

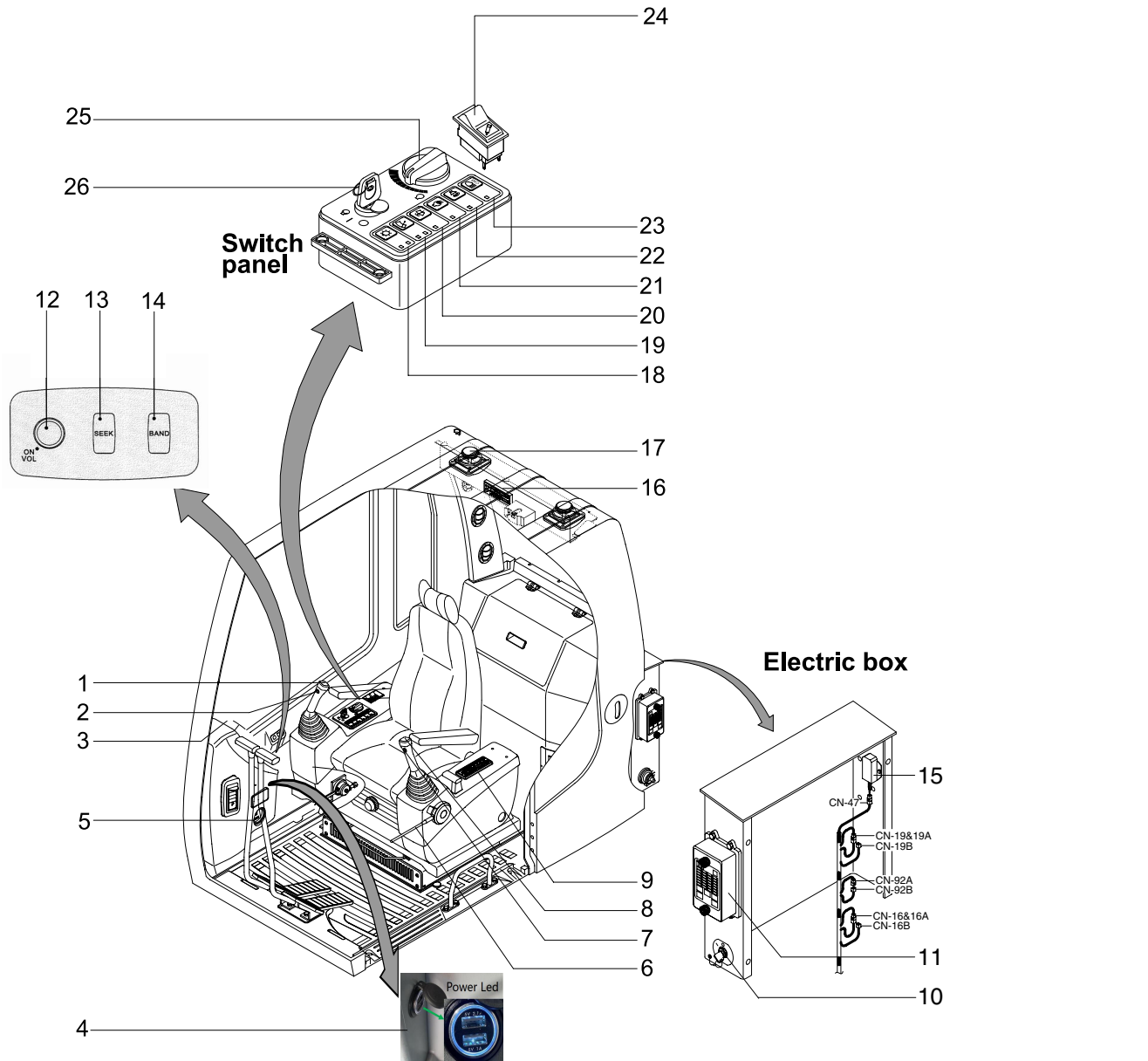
SECTION 4 ELECTRICAL SYSTEM

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SECTION 4 ELECTRICAL SYSTEM

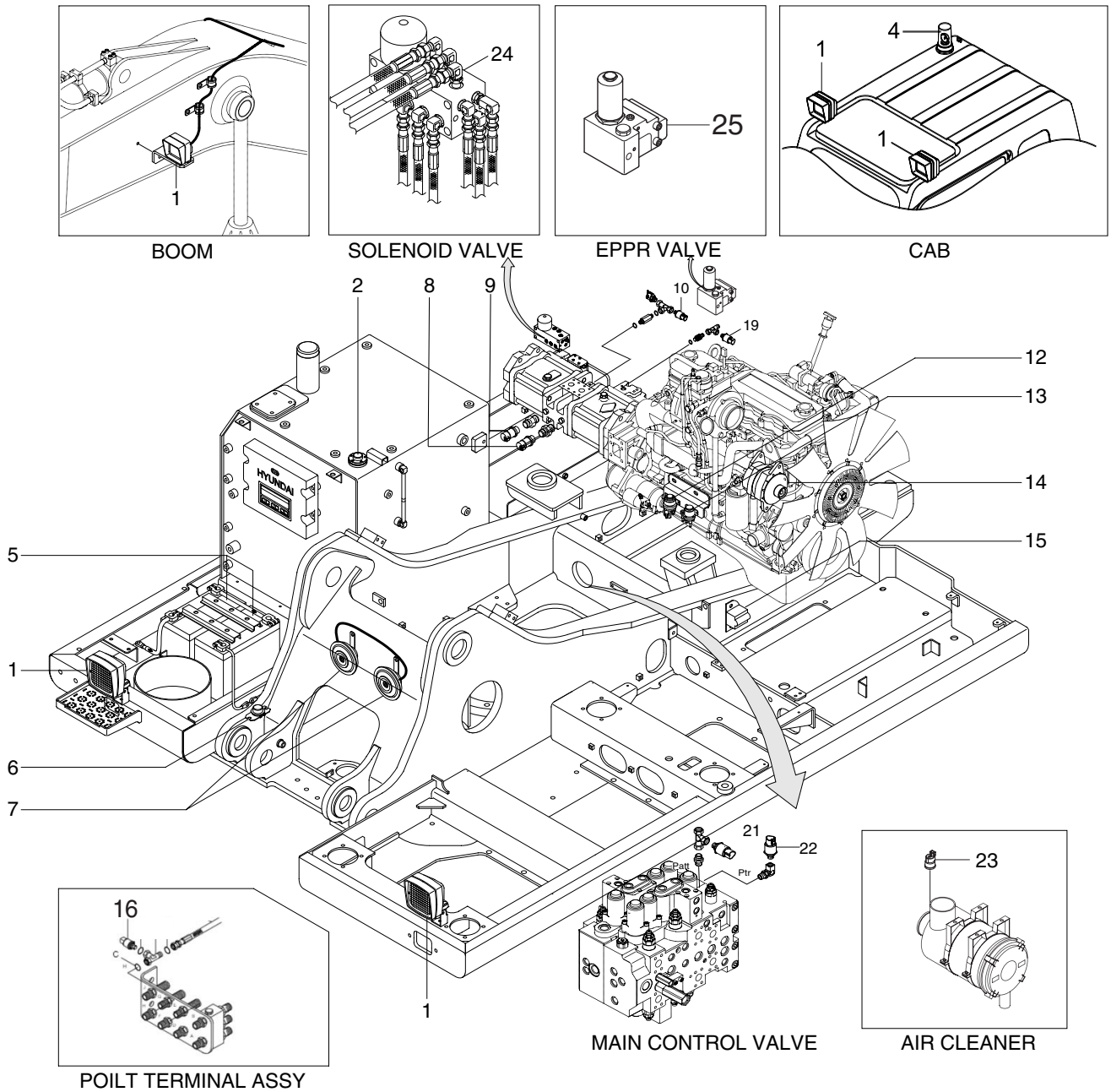
GROUP 1 COMPONENT LOCATION

1. LOCATION 1



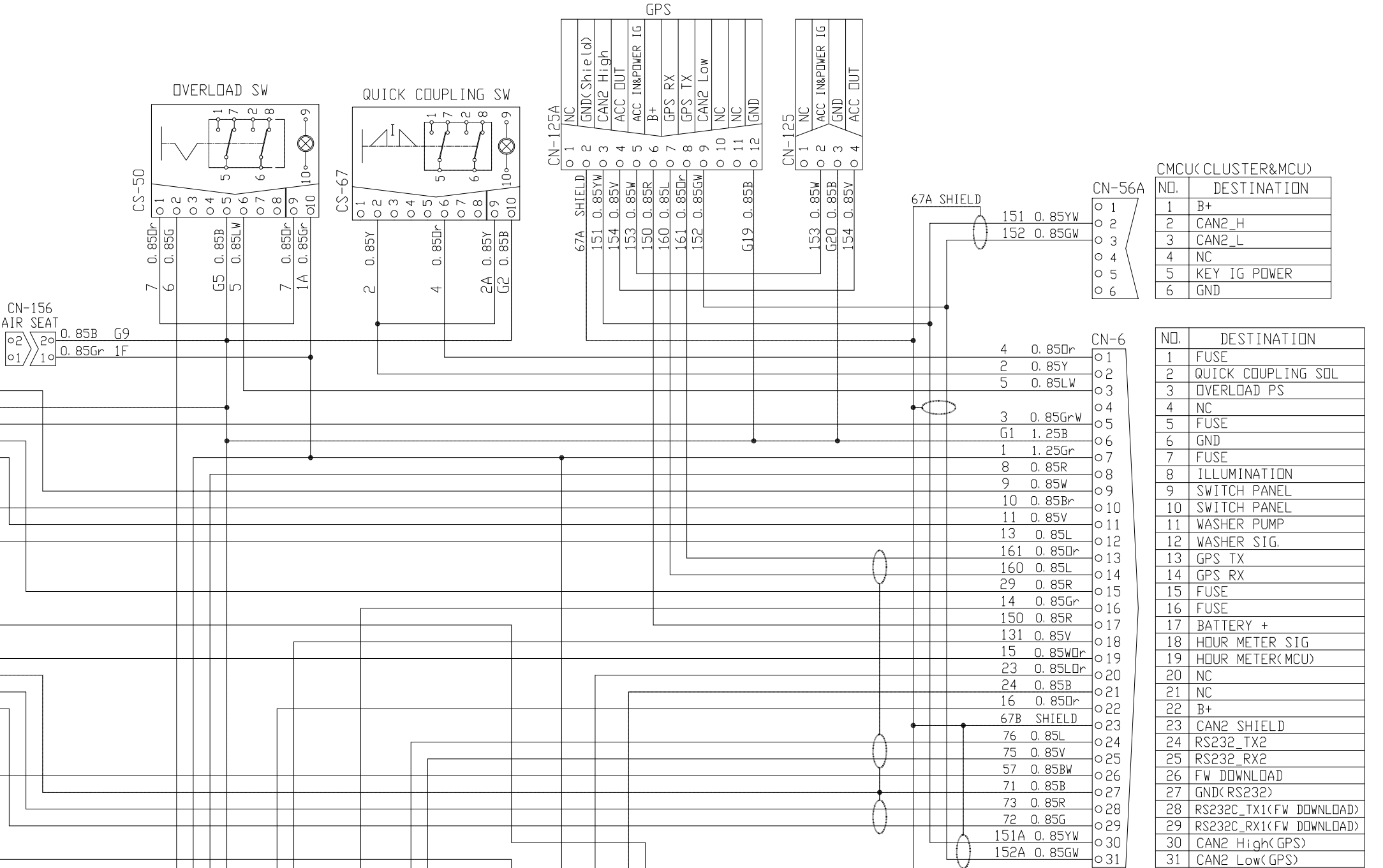
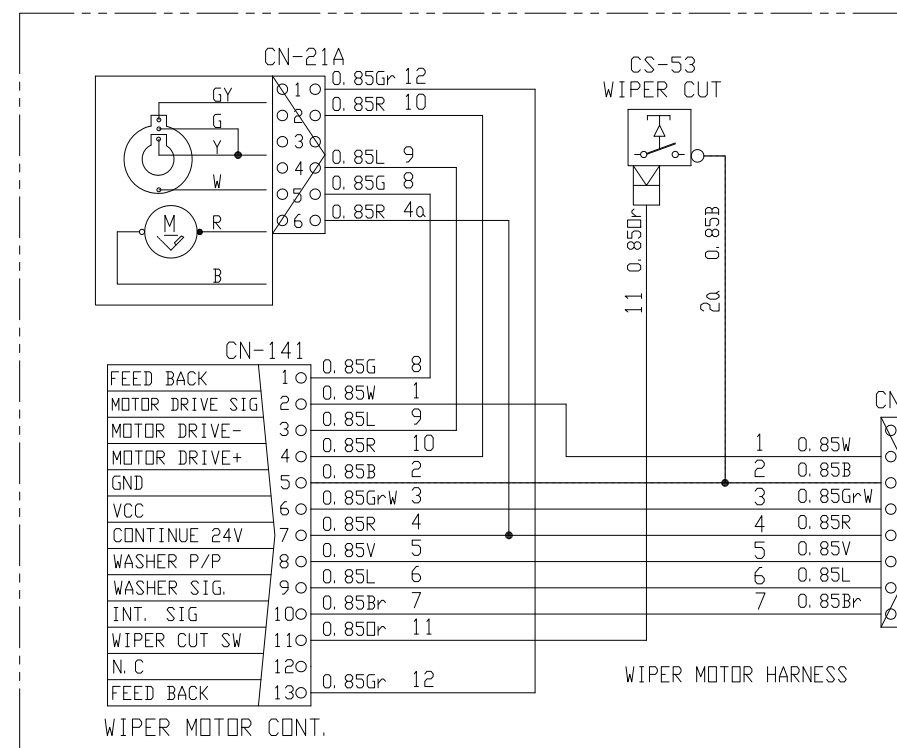
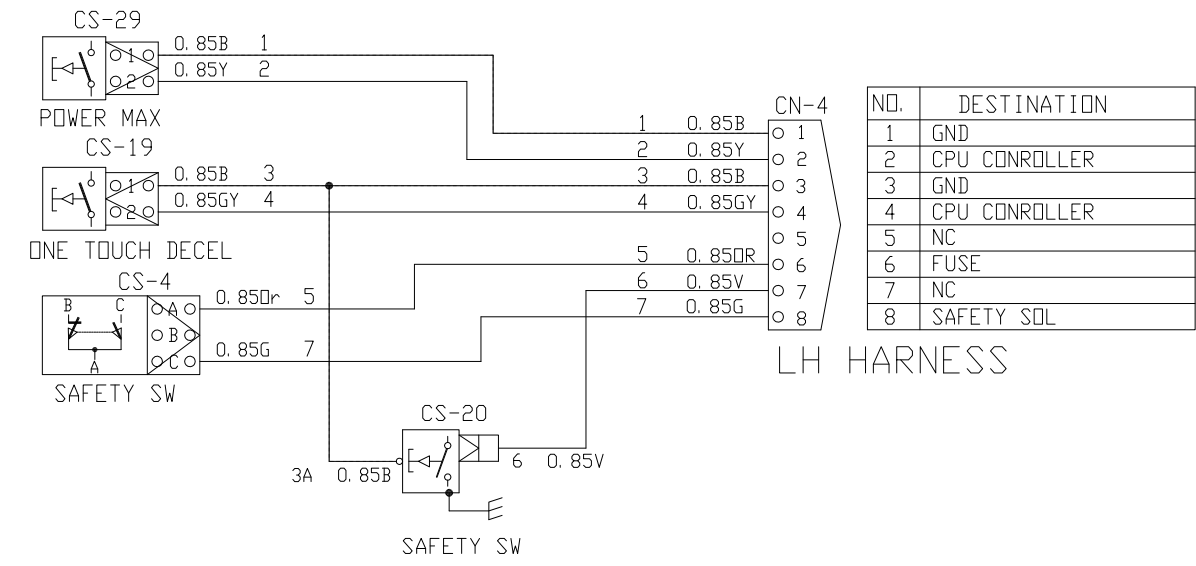
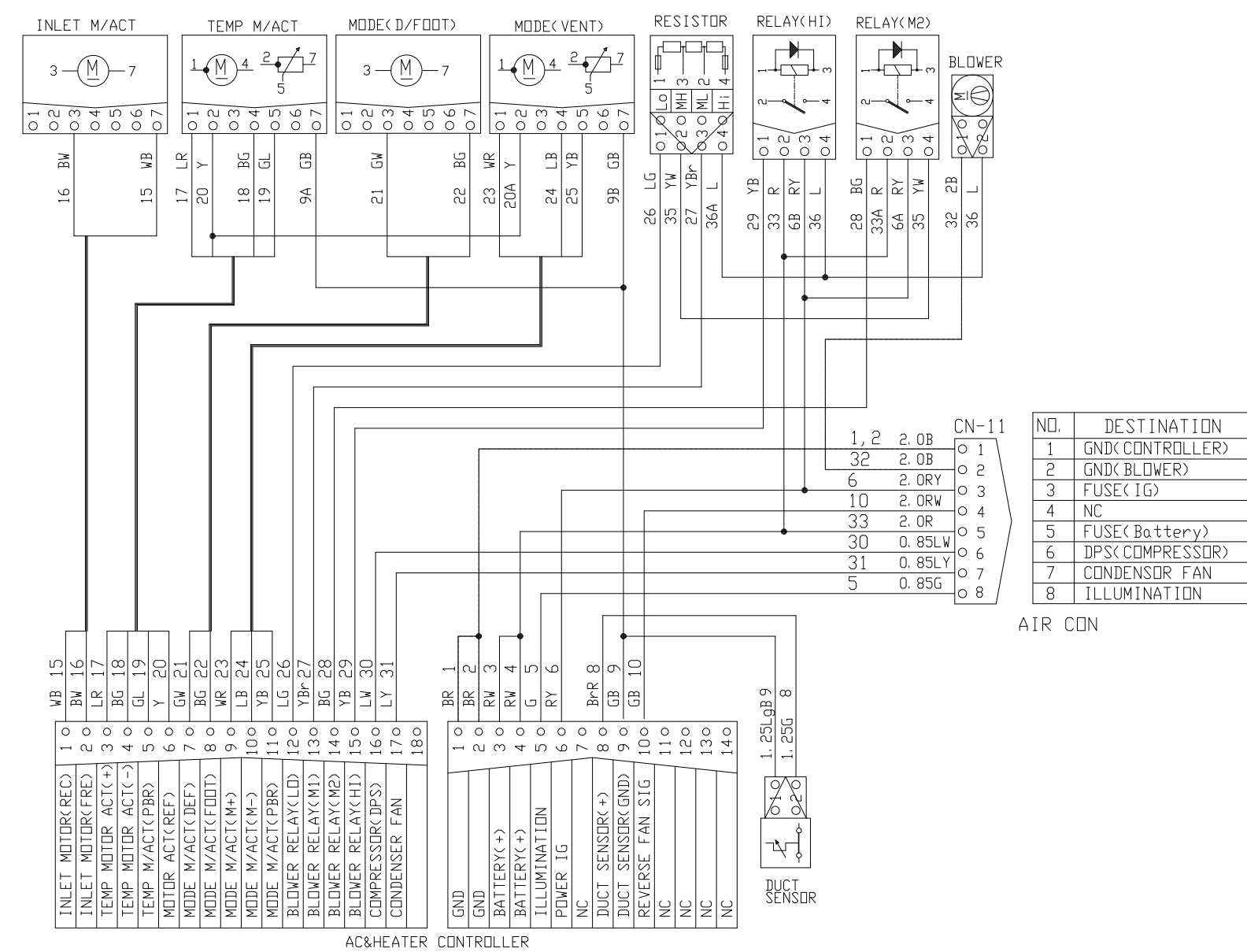
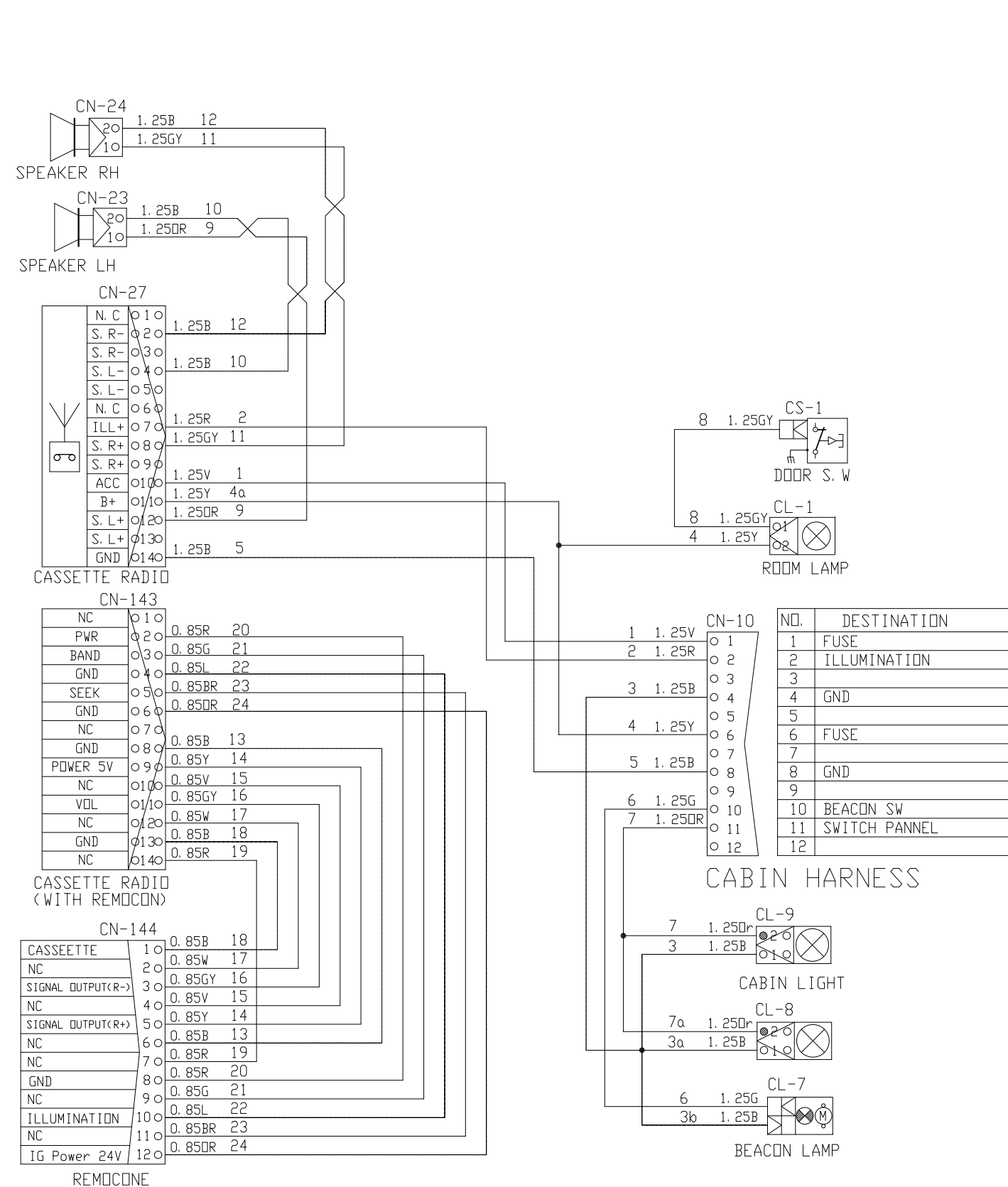
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|----|--------------------------|----|-------------------------------|----|-------------------------------|
| 1 | Horn switch | 11 | Fuse box | 21 | Preheat switch |
| 2 | Breaker operation switch | 12 | Radio power and volume button | 22 | Travel alarm switch |
| 3 | Cluster | 13 | Channel search button | 23 | Cab light switch |
| 4 | USB port | 14 | FM/AM band button | 24 | Breaker selection switch(opt) |
