

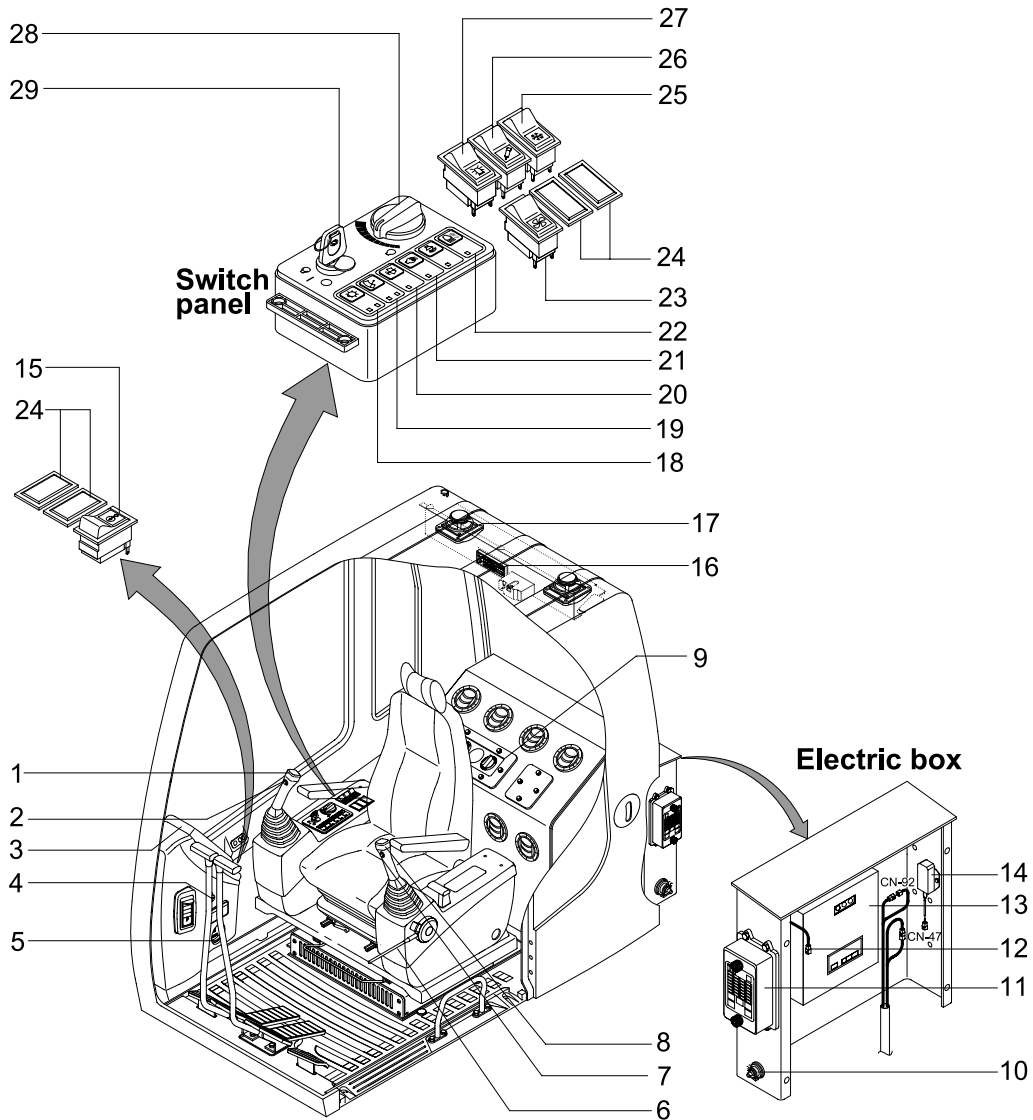
SECTION 4 ELECTRICAL SYSTEM

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SECTION 4 ELECTRICAL SYSTEM

GROUP 1 COMPONENT LOCATION

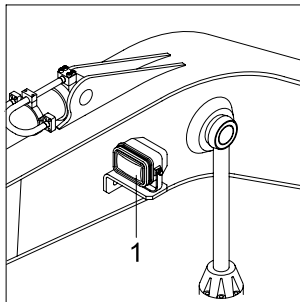
1. LOCATION 1



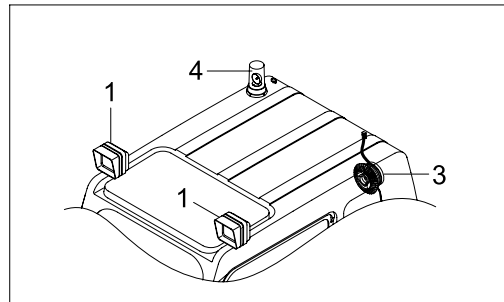
RD22074EL01

1	Horn switch	11	Fuse box	21	Preheat switch
2	Breaker operation switch	12	RS232 serial connector	22	Cab light switch
3	Cluster O-ring	13	CPU controller	23	Fan switch
4	Cigar lighter	14	Prolix resistor	24	Spare cover
5	Hour meter	15	Overload switch	25	Air conditioner switch
6	Safety lever	16	Cassette radio	26	Breaker selection switch
7	Power max switch	17	Speaker	27	Beacon switch
8	One touch decel switch	18	Main light switch	28	Accel dial
9	Air conditioner controller	19	Wiper switch	29	Start switch
10	Master switch	20	Washer switch		

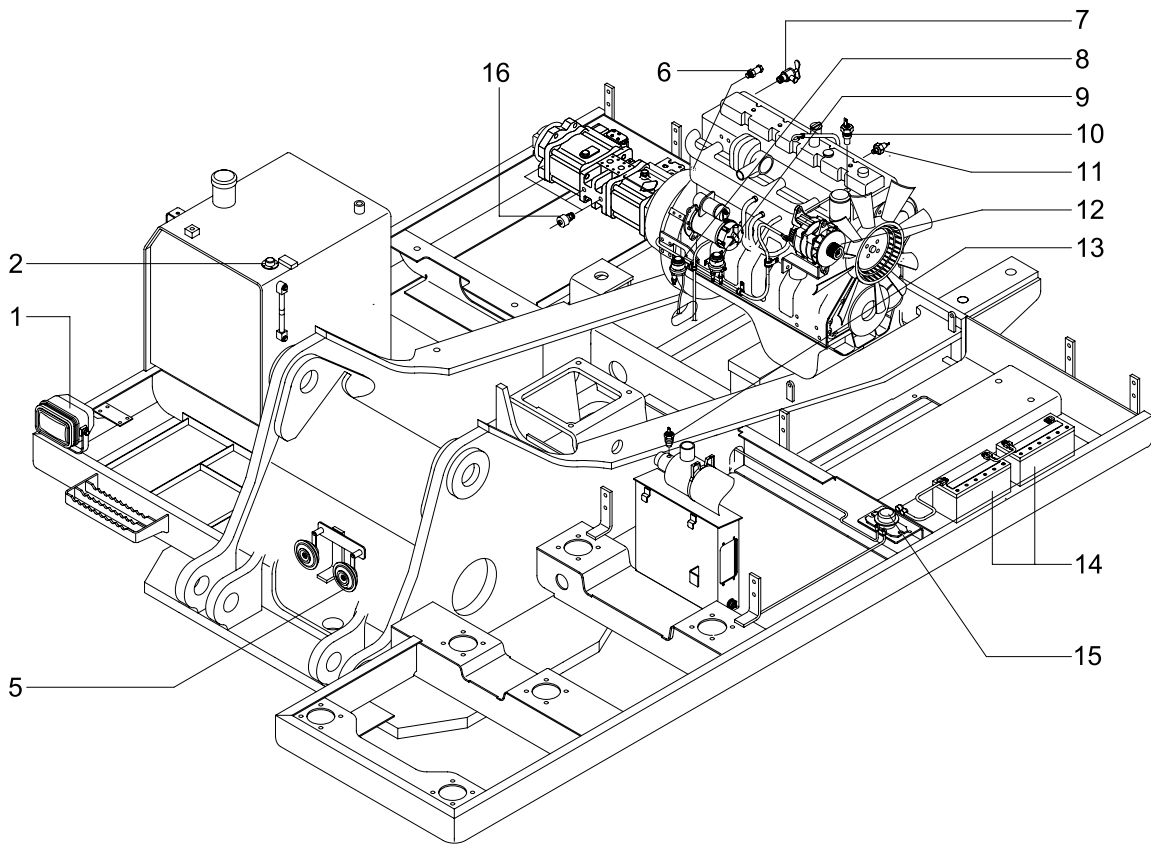
2. LOCATION 2



BOOM



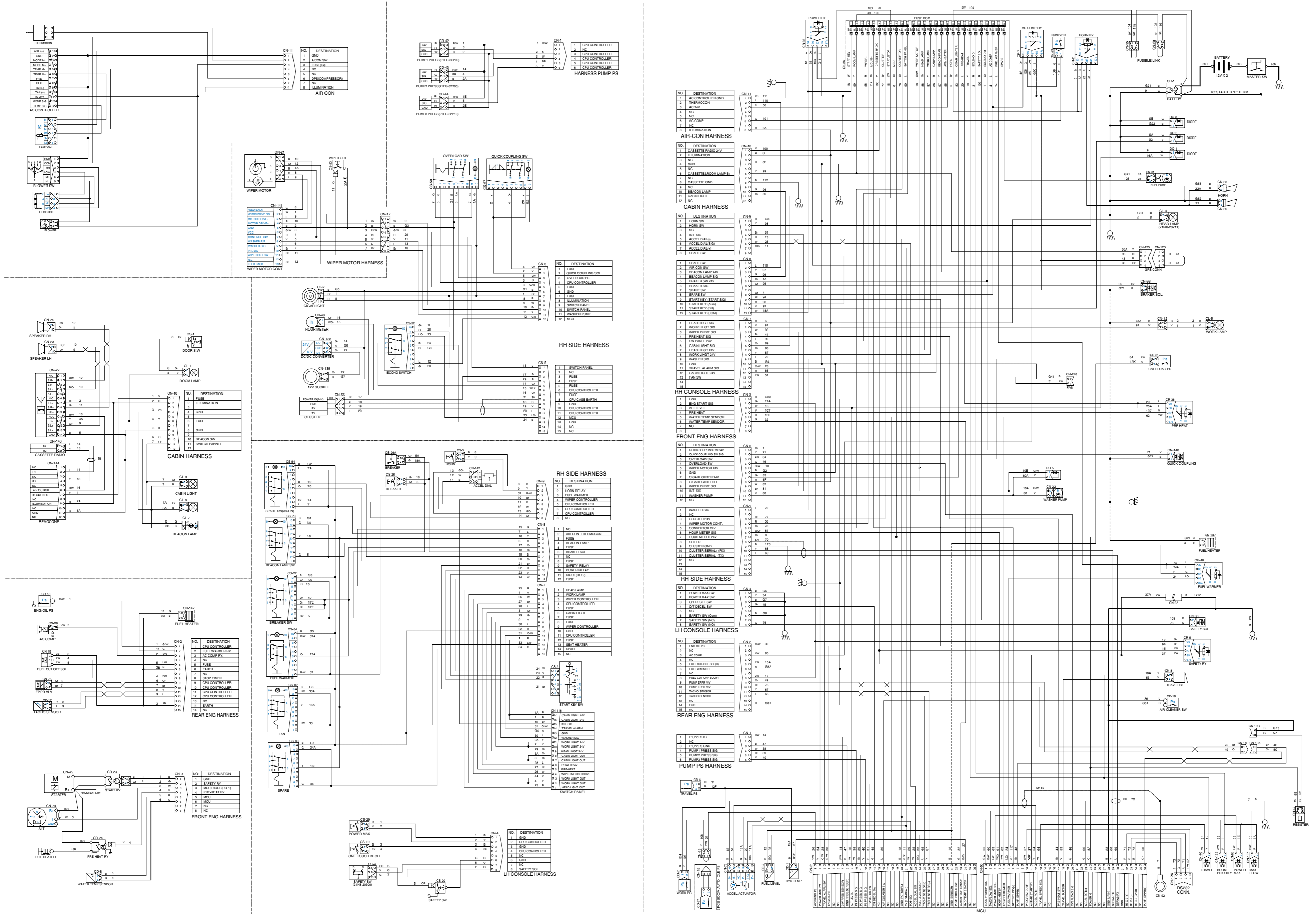
CAB



RD22074EL02

- | | | | | | |
|---|--------------|----|----------------------------|----|--------------------|
| 1 | Lamp | 7 | Heater valve | 13 | Air cleaner switch |
| 2 | Fuel sender | 8 | Start relay | 14 | Battery |
| 3 | Fan | 9 | Heater relay | 15 | Battery relay |
| 4 | Beacon lamp | 10 | Temp sender | 16 | Pressure sender |
| 5 | Horn | 11 | Engine oil pressure switch | | |
| 6 | Speed sensor | 12 | Alternator | | |

