

# SECTION 4 ELECTRICAL SYSTEM

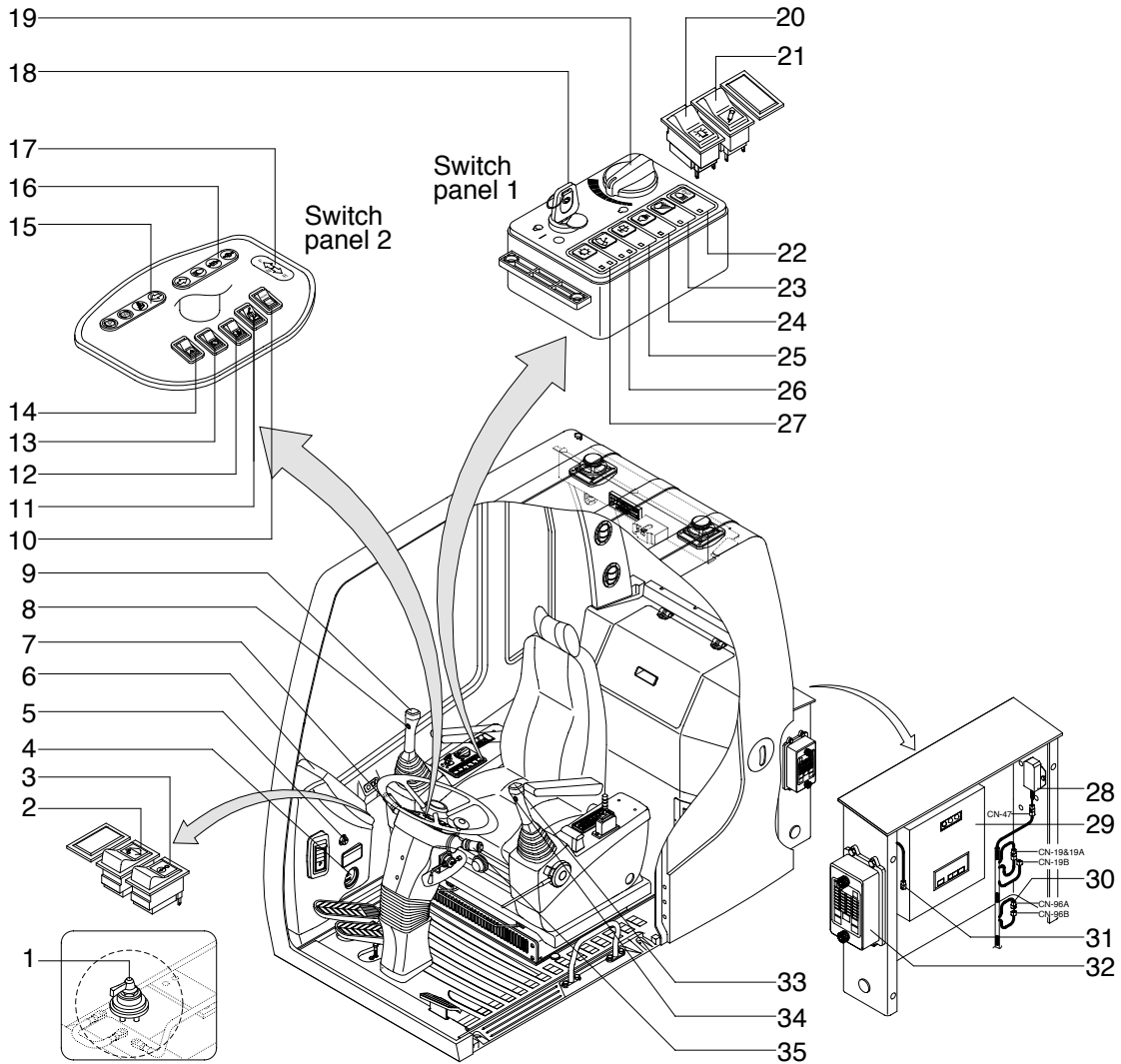


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# SECTION 4 ELECTRICAL SYSTEM

