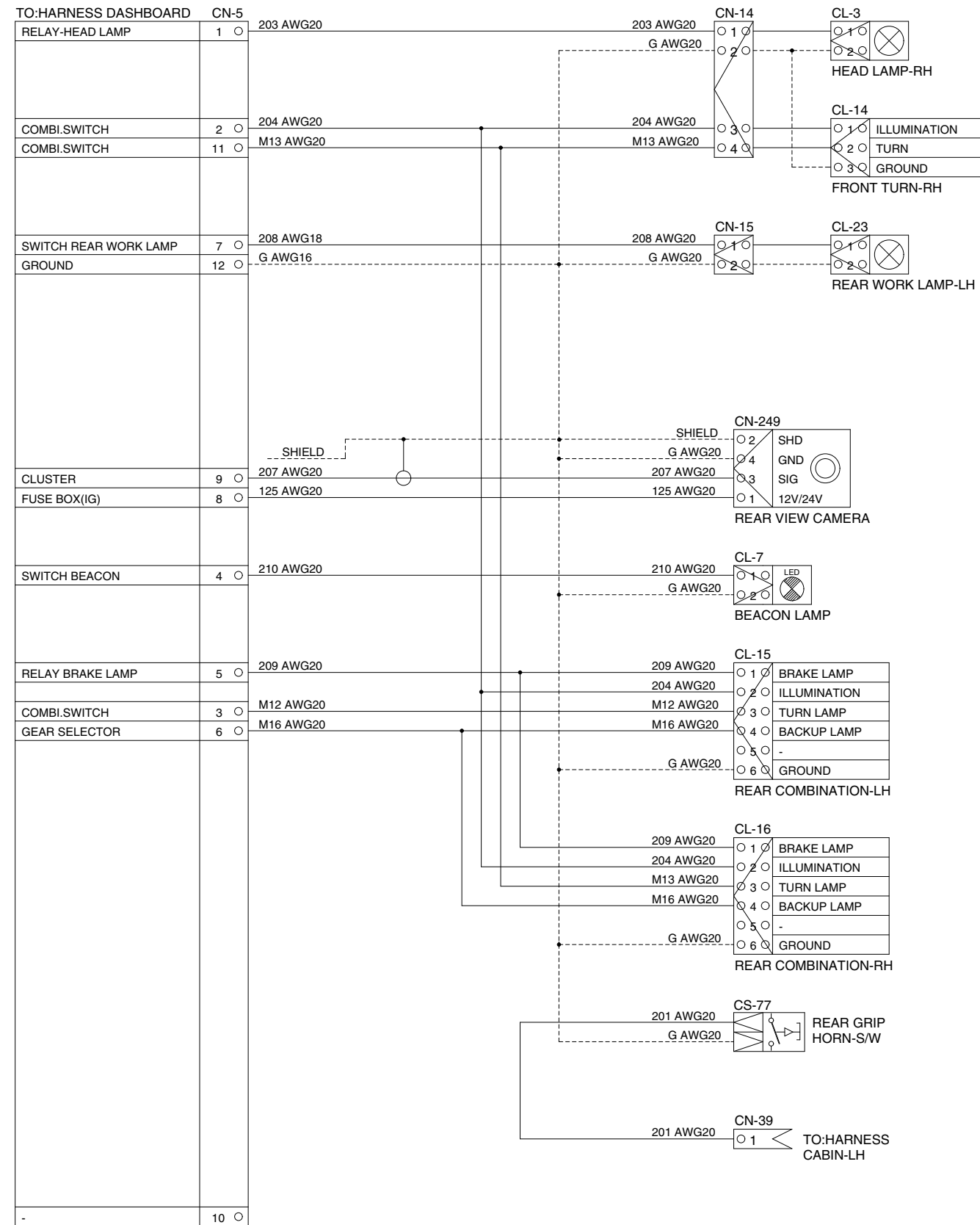


*ELEC.DIAGRAM OF HARNESS OHG-LH

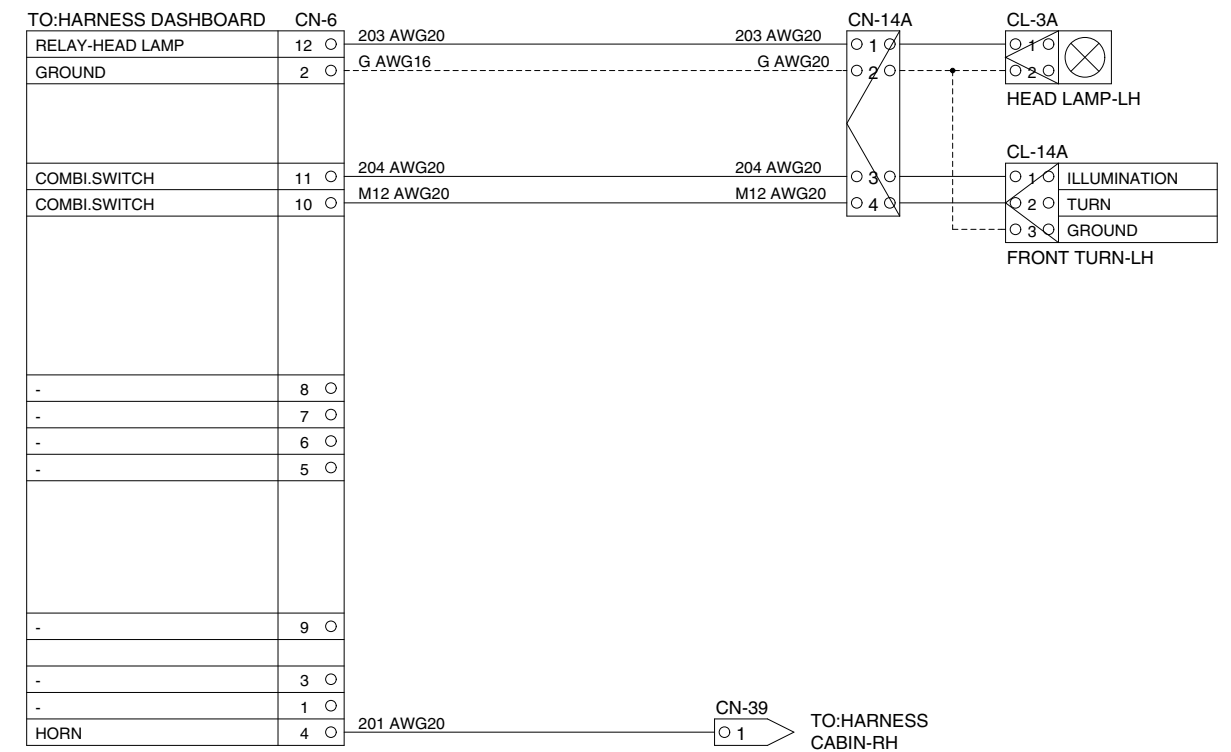


· ELECTRICAL CIRCUIT (OVERHEAD GUARD, 22D-9E : #0005-, 25D-9E : #0016-#0459, 30D-9E : #0018-#0400, 33D-9E : #0006-#0105)