GROUP 2 ELECTRICAL CIRCUIT

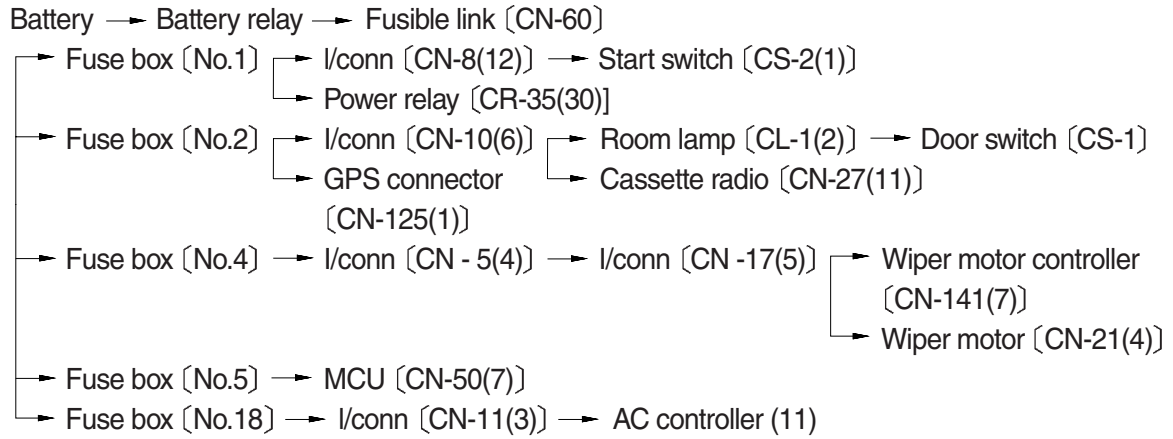


1. POWER CIRCUIT

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

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

1) OPERATING FLOW



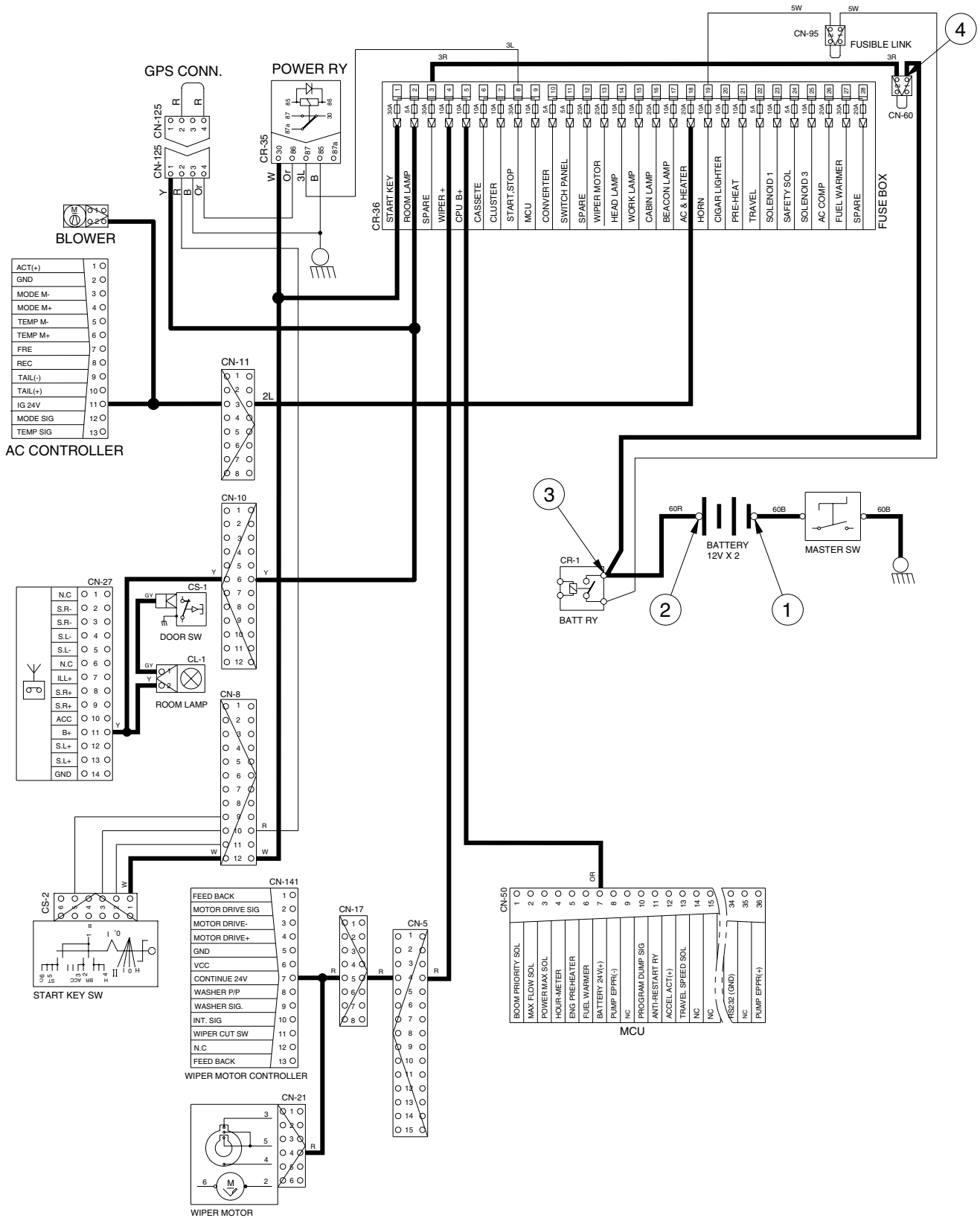
※ I/conn : Intermediate connector

2) CHECK POINT

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

※ GND : Ground

POWER CIRCUIT



2. STARTING CIRCUIT

1) OPERATING FLOW

Battery(+) terminal → Battery relay〔CR-1〕 → Fusible link 〔CN-60〕 → 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)〕 → I/conn 〔CN-8(10)〕 → GPS conn 〔CN-125(2)〕
 → Power relay 〔CR-35(86) → (87)〕 Fuse box 〔No.12〕 → I/conn 〔CN-2(5)〕
 → Fuel cut-off 〔CN-79(H)〕

(2) When start key switch is in START position

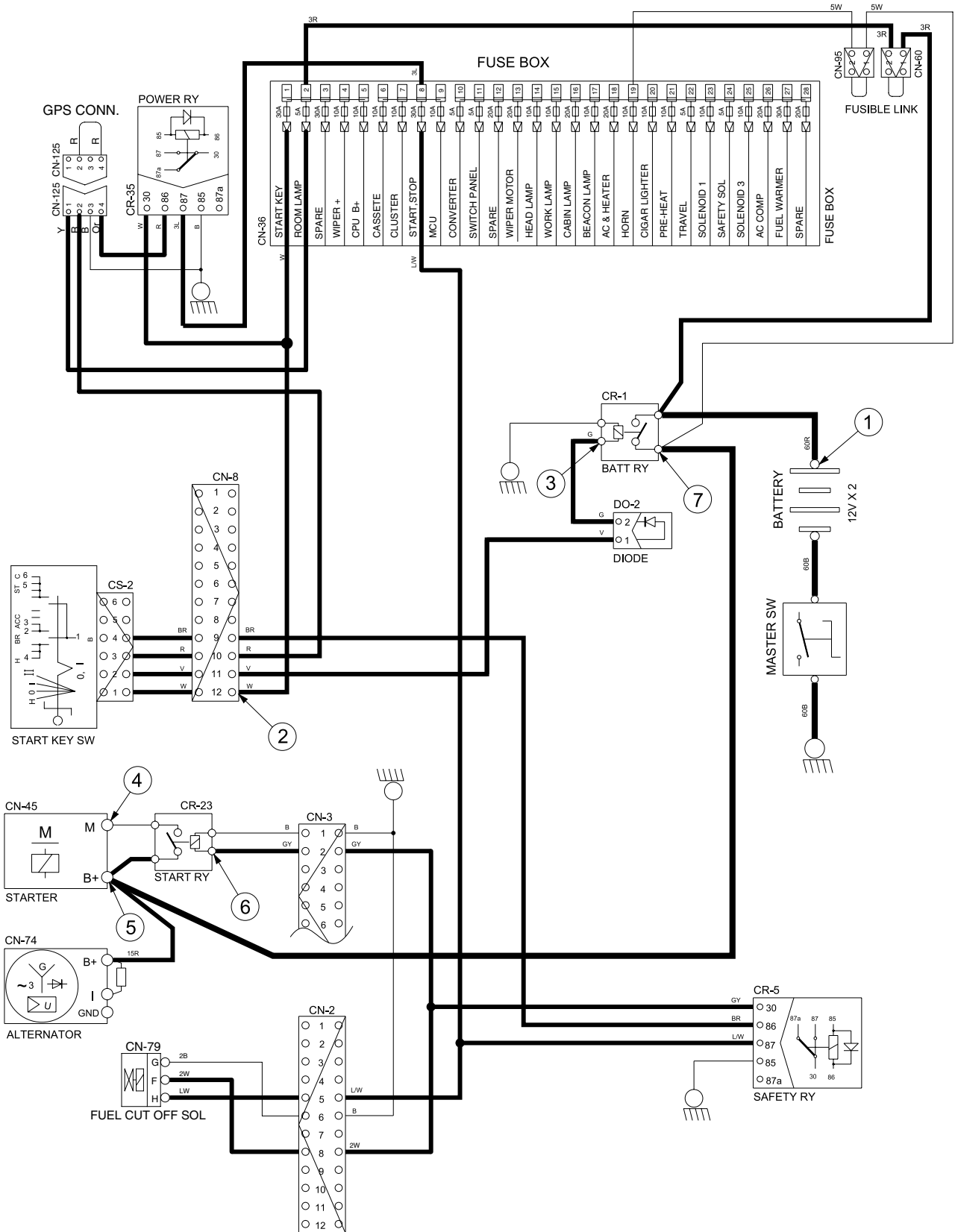
Start switch START 〔CS-2(4)〕 → I/conn 〔CN-8(9)〕 → Safety relay 〔CR-5(86) → (30)〕
 → I/conn 〔CN-3(2)〕 → Start relay 〔CR-23〕
 → I/conn 〔CN-2(8)〕 → Fuel cut off 〔CN-79(F)〕

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

※ 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-3(3)] → MCU [CN-51(9)]

Cluster charging warning lamp(Via serial interface)

(2) Charging flow

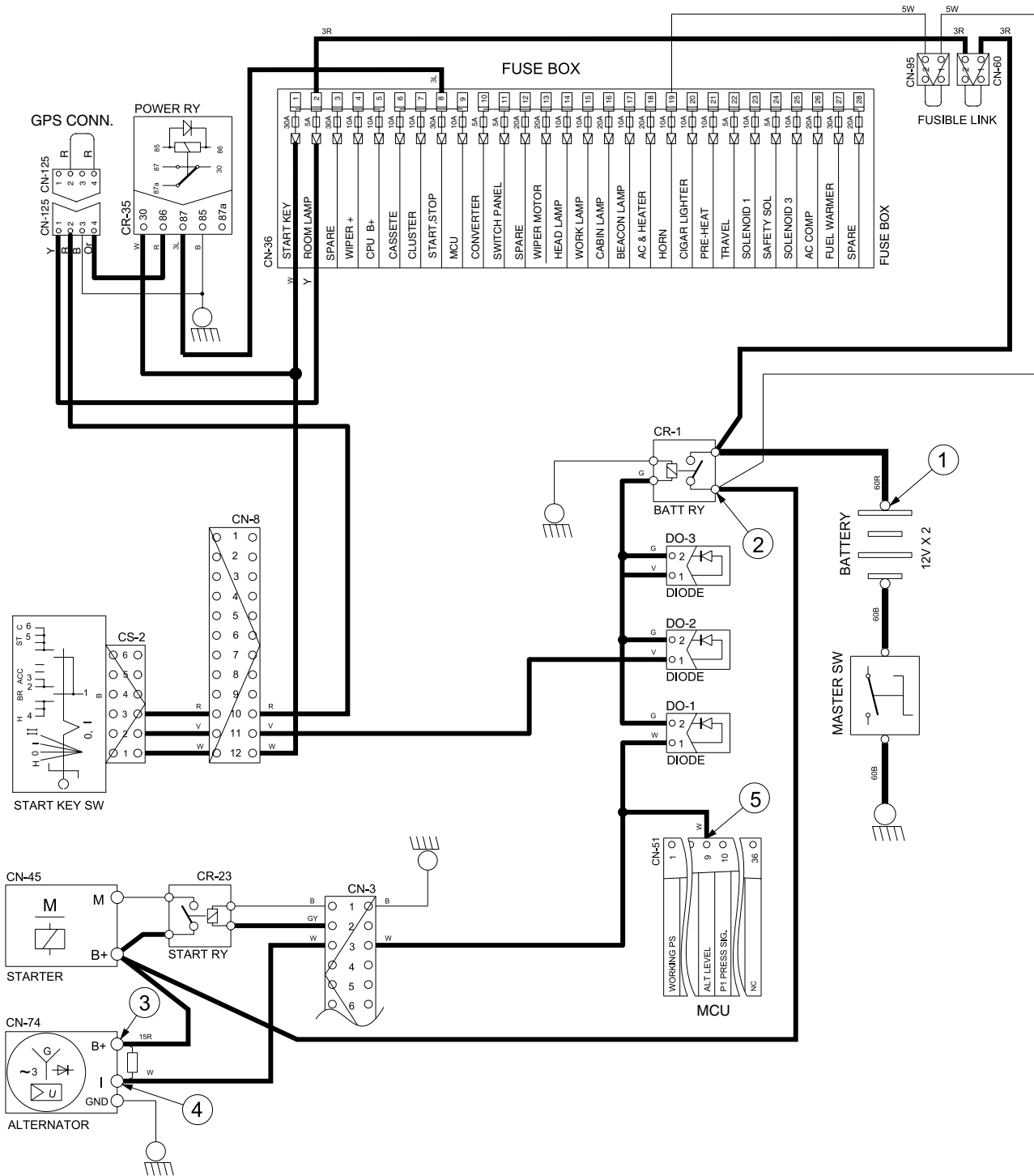
Alternator "B+" terminal → Battery relay(M8) → Battery(+) terminal
 → Fusible link [CN-60] → Fuse box

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 I terminal) ⑤ - GND(CPU)	20~30V

※ GND : Ground

CHARGING CIRCUIT



RD22074EL05

4. HEAD AND WORK LIGHT CIRCUIT

1) OPERATING FLOW

Fuse box (No.14) → I/conn [CN-7(7)] → Switch panel [CN-116(9)]

Fuse box (No.15) → 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 ON [CL-4(2)] : Head lamp ON
- I/conn [CN-10(2)] → Cassette radio illumination ON [CN-27(7)]
- I/conn [CN-11(8)] → AC & Heater controller illumination ON
- I/conn [CN-6(8)] → Cigar light [CL-2]

(2) Work light switch ON

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

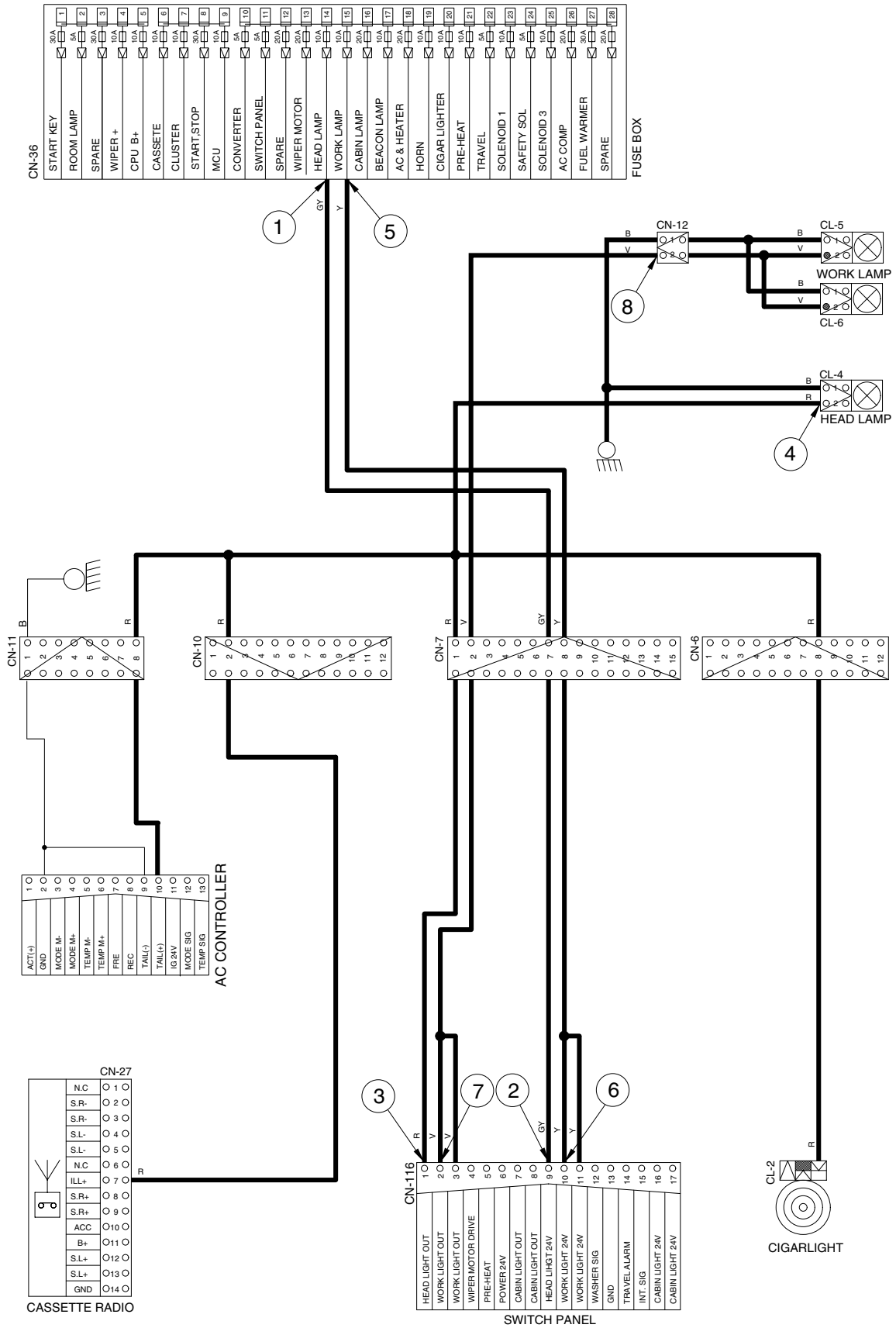
→ Work light ON [CL-5(2), CL-6(2)]