## GROUP 1 COMPONENT LOCATION

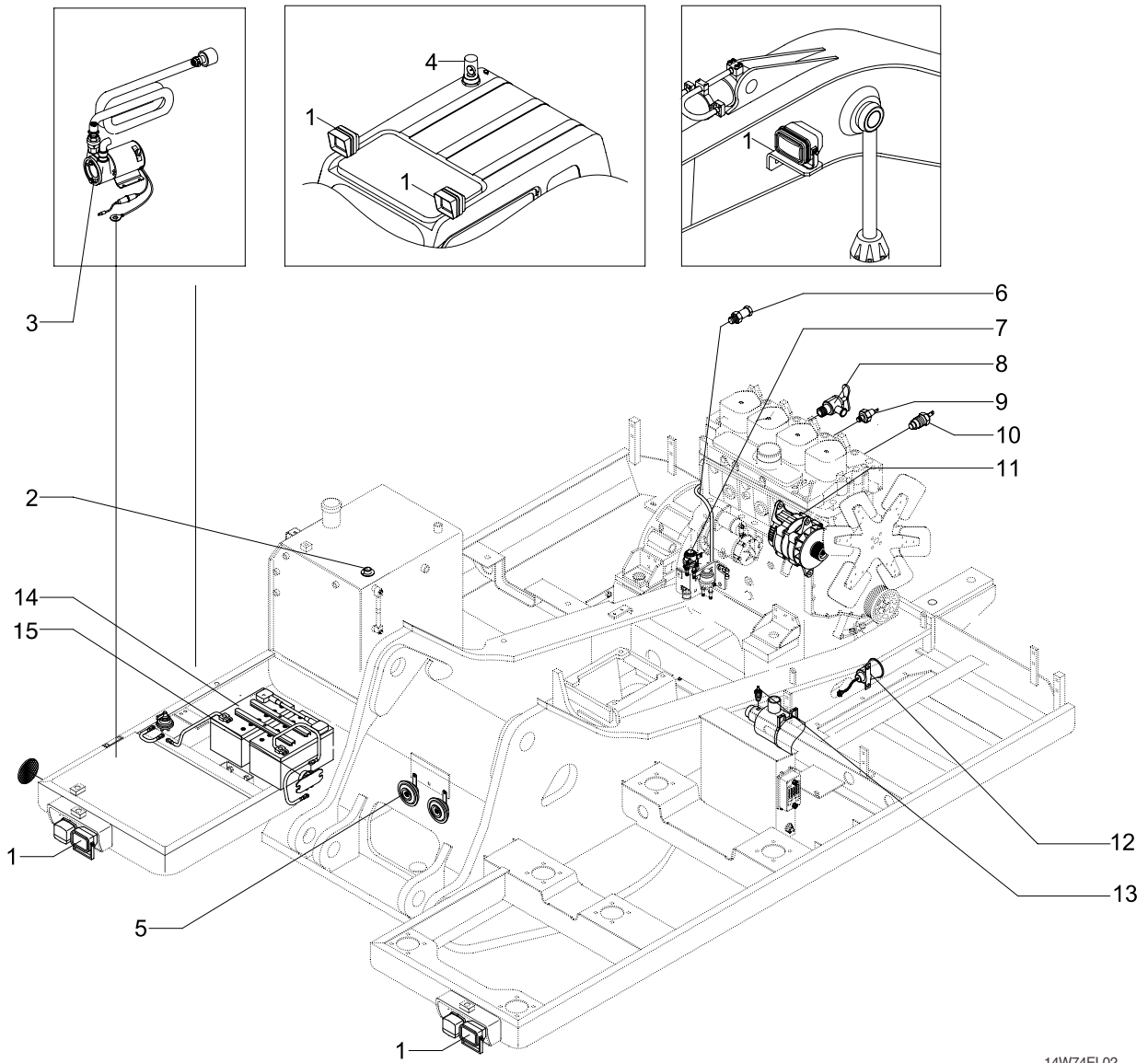
### 1. LOCATION 1



14W74EL01

- |    |                           |    |                            |    |                                      |
|----|---------------------------|----|----------------------------|----|--------------------------------------|
| 1  | Master switch             | 13 | Parking brake switch       | 25 | Washer switch                        |
| 2  | Quick clamp switch        | 14 | Hazard switch              | 26 | Wiper switch                         |
| 3  | Overload switch           | 15 | Travel warning indicator 1 | 27 | Main light switch                    |
| 4  | Service meter             | 16 | Travel warning indicator 2 | 28 | Prolix resistor                      |
| 5  | Ciger lighter             | 17 | Forward/Reverse pilot lamp | 29 | CPU controller                       |
| 6  | Cluster                   | 18 | Start switch               | 30 | Emergency engine starting controller |
| 7  | Multi function switch(RH) | 19 | Accel dial                 | 31 | RS232 serial connector               |
| 8  | Breaker operation switch  | 20 | Beacon switch              | 32 | Fuse box                             |
| 9  | Horn switch               | 21 | Breaker selection switch   | 33 | One touch decel switch               |
| 10 | Work/Travel switch        | 22 | Cab light switch           | 34 | Power max switch                     |
| 11 | Outrigger/Dozer switch    | 23 | Travel alarm switch        | 35 | Multi function switch(LH)            |
| 12 | Ram lock switch           | 24 | Preheat switch             |    |                                      |

## 2. LOCATION 2



14W74EL02

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

**GROUP 2 ELECTRICAL CIRCUIT**

**HARNESS FRAME**

NO.	DESTINATION	WIRING
1	AC CONTROLLER (OND)	011
2	BLOWER MOTOR (OND)	012
3	AC COMP	013
4	AC CONTROLLER (B)	014
5	AC CONTROLLER (R)	015
6	AC COMP	016
7	AC CONDENSER FAN	017
8	ILLUMINATION	018

NO.	DESTINATION	WIRING
1	CASSETTE RADIO SW	021
2	ILLUMINATION	022
3	AC	023
4	OND	024
5	CASSETTE ROOM LAMP (B)	025
6	AC	026
7	CASSETTE (OND)	027
8	AC	028
9	BEACON LAMP	029
10	CABIN LIGHT	030
11	AC	031
12	NC	032

NO.	DESTINATION	WIRING
1	HORN SW	037
2	HORN SW	13A
3	RTY SW	038
4	ACCEL (ON/OFF)	039
5	ACCEL (ON/OFF)	040
6	ACCEL (ON/OFF)	041
7	SPARE SW	042

NO.	DESTINATION	WIRING
1	SPARE SW	043
2	BEACON LAMP SW	044
3	BEACON LAMP SW	045
4	SPARKER SW SW	046
5	SPARKER SW	047
6	SPARE SW	048
7	SPARE SW	049
8	START KEY (START SW)	050
9	START KEY (ACC)	051
10	START KEY (ACC)	052
11	START KEY (ACC)	053
12	START KEY (CCM)	054

NO.	DESTINATION	WIRING
1	ILLUMINATION	055
2	HEADLIGHT SW	056
3	WIPER DRIVE SW	057
4	WIPER SW	058
5	WIPER SW	059
6	CABIN LIGHT SW	060
7	ILLUMINATION	061
8	HEADLIGHT SW	062
9	WIPER SW	063
10	OND	064
11	WORK LAMP SW	065
12	CABIN LIGHT SW	066
13	AC	067
14	NC	068
15	NC	069