| 5 | Hour meter | 15 | Prolix resistor | 25 | Accel dial |
| 6 | Safety lever | 16 | Cassette radio | 26 | Start switch |
| 7 | Power max switch | 17 | Speaker | | |
| 8 | One touch decel switch | 18 | Main light switch | | |
| 9 | Air conditioner switch | 19 | Wiper switch | | |
| 10 | Master switch | 20 | Washer switch | | |

2. LOCATION 2



1	Lamp(opt)	8	P1 pressure sensor	15	Travel alarm buzzer	25	Pump EPPR valve
2	Fuel sender	9	P2 pressure sensor	16	Boom up pressure sensor		
4	Beacon lamp(opt)	10	EPPR pressure sensor	21	Work pressure switch		
5	Battery	12	Start relay	22	Travel pressure switch		
6	Battery relay	13	Heater relay	23	Air cleaner sensor		
7	Horn	14	Alternator	24	Solenoid valve		

ELECTRICAL CIRCUIT (2/2)



MEMORANDUM

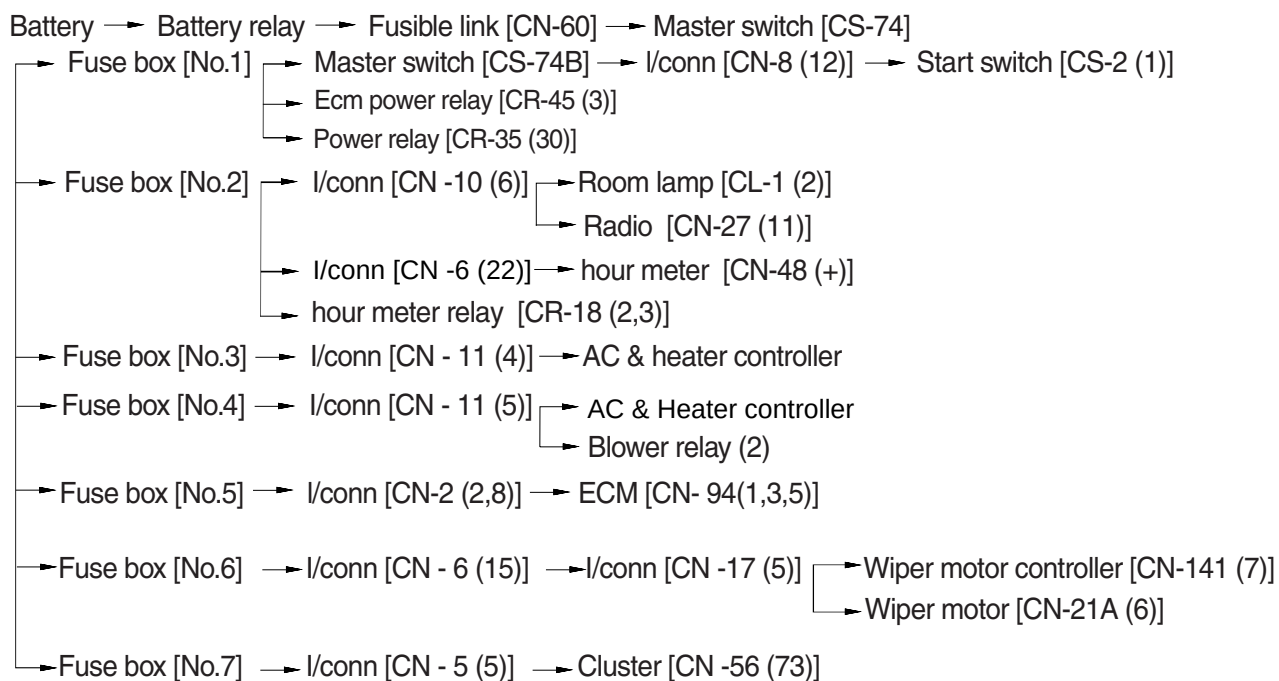
HYUNDAI HEAVY INDUSTRIES CO., LTD
CONSTRUCTION EQUIPMENT DIV.