2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND(Fuse box) ② - GND(Switch power input) ③ - GND(Switch power output) ④ - GND(Head light)	20~25V
STOP	ON	⑤ - GND(Fuse box) ⑥ - GND(Switch power input) ⑦ - GND(Switch power output) ⑧ - GND(Work light)	20~25V

※ GND : Ground

HEAD AND WORK LIGHT CIRCUIT



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5. BEACON LAMP AND CAB LIGHT CIRCUIT

1) OPERATING FLOW

Fuse box (No.17) → I/conn [CN-8(3)] → Beacon lamp switch [CN-23(6)]

Fuse box (No.16) → 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 ON [CL-7]

(2) Cab light switch ON

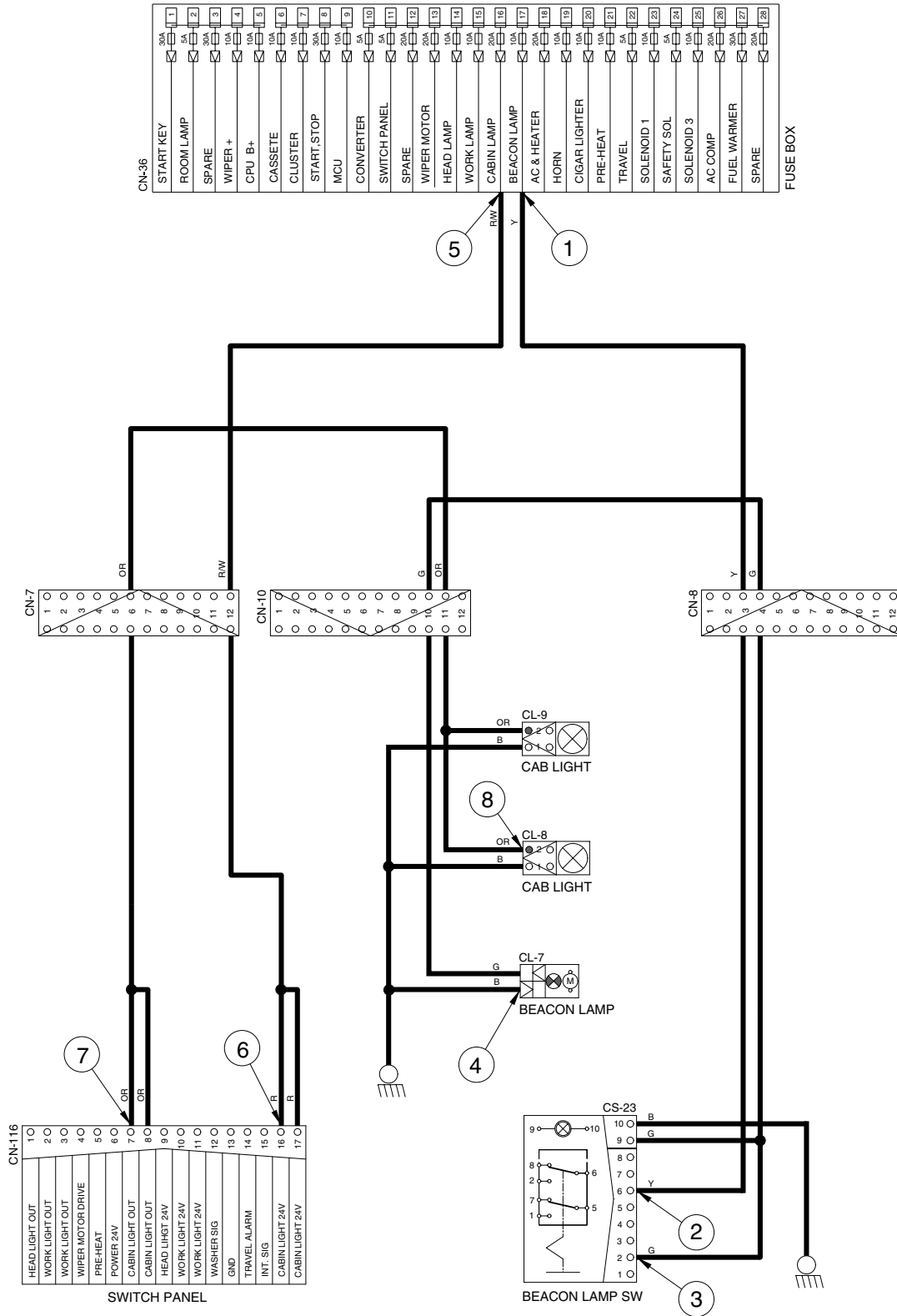
Cab light switch ON [CN-116(7, 8)] → I/conn [CN-7(6)] → I/conn [CN-10(11)]
 → Cab light ON [CL-8(2), CL-9(2)]

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)	20~25V
STOP	ON	⑤ - GND(Fuse box) ⑥ - GND(Switch power input) ⑦ - GND(Switch power output) ⑧ - 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.4) → I/conn [CN-5(4)] → I/conn [CN-17(5)] → Wiper motor controller [CN-141(7)]
 → Wiper motor [CN-21(4)]

Fuse box (No.13) → 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) → (3)] → Wiper motor intermittently operating [CN-21(6)]

(3) Wiper switch ON : 2nd step(Low speed)

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 operating [CN-21(2)]

(4) Washer switch ON

Washer switch ON [CN-116(12)] → I/conn [CN-7(9)] → I/conn [CN-5(1)] → 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)] → Washer operating

Fuse box(No.13) → I/conn [CN-6(5)] → I/conn [CN-17(4)] →

Wiper motor controller [CN-141(6) → (4)] → Wiper motor operating [CN-21(2), Low speed]

(5) Auto parking(When switch OFF)

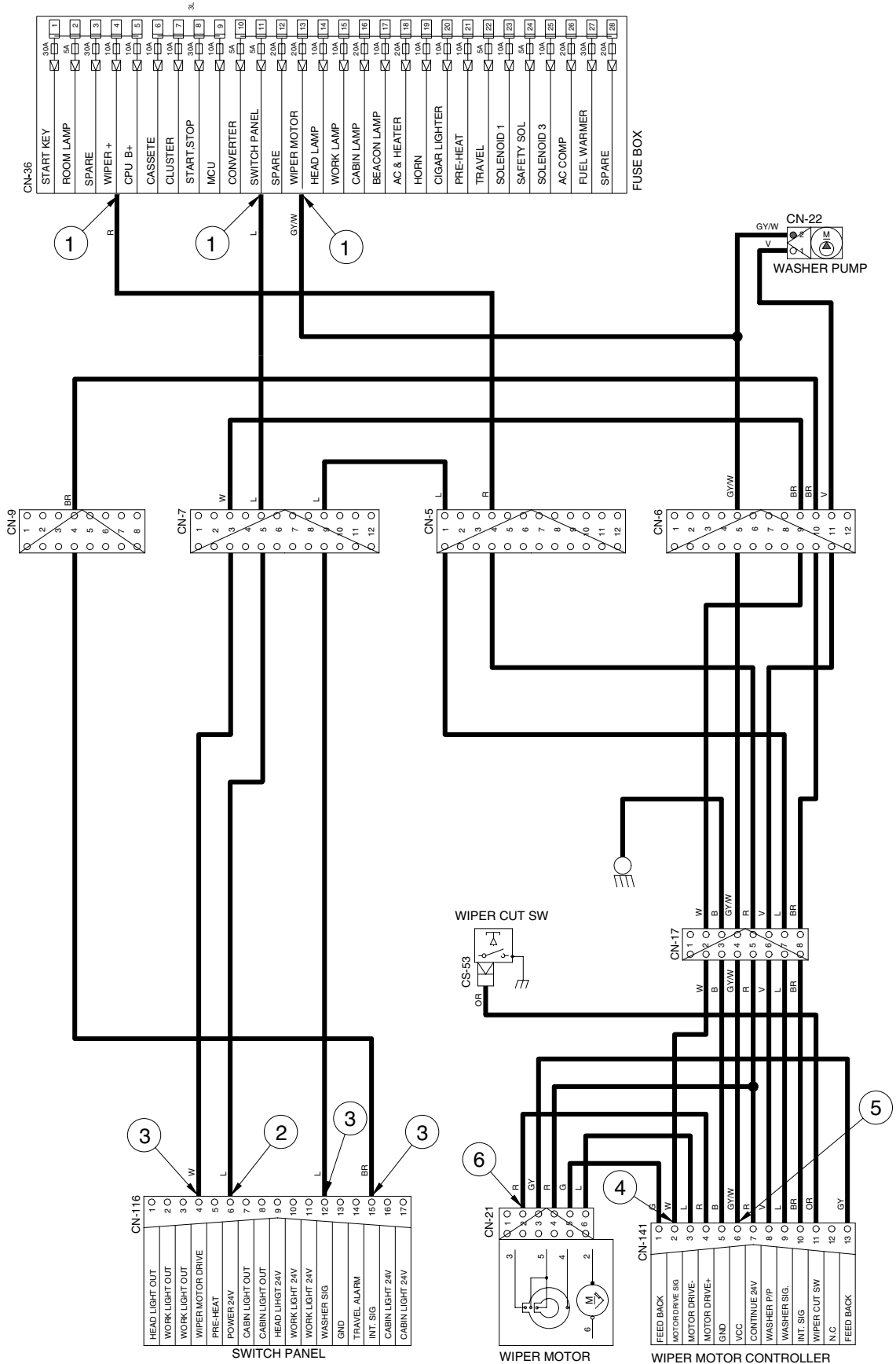
Switch OFF [CN-116(15)] → Wiper motor parking position by wiper motor controller

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)	
		⑤ - GND(Wiper power output)	0 or 24V
		⑥ - GND(Wiper motor)	