*ELEC.DIAGRAM OF HARNESS OHG-RH

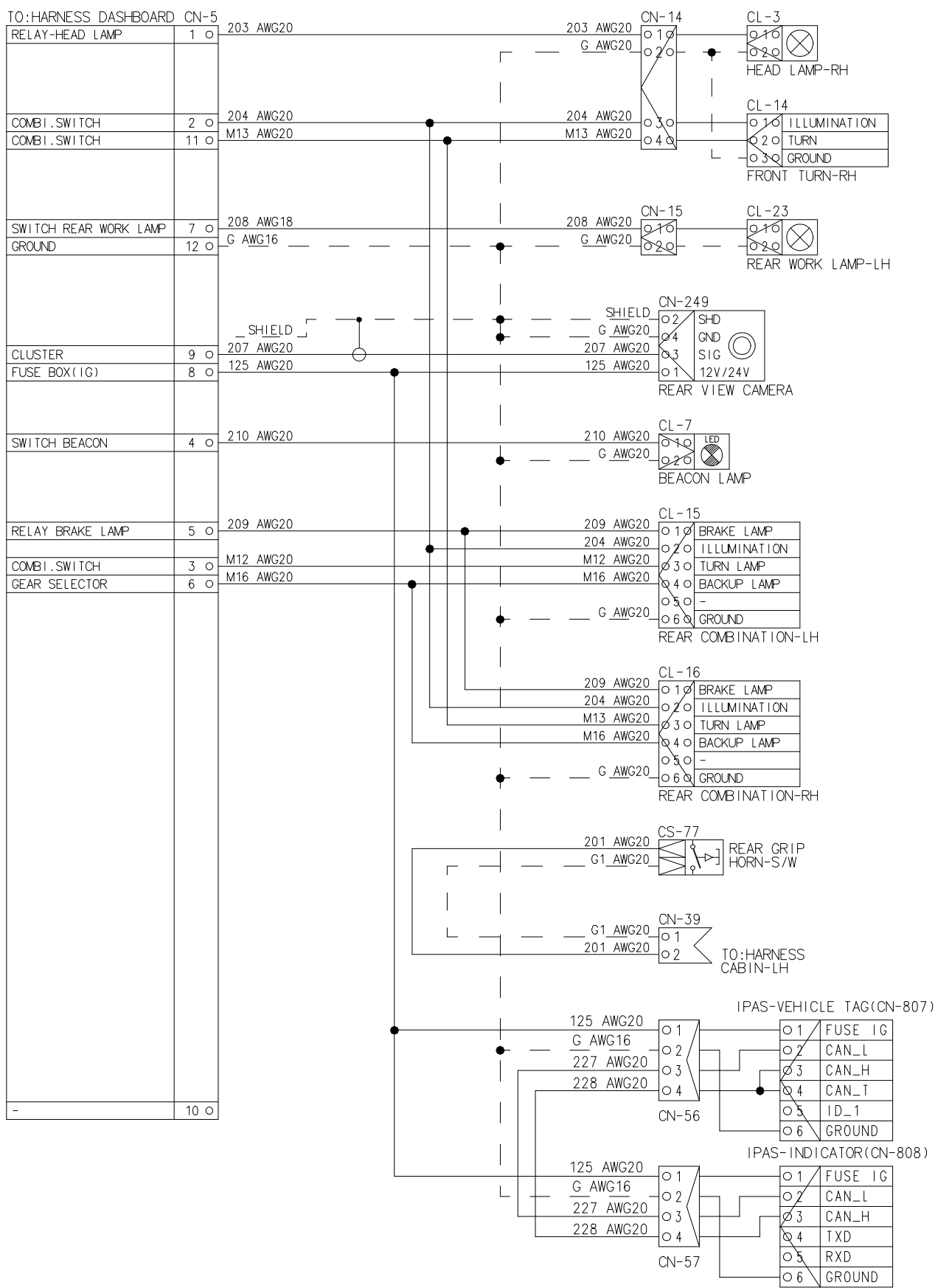


*ELEC.DIAGRAM OF HARNESS OHG-LH

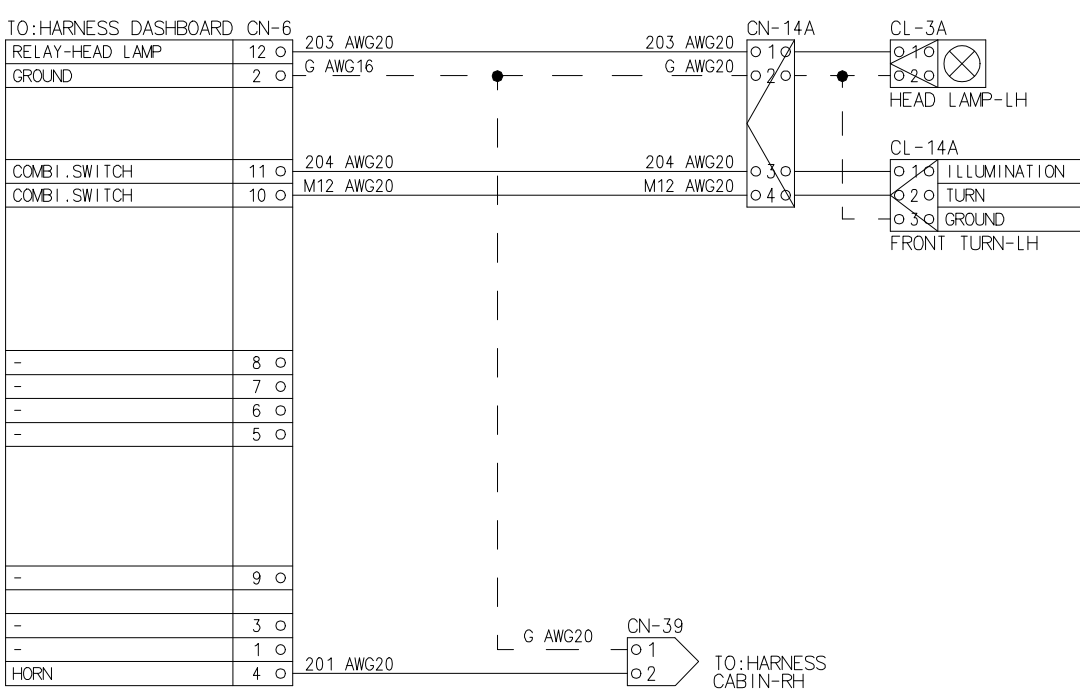


· ELECTRICAL CIRCUIT (OVERHEAD GUARD, 25D-9E : #0460-, 30D-9E : #0401-, 33D-9E : #0106-)