1. POWER CIRCUIT(GCIC QSB7 ENGINE)

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

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

1) OPERATING FLOW



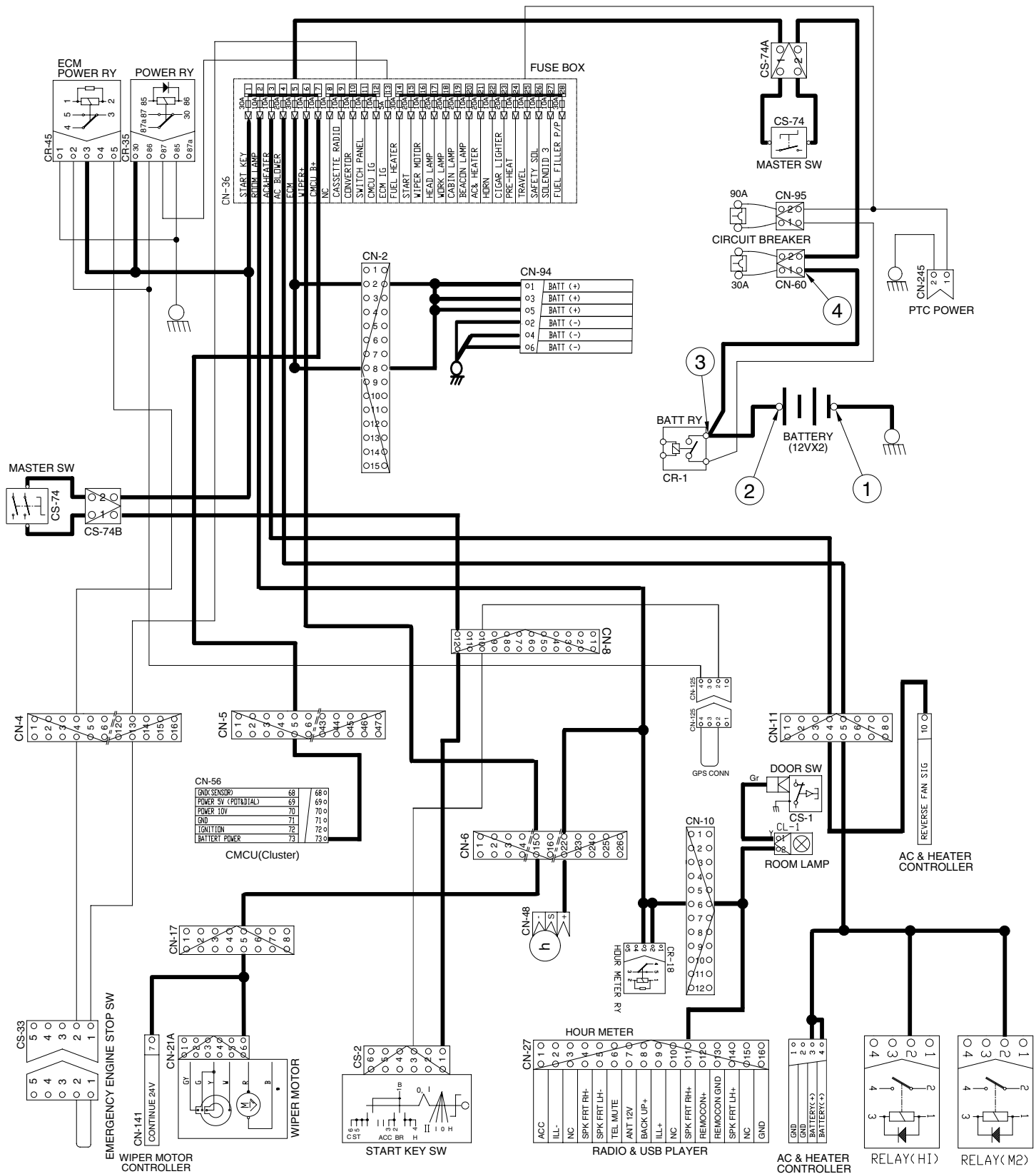
※ I/conn : Intermediate connector

2) CHECK POINT

Engine	Start switch	Check point	Voltage
OFF	OFF	① - GND (battery 1EA)	0 V
		② - GND (battery 2EA)	20~25V
		③ - GND (battery 2EA)	20~25V
		④ - GND (fusible link)	20~25V

※ GND : Ground

POWER CIRCUIT (GCIC QSB7 ENGINE)



2. STARTING CIRCUIT (GCIC QSB7 ENGINE)

1) OPERATING FLOW

Battery(+) terminal → Battery relay [CR-1] → Circuit breaker [CN-60] → Master switch [CS-74]
 → Fuse box [No.1] → I/conn [CN-8(12)] → Start switch [CS-2(1)]

(1) When start key switch is in ON position

→ Start switch ON [CS-2 (2)] → I/conn [CN-8 (11)] → Battery relay [CR-1]
 → Battery relay operating (all power is supplied with the electric component)
 → Start switch ON [CS-2 (3)] → RMS conn [CN-125 (2)→(4)]
 → Power relay [CR-35 (86)→(87)] → Fuse box [No. 8,9,10,11,12]
 → ECM power relay [CR-45 (2)→(5)] → Fuse box [No. 13]

(2) When start key switch is in START position

Start switch START [CS-2 (5)] → I/conn [CN-8 (9)] → Stater limit relay[CR-104(3)→(4)]
 → Anti-restart relay [CR-5 (86)]

ECM [CN-94 (9)] → I/conn [CN-3 (8)] → Starter lockout relay [CR-15(86)]

ECM [CN-94 (57)] → I/conn [CN-3 (3)] → Starter lockout relay [CR-15(85)]

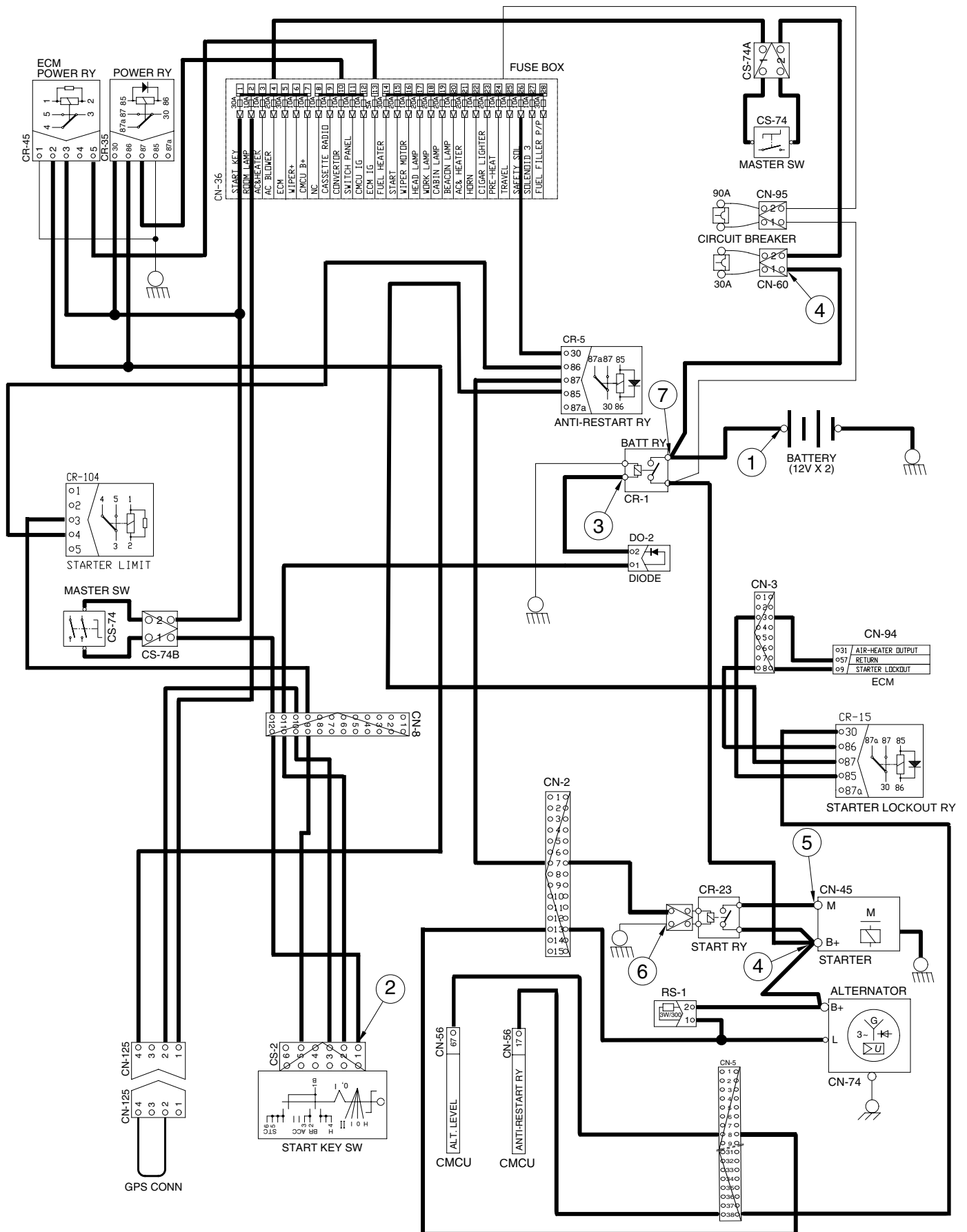
CMCU [CN-56 (17)] → I/conn [CN-5 (38)] → Starter lockout relay [CR-15(87a)→(30)]
 → Anti-restart relay [CR-5 (85)]

Anti-restart relay [CR-5 (30) →(87)] → I/conn [CN-2 (7)] → Start relay [CR-23(coil +)]

2) CHECK POINT

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

STARTING CIRCUIT (GCIC QSB7 ENGINE)



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-2 (13)] → I/conn [CN-5 (8)] → CMCU [CN-56 (67)]
→ Cluster charging warning lamp(Via serial interface)

(2) Charging flow

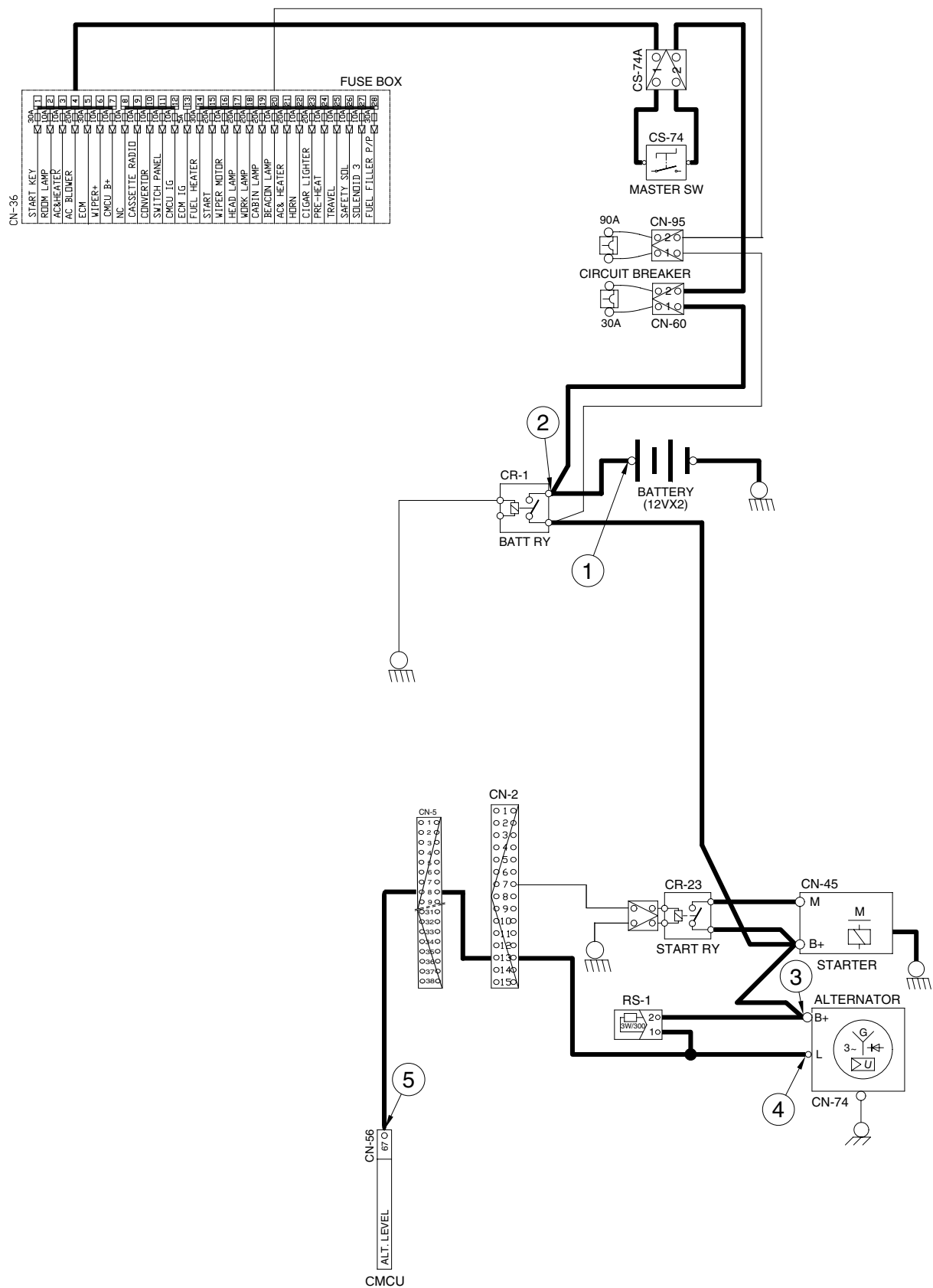
Alternator "B+" terminal → Battery relay → Battery(+) terminal
→ Fusible link [CN-60] → Master switch [CS-74]
→ Fuse box

2) CHECK POINT

Engine	Start switch	Check point	Voltage
Run	ON	① - GND (battery voltage) ② - GND (battery relay) ③ - GND (alternator B ⁺ terminal) ④ - GND (alternator L terminal) ⑤ - GND (CMCU)	20~30V

※ GND : Ground

CHARGING CIRCUIT



4. HEAD AND WORK LIGHT CIRCUIT

1) OPERATING FLOW

Fuse box (No.17) → Head light relay [CR-13 (30)]
→ I/conn [CN-7 (7)] → Switch panel [CN-116 (9)]
Fuse box (No.18) → I/conn [CN-7 (8)] → Switch panel [CN-116 (10,11)]

(1) Head light switch ON

Head light switch ON [CN-116 (1)] → I/conn [CN-7 (1)] → Head light relay [CR-13 (86)]
Head light relay [CR-13 (30)→(87)] → Head light ON [CL-4 (1)]

(2) Work light switch ON

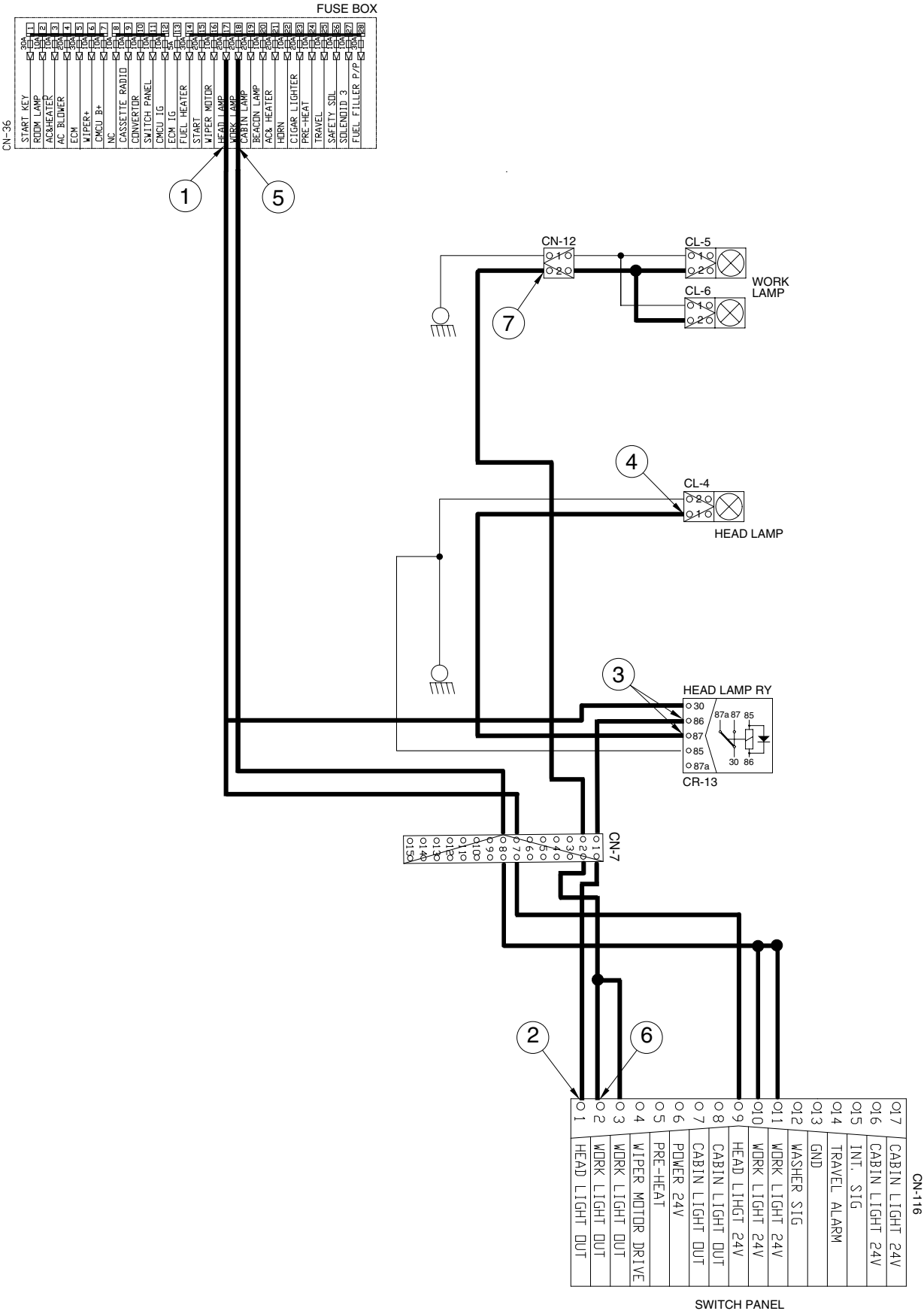
Work light switch ON [CN-116 (2,3)] → I/conn [CN-7 (2)] → I/conn [CN-12 (1)]
→ Work light ON [CL-5 (2), CL-6 (2)]