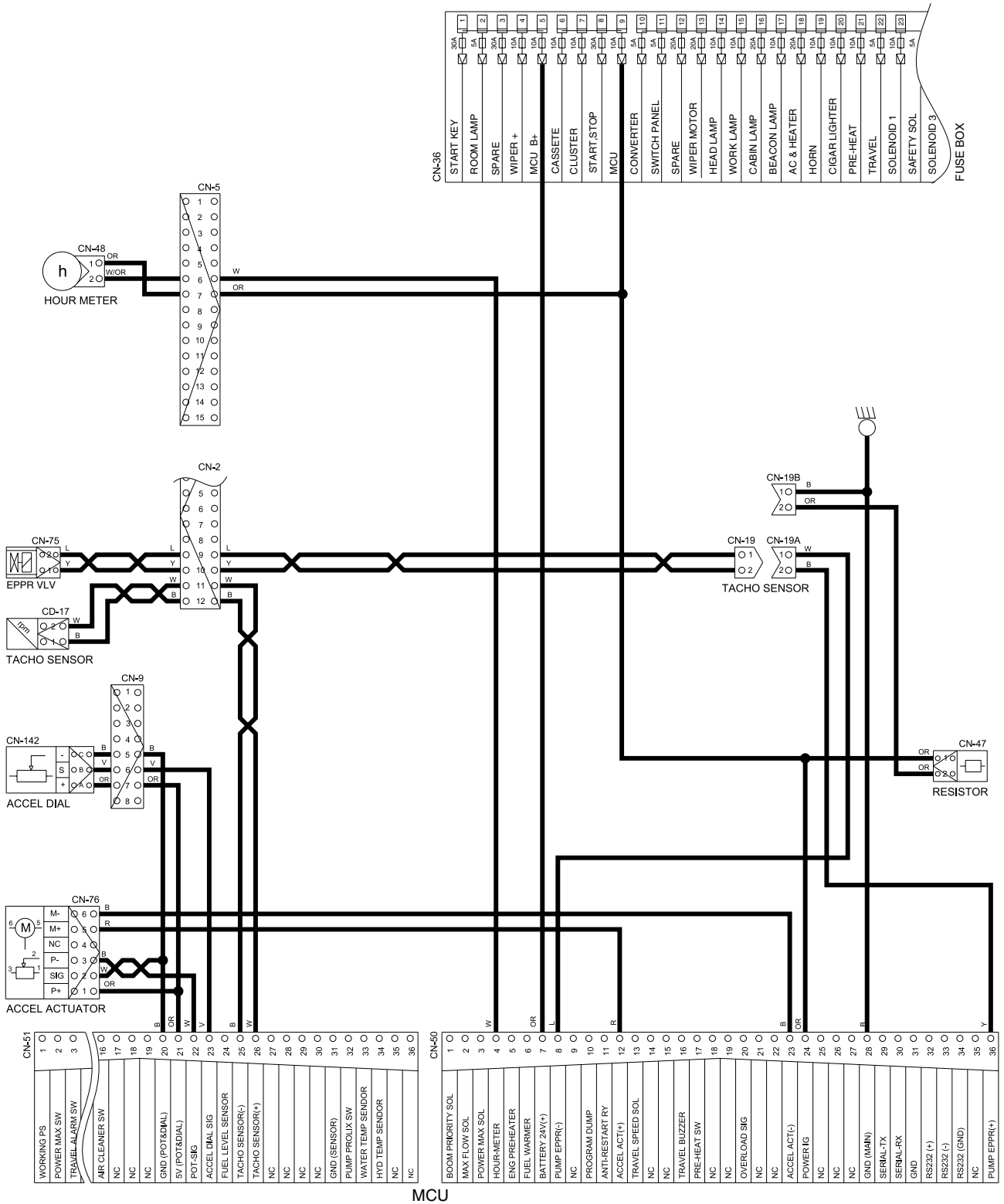
※ GND : Ground

WIPER AND WASHER CIRCUIT



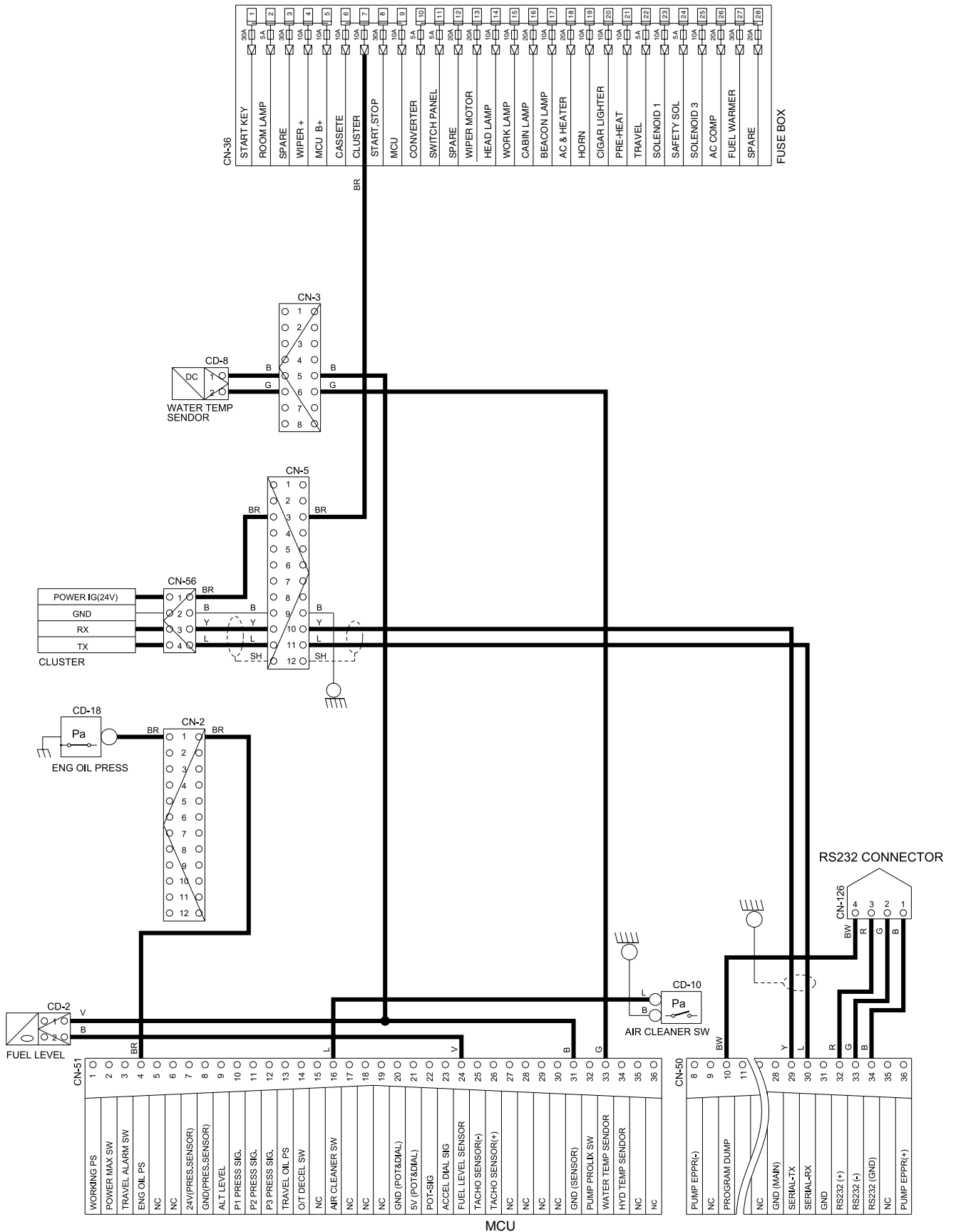
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CONTROLLER CIRCUIT



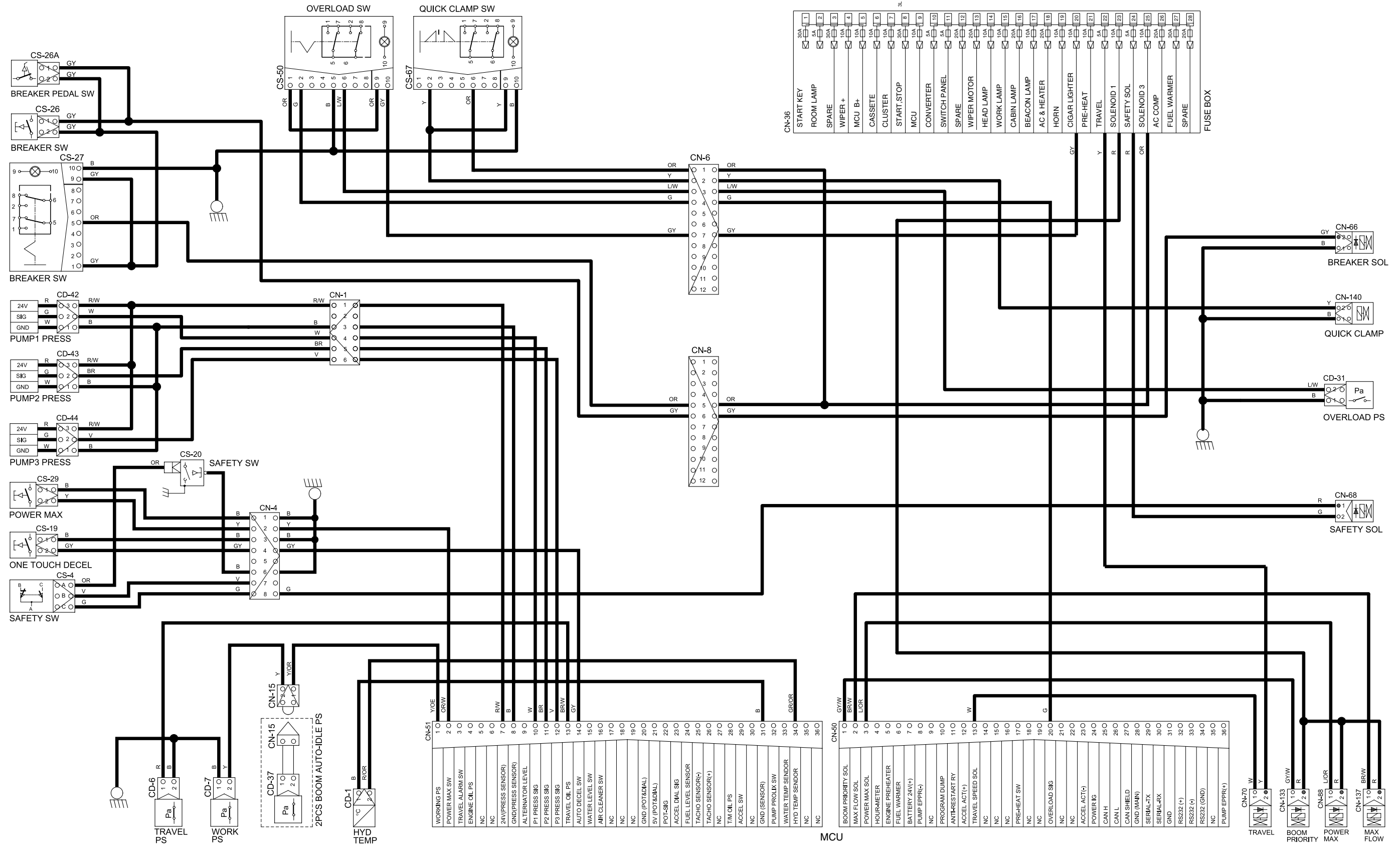
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MONITORING CIRCUIT

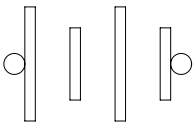
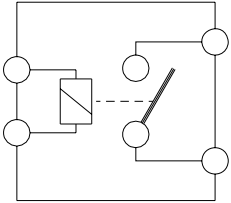
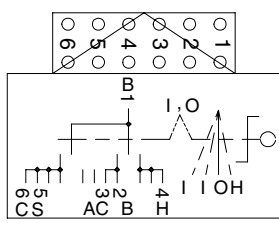
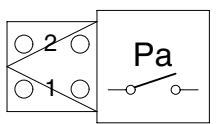
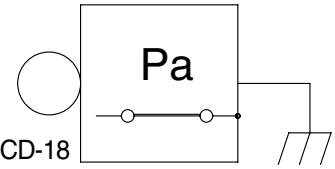


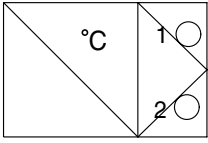
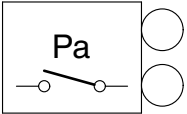
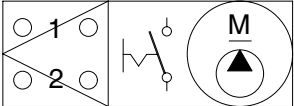
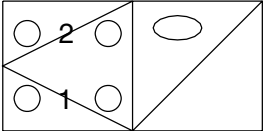
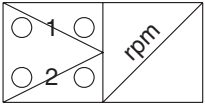
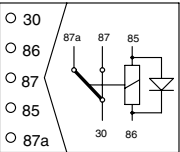
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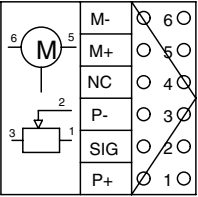
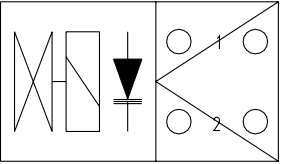
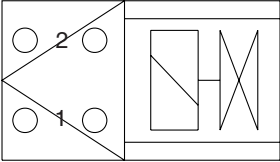
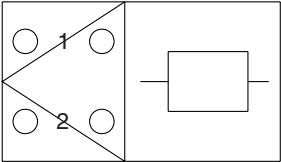
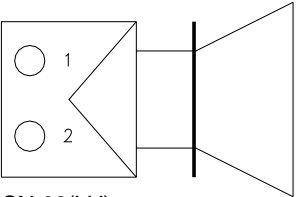
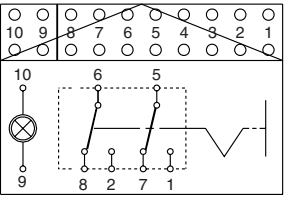
ELECTRIC CIRCUIT FOR HYDRAULIC

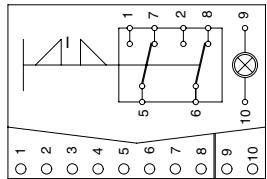
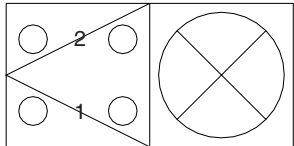
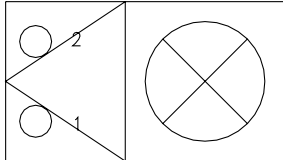
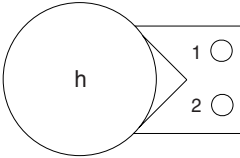
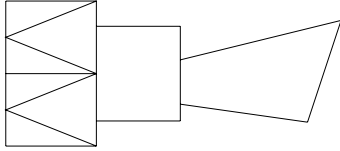
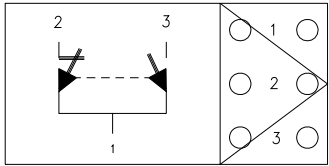


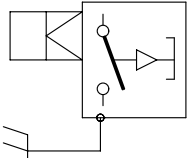
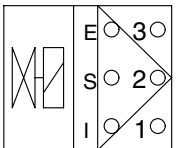
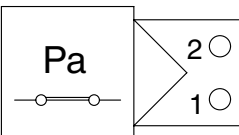
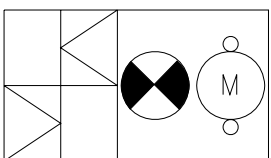
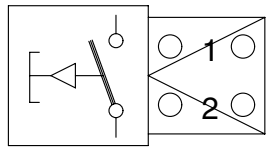
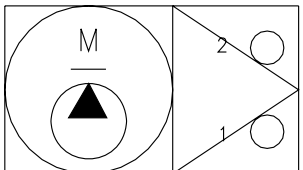
GROUP 3 ELECTRICAL COMPONENT SPECIFICATION

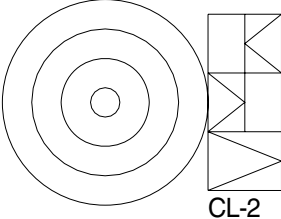
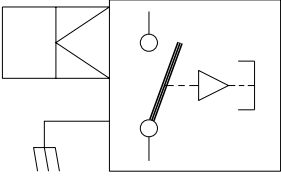
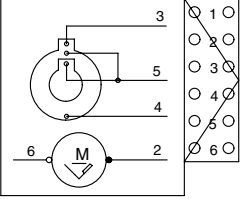
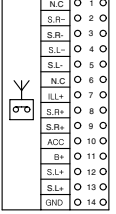
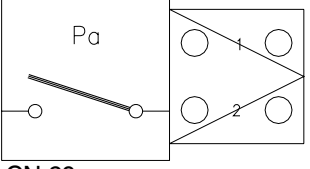
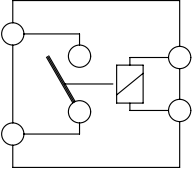
Part name	Symbol	Specification	Check
Battery		12V × 100Ah (2EA)	※ Check specific gravity 1.280 over : Over charged 1.280 ~ 1.250 : Normal 1.250 below : Recharging
Battery relay	 <p style="text-align: center;">CR-1</p>	Rated load : 24V 100A(continuity) 1000A(30seconds)	※ Check coil resistance (M4 to M4) Normal : About 50 Ω ※ Check contact Normal : ∞ Ω
Start key		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 switch (For overload)	 <p style="text-align: center;">CD-31</p>	3 ~ 6 kgf/cm ² (N.O TYPE)	※ Check contact Normal : ∞ (OPEN)
Pressure switch (For engine oil)	 <p style="text-align: center;">CD-18</p>	0.5 kgf/cm ² (N.C TYPE)	※ Check resistance Normal : 0 Ω (CLOSE)

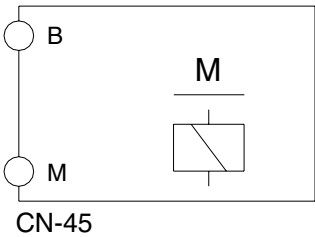
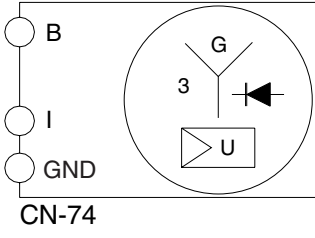
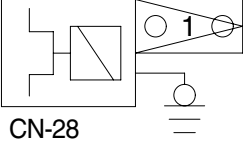
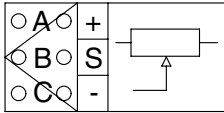
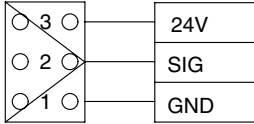
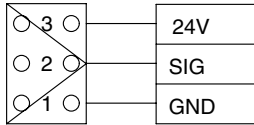
Part name	Symbol	Specification	Check
Temperature sensor	 CD-1 CD-8	-	※ Check resistance 50° C : 804 Ω 80° C : 310 Ω 100° C : 180 Ω
Air cleaner pressure switch	 CD-10	Pressure: 635mmH ₂ O (N.O TYPE)	※ Check contact Normal : ∞ Ω
Fuel filler pump	 CN-61	24V 10A 35 l /min	※ Check resistance Normal : 1.0 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
Tacho sensor	 CD-17	-	※ Check resistance Normal : 300 Ω (For terminal 1,2)
Relay (Horn, Safety, Ac comp, Power, Preheat, Fuel warmer)	 CR-2 CR-35 CR-5 CR-36 CR-7 CR-46	24V 16A0	※ Check resistance Normal : About 160 Ω (For terminal 85-86) : 0 Ω (For terminal 30-87a) : ∞ Ω (For terminal 30-87)