NO.	DESTINATION	WIRING
1	QUICK COUPLING SW SW	070
2	COVER LAMP SW	071
3	COVER LAMP SW	072
4	COVER LAMP SW	073
5	WIPER MOTOR SW	074
6	OND	075
7	COVER LAMP SW	076
8	COVER LAMP SW	077
9	COVER LAMP SW	078
10	WIPER SW	079
11	WIPER SW	080
12	NC	081

NO.	DESTINATION	WIRING
1	WASHER SW	082
2	NC	083
3	CLUSTER SW	084
4	WIPER MOTOR CONT	085
5	CONVERTER SW	086
6	HOOR METER SW	087
7	HOOR METER SW	088
8	HOOR METER SW	089
9	WIPER SW	090
10	CLUSTER (ON/OFF)	091
11	CLUSTER (SERIAL - EX)	092
12	CLUSTER SW	093
13	ELASER(S)	094
14	NC	095
15	CLASER(S)	096

NO.	DESTINATION	WIRING
1	MAX 1 (SW/TH)	100
2	MAX 2 (SW/TH)	101
3	MAX 3 (SW/TH)	102
4	MAX 4 (SW/TH)	103
5	MAX 5 (SW/TH)	104
6	MAX 6 (SW/TH)	105
7	MAX 7 (SW/TH)	106
8	MAX 8 (SW/TH)	107
9	MAX 9 (SW/TH)	108
10	MAX 10 (SW/TH)	109
11	MAX 11 (SW/TH)	110
12	MAX 12 (SW/TH)	111