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 output) ⑦ - GND (work light)	20~25V

※ GND : Ground

HEAD AND WORK LIGHT CIRCUIT



5. BEACON LAMP AND CAB LIGHT CIRCUIT

1) OPERATING FLOW

Fuse box (No.20) → I/conn [CN-8 (3)] → Beacon lamp switch [CN-23 (6)]

Fuse box (No.19) → I/conn [CN-7 (12)] → Switch panel [CN-116 (16,17)]

(1) Beacon lamp switch ON

Beacon lamp switch ON [CS-23 (2)] → Switch indicator lamp ON [CS-23 (9)]
→ I/conn [CN-8 (4)] → I/conn [CN-10 (10)]
→ Beacon lamp [CL-7]

(2) Cab light switch ON

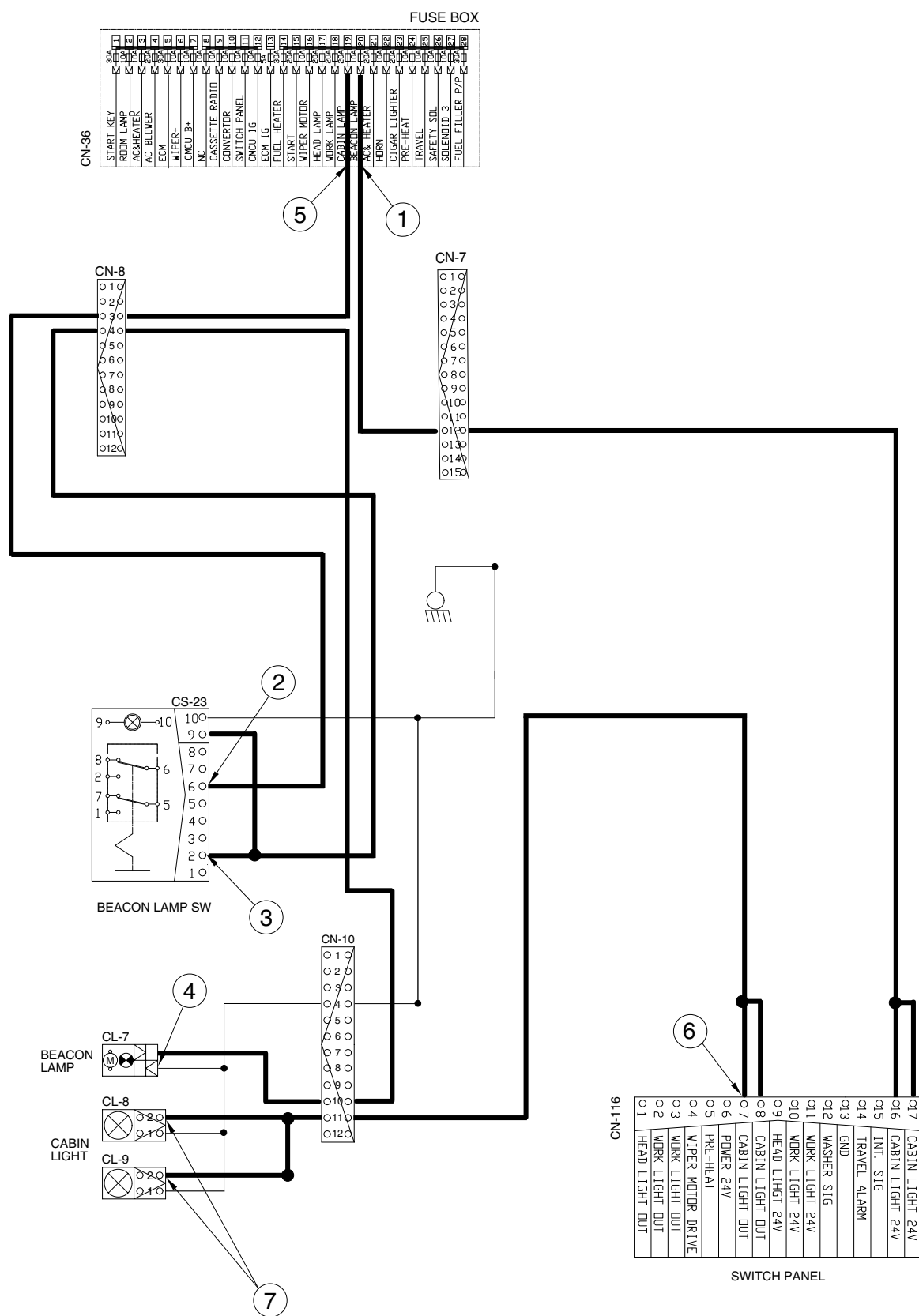
Cab light switch ON [CN-116 (7,8)] → I/conn [CN-7 (6)] → I/conn [CN-10 (11)]
→ Cab light [CL-8 (2),CL-9(2)]

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 lamp) ⑤ - GND (fuse box) ⑥ - GND (switch power output) ⑦ - GND (cab light)	20~25V

※ GND : Ground

BEACON LAMP AND CAB LIGHT CIRCUIT



6. WIPER AND WASHER CIRCUIT

1) OPERATING FLOW

(1) Key switch ON

Fuse box (No.11) → I/conn [CN-7 (5)] → Switch panel [CN-116 (6)]

Fuse box (No.6) → I/conn [CN-6 (15)] → I/conn [CN-17 (5)] → Wiper motor controller [CN-141(7)]
 → Wiper motor [CN-21A(6)]

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

(2) Wiper switch ON : 1st step (Intermittent)

Wiper switch ON [CN-116 (15)] → I/conn [CN-9 (4)] → I/conn [CN-6 (10)] → I/conn [CN-17 (8)]

Wiper motor controller [CN-141 (10) → (4)] → Wiper motor intermittently operating [CN-21(2)]

(3) Wiper switch ON : 2nd step (continual)

Wiper switch ON [CN-116 (4)] → I/conn [CN-7 (3)] → I/conn [CN-6 (9)] → I/conn [CN-17 (2)]

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

(4) Washer switch ON

Wiper switch ON [CN-116 (12)] → I/conn [CN-7 (9)] → I/conn [CN-6 (12)] → I/conn [CN-17 (7)]

Wiper motor controller [CN-141 (9) → (8)] → I/conn [CN-17 (6)] → I/conn [CN-6 (11)]

→ Washer pump [CN-22(1)]

(5) Wiper cut off switch ON

Wiper switch ON [CN-141 (11)] → Wiper cut off switch [CS-53] → I/conn [CN-17 (3)] → I/conn [CN-6 (6)]

Wiper motor controller don't supply power to the wiper motor

(6) Auto parking (when switch OFF)

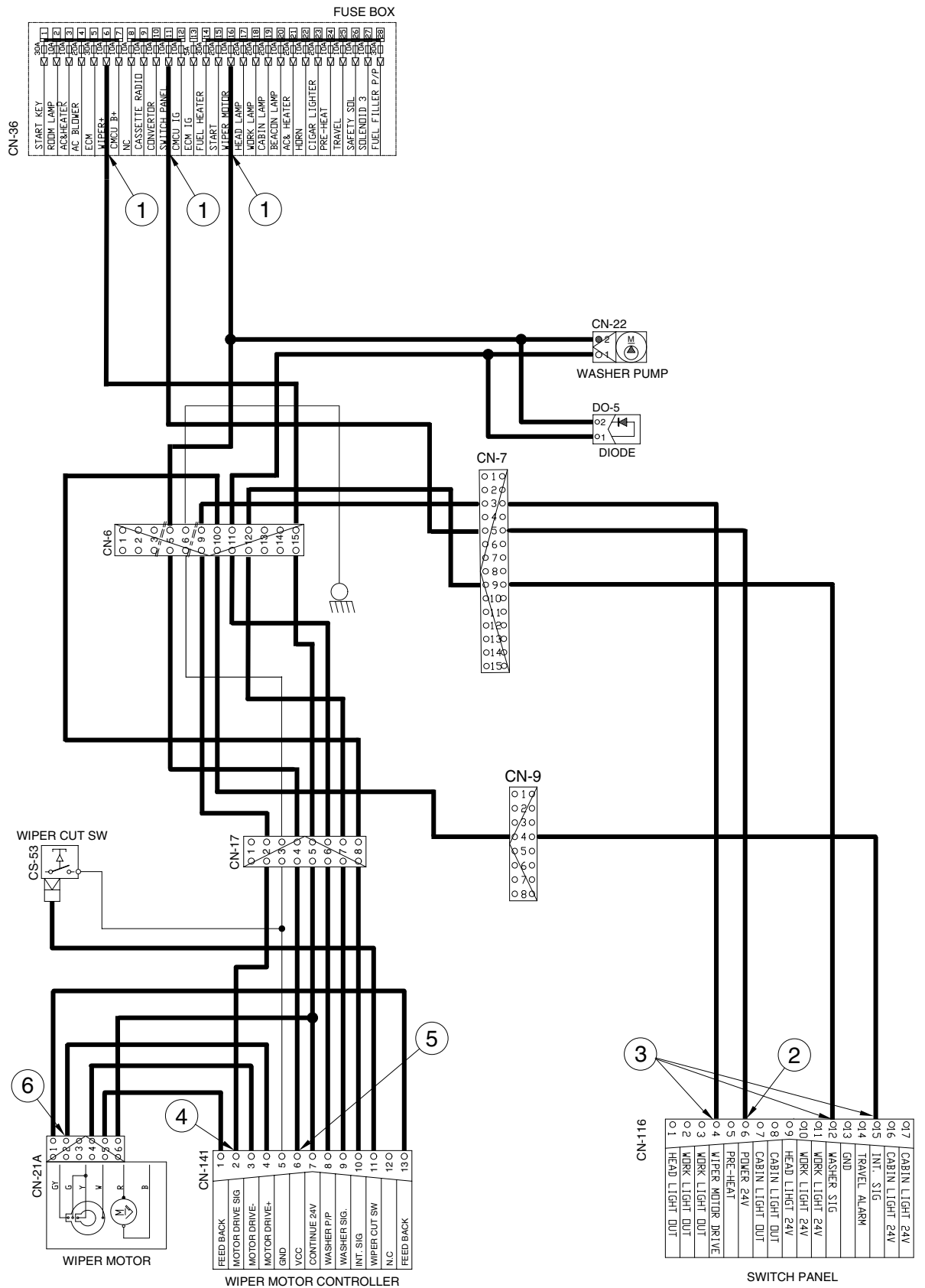
Switch OFF [CN-116 (4)] → Wiper motor parking position by wiper motor controller

2) CHECK POINT

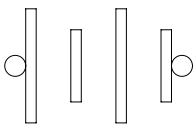
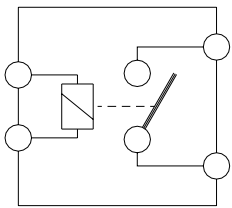
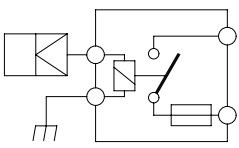
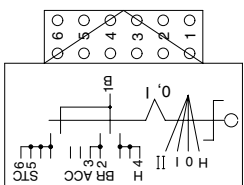
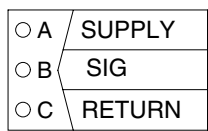
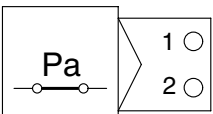
Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box)	24V
		② - GND (switch power input)	
		③ - GND (switch power output)	0 ~ 5V
		④ - GND (wiper power input)	24V
		⑤ - GND (wiper power output)	
		⑥ - GND (wiper motor)	0 or 24V

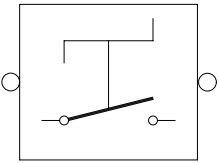
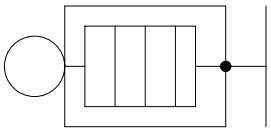
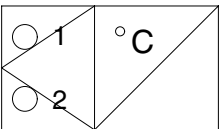
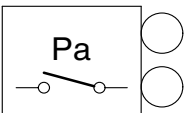
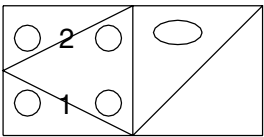
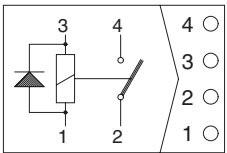
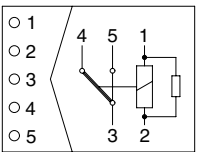
※ GND : Ground

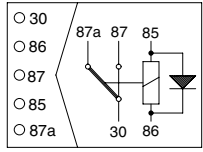
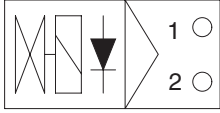
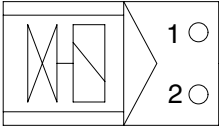
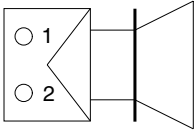
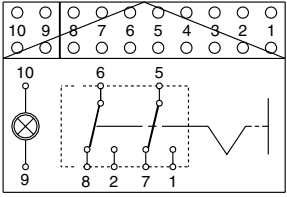
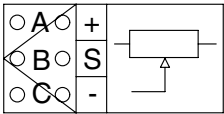
WIPER AND WASHER CIRCUIT