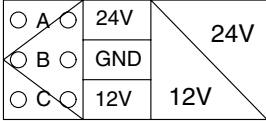
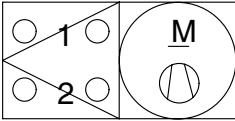
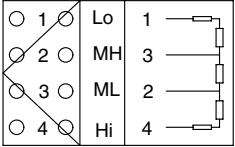
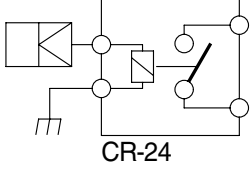
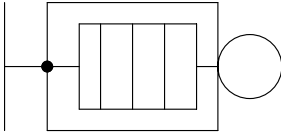
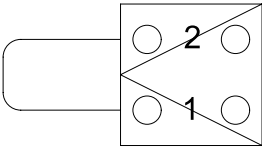
Part name	Symbol	Specification	Check
Accel actuator	 <p>CN-76</p>	-	※ Check resistance Normal : 1-2 Ω (For terminal 5-6) 0.8-1.2kΩ (For terminal 1-3)
Solenoid valve	 <p>CN-66 CN-68 CN-70 CN-88 CN-133 CN-137</p>	24V 1A	※ Check resistance Normal : 15~25 Ω (For terminal 1-2)
EPPR valve	 <p>CN-75</p>	700mA	※ Check resistance Normal : 18~25 Ω (For terminal 1-2)
Resistor	 <p>CN-47</p>	50 Ω 20W ± 5%	※ Check resistance Normal : 50 Ω
Speaker	 <p>CN-23(LH) CN-24(RH)</p>	4 Ω 20W	※ Check resistance Normal : 4 Ω
Switch (Locking type)	 <p>CS-23 CS-27 CS-50 CS-52 CS-54 CS-82</p>	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)

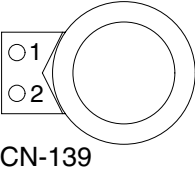
Part name	Symbol	Specification	Check
Switch (Quick clamp)	 <p>CS-67</p>	24V 8A	※ Check contact Normal ON - 0 Ω (For terminal 1-5,2-6) - ∞ Ω (For terminal 5-7,6-8) OFF - ∞ Ω (For terminal 1-5,2-6) - 0 Ω (For terminal 5-7,6-8)
Head lamp, Work lamp, Cab lamp	 <p>CL-4 CL-5 CL-8 CL-9</p>	24V 70W (H3 TYPE)	※ Check disconnection Normal : 1.2 Ω
Room lamp	 <p>CL-1</p>	24V 10W	※ Check disconnection Normal : A few Ω
Hour meter	 <p>CN-48</p>	16V ~ 32V	※ Check operation · Supply power(24V) to terminal No. 2 and connect terminal No. 1 and ground.
Horn	 <p>CN-20 CN-25</p>	DC 22.0 ~ 28.0V 2A	※ Check operation · Supply power(24V) to each terminal and connect ground.
Safety switch 1	 <p>CS-4</p>	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)

Part name	Symbol	Specification	Check
Safety switch 2 Wiper cut sw	 <p>CS-20 CS-53</p>	24V (N.C TYPE)	※ Check contact Normal : 0 Ω (one pin to ground)
Fuel cut-off	 <p>CN-79</p>	24V	※ Check resistance Normal : 15~25 Ω
Pressure switch (Travel, Work, 2pcs boom auto idle)	 <p>CD-6 CD-7 CD-37</p>	10bar (N.C type)	※ Check contact Normal : 0.1 Ω
Beacon lamp	 <p>CL-7</p>	24V 70W	※ Check disconnection Normal : 1.1 Ω
Switch (Power max, One touch decel, Breaker, Horn)	 <p>CS-5 CS-19 CS-26 CS-26A CS-29</p>	24V 6A	※ Check contact Normal : ∞ Ω
Washer tank	 <p>CN-22</p>	24V 3.8A	※ Check contact Normal : 10.7 Ω (For terminal 1-2)

Part name	Symbol	Specification	Check
Cigar lighter	 <p>CL-2</p>	24V 5A 1.4W	※ Check coil resistance Normal : About 1M Ω ※ Check contact Normal : $\infty \Omega$ Operating time : 5~15sec
Door switch	 <p>CS-1</p>	24V 2W	※ Check resistance Normal : About 5M Ω
Wiper motor	 <p>CN-21</p>	24V 2A	※ Check contact Normal : 7 Ω (For terminal 2-6)
Cassette radio	 <p>CN-27</p>	24V 2A	※ Check voltage 20 ~ 25V (For terminal 10-14,11-14)
Receiver dryer	 <p>CN-29</p>	24V 2.5A	※ Check contact Normal : 0 Ω
Start relay	 <p>CR-23</p>	24V 300A	※ Check contact Normal : 0.94 Ω (For terminal 1-2)

Part name	Symbol	Specification	Check
Starter	 <p>CN-45</p>	Delco Remy 28MT 24V	※ Check contact Normal : 0.1 Ω
Alternator	 <p>CN-74</p>	24V 60A	※ Check contact Normal : 0 Ω (For terminal B □1) Normal : 24 ~ 27.5V
Aircon compressor	 <p>CN-28</p>	24V 79W	※ Check contact Normal : 13.4 Ω
Accel dial	 <p>CN-142</p>	-	※ Check resistance Normal : About 5kΩ (For terminal A-C) ※ Check valtage Normal : About 5V (For terminal A-C) : 2 ~ 4.5V (For terminal C-B)
Transducer	 <p>CD-42 CD-43</p>	500 bar	0bar : 1V(For terminal 1-2) 500bar : 5V(For terminal 1-2)
Transducer	 <p>CD-44</p>	50 bar	0bar : 1V(For terminal 1-2) 50bar : 5V(For terminal 1-2)

Part name	Symbol	Specification	Check
DC/DC Converter	 <p>CN-138</p>	12V 3A	24V(A-B) 12V(B-C)
Blower motor		24V 9.5A	※ Check resistance 2.5 Ω (For terminal 1-2)
Aircon resistor		-	※ Check resistance 1.12 Ω (For terminal 4-2) 2.07 Ω (For terminal 2-3) 3.17 Ω (For terminal 3-1)
Preheater relay	 <p>CR-24</p>	24V 200A	※ Check contact Normal : 0.94 Ω (For terminal 1-GND)
Preheater		24V 200A	※ check resistance : 0.25 ~ 0.12 Ω
Fusible link	 <p>CN-60 CN-95</p>	60A	※ Check disconnection Normal : 0 Ω (Connect ring terminal and check resist between terminal 1 and 2)

Part name	Symbol	Specification	Check
Socket	 <p data-bbox="507 456 600 488">CN-139</p>	12V 10A	-

GROUP 4 CONNECTORS

1. CONNECTOR DESTINATION

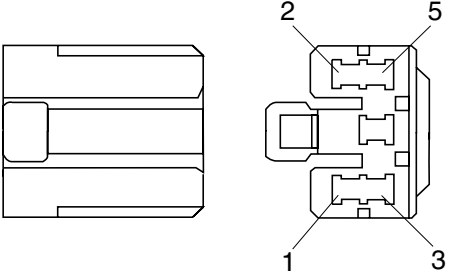
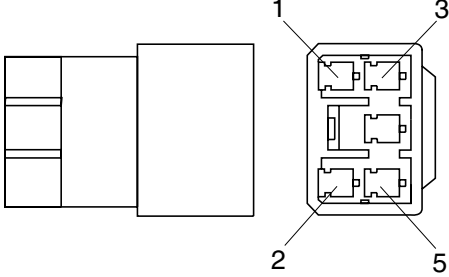
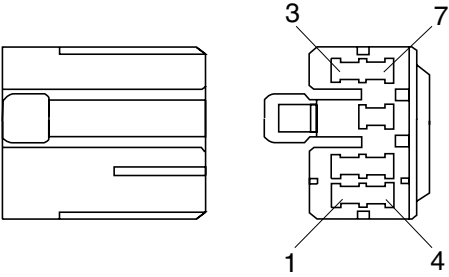
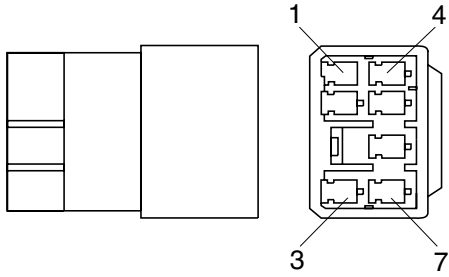
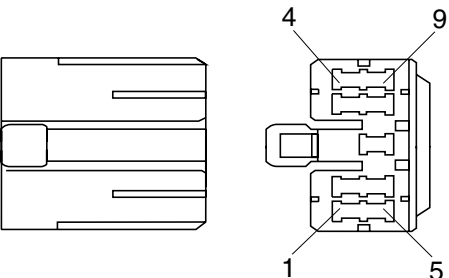
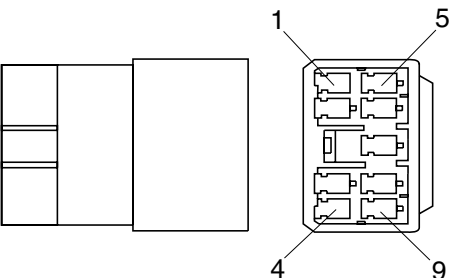
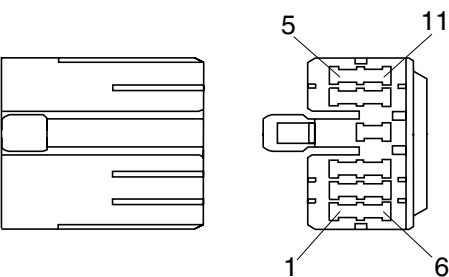
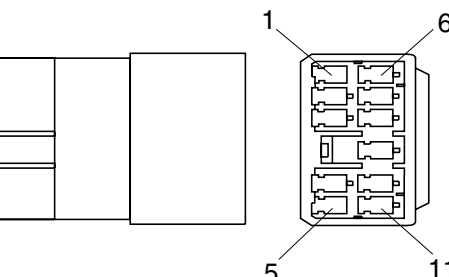
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	Econoseal J	6	l/conn(Pump ps harness-Frame harness)	S816-006002	S816-106002
CN-2	Econoseal J	12	l/conn(Engine harness 2-Frame harness)	2-85262-1	368301-1
CN-3	Econoseal J	8	l/conn(Engine harness 1-Frame harness)	S816-008002	S816-108002
CN-4	Econoseal J	8	l/conn(Console harness LH-Frame harness)	S816-008002	S816-108002
CN-5	Econoseal J	15	l/conn(Side harness RH-Frame harness)	2-85262-1	368301-1
CN-6	Econoseal J	12	l/conn(Side harness RH-Frame harness)	S816-012002	S816-112002
CN-7	Econoseal J	15	l/conn(Console harness RH-Frame harness)	2-85262-1	368301-1
CN-8	Econoseal J	12	l/conn(Console harness RH-Frame harness)	S816-012002	S816-112002
CN-9	Econoseal J	8	l/conn(Console harness RH-Frame harness)	S816-008002	S816-108002
CN-10	DEUTSCH	12	l/conn(Cab harness-Frame harness)	DT06-12S	DT04-12P
CN-11	DEUTSCH	8	l/conn(Air-con harness-Frame harness)	DT06-8S	DT04-8P
CN-12	DEUTSCH	2	Work lamp harness	DT06-2S-EP06	DT04-2P-E005
CN-15	KET	2	2pcs auto idle pressure	S814-002100	S814-102100
CN-17	DEUTSCH	8	l/conn(Side harness RH-Wiper motor harness)	DT06-8S	DT04-8P
CN-19	AMP	2	Emergency MCU connector	S816-002002	S816-102002
CN-20	MOLEX	2	Horn	36825-0211	-
CN-21	AMP	6	Wiper motor	925276-0	-
CN-22	KET	2	Washer tank	MG640605	-
CN-23	KET	2	LH speaker	MG610070	-
CN-24	KET	2	RH speaker	MG610070	-
CN-25	MOLEX	2	Horn	36825-0211	-
CN-27	AMP	14	Cassette radio	173852	-
CN-28	MWP	1	Air-con compressor	MWP01F-B	-
CN-29	KET	2	Receiver dryer	MG640795	-
CN-36	DEUTSCH	3	Fuse box	21N8-20041	-
CN-45	RING TERM	-	Start motor B ⁺	ST710264-2	-
CN-47	AMP	2	Resistor	S810-002202	S810-102202
CN-48	AMP	2	Hour meter	GP890469	-
CN-50	AMP	36	MCU	3441110	-
CN-51	AMP	36	MCU	3441110	-
CN-56	DEUTSCH	4	Cluster	-	DT04-4P-E004
CN-60	YAZAKI	2	Fusible link	7123-4125-50	7122-4125-50
CN-61	DEUTSCH	2	Fuel filler pump	DT06-2S-EP06	-
CN-66	DEUTSCH	2	Breaker solenoid	DT06-2S-EP06	DT04-2P-E005
CN-68	DEUTSCH	2	Safety solenoid	DT06-2S-EP06	DT04-2P-E005
CN-70	DEUTSCH	2	Travel speed solenoid	DT06-2S-EP06	-
CN-74	-	4	Alternator "1" term	1218-6568	-
CN-75	Econoseal J	2	EPPR valve	S816-002002	-