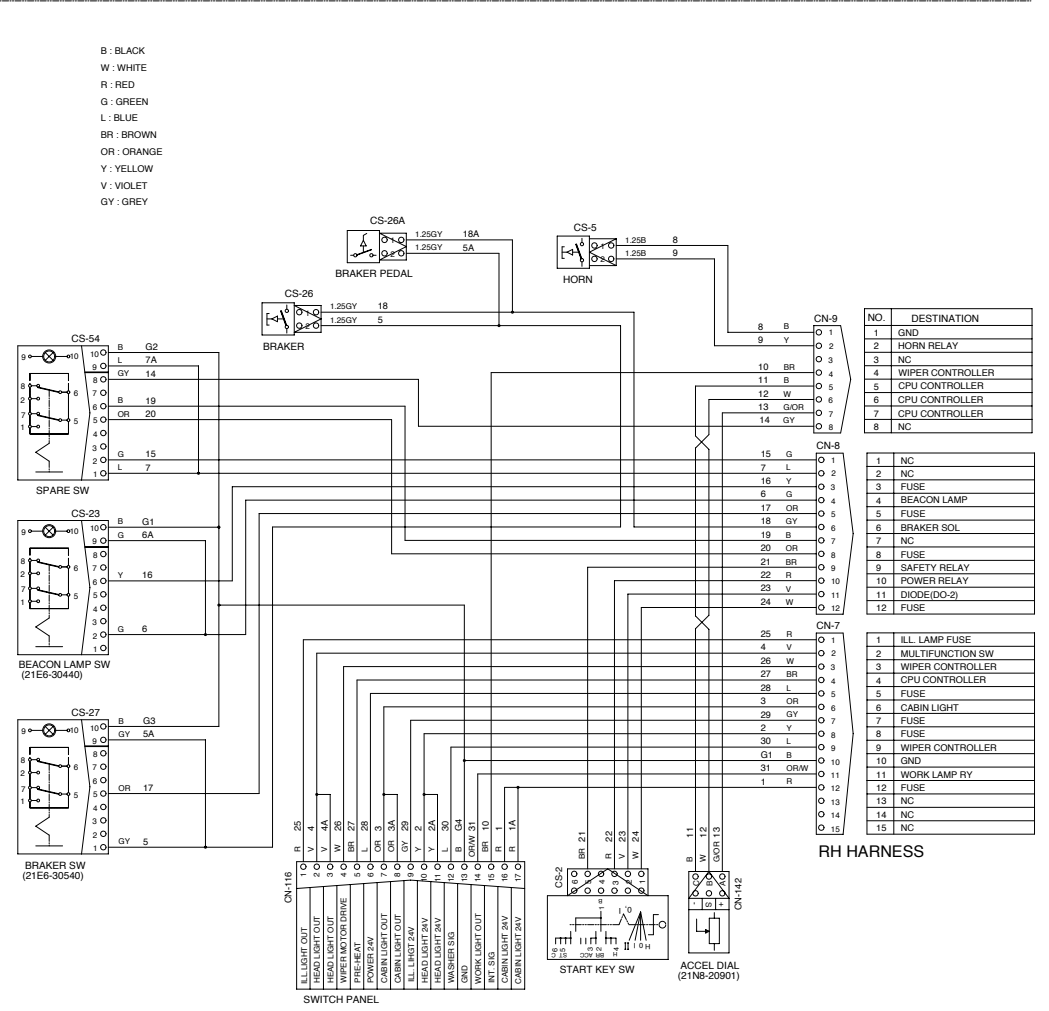
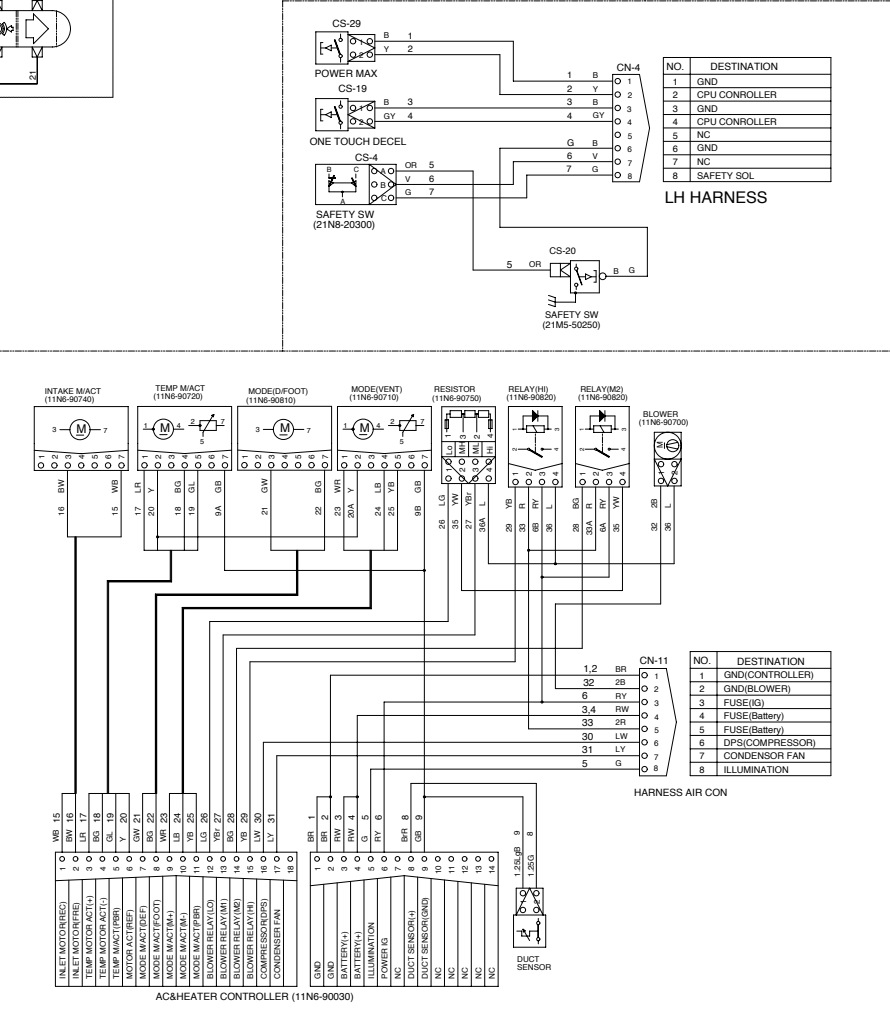
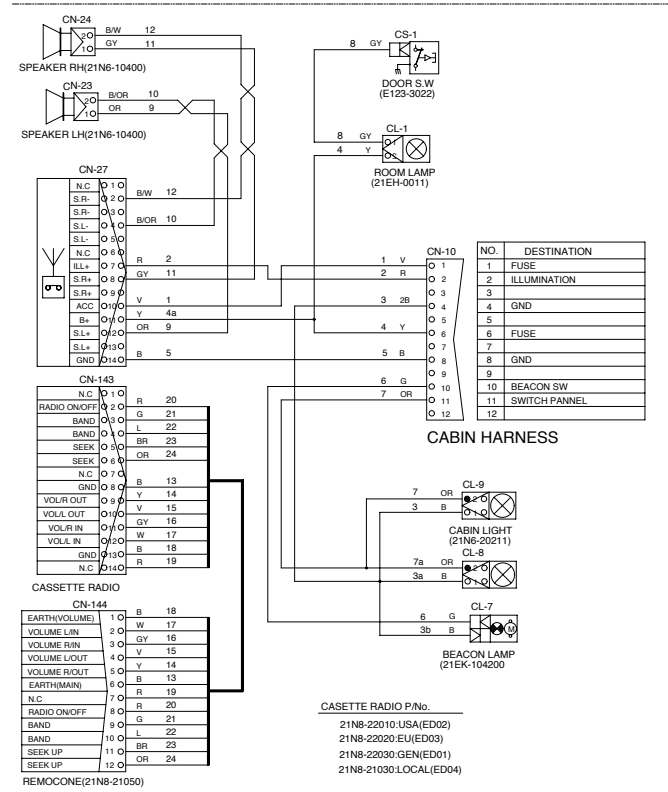
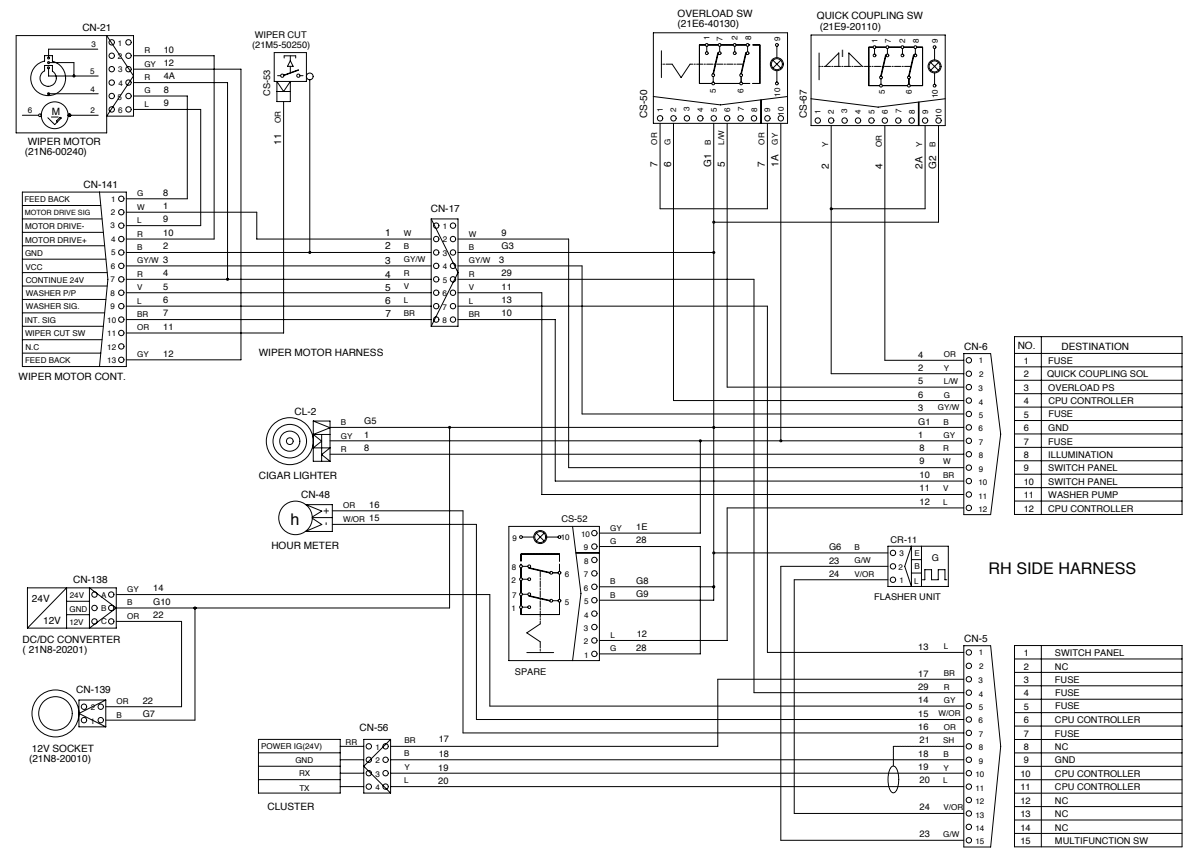
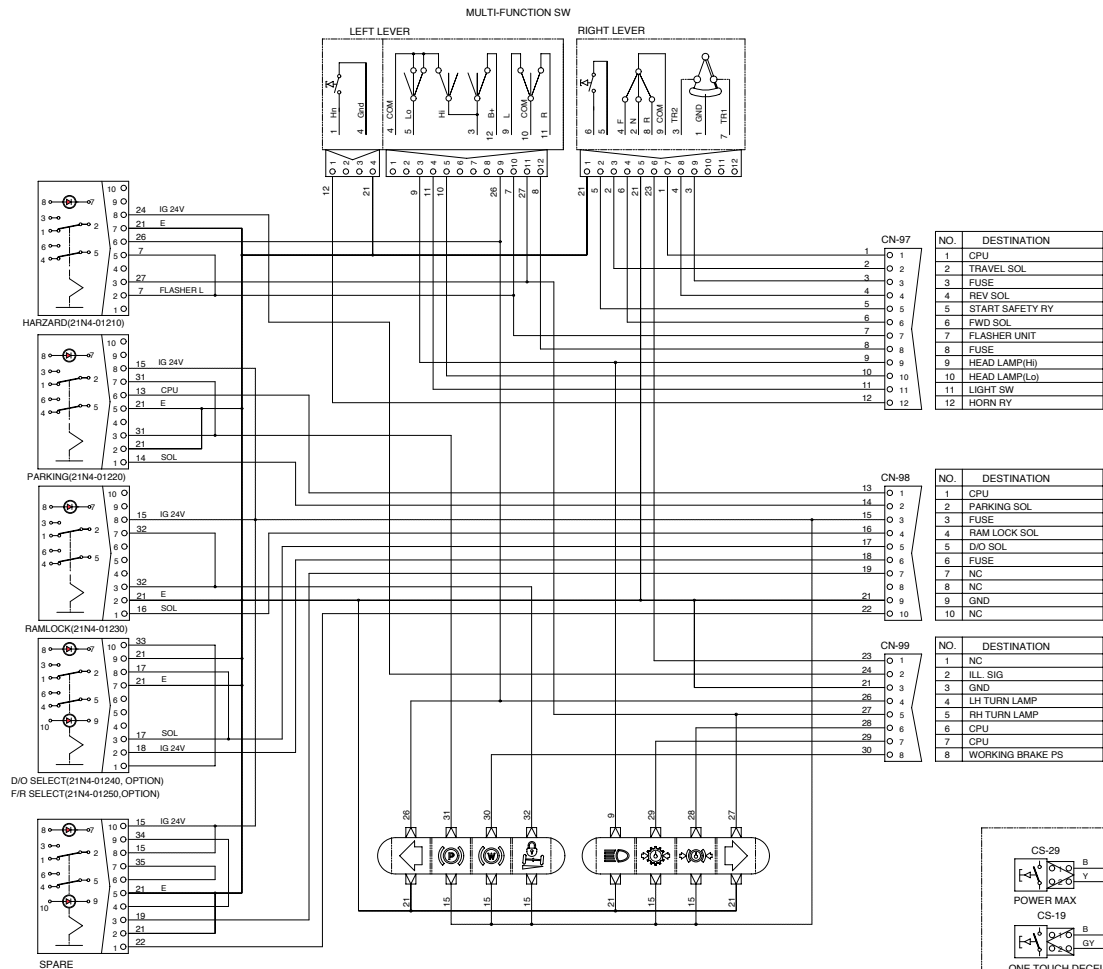
NO.	DESTINATION	WIRING
1	PARKING SW	097
2	PARKING SW	098
3	LAMP SW	099
4	FLAME LOCK SW	100
5	DO SW	101
6	DO SW	102
7	DO SW	103
8	DO SW	104
9	DO SW	105
10	DO SW	106
11	DO SW	107
12	DO SW	108
13	DO SW	109
14	DO SW	110