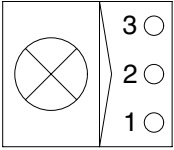
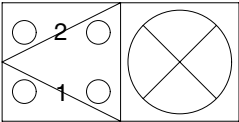
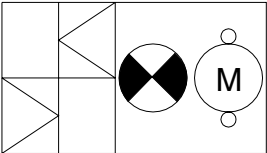
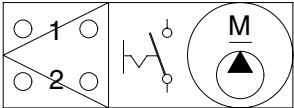
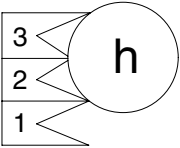
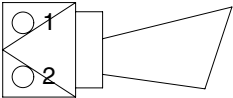


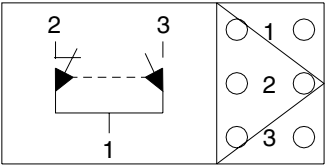
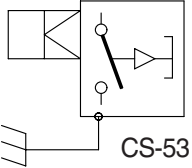
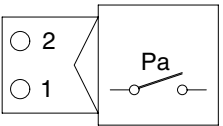
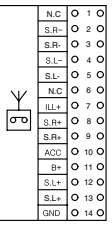
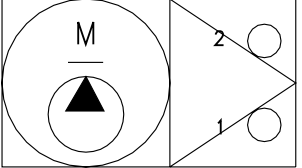
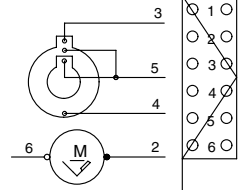
GROUP 3 ELECTRICAL COMPONENT SPECIFICATION

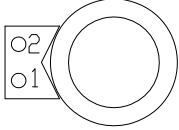
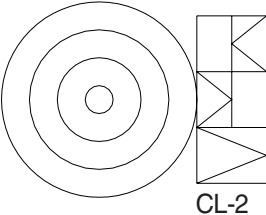
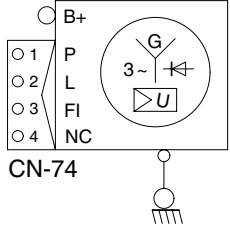
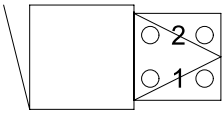
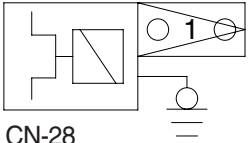
Part name	Symbol	Specifications	Check
Battery		12V × 100Ah (2EA)	※ Check specific gravity 1.280 over : Over charged 1.280 ~ 1.250 : Normal 1.250 below : Recharging
Battery relay	 CR-1	Rated load : 24V 100A (continuity) 1000A (30seconds)	※ Check coil resistance(M4 to M4) Normal : About 50 Ω ※ Check contact Normal : ∞ Ω
Glow plug relay	 CR-24	24V 200A	※ Check contact Normal : 0.942 Ω (For terminal 1-GND)
Start key	 CS-2	B-BR : 24V 1A B-ACC : 24V 10A B-ST : 24V 40A	※ Check contact OFF : ∞ Ω (for each terminal) ON : 0 Ω (for terminal 1-3 and 1-2) START : 0 Ω (for terminal 1-5)
Pressure sensor	 CD-42 CD-43 CD-44 CD-46 CD-70	8~30V	※ Check contact Normal : 0.1 Ω
Pressure switch (Travel, working)	 CD-6 CD-7	10kgf/cm ² (N.C TYPE)	※ Check contact Normal : 0.1 Ω

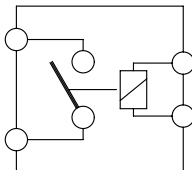
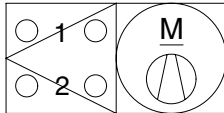
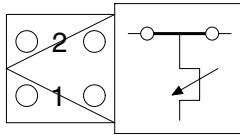
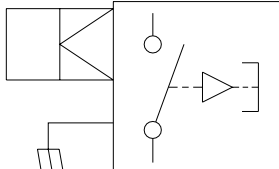
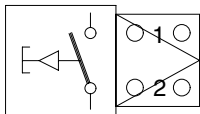
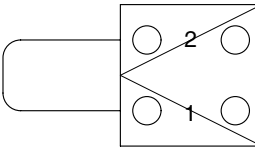
Part name	Symbol	Specifications	Check
Master switch	 CS-74A CS-74B	6-36V	※ Check disconnection Normal : 0.1 Ω
Glow plug	 CN-80	24V 200A	※ Check resistance 0.25~0.12 Ω
Temperature sensor (hydraulic)	 CD-1	-	※ Check resistance 50°C : 804 Ω 80°C : 310 Ω 100°C : 180 Ω
Air cleaner pressure switch	 CD-10	-	※ Check contact High level : ∞ Ω Low level : 0 Ω
Fuel sender	 CD-2	-	※ Check resistance Full : 50 Ω 6/12 : 350 Ω 11/12 : 100 Ω 5/12 : 400 Ω 10/12 : 150 Ω 4/12 : 450 Ω 9/12 : 200 Ω 3/12 : 500 Ω 8/12 : 250 Ω 2/12 : 550 Ω 7/12 : 300 Ω 1/12 : 600 Ω Empty warning : 700 Ω
Relay (air con blower)		24V 20A	※ Check resistance Normal : About 200 Ω (for terminal 1-3) 0 Ω (for terminal 2-4)
Relay	 CR-2 CR-18 CR-36 CR-45 CR-62 CR-104	24V 16A	※ Check resistance Normal : About 160 Ω (for terminal 1-2) 0 Ω (for terminal 3-4) ∞ Ω (for terminal 3-5)

Part name	Symbol	Specifications	Check
Relay	 CR-2 CR-5 CR-7 CR-13 CR-15 CR-35 CR-46	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-68 CN-66 CN-70 CN-140	24V 1A	※ Check resistance Normal : 15~25 Ω (for terminal 1-2)
EPPR valve	 CN-75	700mA	※ Check resistance Normal : 15~25 Ω (for terminal 1-2)
Speaker	 CN-23(LH) CN-24(RH)	20W	※ Check resistance Normal : A few Ω
Switch (locking type)	 CS-23 CS-27 CS-50 CS-54 CS-67 CS-82 CS-83 CS-84	24V 8A	※ Check contact Normal ON : 0 Ω (For terminal 1-5, 2-6) ∞ Ω (For terminal 5-7, 6-8) OFF : ∞ Ω (For terminal 1-5, 2-6) 0 Ω (For terminal 5-7, 6-8)
Accel dial	 CN-142	-	※ Check resist Normal : About 5k Ω (for terminal A-C) ※ Check voltage Normal : About 5V (for terminal A-C) : 2~4.5V (for terminal C-B)

Part name	Symbol	Specifications	Check
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)
Head lamp, Work lamp, Cab lamp	 CL-4 CL-5 CL-6 CL-8 CL-9	24V 65W (H3 Type)	※ Check disconnection Normal : 1.2 Ω
Beacon lamp	 CL-7	21V 70W (H1 Type)	※ Check disconnection Normal : A few Ω
Fuel filler pump	 CN-61	24V 10A 35 l /min	※ Check resistance Normal : 1.0 Ω
Service meter	 CN-48	16~32V	※ Check operation Supply power(24V) to terminal No.2 and connect terminal No.1 and ground
Horn	 CN-20 CN-25	DC22~28V 2A	※ Check operation Supply power(24V) to each terminal and connect ground.

Part name	Symbol	Specifications	Check
Safety switch	 CS-4	24V 15A (N.C TYPE)	※ Check contact Normal : 0 Ω (for terminal 1-2) ∞ Ω (for terminal 1-3) Operating : ∞ Ω (for terminal 1-2) 0 Ω (for terminal 1-3)
Wiper cut switch	 CS-53	24V (N.O TYPE)	※ Check contact Normal : 0 Ω (one pin to ground)
Receiver dryer	 CN-29	24V 2.5A	※ Check contact Normal : ∞ Ω
Cassette radio	 CN-27	24V 2A	※ Check voltage 20~25V (For terminal 10-14, 11-14)
Washer pump	 CN-22	24V 3.8A	※ Check contact Normal : 10.7 Ω (for terminal 1-2)
Wiper motor	 CN-21	24V 2A	※ Check disconnection Normal : 7 Ω (for terminal 2-6)

Part name	Symbol	Specifications	Check
SOCKET USB	CN-139 	—	—
Cigar lighter	 CL-2	24V 5A 1.4W	※ Check coil resistance Normal : About 1M Ω ※ Check contact Normal : ∞ Ω Operating time : 5~15sec
Alternator	 CN-74	24V 50A	※ Check contact Normal : 0 Ω (for terminal B⁺-I) Normal : 24~27.5V
Starter	 CN-45	Denso 24V 4.5kW	※ 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

Part name	Symbol	Specifications	Check
Start relay	 CR-23	24V 300A	※ Check contact Normal : 0.94 Ω (for terminal 1-2)
Blower motor		24V 9.5A	※ Check resistance Normal : 2.5 Ω (for terminal 1-2)
Duct sensor (switch)		1°C OFF 4°C ON	※ Check resistance Normal : 0 Ω (for terminal 1-2), the atmosphere temp : Over 4°C
Door switch	 CS-1	24V 2W	※ Check resistance Normal : About 5M Ω
Switch (power max, one touch decal, horn, breaker)	 CS-5 CS-19 CS-26 CS-29	24V 6A	※ Check resistance Normal : ∞ Ω
Fusible link (cluster type 2)	 CN-60 CN-95	60A	※ Check disconnection normal : 0 Ω (connect ring terminal and check resist between terminal 1 and 2)

GROUP 4 CONNECTORS

1. CONNECTOR DESTINATION

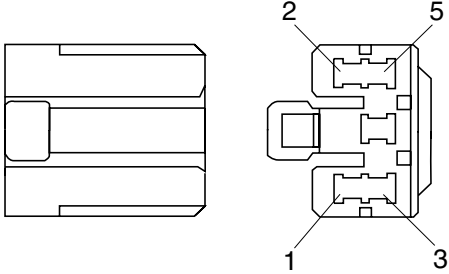
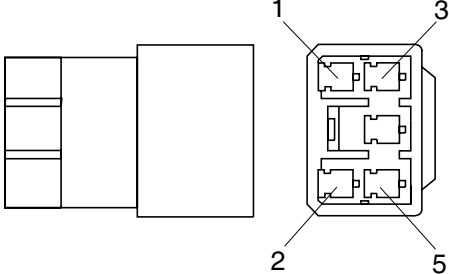
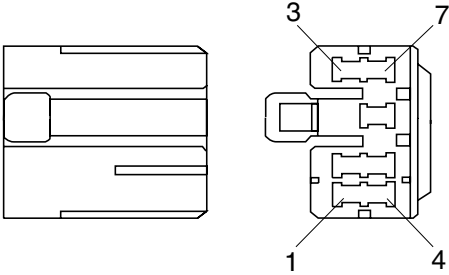
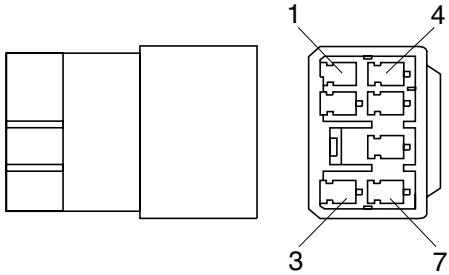
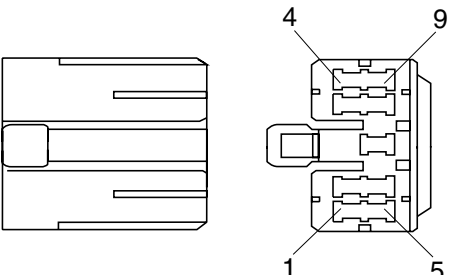
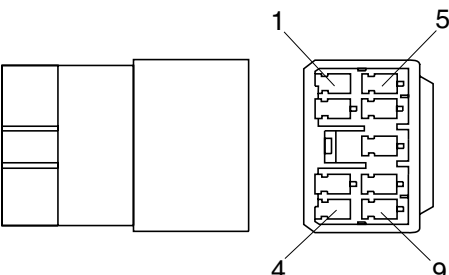
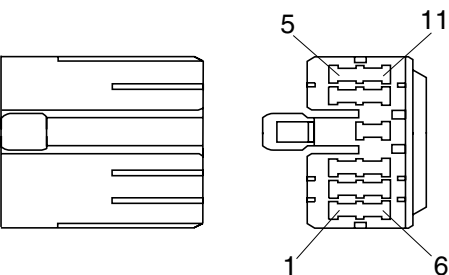
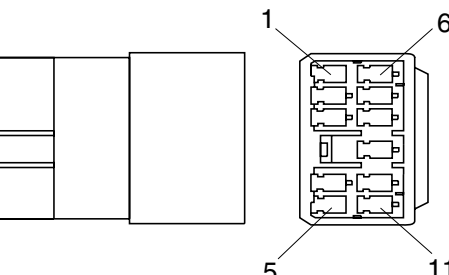
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	AMP	6	I/conn (Frame harness-Pump PS harness)	S816-006002	S816-106002
CN-2	AMP	15	I/conn (Frame harness-Engine harness)	2-85262-1	368301-1
CN-3	AMP	8	I/conn (Frame harness-Engine harness)	S816-012002	S816-112002
CN-4	AMP	8	I/conn (Console harness LH-Frame harness)	368047-1	368050-1
CN-5	DEUTSCH	47	I/conn (Side harness RH-Frame harness)	DRB16-60SAE-L018	DRB14-60PAE-L018
CN-6	DEUTSCH	31	I/conn (Side harness RH-Frame harness)	DRB16-60SAE-L018	DRB14-60PAE-L018
CN-7	AMP	15	I/conn (Console harness RH-Frame harness)	368047-1	368050-1
CN-8	AMP	12	I/conn (Console harness RH-Frame harness)	S816-012002	S816-112002
CN-9	AMP	8	I/conn (Console harness RH-Frame harness)	S816-012002	S816-112002
CN-10	DEUTSCH	12	I/conn (Cab harness-Side harness RH)	DT06-12S-EP06	DT04-12P-BE02
CN-11	DEUTSCH	8	I/conn (Frame harness-Aircon harness)	DT06-8S	-
CN-12	DEUTSCH	2	I/conn (Frame harness-Boom wire harness)	DT06-2S-EP06	DT04-2P-E005
CN-15	DEUTSCH	2	I/conn (Frame harness-RH side harness)	S816-012002	S816-112002
CN-16	AMP	6	I/conn (Accel dial harness)	S816-008002	S816-108002
CN-17	AMP	8	I/conn (Wiper harness)	S816-008002	S816-108002
CN-19	AMP	2	Emergency CMCU connector	S816-002002	-
CN-20	MOLEX	2	Horn	36825-0211	-
CN-21	AMP	6	Wiper motor	925276-0	-
CN-22	KET	2	Washer pump	MG640605	-
CN-23	KET	2	Speaker-LH	MG610070	-
CN-24	KET	2	Speaker-RH	MG610070	-
CN-25	MOLEX	2	Horn	36825-0211	-
CN-27	AMP	14	Cassette radio	173852	-
CN-28	KUM	1	Aircon compressor	MWP-01F-B	-
CN-29	KET	2	Receiver dryer	MG640795	-
CN-36	-	-	Fuse & relay box	-	-
CN-45	RING-TERM	-	Starter motor B ⁺	S820-308000	DT04-4P-E005
CN-48	KET	3	Service meter	2-520193-2	-
CN-52	-	-	Fuse(2A)	-	-
CN-56	PCB	73	CMCU	-	-
CN-60	AMP	2	Fusible link	21N4-01320	S813-130201
CN-61	DEUTSCH	2	Fuel filler pump	DT06-2S-EP06	-
CN-66	DEUTSCH	2	Breaker solenoid	DT06-2S-EP06	DT04-2P-EP005