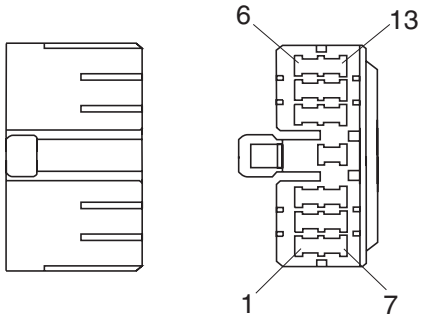
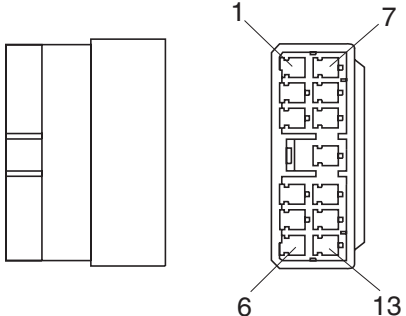
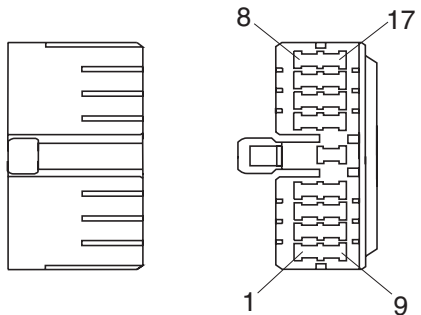
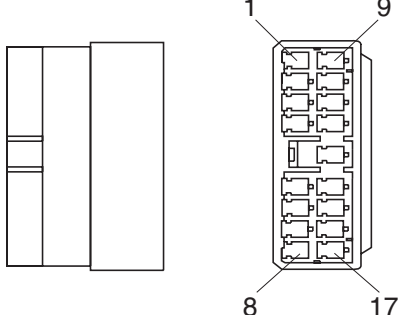
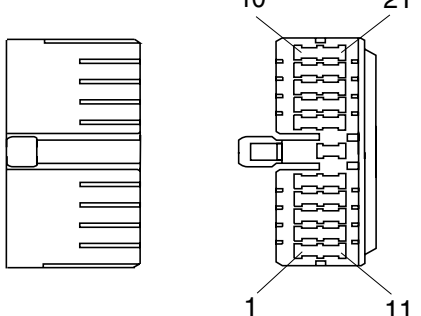
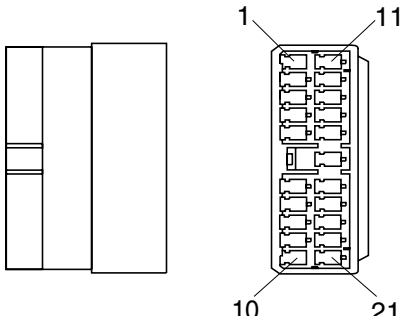
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-76	DEUTSCH	6	DC motor	DT06-6S-EP06	-
CN-79	RING-TERM	3	Fuel cut-off	ST710289-2	-
CN-88	DEUTSCH	2	Power max solenoid valve	DT06-2S-EP06	-
CN-92	SWP	1	Emergency engine starting connector	S814-001101	S814-101101
CN-95	KET	2	Fusible link	S813-030201	S813-130200
CN-116	PA	17	Switch panel	S811-017002	-
CN-126	DEUTSCH	4	RS232 connector	DT06-4S-EP06	DT04-4P-E005
CN-133	DEUTSCH	2	Boom priority solenoid valve	DT06-2S-EP06	-
CN-137	DEUTSCH	2	Max flow solenoid valve	DT06-2S-EP06	-
CN-138	DEUTSCH	3	DC/DC converter	DT06-3S-P012	DT04-3P-E004
CN-139	DEUTSCH	2	12V Socket	DT06-2S-EP06	DT04-2P-E004
CN-141	AMP	13	Wiper motor control unit	172498-1	-
CN-142	DEUTSCH	3	Accel dial	DT06-3S-P012	-
CN-143	KET	14	Cassette radio(with remocon)	S816-002002	-
CN-144	AMP	12	Remocon-cassette radio	174045-2	-
CN-147	-	2	Fuel heater	1530-0027	1530-0002
CN-248	-	2	Fan	S816-002002	S816-102002
RELAY					
CR-1	RING TERM	1	Battery relay	S820-104002	-
CR-2	-	5	Horn relay	-	-
CR-5	-	5	Safety relay	-	-
CR-7	-	5	Ac comp relay	-	-
CR-23	KET	2	Start relay	S814-002001	S814-102001
CR-24	RING TERM	1	Pre-heater relay	S820-105000	-
CR-35	-	5	Power relay	-	-
CR-36	-	5	Pre-heat relay	-	-
CR-46	KET	5	Fuel warmer	MG640927	-
SWITCH					
CS-1	SHUR	1	Door switch	S822-014004	-
CS-2	-	6	Start key switch	S814-006000	S814-106000
CS-4	DEUTSCH	3	Safety switch	DT06-3S-P012	DT04-3P-E004
CS-5	DEUTSCH	2	Horn switch	DT06-2S	DT04-2P-E004
CS-19	DEUTSCH	2	One touch decel	DT06-2S-EP06	DT04-2P-E004
CS-20	AMP	1	Safety switch	S822-014002	-
CS-23	SWF	10	Beacon lamp switch	SWF593757	-
CS-26	DEUTSCH	2	Breaker switch	DT06-2S-P012	DT04-2P-E004
CS-26A	Econoseal J	2	Breaker pedal	S816-002002	S816-102002
CS-27	SWF	10	Breaker switch	SWF593757	-
CS-29	DEUTSCH	2	Power max switch	DT06-2S-P012	DT04-2P-E004
CS-50	SWF	10	Overload switch	SWF593757	-
CS-52	SWF	10	Spare switch	SWF593757	-

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CS-53	SHUR	1	Wiper cut switch	S822-014002	-
CS-54	SWF	10	Spare switch	SWF593757	-
CS-67	SWF	10	Quick clamp switch	SWF593757	-
CS-82	SWF	10	Fan switch	SWF593757	-
LAMP					
CL-1	KET	2	Cabin room lamp	MG610392	-
CL-2	AMP	1	Cigar light	S822-014002	-
CL-4	DEUTSCH	2	Head lamp	DT06-2S-EP06	DT04-2P-E005
CL-5	DEUTSCH	2	Work lamp	DT06-2S-EP06	DT04-2P-E005
CL-7	SHUR	1	Beacon lamp	S822-014004	S822-114004
CL-8	DEUTSCH	2	Cabin ligh-LH	DT06-2S-EP06	DT04-2P-E005
CL-9	DEUTSCH	2	Cabin light-RH	DT06-2S-EP06	DT04-2P-E005
SENDER					
CD-1	AMP	2	Hydraulic oil temp sender	85202-1	-
CD-2	DEUTSCH	2	Fuel sender	DT06-2S-EP06	DT04-2P-E005
CD-6	KET	3	Travel pressure switch	MG640795	-
CD-7	KET	3	Working pressure switch	MG640795	-
CD-8	AMP	2	Water temp sender	85202-1	-
CD-10	RING TERM	1	Air cleaner switch	S820-104002	-
CD-17	-	2	Tacho sensor	-	S818-120221
CD-18	RING TERM	1	Engine oil pressure switch	S820-104000	-
CD-31	DEUTSCH	2	Overload pressure switch	DT06-2S-EP06	DT04-2P-E005
CD-42	Econoseal J	3	Pump pressure 1	S816-003002	S816-103002
CD-43	Econoseal J	3	Pump pressure 2	S816-003002	S816-103002
CD-44	Econoseal J	3	Pump pressure 3	S816-003002	S816-103002
DIODE					
DO-1	AMP	2	-	21EA-50550	-
DO-2	AMP	2	-	21EA-50550	-
DO-3	AMP	2	-	21EA-50550	-
DO-5	AMP	2	-	21EA-50570	-

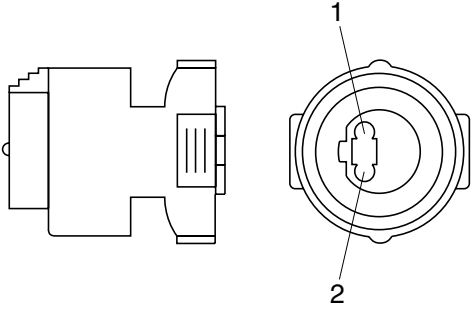
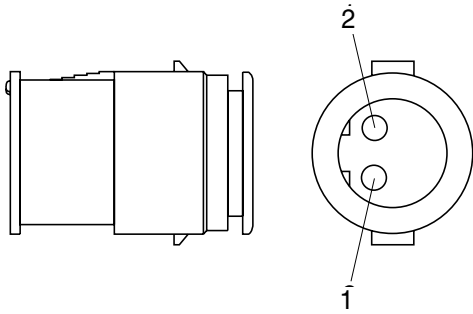
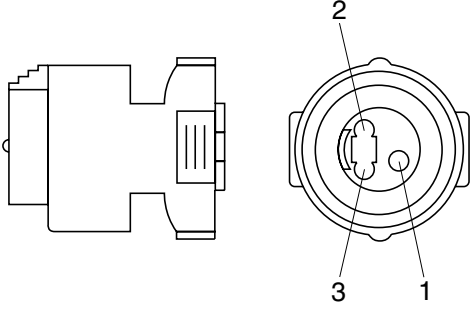
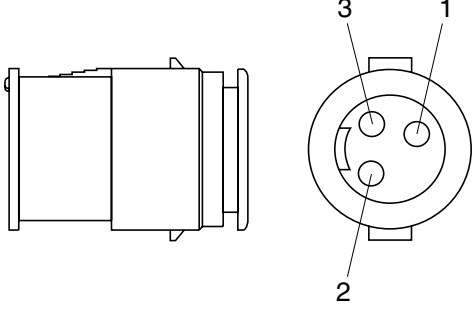
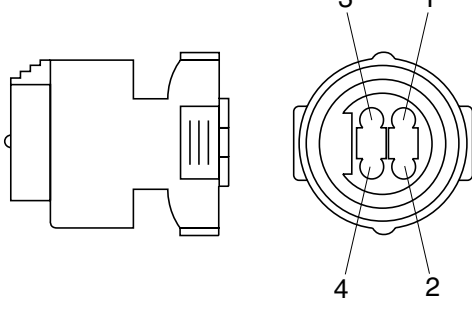
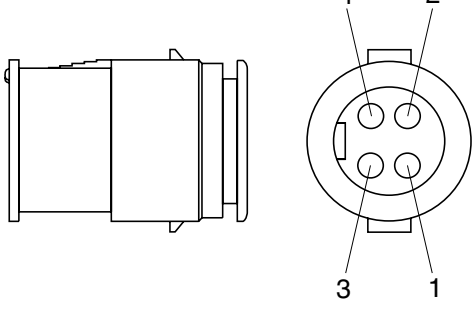
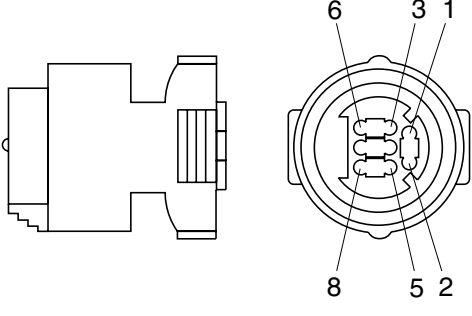
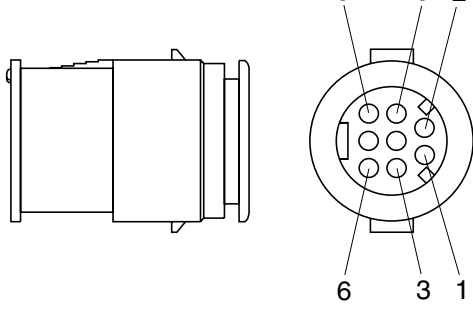
2. CONNECTION TABLE FOR CONNECTORS

1) PA TYPE CONNECTOR

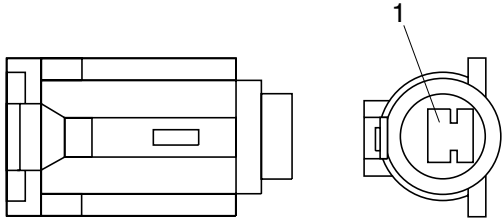
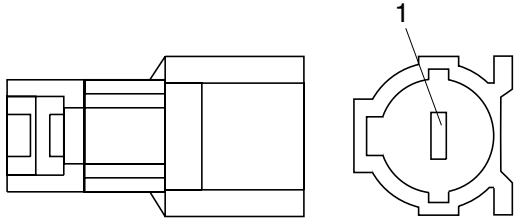
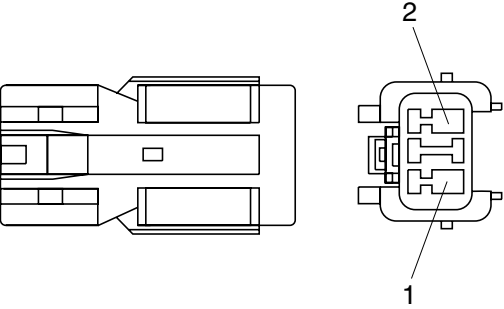
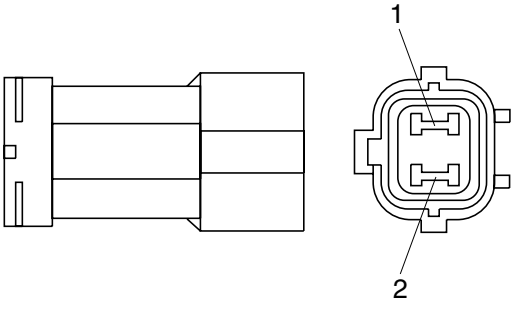
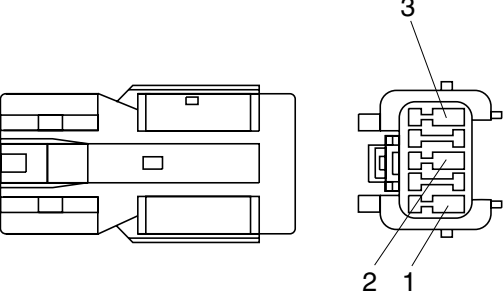
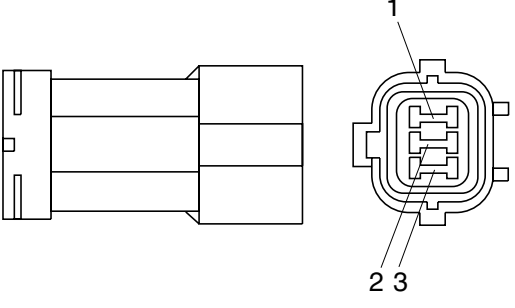
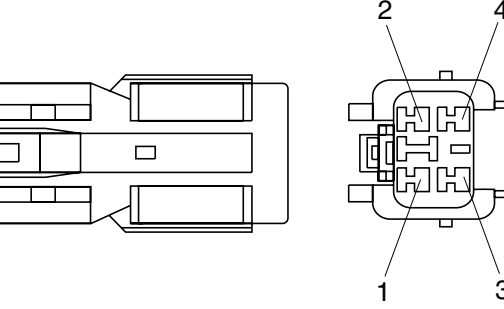
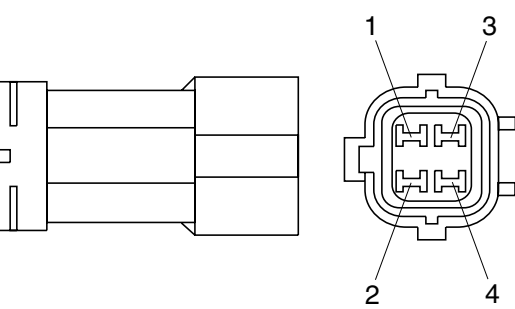
No. of pin	Receptacle connector(Female)	Plug connector(Male)
5	 <p style="text-align: center;">S811-005002</p>	 <p style="text-align: center;">S811-105002</p>
7	 <p style="text-align: center;">S811-007002</p>	 <p style="text-align: center;">S811-107002</p>
9	 <p style="text-align: center;">S811-009002</p>	 <p style="text-align: center;">3S811-109002</p>
11	 <p style="text-align: center;">S811-011002</p>	 <p style="text-align: center;">S811-111002</p>