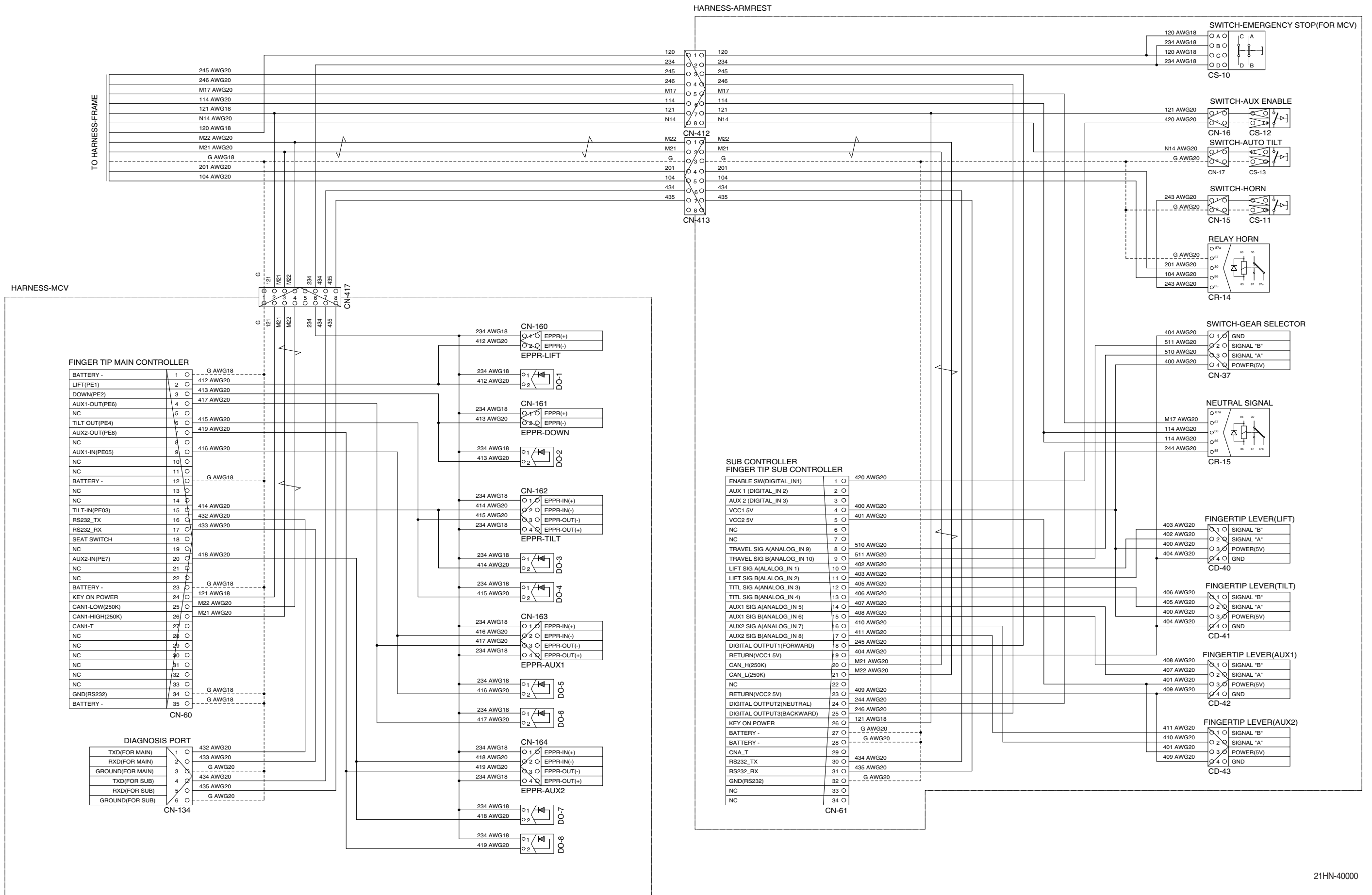
*ELEC.DIAGRAM OF HARNESS OHG-RH



*ELEC.DIAGRAM OF HARNESS OHG-LH

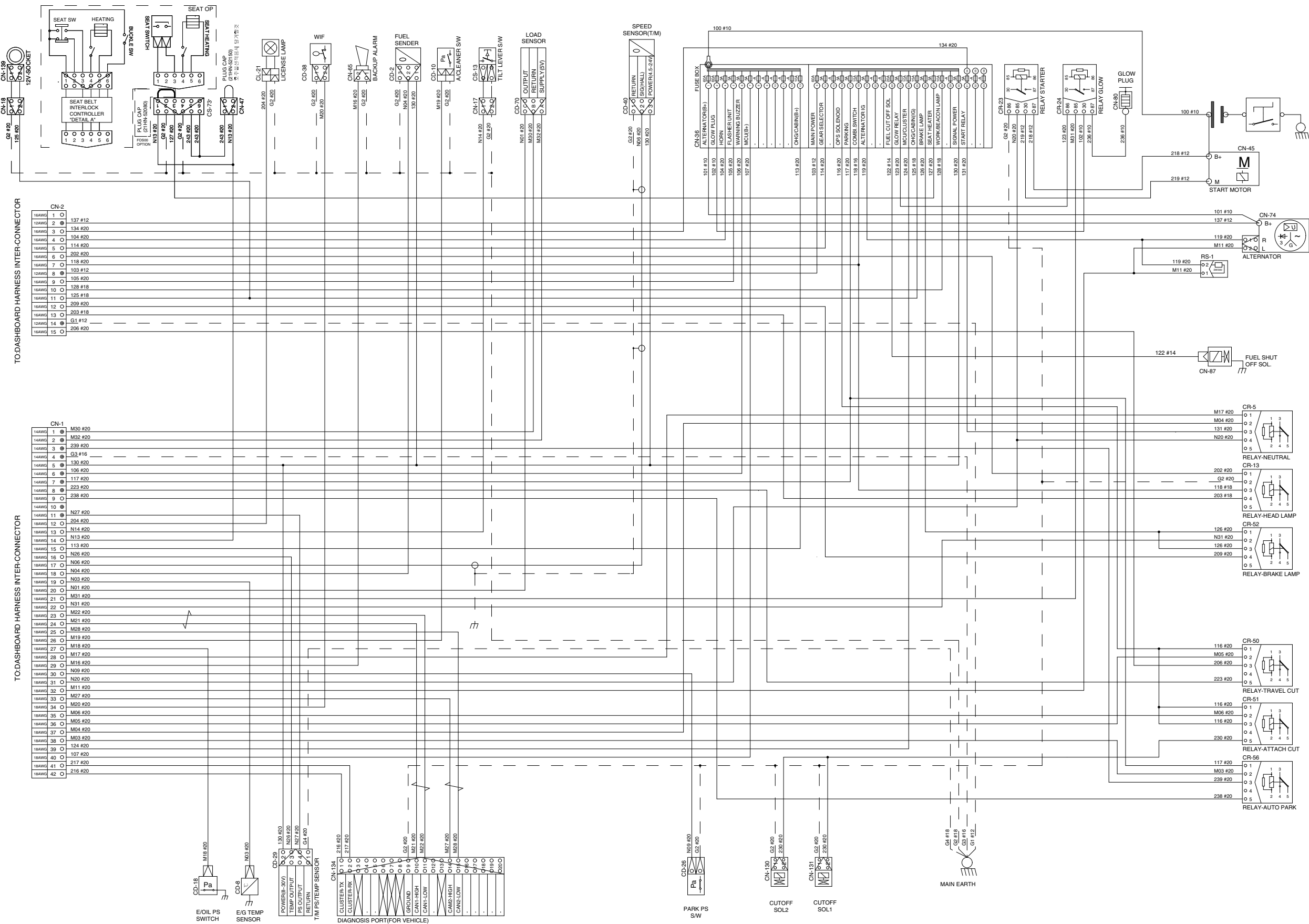


· ELECTRICAL CIRCUIT (FINGERTIP, 22D-9E : #0010-, 25D-9E : #0054-, 30D-9E : #0058-, 33D-9E : #0022-)

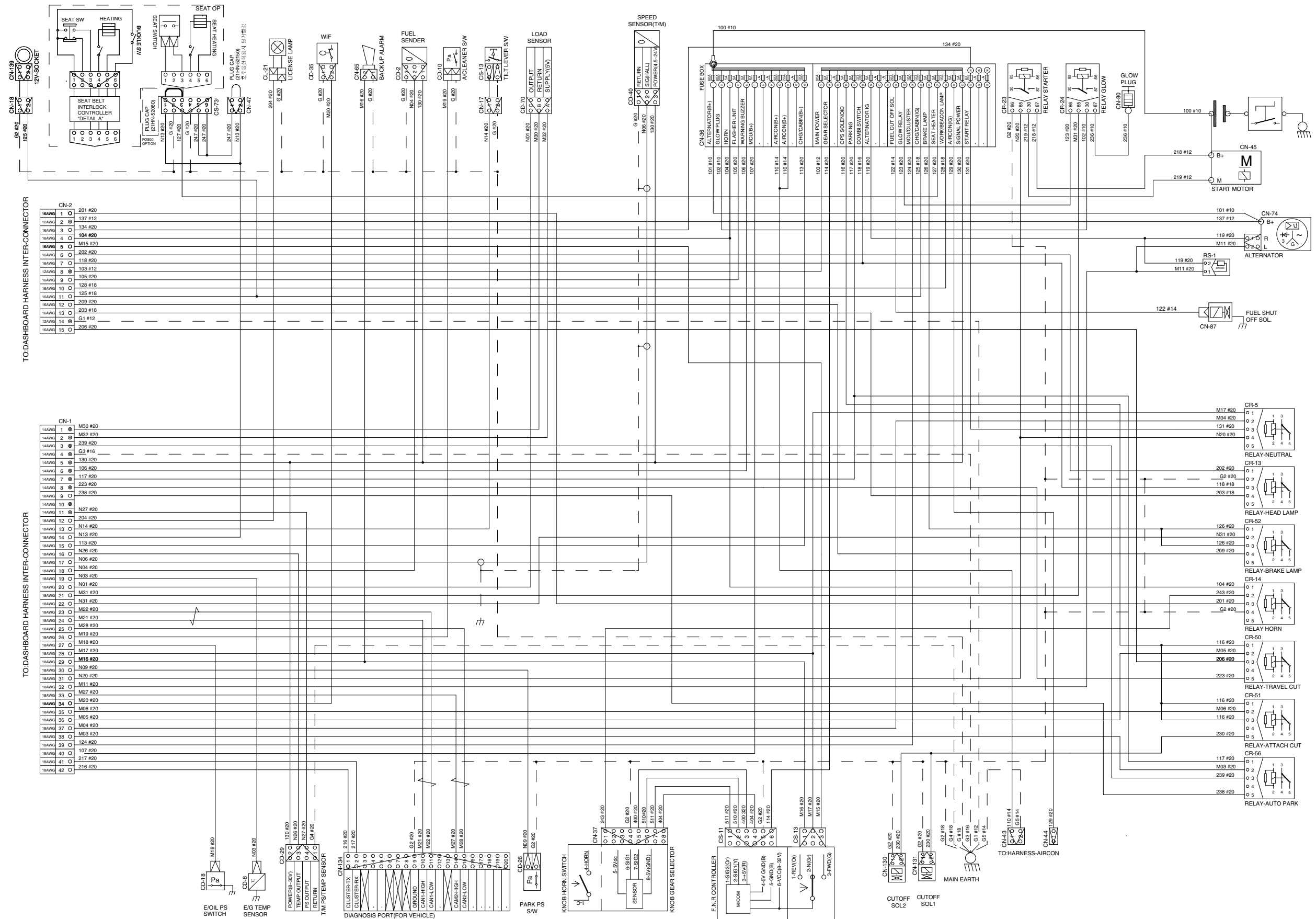


GROUP 2 ELECTRICAL CIRCUIT (OPTION, HD TRANSMISSION AND DRIVE AXLE)