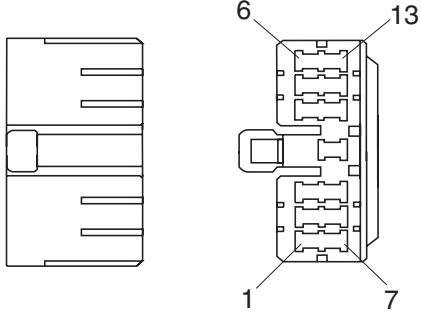
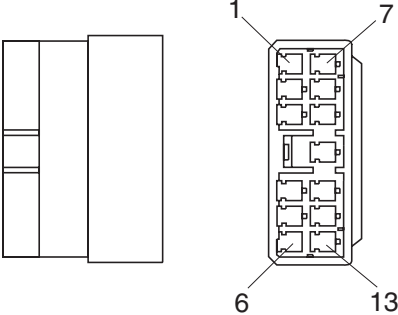
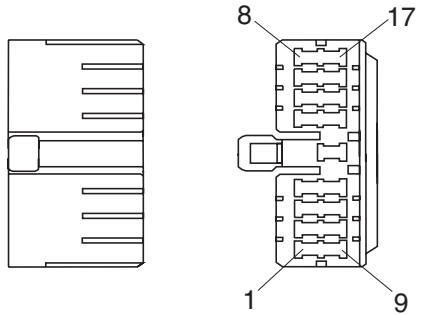
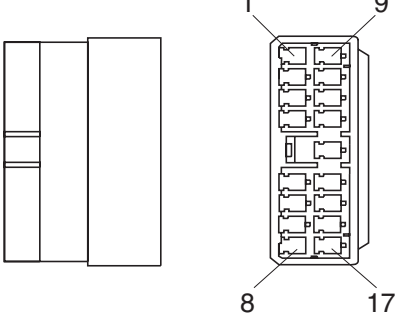
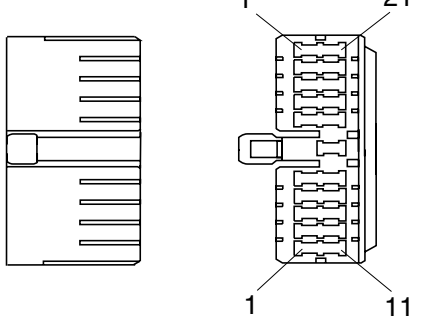
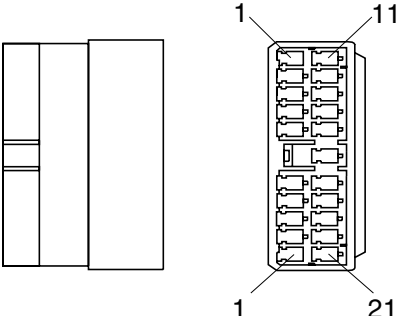
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-68	DEUTSCH	2	Safety solenoid	DT06-2S	-
CN-70	DEUTSCH	2	Travel high solenoid	DT06-2S	-
CN-74	AMP	4	Alternator "L" terminal	12186568	-
CN-75	AMP	2	Pump EPPR	S816-002002	-
CN-80	RING-TERM	-	Glow plug	S820-306000	-
CN-81	DEUTSCH	2	Travel buzzer	DT06-2S-EP06	-
CN-95	YAZAKI	2	Fusible link	21N4-01311	7122-4125-50
CN-99	DEUTSCH	2	RESISTER		DT04-2P-E005
CN-116	PA	17	Switch panel	S811-017002	-
CN-125	DEUTSCH	4	GPS CONN	-	
CN-125A	AMP	12	RMS	-	
CN-126	AMP	4	RS232 CONN	S816-010002	S816-110002
CN-139	AMP	2	12V socket	172434-2	-
CN-140	DEUTSCH	2	Quick clamp solenoid	DT06-2S-EP06	DT04-2P-E005
CN-141	AMP	13	Wiper motor controller	172498-1	DT04-3P-EP10
CN-142	DEUTSCH	3	Accel dial	DT06-3S-EP06	-
CN-147	AMP	4	Fuel warmer	2-967325-3	-
CN-156	DEUTSCH	2	Air seat	-	DT04-2P-E005
· Relay					
CR-1	RING-TERM	-	Battery relay	ST730135-2	-
CR-2	-	5	Horn relay	-	-
CR-5	-	5	Anti restart relay	-	-
CR-7	-	5	Aircon compressor relay	-	-
CR-13	-	5	Head lamp relay	-	-
CR-15	-	5	Starter lockout relay	-	-
CR-18	-	5	Hour meter relay	-	-
CR-23	AMP	4	Start relay	-	S814-102001
CR-24	AMP	4	Preheat relay	S822-014000	-
CR-35	-	5	Power relay	-	-
CR-36	-	5	Preheat relay	-	-
CR-45	-	5	ECM power relay	-	-
CR-46	-	5	Fuel warmer relay	-	-
CR-62	-	5	Breaker relay	-	-
CR-104	-	5	Starter limit relay	-	-
· Switch					
CS-1	SHUR	1	Door switch	S822-014002	S822-114002
CS-2	WP	6	Start key switch	S814-006100	-
CS-4	DEUTSCH	3	Safety switch	DT06-3S-EP06	-

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CS-5	DEUTSCH	2	Horn switch	-	DT04-2P-E005
CS-19	DEUTSCH	2	One touch decel switch	-	DT04-2P-E005
CS-23	SWF	10	Beacon lamp switch	SWF593757	-
CS-26	DEUTSCH	2	Breaker switch	DT06-2S-EP06	-
CS-26A	AMP	2	Breaker foot pedal	S816-002002	S816-102002
CS-27	SWF	10	Breaker switch	SWF593757	-
CS-29	DEUTSCH	2	Power max switch	DT06-2S-EP06	-
CS-50	SWF	10	Overload switch	SWF593757	-
CS-52	SWF	10	Econo switch	SWF593757	-
CS-53	AMP	1	Wiper cut switch	S822-014002	-
CS-67	SWF	10	Quick clamp switch	SWF 593757	-
CS-74A	AMP	2	Master switch	S813-030201	-
CS-74B	DEUTSCH	2	Master switch	DT06-2S-EP06	-
CS-82	SWF	10	Spare switch	SWF 593757	-
CS-83	SWF	10	Crab switch	SWF593757	-
CS-84	SWF	10	Fuel warmer switch	SWF 593757	-
· Light					
CL-1	KET	3	Room lamp	MG651032	-
CL-2	AMP	3	Cigar light	S822-014002	S822-114002
CL-4	DEUTSCH	2	Head lamp-RH	DT06-2S-EP06	DT04-2P-E005
CL-5	AMP	2	Work lamp-LH	180923-0	-
CL-6	AMP	2	Work lamp-RH	180923-0	-
CL-7	SHUR	2	Beacon lamp	S822-014002	S822-114002
CL-8	DEUTSCH	2	Cab light-LH	DT06-2S-EP06	DT-2P
CL-9	DEUTSCH	2	Cab light-RH	DT06-2S-EP06	DT04-2P
· Sensor, sender					
CD-1	AMP	2	Hydraulic oil temp sender	85202-1	-
CD-2	DEUTSCH	2	Fuel level sender	DT06-2S-EP06	-
CD-6	DEUTSCH	3	Travel pressure sensor	DT06-3S-EP06	-
CD-7	DEUTSCH	3	Working pressure sensor	DT06-3S-EP06	-
CD-10	RING TERM	-	Air cleaner switch	ST730135-2	-
CD-31	AMP	3	Overload sensor	S816-003002	S816-103002
CD-32	DEUTSCH	3	Boom up sensor	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	Eppr pressure	DT06-3S-EP06	-
CD-45	DEUTSCH	2	Wif sensor	DT06-3S-EP06	-
CD-70	DEUTSCH	3	N1 pressure	DT06-3S-EP06	-

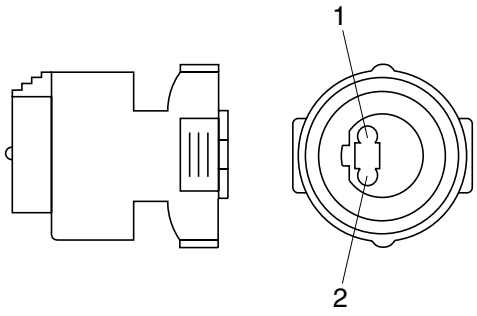
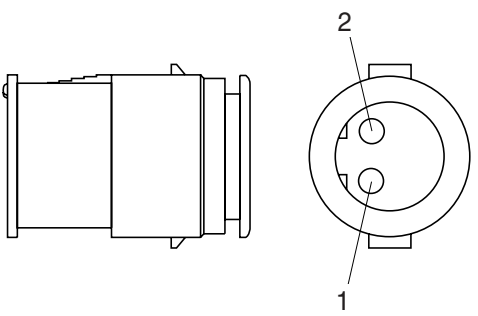
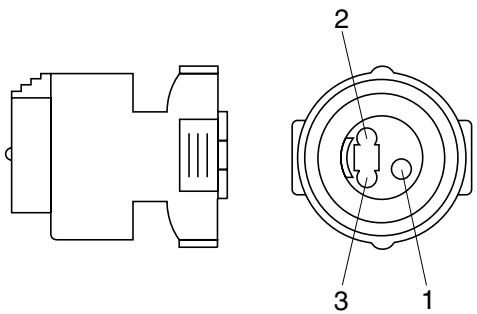
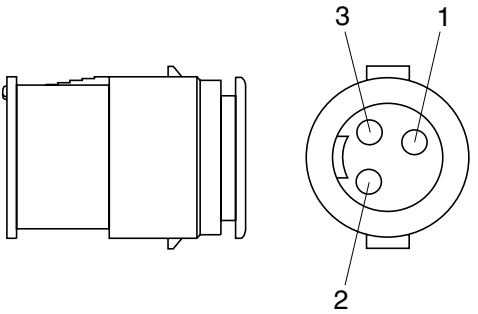
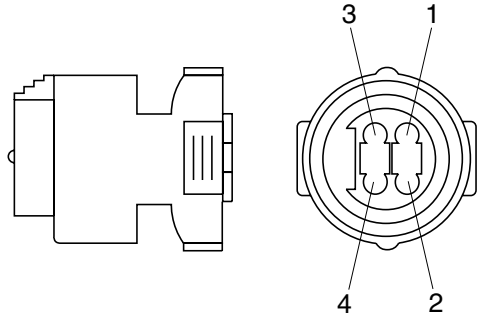
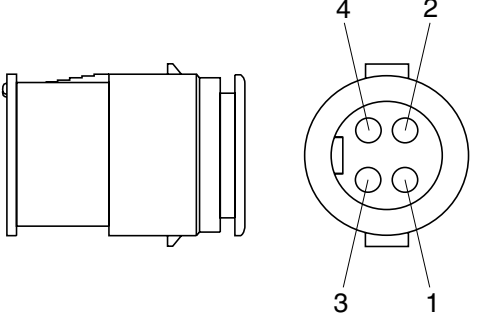
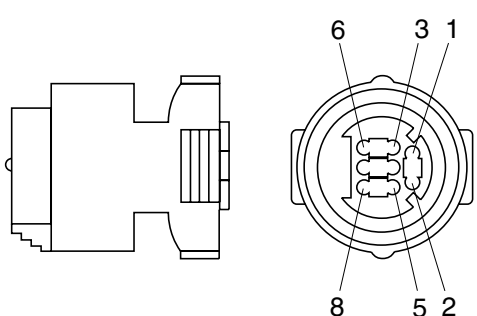
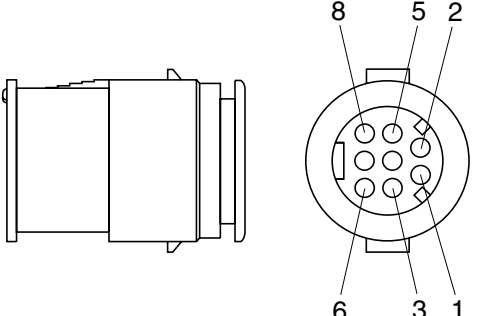
2. CONNECTION TABLE FOR CONNECTORS