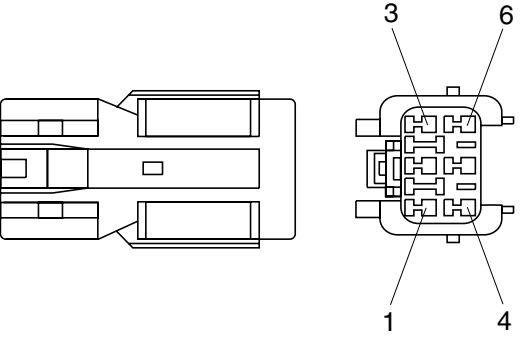
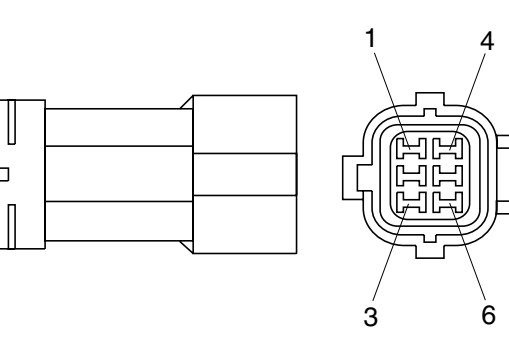
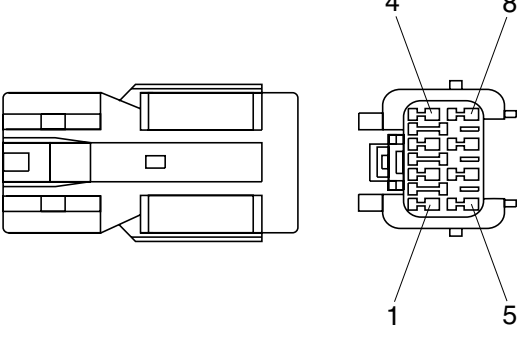
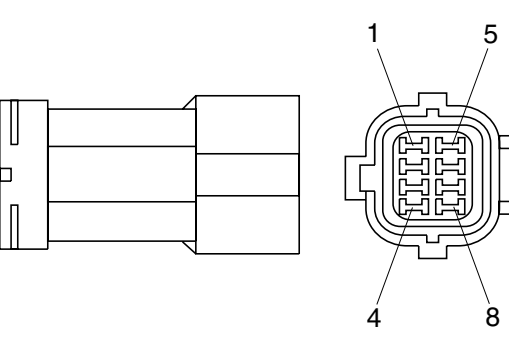
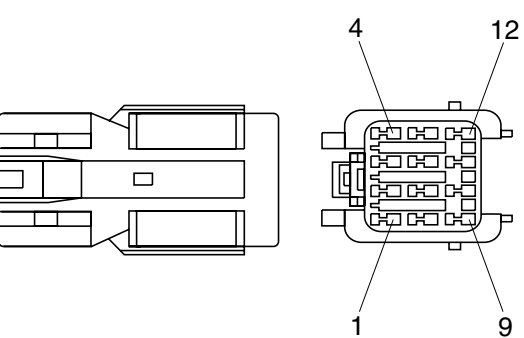
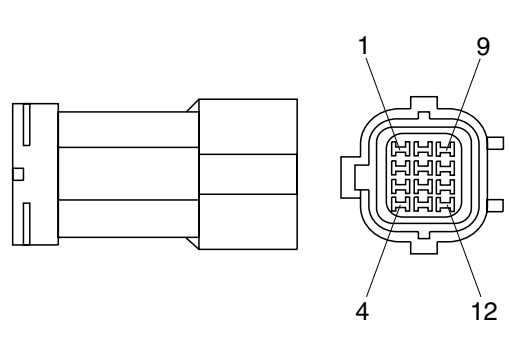
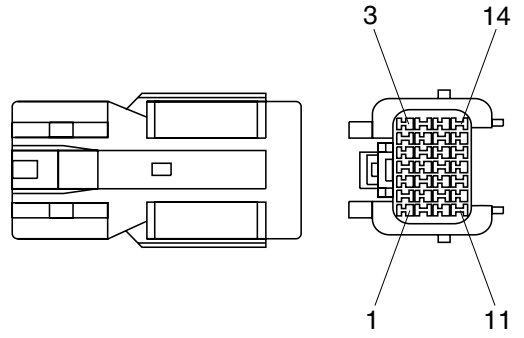
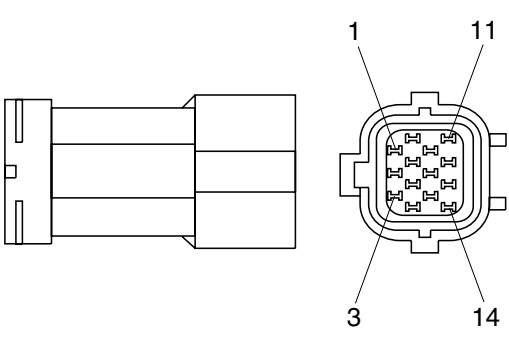
No. of pin	Receptacle connector(Female)	Plug connector(Male)
13	 <p style="text-align: center;">S811-013002</p>	 <p style="text-align: center;">S811-113002</p>
17	 <p style="text-align: center;">S811-017002</p>	 <p style="text-align: center;">S811-117002</p>
21	 <p style="text-align: center;">S811-021002</p>	 <p style="text-align: center;">S811-121002</p>

2) J TYPE CONNECTOR

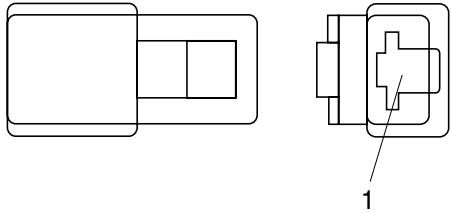
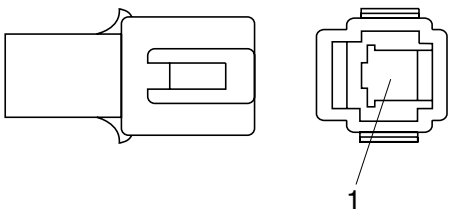
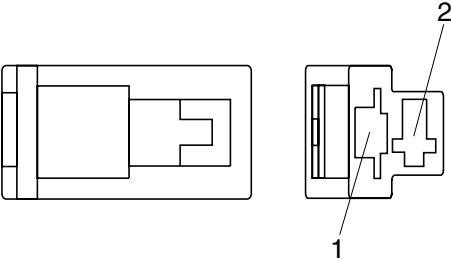
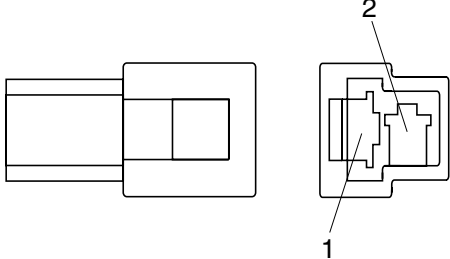
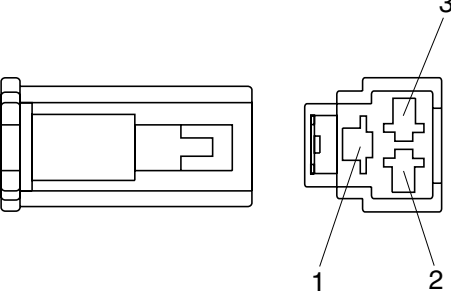
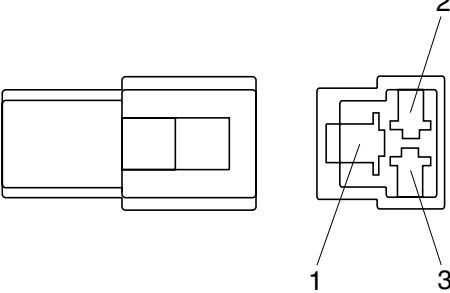
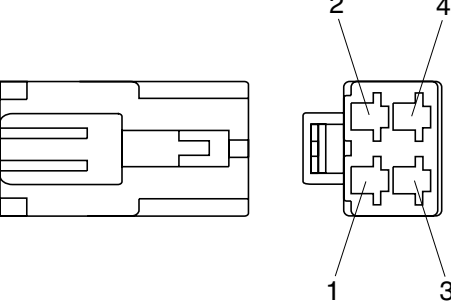
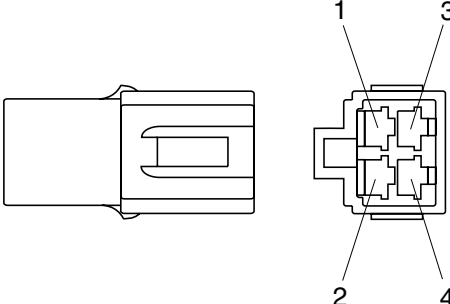
No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p style="text-align: center;">S816-002001</p>	 <p style="text-align: center;">S816-102001</p>
3	 <p style="text-align: center;">S816-003001</p>	 <p style="text-align: center;">S816-103001</p>
4	 <p style="text-align: center;">S816-004001</p>	 <p style="text-align: center;">S816-104001</p>
8	 <p style="text-align: center;">S816-008001</p>	 <p style="text-align: center;">S816-108001</p>

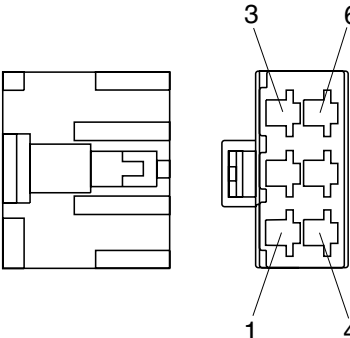
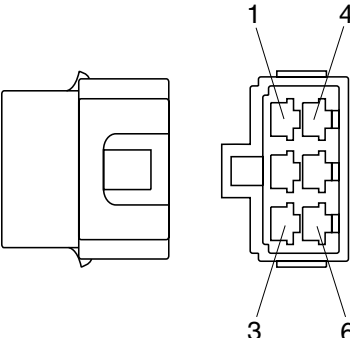
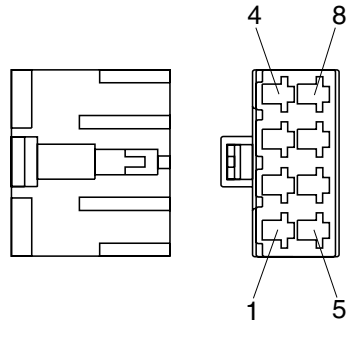
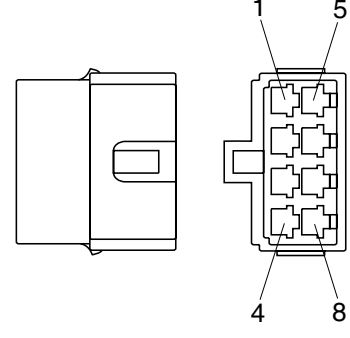
3) SWP TYPE CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
1	 <p data-bbox="689 674 837 703">S814-001000</p>	 <p data-bbox="1246 674 1394 703">S814-101000</p>
2	 <p data-bbox="689 1077 837 1106">S814-002000</p>	 <p data-bbox="1246 1077 1394 1106">S814-102000</p>
3	 <p data-bbox="689 1487 837 1516">S814-003000</p>	 <p data-bbox="1246 1487 1394 1516">S814-103000</p>
4	 <p data-bbox="689 1883 837 1912">S814-004000</p>	 <p data-bbox="1246 1883 1394 1912">S814-104000</p>

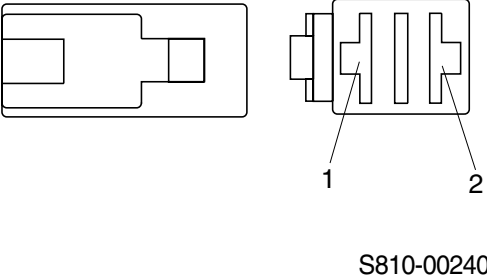
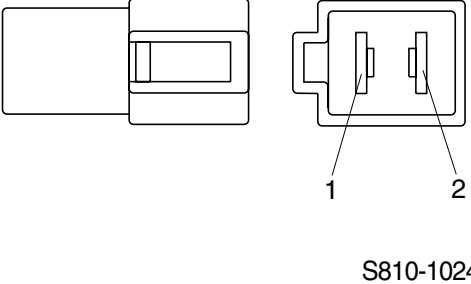
No. of pin	Receptacle connector(Female)	Plug connector(Male)
6	 <p data-bbox="686 627 837 660">S814-006000</p>	 <p data-bbox="1244 627 1396 660">S814-106000</p>
8	 <p data-bbox="686 1041 837 1075">S814-008000</p>	 <p data-bbox="1244 1041 1396 1075">S814-108000</p>
12	 <p data-bbox="686 1444 837 1478">S814-012000</p>	 <p data-bbox="1244 1444 1396 1478">S814-112000</p>
14	 <p data-bbox="686 1848 837 1881">S814-014000</p>	 <p data-bbox="1244 1848 1396 1881">S814-114000</p>

4) CN TYPE CONNECTOR

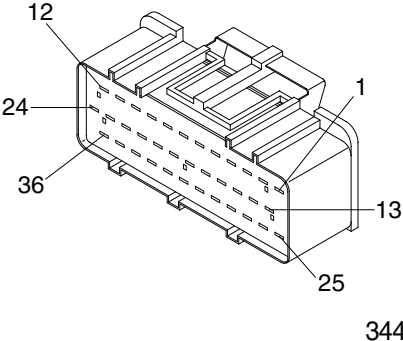
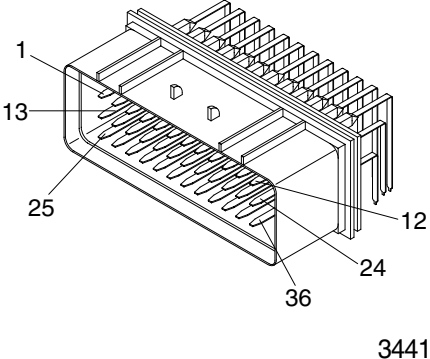
No. of pin	Receptacle connector(Female)	Plug connector(Male)
1	 <p style="text-align: center;">S810-001202</p>	 <p style="text-align: center;">S810-101202</p>
2	 <p style="text-align: center;">S810-002202</p>	 <p style="text-align: center;">S810-102202</p>
3	 <p style="text-align: center;">S810-003202</p>	 <p style="text-align: center;">S810-103202</p>
4	 <p style="text-align: center;">S810-004202</p>	 <p style="text-align: center;">S810-104202</p>

No. of pin	Receptacle connector(Female)	Plug connector(Male)
6	 <p data-bbox="686 627 837 660">S810-006202</p>	 <p data-bbox="1244 627 1396 660">S810-106202</p>
8	 <p data-bbox="686 1041 837 1075">S810-008202</p>	 <p data-bbox="1244 1041 1396 1075">S810-108202</p>

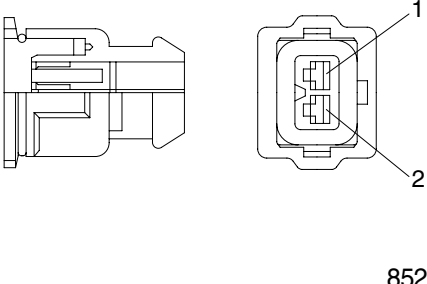
5) 375 FASTEN TYPE CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p style="text-align: center;">S810-002402</p>	 <p style="text-align: center;">S810-102402</p>

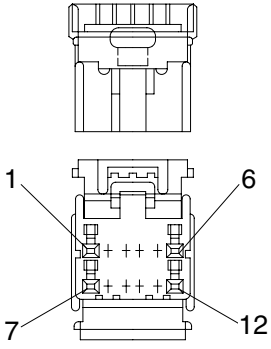
6) AMP ECONOSEAL CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
36	 <p style="text-align: center;">344111-1</p>	 <p style="text-align: center;">344108-1</p>

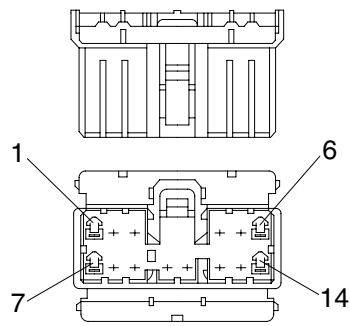
7) AMP TIMER CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p style="text-align: center;">85202-1</p>	

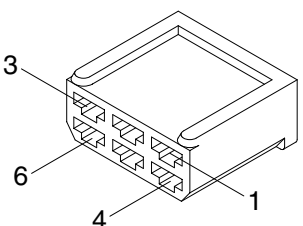
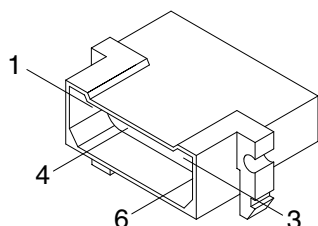
8) AMP 040 MULTILOCK CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
12	 <p style="text-align: right;">174045-2</p>	