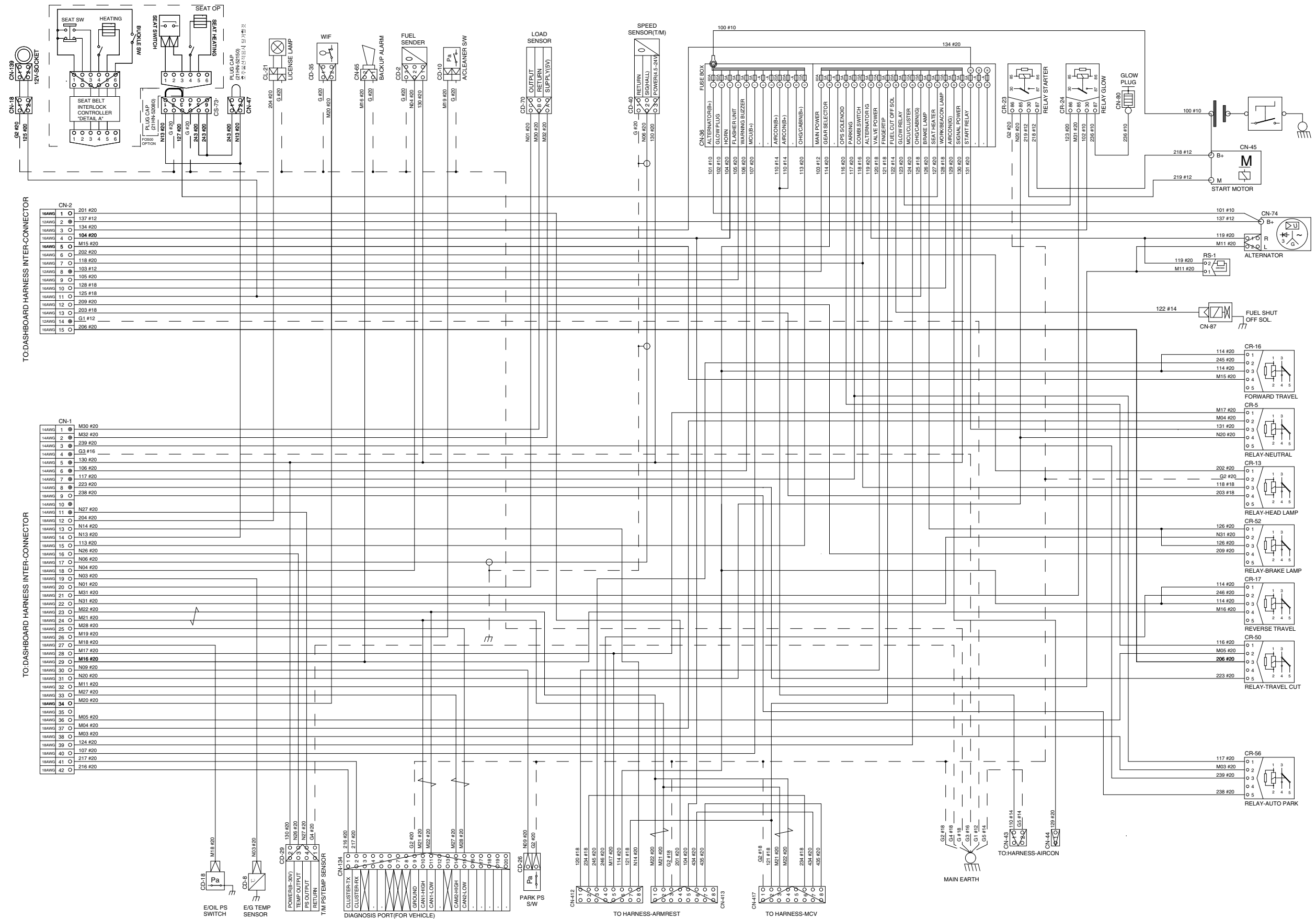
· ELECTRICAL CIRCUIT (1/5 FRAME)



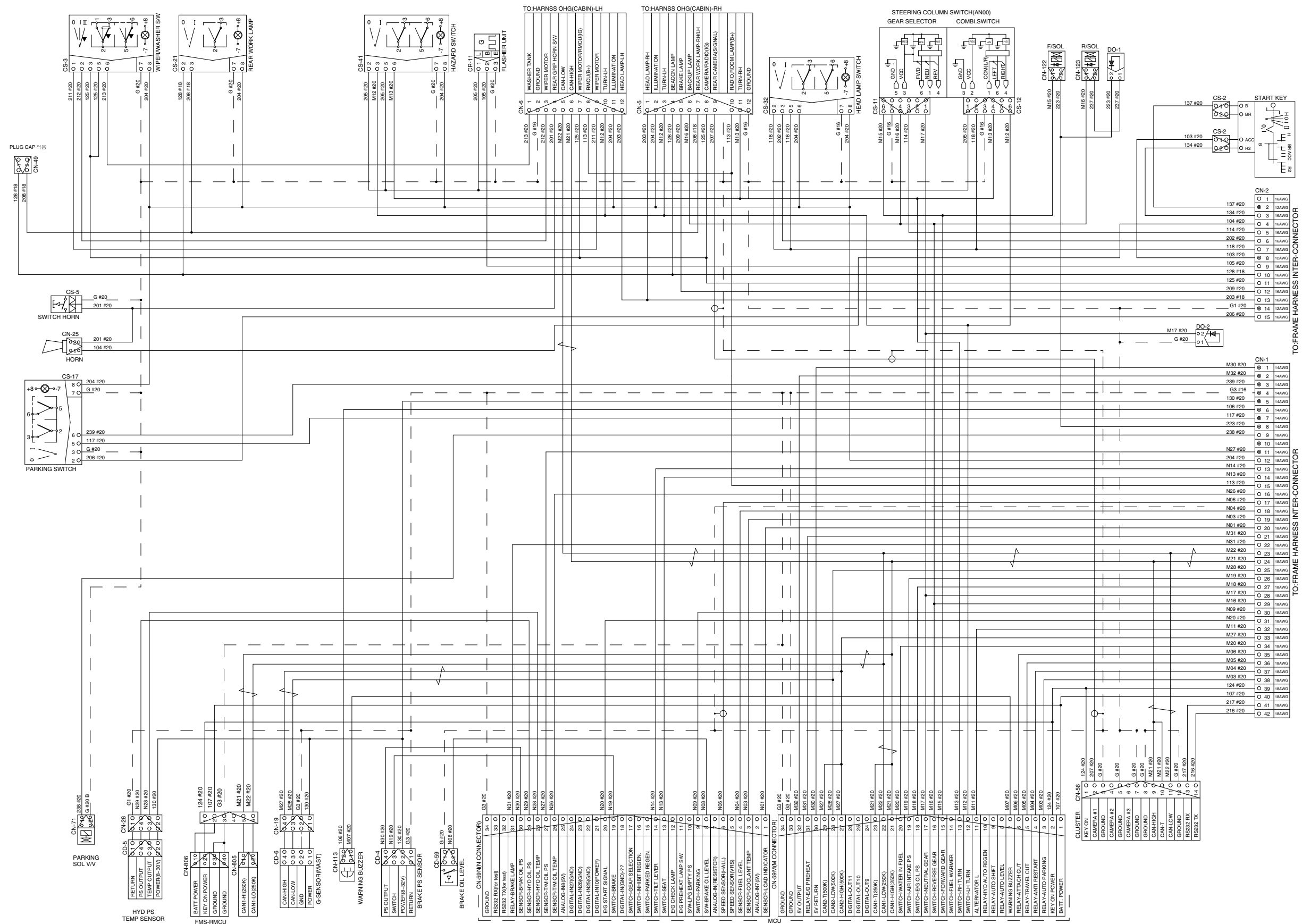
· ELECTRICAL CIRCUIT (2/5 FRAME-KNOB)