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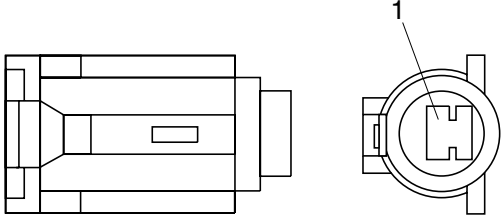
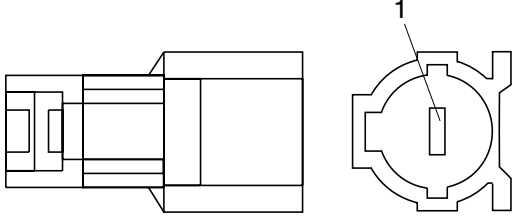
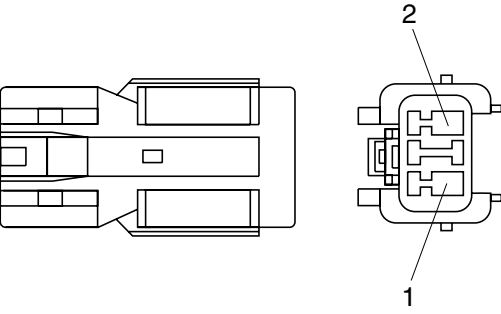
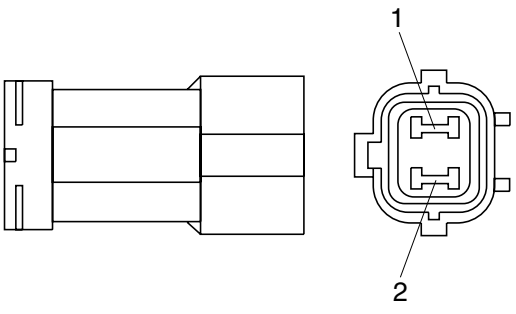
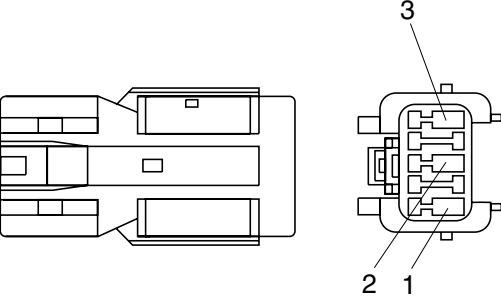
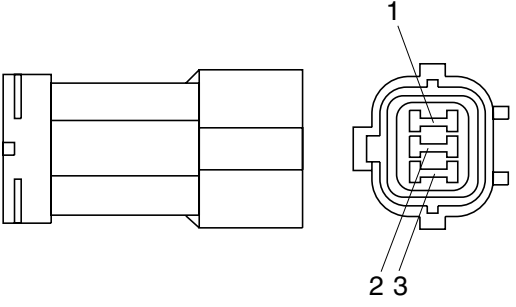
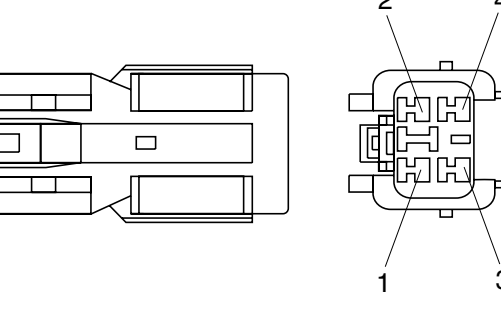
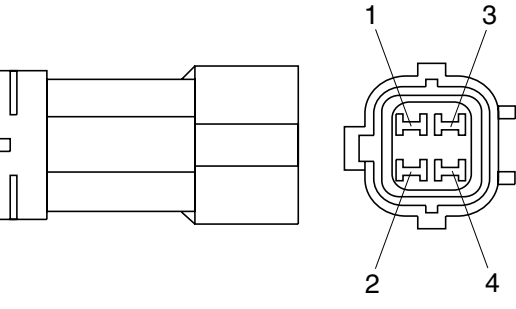
No. of pin	Receptacle connector (female)	Plug connector (male)
5	 S811-005002	 S811-105002
7	 S811-007002	 S811-107002
9	 S811-009002	 3S811-109002
11	 S811-011002	 S811-111002

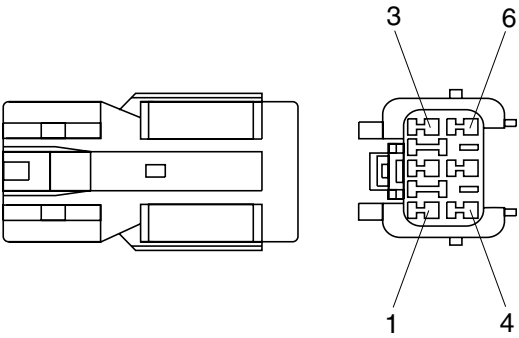
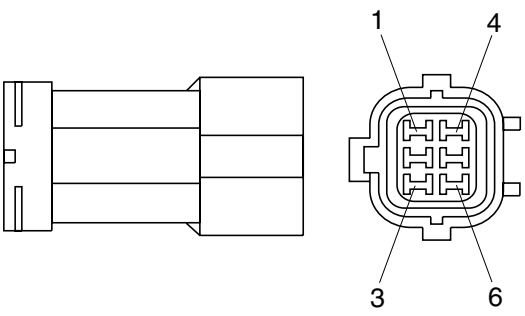
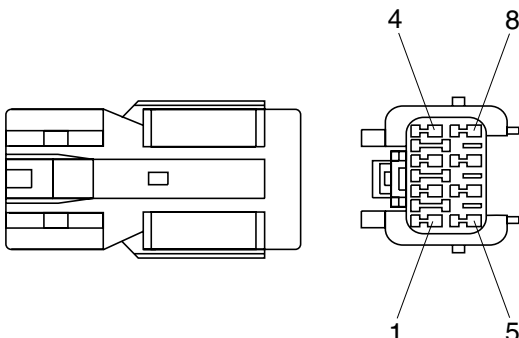
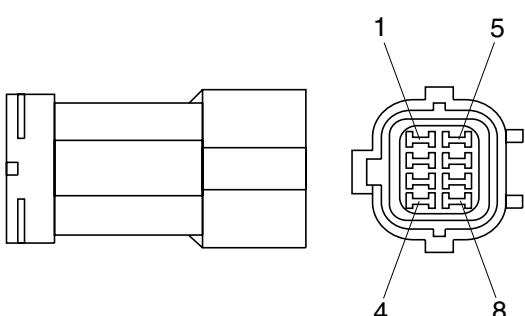
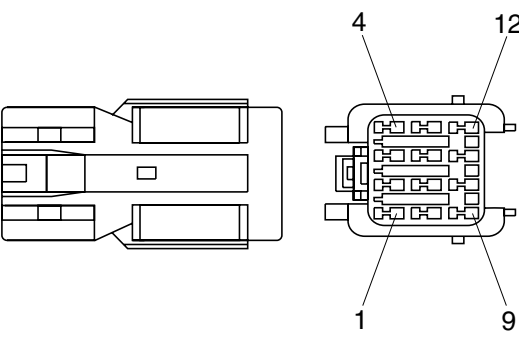
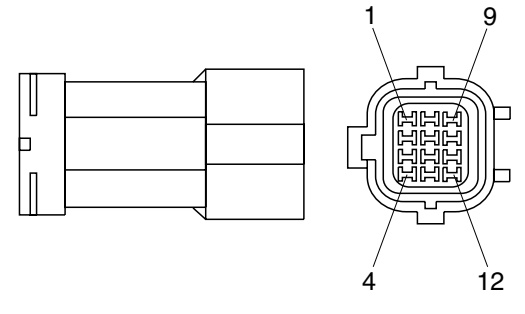
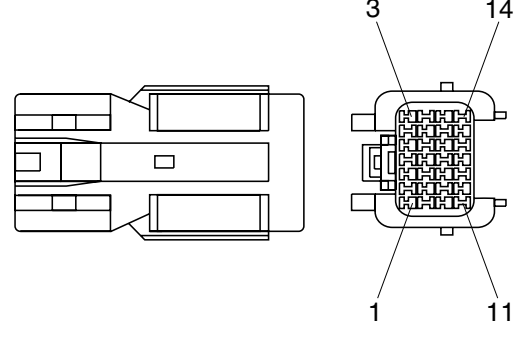
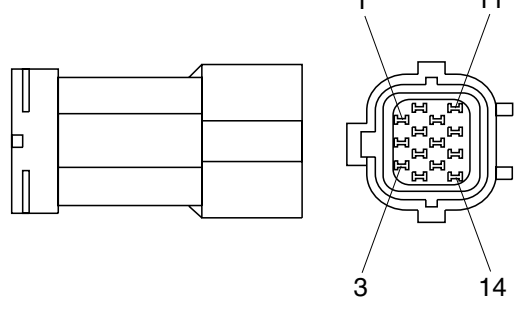
No. of pin	Receptacle connector (female)	Plug connector (male)
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17	 S811-017002	 S811-117002
21	 S811-021002	 S811-121002

2) J TYPE CONNECTOR

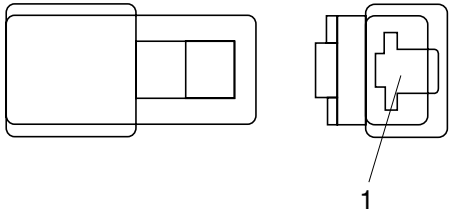
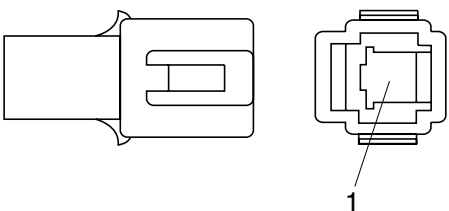
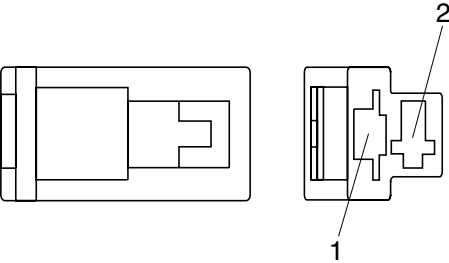
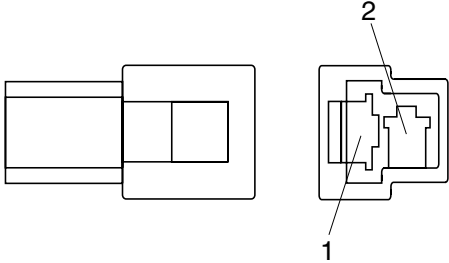
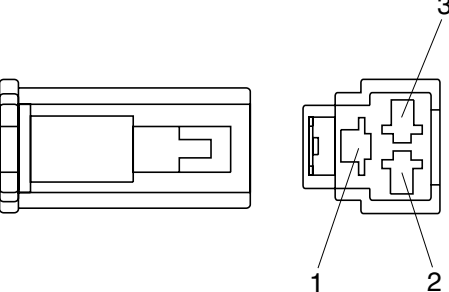
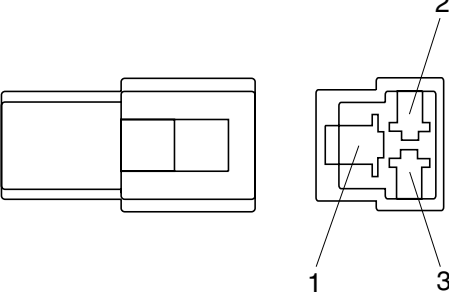
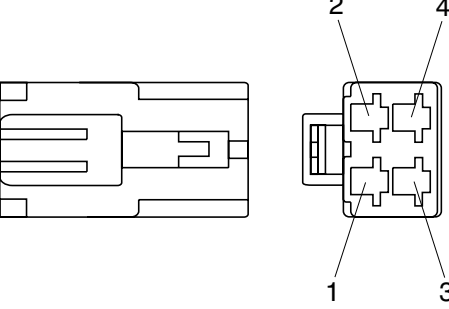
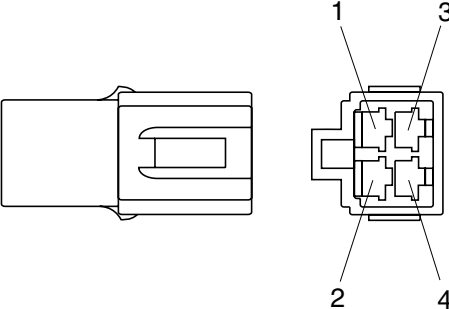
No. of pin	Receptacle connector (female)	Plug connector (male)
2	 S816-002001	 S816-102001
3	 S816-003001	 S816-103001
4	 S816-004001	 S816-104001
8	 S816-008001	 S816-108001

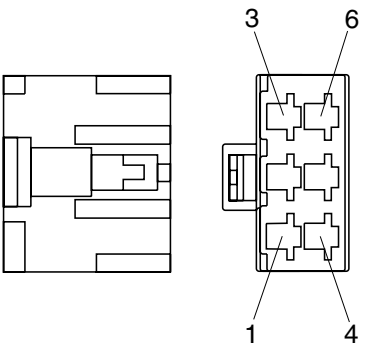
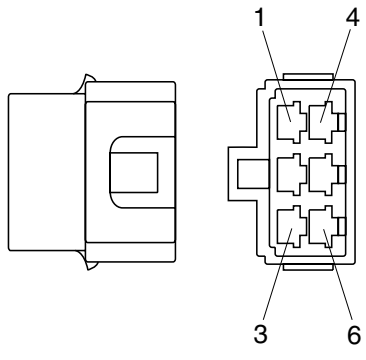
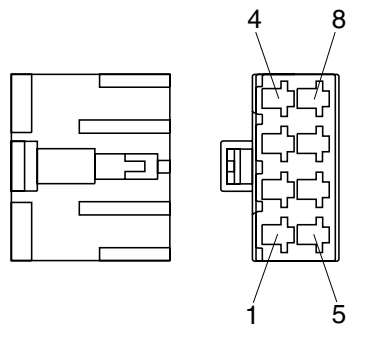
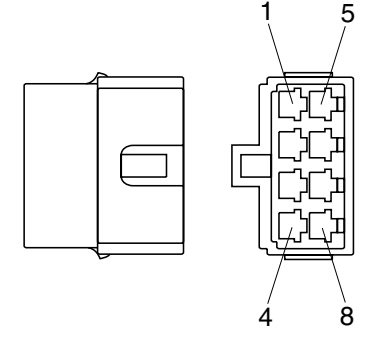
3) SWP TYPE CONNECTOR

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

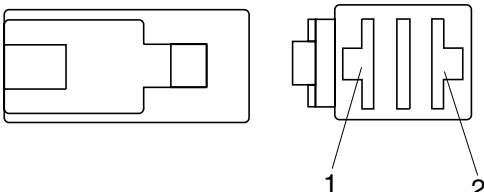
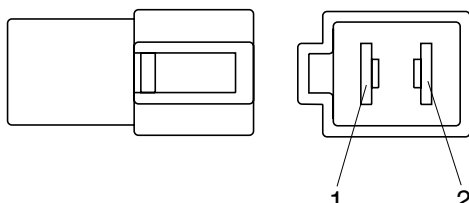
No. of pin	Receptacle connector (female)	Plug connector (male)
6	 S814-006000	 S814-106000
8	 S814-008000	 S814-108000
12	 S814-012000	 S814-112000
14	 S814-014000	 S814-114000

4) CN TYPE CONNECTOR

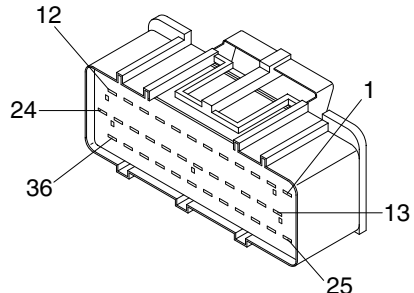
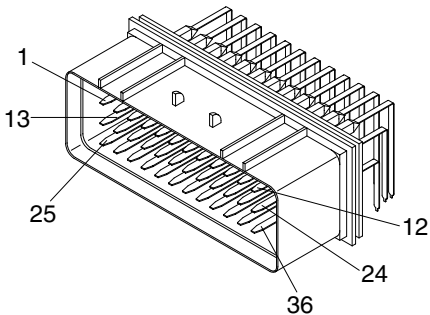
No. of pin	Receptacle connector (female)	Plug connector (male)
1	 S810-001202	 S810-101202
2	 S810-002202	 S810-102202
3	 S810-003202	 S810-103202
4	 S810-004202	 S810-104202