NO.	DESTINATION	WIRING
1	MAX 1 (SW)	11A
2	HAZARD SW	11B
3	MAX 2 (SW)	11C
4	MAX 3 (SW)	11D
5	MAX 4 (SW)	11E
6	MAX 5 (SW)	11F
7	MAX 6 (SW)	11G
8	MAX 7 (SW)	11H
9	MAX 8 (SW)	11I
10	MAX 9 (SW)	11J
11	MAX 10 (SW)	11K
12	MAX 11 (SW)	11L
13	MAX 12 (SW)	11M

NO.	DESTINATION	WIRING
1	POWER MAX SW	001
2	POWER MAX SW	002
3	CUT OFF SW	003
4	CUT OFF SW	004
5	SAFETY SW (ON)	005
6	SAFETY SW (OFF)	006
7	SAFETY SW (ON)	007
8	SAFETY SW (OFF)	008

NO.	DESTINATION	WIRING
1	REAR COMB L4	010
2	REAR COMB RH	011
3	FRONT COMB RH	012
4	FRONT COMB LH	013
5	REAR COMB L4	014
6	REAR COMB RH	015
7	FRONT COMB RH	016
8	FRONT COMB LH	017

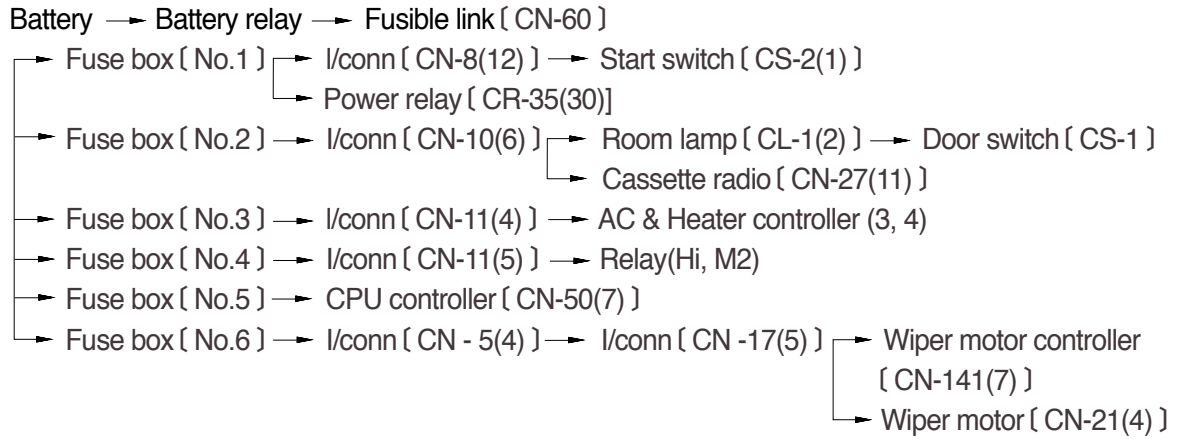
NO.	DESTINATION	WIRING
1	DOOR/UNTRIGGER	018
2	DOOR/UNTRIGGER	019
3	DOOR/UNTRIGGER	020
4	DOOR/UNTRIGGER	021
5	DOOR/UNTRIGGER	022
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231	DOOR/UNTRIGGER	248
232	DOOR/UNTRIGGER	249
233	DOOR/UNTR	