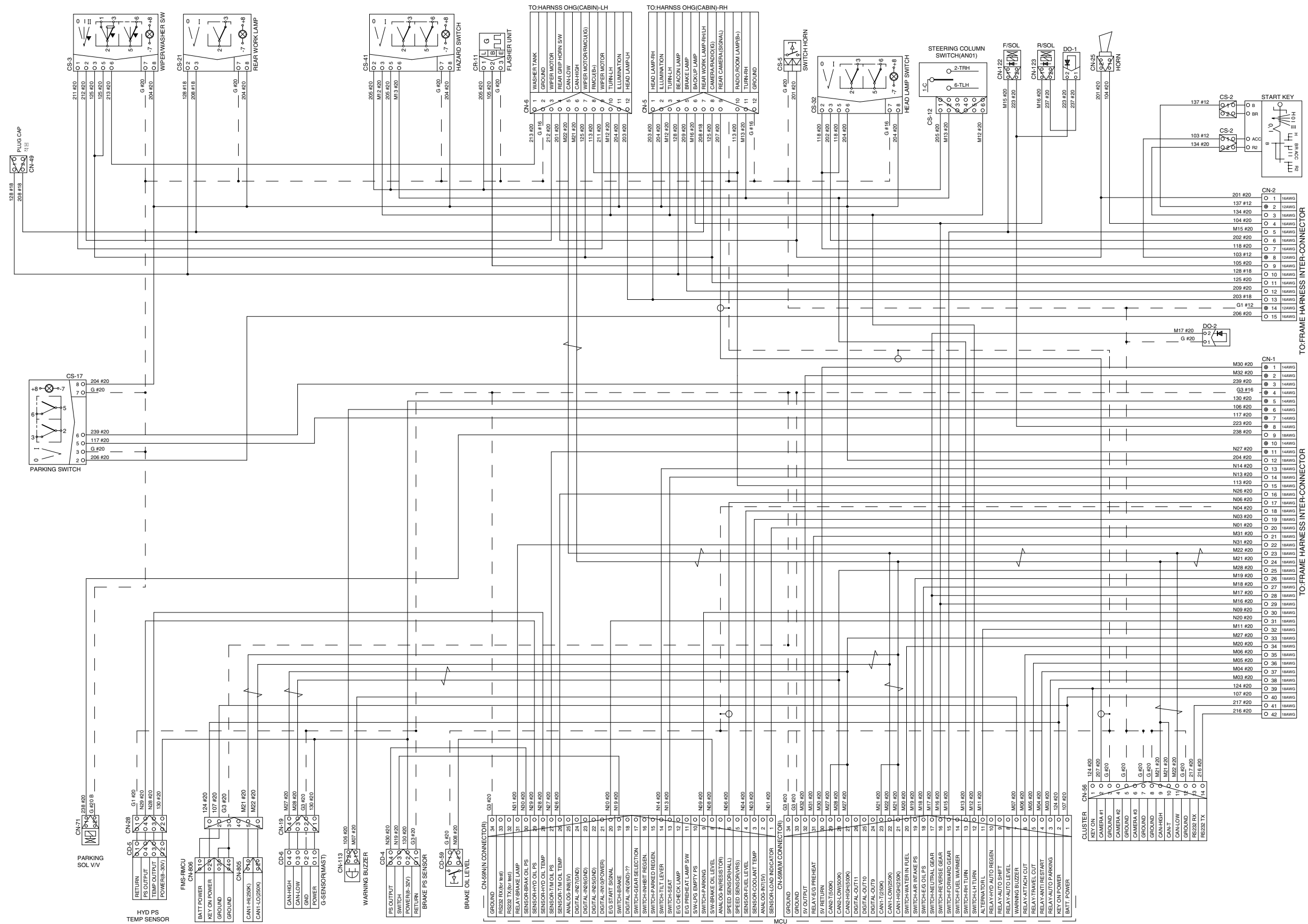
· ELECTRICAL CIRCUIT (3/5 FRAME-FINGERTIP)



• ELECTRICAL CIRCUIT (4/5 DASHBOARD)



· ELECTRICAL CIRCUIT (5/5 DASHBOARD-KNOB, FINGERTIP)

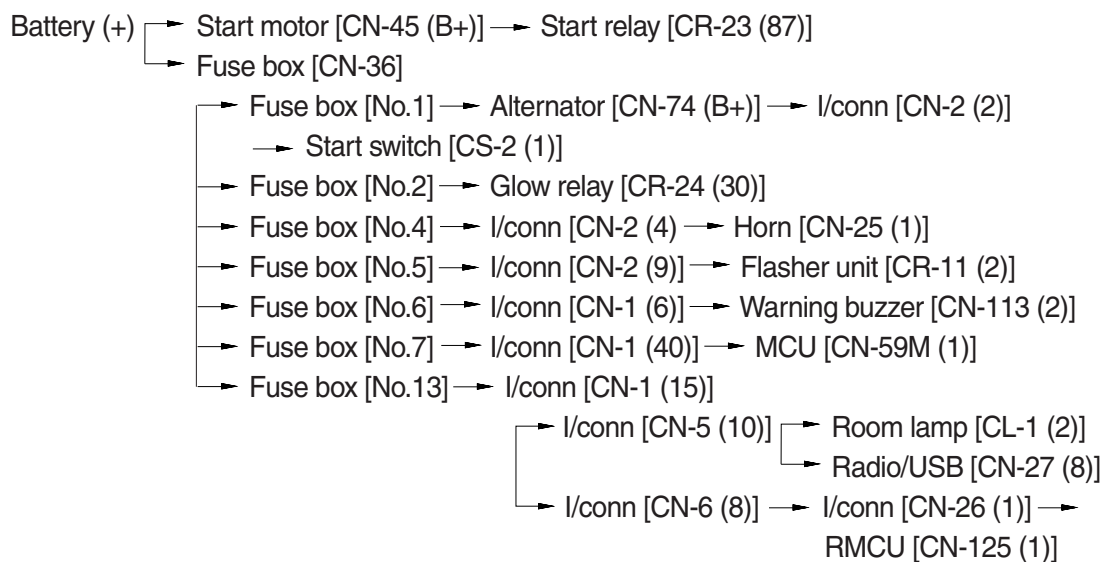


1. POWER CIRCUIT

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

When the start switch is in the off position, the current flows from the positive battery terminal.

1) OPERATING FLOW



※ I/conn : Intermediate connector

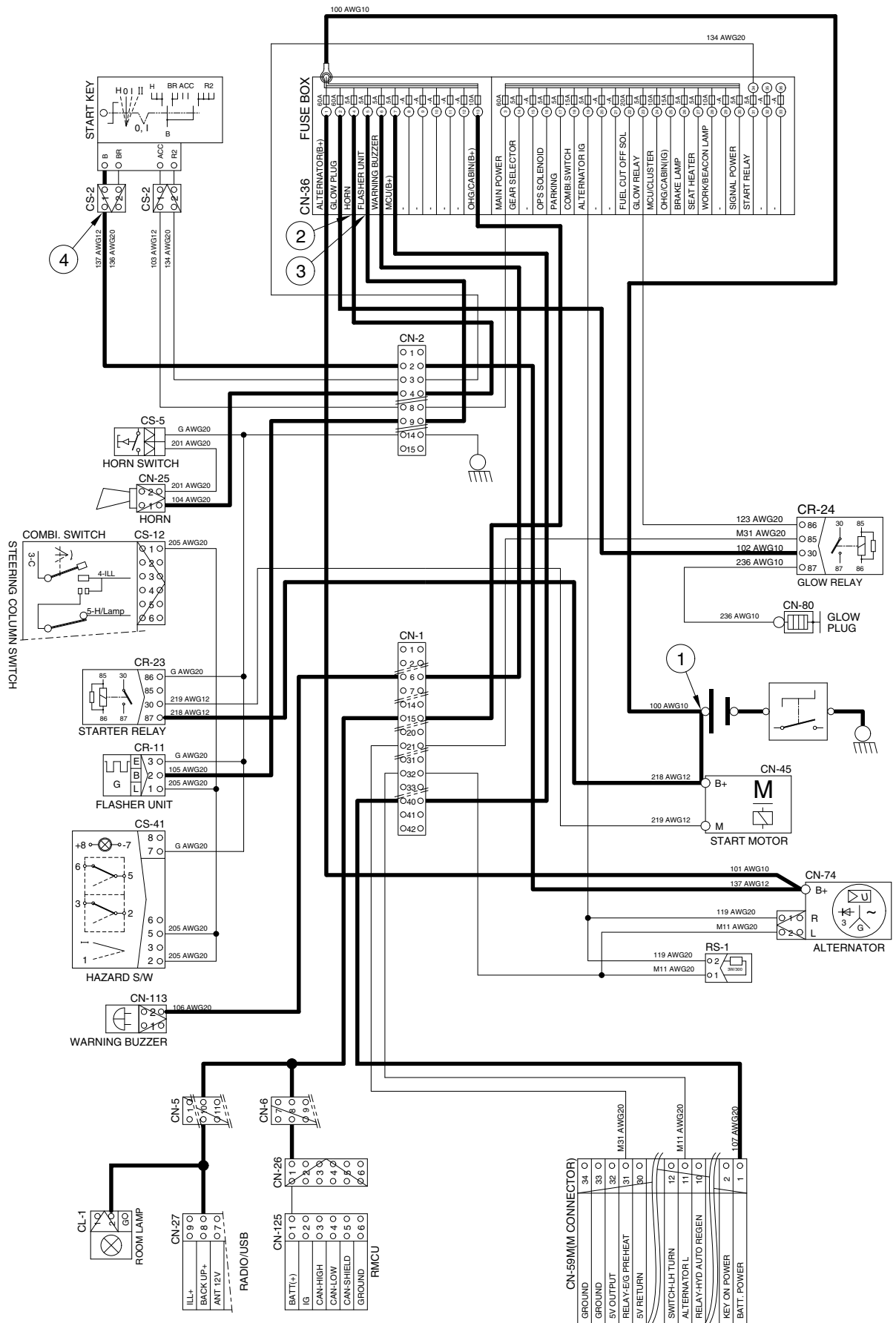
2) CHECK POINT

Engine	Key switch	Check point	Voltage
OFF	OFF	① - GND (Battery (+)) ② - GND (Fuse No.4) ③ - GND (Fuse No.5) ④ - GND (Start key)	12V

※ GND : Ground

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

POWER CIRCUIT



22D9EEL05

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

2. STARTING CIRCUIT

1) OPERATING FLOW

Battery (+) terminal → Start motor [CN-45 (B+)] Start relay [CR-23 (87)]
→ Fuse box [CN-36 (1)] → Alternator [CN-74 (B+)] → I/conn [CN-2 (2)]
→ Start switch [CS-2 (1)]

※ The engine can be started only when the gearshift is in neutral position.