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

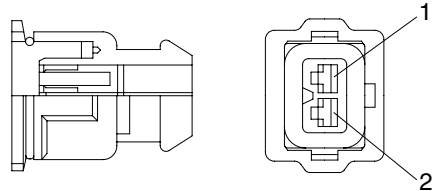
5) 375 FASTEN TYPE CONNECTOR

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

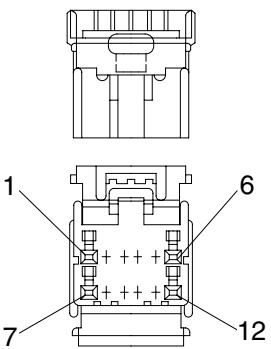
6) AMP ECONOSEAL CONNECTOR

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

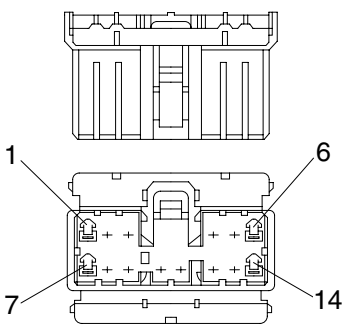
7) AMP TIMER CONNECTOR

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

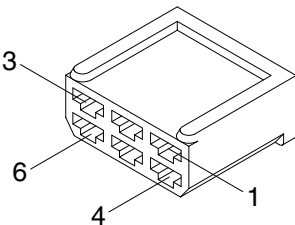
8) AMP 040 MULTILOCK CONNECTOR

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

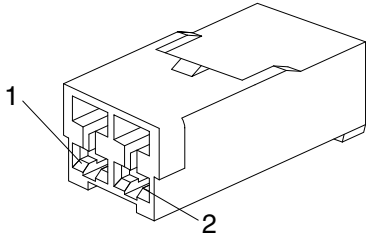
9) AMP 070 MULTILOCK CONNECTOR

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

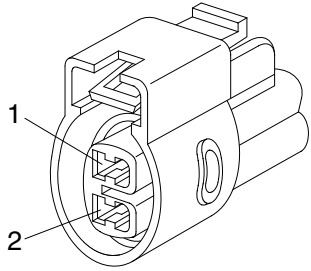
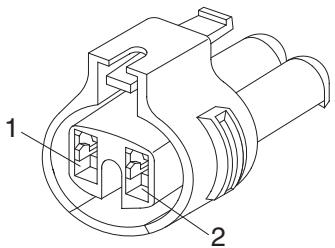
10) AMP FASTIN - FASTON CONNECTOR

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

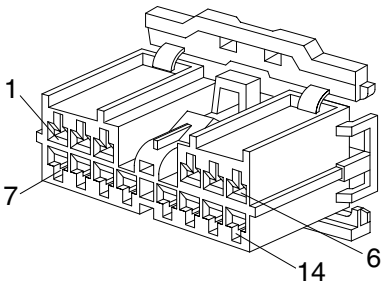
11) KET 090 CONNECTOR

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

12) KET 090 WP CONNECTORS

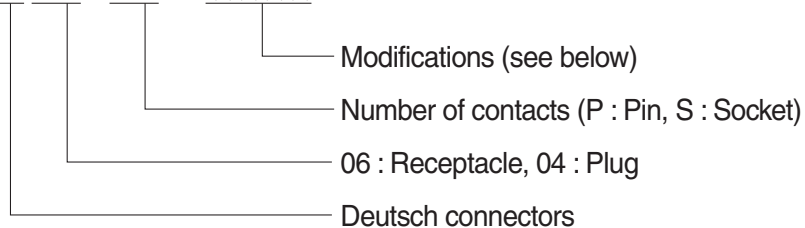
No. of pin	Receptacle connector (female)	Plug connector (male)
2	 MG640605	
2	 MG640795	

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

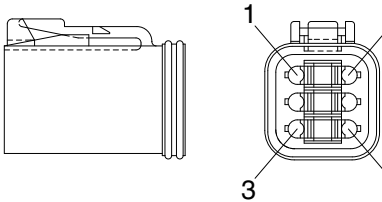
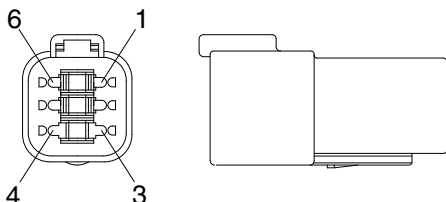
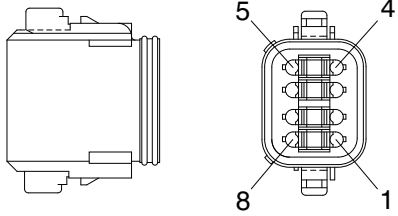
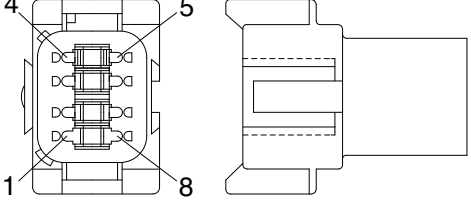
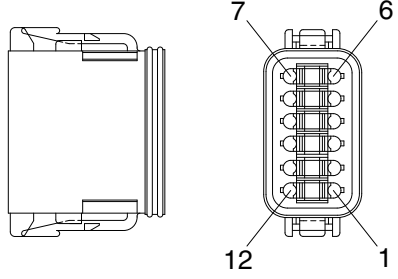
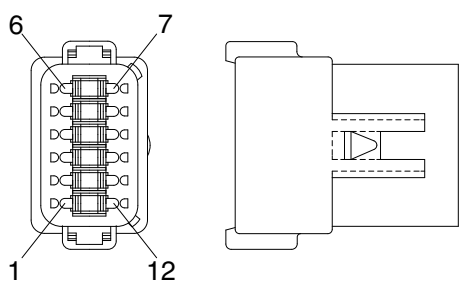
E005 : Combination - E004 & E003

EP04 : End cap

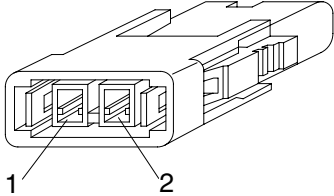
EP06 : Combination P012 & EP04

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

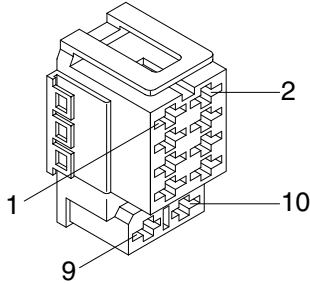
No. of pin	Receptacle connector (female)	Plug connector (male)
2	DT06-2S	DT04-2P
3	DT06-3S	DT04-3P
4	DT06-4S	DT04-4P

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

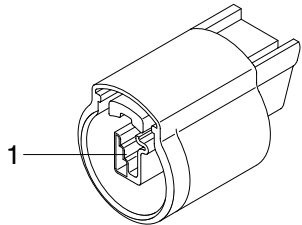
15) MOLEX 2CKTS CONNECTOR

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

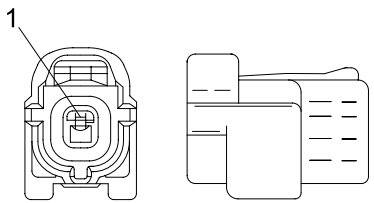
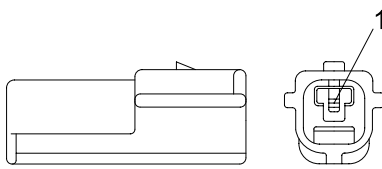
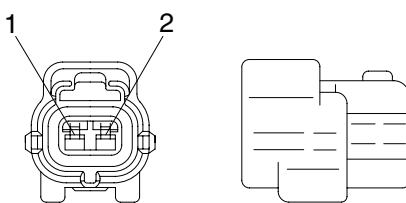
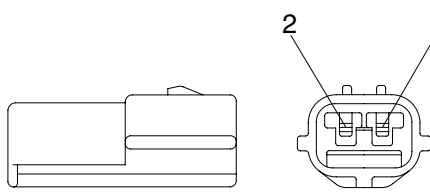
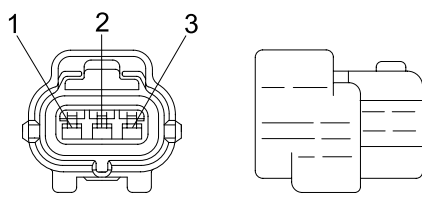
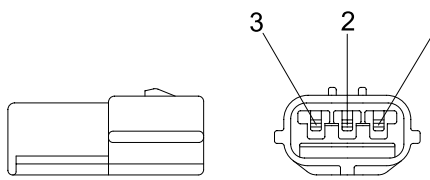
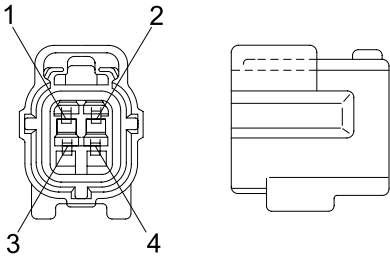
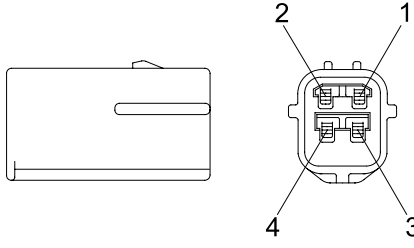
16) ITT SWF CONNECTOR

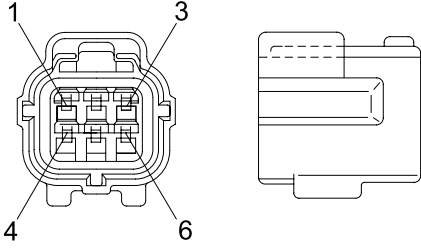
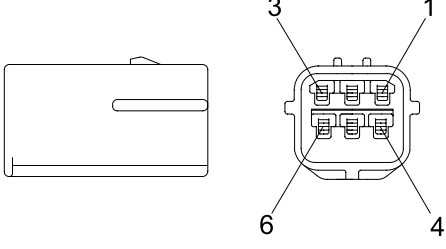
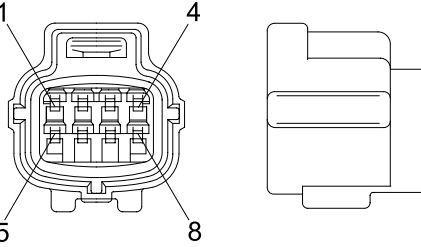
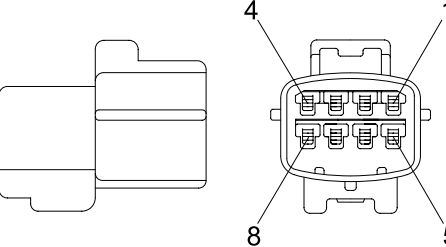
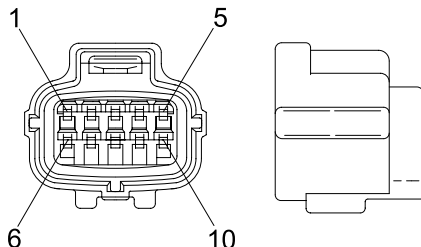
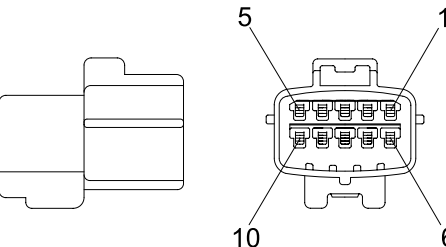
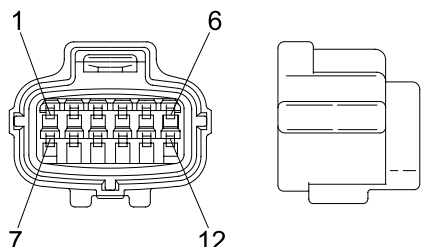
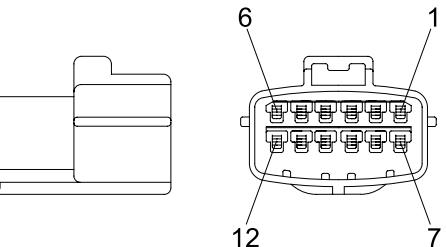
No. of pin	Receptacle connector (female)	Plug connector (male)
10	 SWF593757	

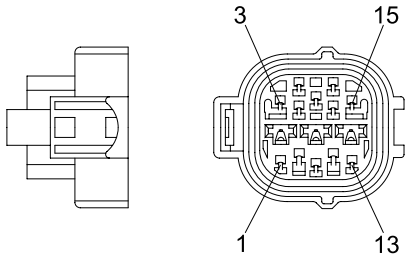
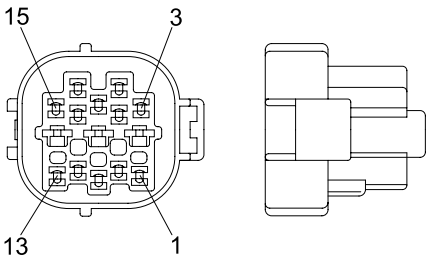
17) MWP NMWP CONNECTOR

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

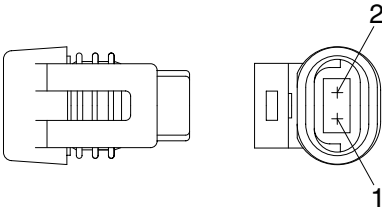
18) ECONOSEAL J TYPE CONNECTORS

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

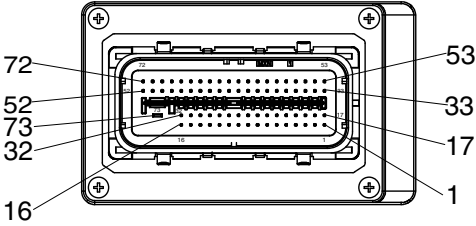
No. of pin	Receptacle connector (female)	Plug connector (male)
6	 S816-006002	 S816-106002
8	 S816-008002	 S816-108002
10	 S816-010002	 S816-110002
12	 S816-012002	 S816-112002

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

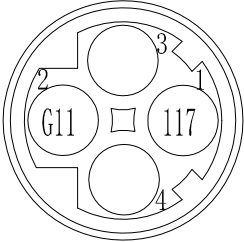
19) METRI-PACK TYPE CONNECTOR

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

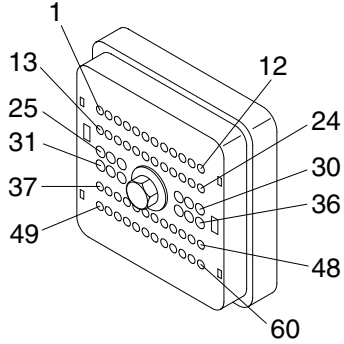
20) MOLEX CMCU CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
73	 31387-2034	

21) GRAY FUEL WARMER CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
4	 2-967325-3	

24) DEUTSCH INTERMEDIATE CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
60	 DRB16-60SAE-L018	