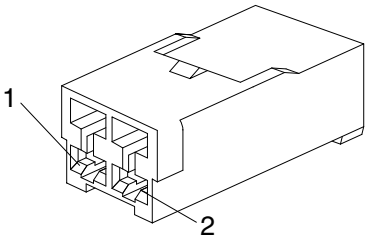
9) AMP 070 MULTILOCK CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
14	 <p style="text-align: right;">173852</p>	

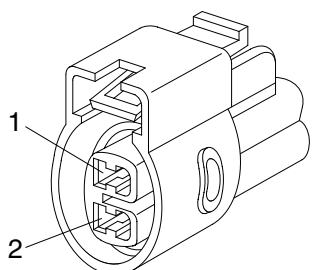
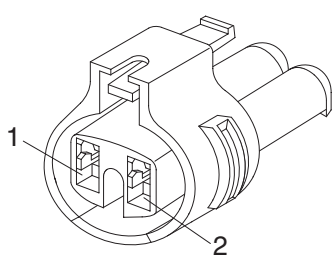
10) AMP FASTIN - FASTON CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
6	 <p style="text-align: right;">925276-0</p>	 <p style="text-align: right;">480003-9</p>

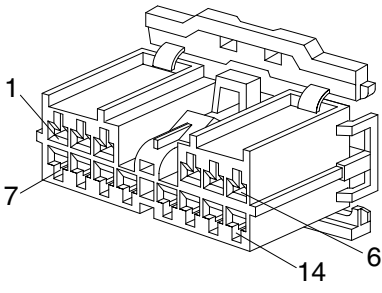
11) KET 090 CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p style="text-align: right;">MG610070</p>	

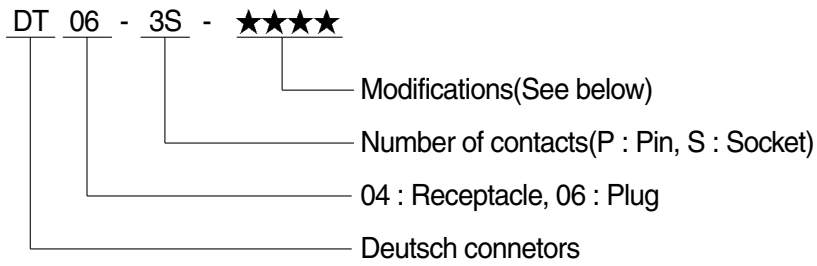
12) KET 090 WP CONNECTORS

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p style="text-align: right;">MG640605</p>	
2	 <p style="text-align: right;">MG640795</p>	

13) KET SDL CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
14	 <p data-bbox="715 674 837 705">MG610406</p>	

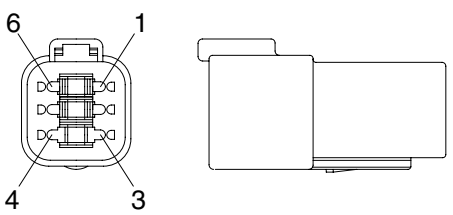
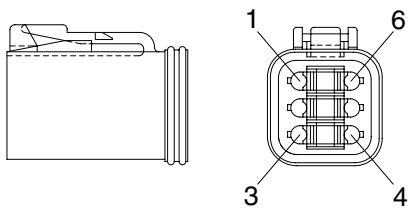
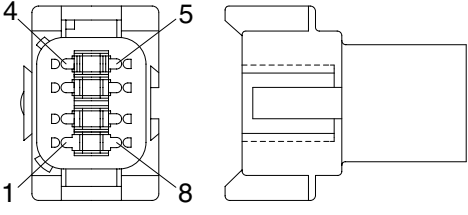
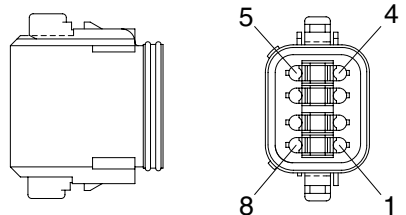
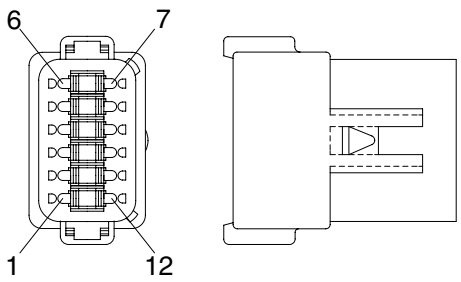
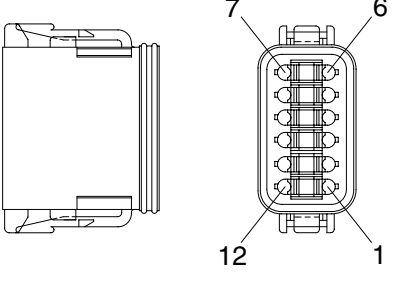
14) DEUTSCH DT CONNECTORS



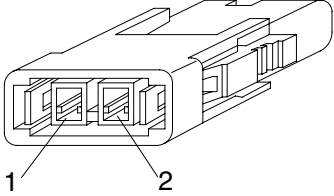
※ Modification

- 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

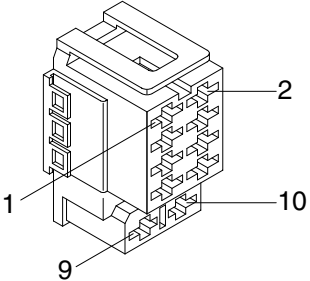
No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	<p style="text-align: right;">DT06-2S</p>	<p style="text-align: right;">DT04-2P</p>
3	<p style="text-align: right;">DT06-3S</p>	<p style="text-align: right;">DT04-3P</p>
4	<p style="text-align: right;">DT06-4S</p>	<p style="text-align: right;">DT04-4P</p>

No. of pin	Receptacle connector(Female)	Plug connector(Male)
6	 <p style="text-align: right;">DT06-6S</p>	 <p style="text-align: right;">DT04-6P</p>
8	 <p style="text-align: right;">DT06-8S</p>	 <p style="text-align: right;">DT04-8P</p>
12	 <p style="text-align: right;">DT06-12S</p>	 <p style="text-align: right;">DT04-12P</p>

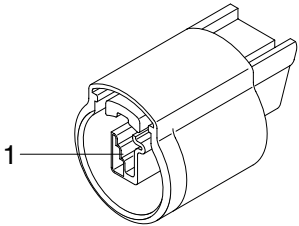
15) MOLEX 2CKTS CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p data-bbox="703 674 839 703">35215-0200</p>	

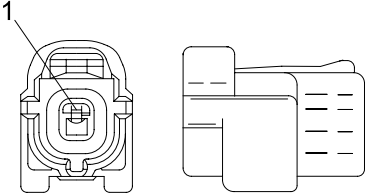
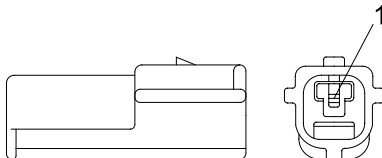
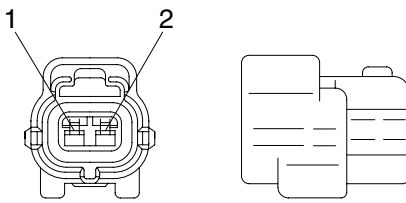
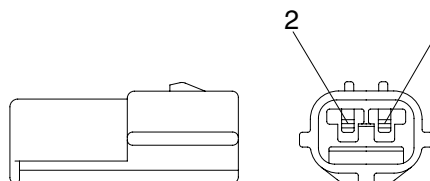
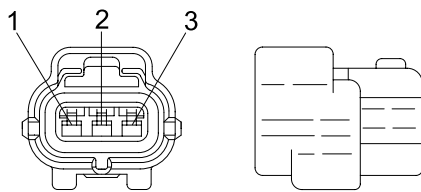
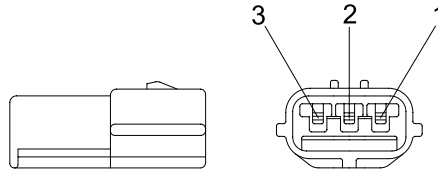
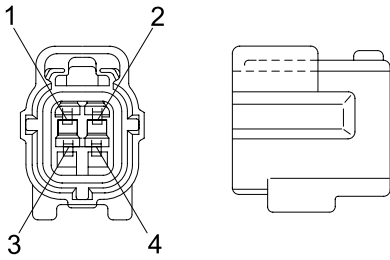
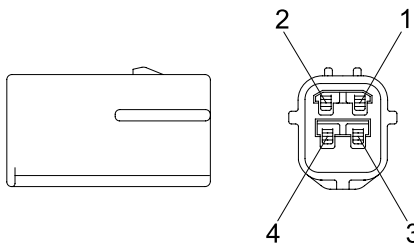
16) ITT SWF CONNECTOR

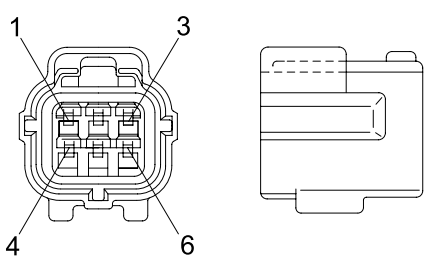
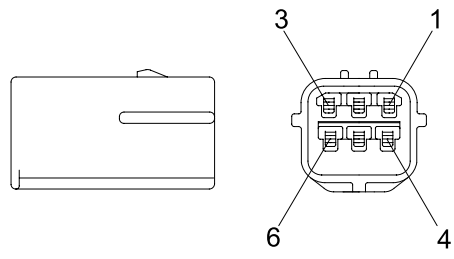
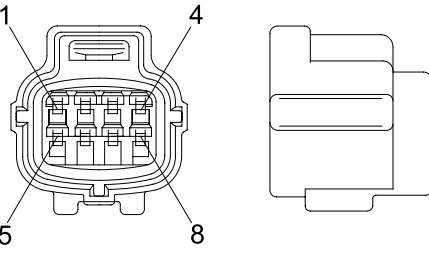
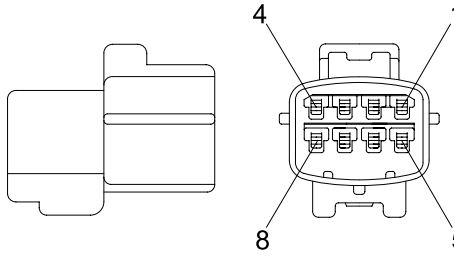
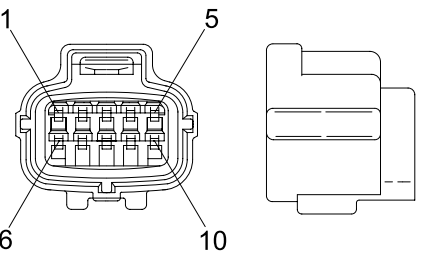
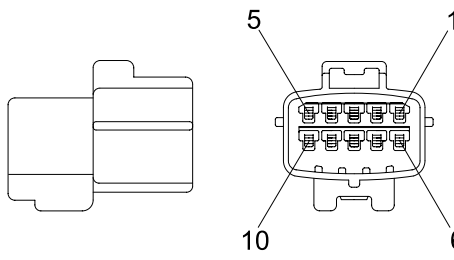
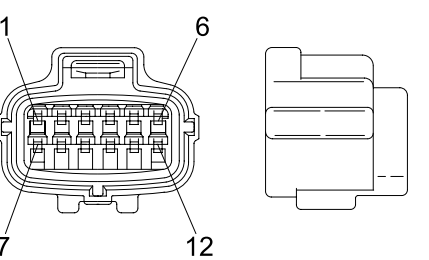
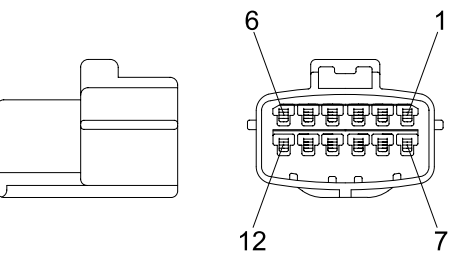
No. of pin	Receptacle connector(Female)	Plug connector(Male)
10	 <p data-bbox="699 1279 839 1308">SWF593757</p>	

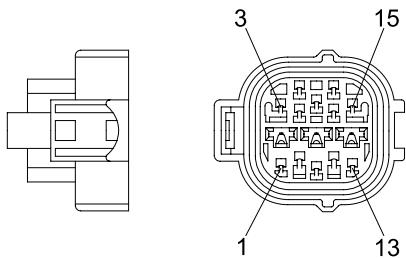
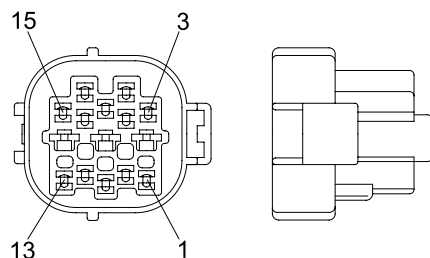
17) MWP NMWP CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
1	 <p data-bbox="691 1883 839 1912">NMWP01F-B</p>	

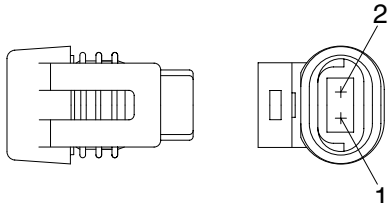
18) ECONOSEAL J TYPE CONNECTORS

No. of pin	Receptacle connector(Female)	Plug connector(Male)
1	 <p style="text-align: center;">S816-001002</p>	 <p style="text-align: center;">S816-101002</p>
2	 <p style="text-align: center;">S816-002002</p>	 <p style="text-align: center;">S816-102002</p>
3	 <p style="text-align: center;">S816-003002</p>	 <p style="text-align: center;">S816-103002</p>
4	 <p style="text-align: center;">S816-004002</p>	 <p style="text-align: center;">S816-104002</p>

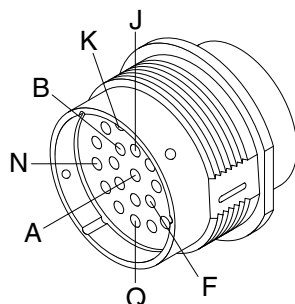
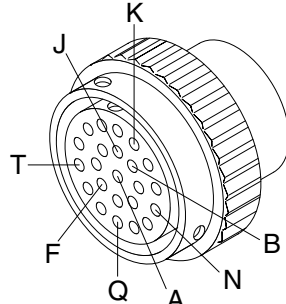
No. of pin	Receptacle connector(Female)	Plug connector(Male)
6	 <p style="text-align: center;">S816-006002</p>	 <p style="text-align: center;">S816-106002</p>
8	 <p style="text-align: center;">S816-008002</p>	 <p style="text-align: center;">S816-108002</p>
10	 <p style="text-align: center;">S816-010002</p>	 <p style="text-align: center;">S816-110002</p>
12	 <p style="text-align: center;">S816-012002</p>	 <p style="text-align: center;">S816-112002</p>

No. of pin	Receptacle connector(Female)	Plug connector(Male)
15	 <p data-bbox="730 629 834 658">368301-1</p>	 <p data-bbox="1278 629 1382 658">2-85262-1</p>

19) METRI-PACK TYPE CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p data-bbox="730 1234 834 1263">12040753</p>	

20) DEUTSCH HD30 CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
23	 <p data-bbox="667 1839 834 1868">HD36-24-23SN</p>	 <p data-bbox="1220 1839 1388 1868">HD34-24-23PN</p>