(1) When start key switch is in ON position

Start switch ON [CS-2 (1)] → I/conn [CN-2 (8)] → Fuse box [No.3]
→ All power is supplied with the electric components

(2) When start key switch is START position

Start switch START [CS-2 (2)] → I/conn [CN-2 (3)] → Fuse box [No. 34 →31]
→ Neutral relay [CR-5 (3)→(4)] → I/conn [CN-1 (19)] → Start relay [CR-23 (85)→(30)]
→ Start motor [CN-45 (M)]
→ MCU [CN-59N (20)]

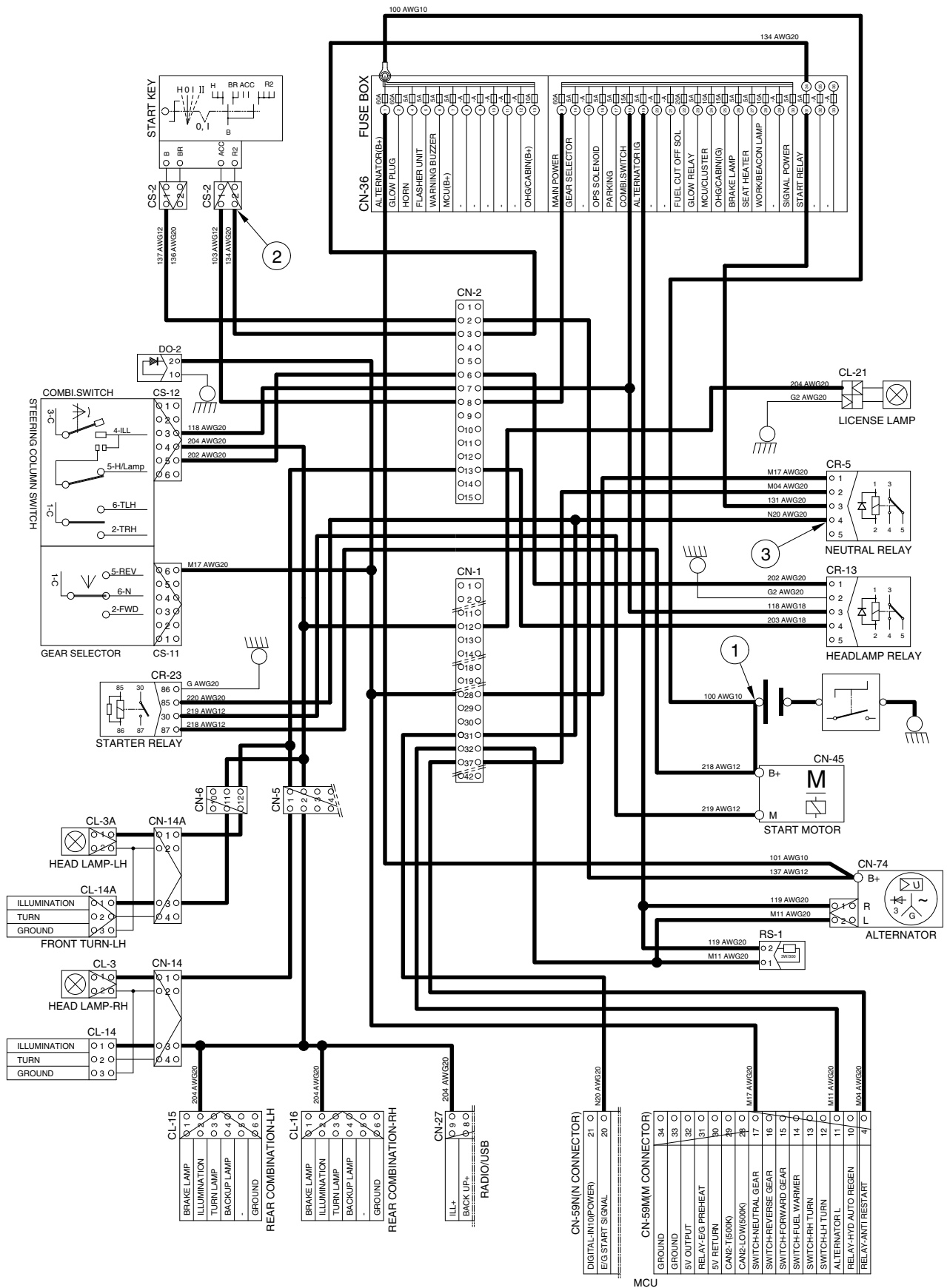
2) CHECK POINT

Engine	Key switch	Check point	Voltage
Running	ON	① - GND (Battery B+) ② - GND (Start key) ③ - GND (Neutral relay)	12V

※ GND : Ground

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

STARTING CIRCUIT



22D9EEL06

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

3. CHARGING CIRCUIT

When the starter is activated and the engine is started, the operator release the start switch to the ON position. Charging current generated by operating alternator flows into the battery.
The current also flows from alternator to each electrical component through the fuse box.

1) OPERATING FLOW

(1) Warning flow

Alternator [CN-74 (2)] → I/conn [CN-1 (32)] → MCU [CN-59M (11)]
→ Cluster charging warning lamp

(2) Charging flow

Alternator [CN-74 (B+)] → Fuse box [CN-36 (1)] → Battery (+) terminal → Charging

2) CHECK POINT

Engine	Key switch	Check point	Voltage
ON	ON	① - GND (Alternator B+) ② - GND (Start switch) ③ - GND (Cluster)	12V

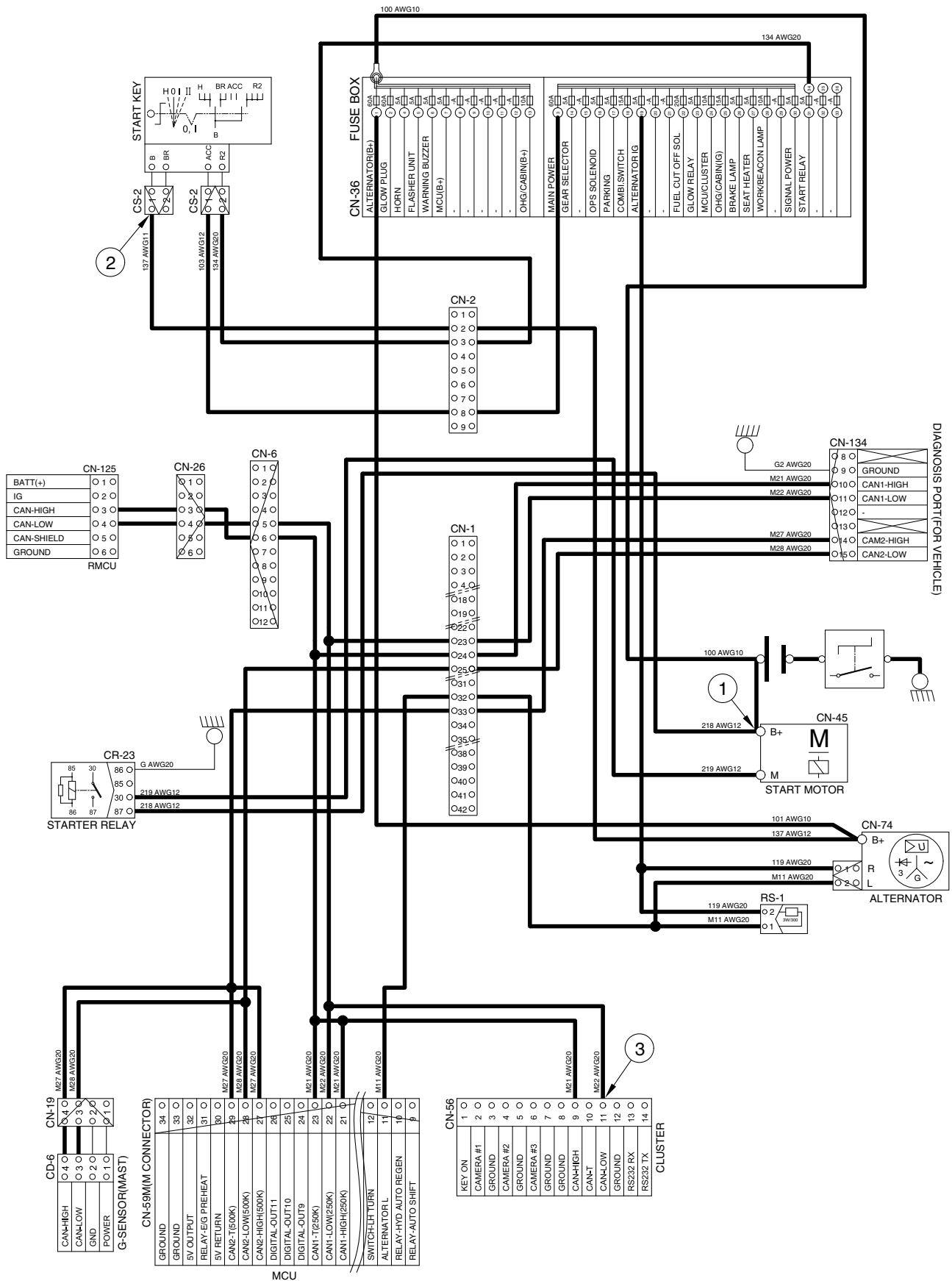
※ GND : Ground

※ Cautions

1. When using an arc welder, always disconnect the ground lead from the battery to prevent alternator or battery damage.
2. Attach the welding ground clamp as close to the weld area as possible to prevent welding current from damaging the bearings of the alternator.
3. Do not disconnect the battery when the engine is running. The voltage surge can damage the diode and resistors in the electrical system.
4. Do not disconnect an electric wire before the engine is stopped and the switches are OFF.