## 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

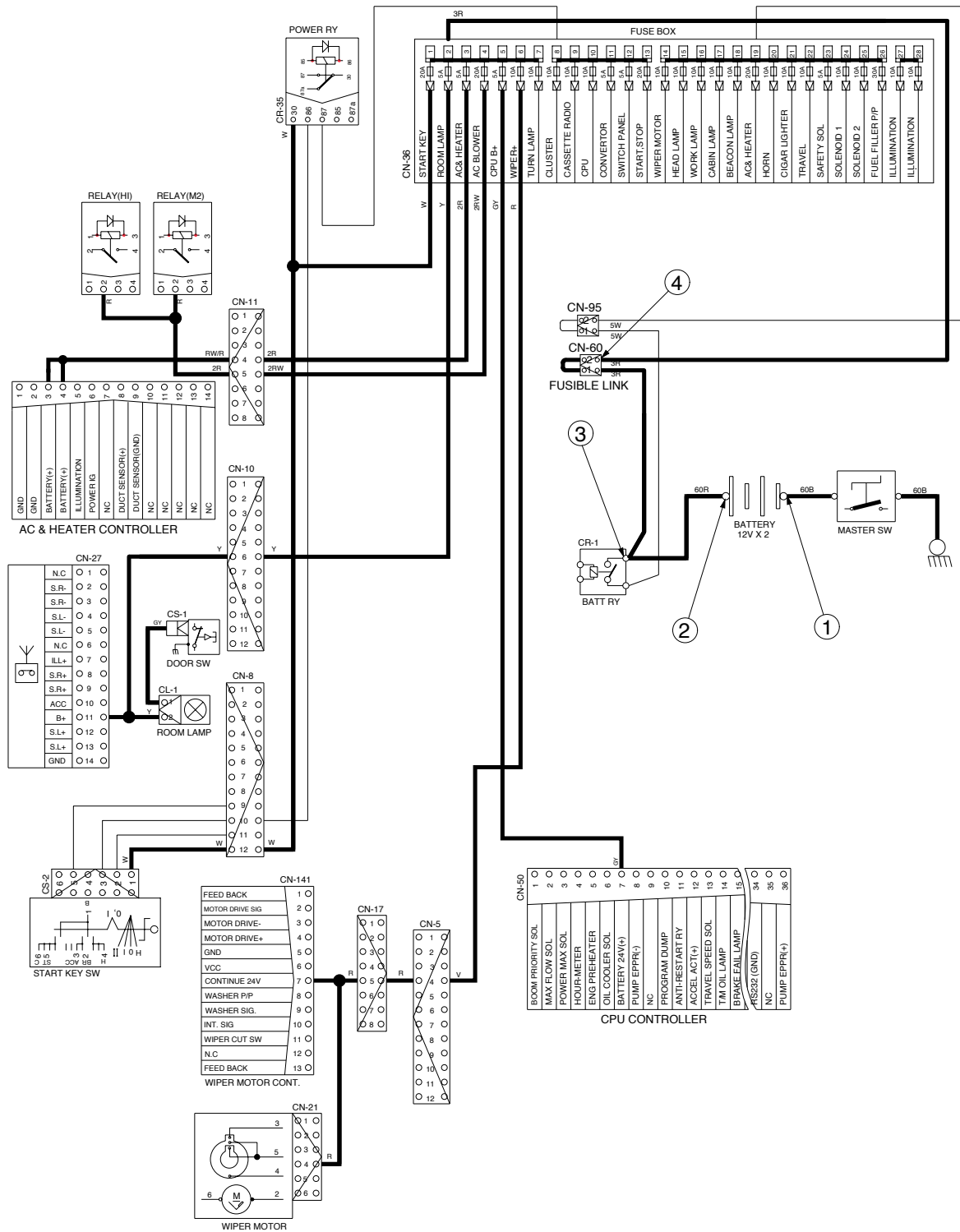


### 2) CHECK POINT

Engine	Start switch	Check point	Voltage
OFF	OFF	- GND (Battery 1EA) - GND (Battery 2EA) - GND (Battery 2EA) - 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) ] → Power relay [ CR-35(86) (87) ]  
 → Fuse box [ No.10 ]

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

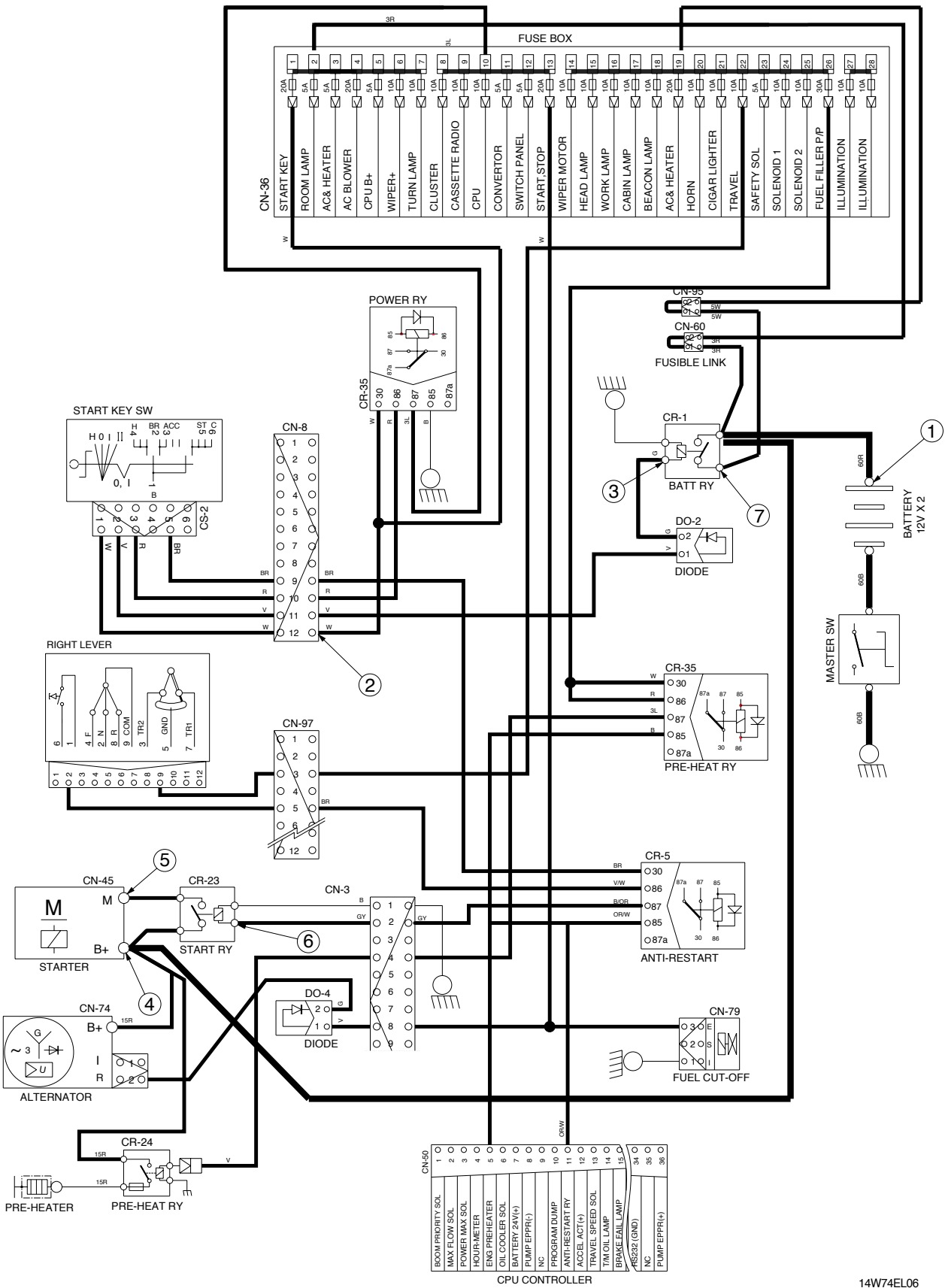
Start switch START [ CS-2(5) ] → I/conn [ CN-8(9) ] → Anti restart relay [ CR-5(30) (87) ]  
 → I/conn [ CN-3(2) ] → Start relay[ CN-23 ]