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

CHARGING CIRCUIT



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

4. PREHEATING CIRCUIT

Combustion chamber glow plugs are used in order to give satisfactory starting of low ambient temperatures.

1) OPERATING FLOW

Battery (+) terminal → Fuse box [CN-36 (1)] → Alternator [CN-74 (B+)] → I/conn [CN-2 (2)]
→ I/conn [CS-2(1)] → Start switch
→ Fuse box [CN-36 (2)] → Glow relay [CR-24 (30)]

※ When you turn the start switch to the ON position, the glow relay makes the glow plugs operated and the glow lamp of the cluster turned ON.

Start switch ON [CS-2 (1)] → I/conn [CN-2 (8)]
→ Fuse box [CN-36 (3)→(23)] → Glow relay [CR-24 (86)]
→ Fuse box [CN-36 (3)→(23)] → I/conn [CN-1 (39)]
→ Cluster [CN-56 (1)] → Key ON
→ MCU [CN-58M (2)→(31)] → I/conn [CN-1 (21)] → Glow relay ON [CR-24 (85)→(87)]
→ Glow plug operating

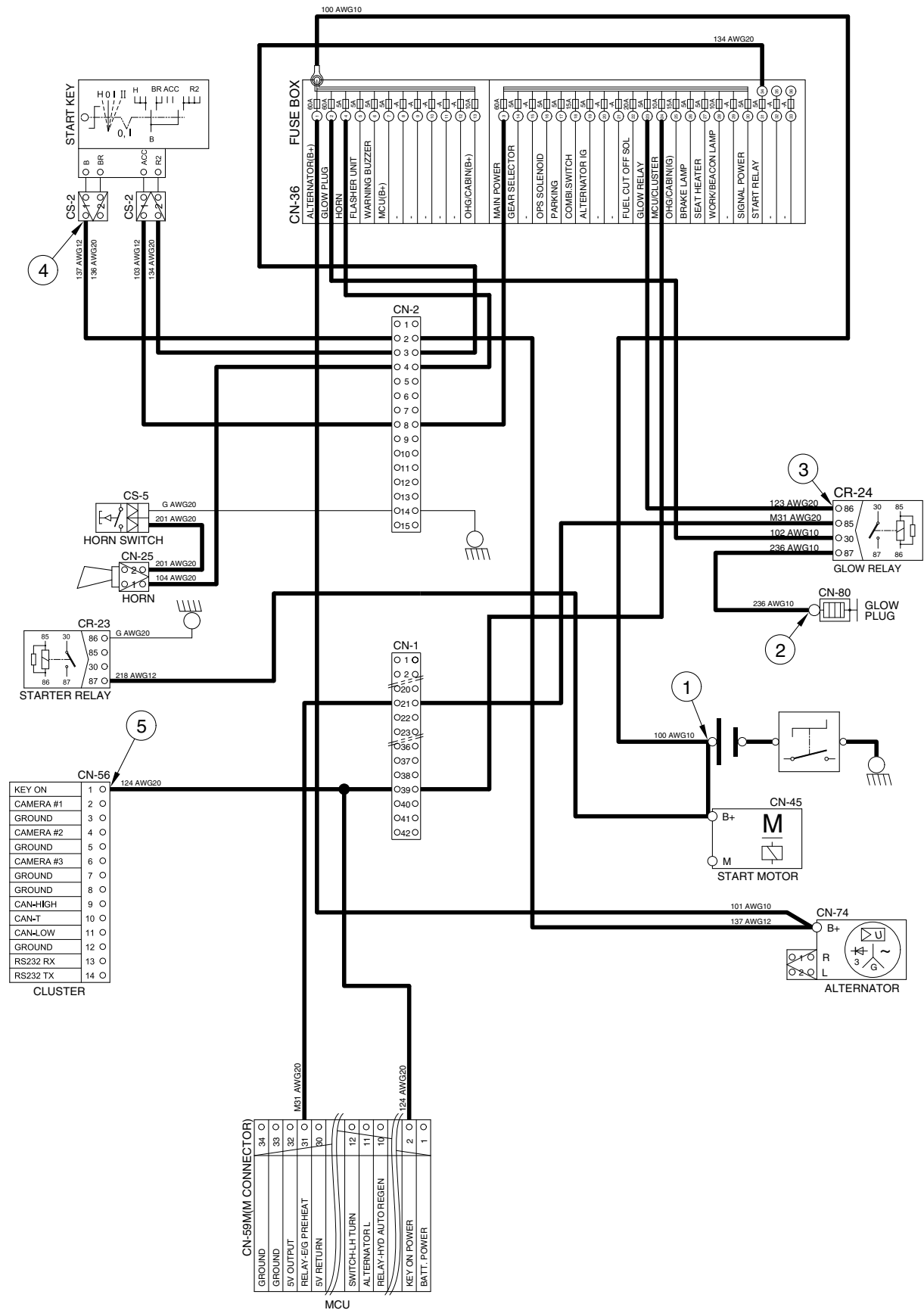
2) CHECK POINT

Engine	Key switch	Check point	Voltage
Stop	HEAT	① - GND (Battery B+) ② - GND (Glow plug) ③ - GND (Glow relay) ④ - GND (Start switch) ⑤ - GND (Cluster)	12V

※ GND : Ground

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

PREHEATING CIRCUIT



22D9EEL08

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

GROUP 3 COMPONENT SPECIFICATION

No	Part name	Qty	Specification	Remark												
1	Battery	1	12V×80AH RC : 130 min CCA : 630A													
2	Working lamp	1	12V, 55W													
3	License lamp	1	12V, 10W													
4	Rear combination lamp (LED)	2	12V, 1.6W (T/S) 12V, 1.1W (Back) 12V, 0.2W (Tail) 12V, 1.1W (Stop)													
5	Head lamp	2	12V, 55W													
6	Flasher lamp	2	12V (Posi : 0.5W, T/Signal : 2.2W)													
7	Beacon lamp (opt)	1	12V, Max. 1.210A													
8	Beacon lamp - LED (opt)	1	12V, Max. 0.800A													
9	Camera (opt)		12V, Max. 1.32W													
10	Flasher unit	1	12V, 85±10C/M, (23W+23W)×2+3W×2													
11	Backup alarm	1	12V, 90±5dB, 60±10C/M													
12	Horn	1	12V, MAX 3.5A, 100~115dB													
13	Fuel level sender	1	Reed switch - Magnet type <table><tr><td>Float indicate</td><td>E</td><td>4/8</td><td>F</td></tr><tr><td>Resistance [Ω]</td><td>700</td><td>350</td><td>50</td></tr><tr><td>Allowance [Ω]</td><td>$\pm 5\%$</td><td>$\pm 5\%$</td><td>$\pm 5\%$</td></tr></table>	Float indicate	E	4/8	F	Resistance [Ω]	700	350	50	Allowance [Ω]	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	
Float indicate	E	4/8	F													
Resistance [Ω]	700	350	50													
Allowance [Ω]	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$													
14	Cluster	1	12V, 15W													
15	12V socket	1	12V, 120W													
16	G-sensor	1	12V, 5W													
17	Master switch		180A													
18	Gear selector switch	1	12V, (Resistive load max 12V/3.5A)													
19	Combination switch	1	12V, Direction : Resistive load max 12V/3.5A Multi switch : Resistive load max 12V/2A													
20	Parking brake switch	1	12V, 20A													
21	Hazard switch	1	12V, 20A													
22	Start switch	1	DC 12V													
23	Rear work lamp switch (opt)	1	12V, 20A													
24	Beacon lamp switch (opt)	1	12V, 20A													
25	Front wiper/washer switch (opt)	1	12V, 20A													
26	Heater switch	1	12V, 20A													
27	Relay (4P)	2	12V, 20A													
28	Relay (5P)	2	12V, 20A													

GROUP 4 CONNECTOR DESTINATION

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	AMP	42	I/conn (Dashboard harness-frame harness)	936421	936429
CN-2	AMP	15	I/conn (Dashboard harness-frame harness)	2-85262-1	368301-1
CN-3	KET	2	I/conn (Dashboard harness-frame harness)	MG642928-5	MG652934-2
CN-5	KET	12	I/conn (OHG harness-RH-Dashboard harness)	MG610346	MG640348
CN-6	KET	12	I/conn (OHG harness-LH-Dashboard harness)	MG610346	MG640348
CN-12	MOLEX	42	Engine harness	936421	-
CN-13	MOLEX	12	Engine harness	33472-1206	-
CN-14	DAEDONG	4	Head/Turn lamp-RH	110-4PR	-
CN-14A	DAEDONG	4	Head/Turn lamp-LH	110-4PR	-
CN-15	DAEDONG	2	Rear work lamp	110-2PR	-
CN-17	KET	2	Tilt lever switch	MG610320	-
CN-18	AMP	2	I/conn (12V socket)	174352-2	-
CN-19	AMP	4	G-sensor (mast)	174257-2	174259-2
CN-21	AMP	4	Wiper motor	180900	-
CN-22	AMP	2	Washer tank	172130-1	-
CN-23	KET	2	Speaker-LH	MG610070	-
CN-24	KET	2	Speaker-RH	MG610070	-
CN-25	MOLEX	2	Horn	35825-0211	-
CN-26	KET	6	RMCU (Remote control unit)	MG610335	MG642554
CN-27	-	16	USB/Radio	PK145-16017	-
CN-28	KET	4	Hydraulic oil PS/temp sensor	MG610331	-
CN-37	KET	8	Knob gear selector	-	MG640341
CN-39	KET	2	I/conn (Cabin harness, LH-RH)	MG610320	MG640322
CN-40	KET	3	Heater harness	MG610327	MG640329
CN-43	KET	2	Air conditioner harness	-	MG652934-5
CN-44	KET	1	Air conditioner harness	-	MG640280
CN-45	KET	-	Start motor M	S820-204000	-
	KET	-	Start motor B+	S820-208000	-
CN-56	AMP	14	Cluster	776273-2	-
CN-59M	AMP	34	Machine control unit	4-1437290-0	-
CN-59N	AMP	34	Machine control unit	4-1437290-1	-
CN-65	KET	2	Back buzzer	-	MG640322
CN-71	DEUTSCH	2	Parking solenoid	DT06-2S	-
CN-74	KET	2	Alternator	MG610043	-
CN-80	KET	1	Glow plug	MG610658	-
CN-87	KET	1	Fuel cut off solenoid	MG640162	-
CN-90E	MOLEX	80	Engine ECU	34566-1903	-

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-91V	MOLEX	80	Engine ECU	34566-0803	-
CN-97	KET	2	Fuel feed pump	MG610043	-
CN-113	KET	2	Warning buzzer	MG610320	-
CN-122	DEUTSCH	2	Forward solenoid	DT06-2S	-
CN-123	DEUTSCH	2	Reverse solenoid	DT06-2S	-
CN-124	AMP	6	Accel pedal	174262-2	-
CN-125	KET	6	RMCU (Remote control unit)	MG610335	MG642554
CN-130	PACKARD	2	Cut off solenoid 2 (Tilt, lift)	12015792	-
CN-131	PACKARD	2	Cut off solenoid 1 (Lift down)	12015792	-
CN-134	KET	20	Diagnosis port (Vehicle)	MG652863	-
CN-139	KET	2	12V socket	MG610043	-
CN-140	KET	3	MCU update	MG610327	-
CN-157	AMP	4	Service port	174257-2	174259-2
CN-249	AMP	4	Rear view camera	174257-2	174259-2
Switch					
CS-2	KET	2	Start switch	MG610281	MG620282
CS-3	CARLING	10	Wiper/washer switch	21HN-56300	-
CS-5	KET	-	Horn switch	S820-105000	-
CS-6	CARLING	10	Heater switch	21HN-56300	-
CS-11	DEUTSCH	6	Gear selector	DT06-6P	-
CS-12	DEUTSCH	6	Combination switch	DT06-6S-P012	-
CS-13	KET	1	Tilt lever switch	ST730018-3	ST750036-3
CS-17	CARLING	10	Parking brake switch	21HN-56300	-
CS-21	CARLING	10	Work lamp switch (rear)	21HN-56300	-
CS-23	CARLING	10	Beacon lamp switch	21HN-56300	-
CS-41	CARLING	10	Hazard switch	21HN-56300	-
CS-73	DEUTSCH	2	Seat switch	DT06-2S	-
CS-77	KET	1	Horn switch	ST730018-3	ST750036-3
Lamp					
CL-1	KET	2	Room lamp	MG610392	-
CL-3	KET	2	Head lamp-RH	ST730018-3	ST750036-3
CL-3A	KET	2	Head lamp-LH	ST730018-3	ST750036-3
CL-7	DEUTSCH	2	Beacon lamp	DT06-2S	DT04-2P
CL-14	AMP	3	Front turn lamp-RH	936187-3	-
CL-14A	AMP	3	Front turn lamp-LH	936187-3	-
CL-15	DAEDONG	6	Combination lamp-LH	110-6PR	-
CL-16	DAEDONG	6	Combination lamp-RH	110-6PR	-
CL-21	KET	1	License lamp	ST730018-3	ST750036-3
CL-23	DAEDONG	2	Work lamp	110-2PR	-

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
Relay					
CR-5	OMRON	5	Neutral relay	21HN-55510	-
CR-11	KET	3	Flasher unit relay	312_GIHUNG 3P	-
CR-13	OMRON	5	Head lamp relay	21HN-55510	-
CR-14	KET	5	Horn relay (opt)	MG640927	-
CR-15	KET	5	Neutral signal relay (opt)	MG640927	-
CR-23	KET	4	Starter relay	21NH-55520	-
CR-24	KET	4	Glow relay	21NH-55520	-
CR-43	OMRON	5	ECU (B+) relay	MG640927	-
CR-45	OMRON	5	ECU (IG) relay	21HN-55510	-
CR-50	OMRON	5	Travel cut relay	21HN-55510	-
CR-51	OMRON	5	Attach cut relay	21HN-55510	-
CR-52	OMRON	5	Brake lamp relay	21HN-55510	-
CR-56	OMRON	5	Auto park relay	21HN-55510	-
Sensor and pressure switch					
CD-2	KET	3	Fuel level sender	MG610327	-
CD-4	DEUTSCH	4	Brake oil pressure sensor	DT06-4S	-
CD-6	DEUTSCH	4	G-sensor (Mast agnle)	DT06-4S	-
CD-8	KET	1	Engine oil temp sensor	ST730018-3	-
CD-10	KET	1	Air cleaner switch	ST730057-2	-
CD-18	KET	1	Engine oil pressure switch	ST730018-3	-
CD-26	AMP	1	Parking pressure switch	171809-2	-
CD-29	DEUTSCH	4	T/M oil PS/temp sensor	DT06-4S	-
CD-35	HMC	2	WIF switch	S816-102003	-
CD-50 or	DEUTSCH	3	Load sensor	DTM06-3S	-
CD-70	DEUTSCH	3	Load sensor (Fingertip, Knob)	DT06-3S	-
CD-59	KET	2	Brake oil level	MG610320	-
CD-64	SUMITOMO	5	Air flow sensor	6189-1046	-
CD-73	AMP	3	Speed sensor (TM)	85205-1	-
Diode					
DO-01	QPL	-	Diode	21EA-50550	-
DO-02	QPL	-	Diode	21EA-50550	-
DO-03	QPL	-	Diode	21EA-50570	-
DO-04	QPL	-	Diode	21EA-50550	-
DO-05	QPL	-	Diode	21EA-50550	-

GROUP 5 TROUBLESHOOTING

Trouble symptom	Probable cause	Remedy
Lamps dimming even at maximum engine speed.	Faulty wiring.	Check for loose terminal and disconnected wire.
Lamps flicker during engine operation.	Improper belt tension.	Adjust belt tension.
Charge lamp does not light during normal engine operation.	- Charge lamp defective. - Faulty wiring.	- Replace. - Check and repair.
Alternator makes abnormal sounds.	Alternator defective.	Replace
Starting motor fails to run.	- Faulty wiring. - Insufficient battery voltage.	- Check and repair. - Recharge battery.
Starting motor pinion repeats going in and out.	Insufficient battery voltage.	Recharge battery.
Excessively low starting motor speed.	- Insufficient battery voltage. - Starting motor defective.	- Recharge battery. - Replace
Starting motor comes to a stop before engine starts up.	- Faulty wiring. - Insufficient battery voltage.	- Check and repair. - Recharge battery.
Heater signal does not become red.	- Faulty wiring. - Glow plug damaged.	- Check and repair. - Replace
Engine oil pressure caution lamp does not light when engine is stopped (with starting switch left in "ON" position).	- Caution lamp defective. - Caution lamp switch defective.	- Replace - Replace