### 2) CHECK POINT

Engine	Start switch	Check point	Voltage
OPERATING	START	- GND(Battery) - GND(Start key) - GND(Battery relay M4) - GND(Starter B <sup>+</sup> ) - GND(Starter M) - GND(Start relay) - 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-2(13) ] → CPU alternator level [ CN-51(9) ]  
Cluster charging warning lamp (Via serial interface)

##### (2) Charging flow

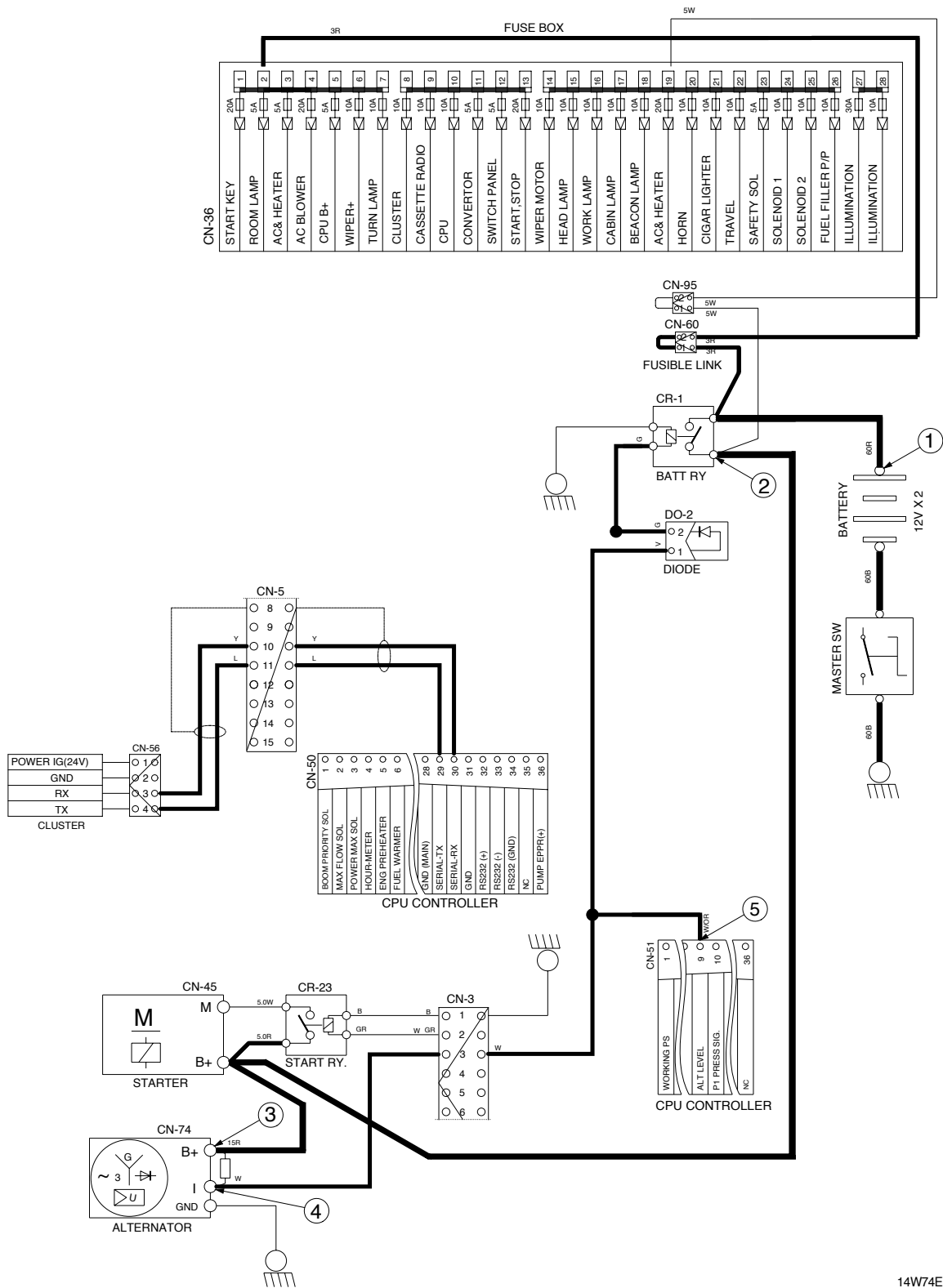
Alternator "B+" terminal → Battery relay (M8) → Battery (+) terminal  
→ Fusible link [ CN-60 ] → Fuse box

#### 2) CHECK POINT

Engine	Start switch	Check point	Voltage
Run	ON	<ul style="list-style-type: none"> <li>- GND (Battery voltage)</li> <li>- GND (Battery relay)</li> <li>- GND (Alternator B<sup>+</sup> terminal)</li> <li>- GND (Alternator I terminal)</li> <li>- GND (CPU)</li> </ul>	20~30V

GND : Ground

# CHARGING CIRCUIT



14W74EL07

#### 4. HEAD AND WORK LIGHT CIRCUIT

##### 1) OPERATING FLOW

Fuse box (No.15) → I/conn [ CN-7(8) ] → Switch panel [ CN-116(10,11) ]

Fuse box (No.16) → I/conn [ CN-7(7) ] → Switch panel [ CN-116(9) ]

##### (1) Main light switch ON : 1st step

Head light switch ON [ CN-116(2,3) ] → I/conn [ CN-7(2) ] → I/conn [ CN-97(11) ] →

Mutifunction sw left lever(3) → (5) → [ CN-97(10) ] → Head light ON [ CL-3(1), CL-4(1) ]  
: Head lamp ON

##### (2) Main light switch ON : 2nd step

Work light switch ON [ CN-116(14) ] → I/conn [ CN-7(11) ] → I/conn [ CN-3(1), (4) ] →

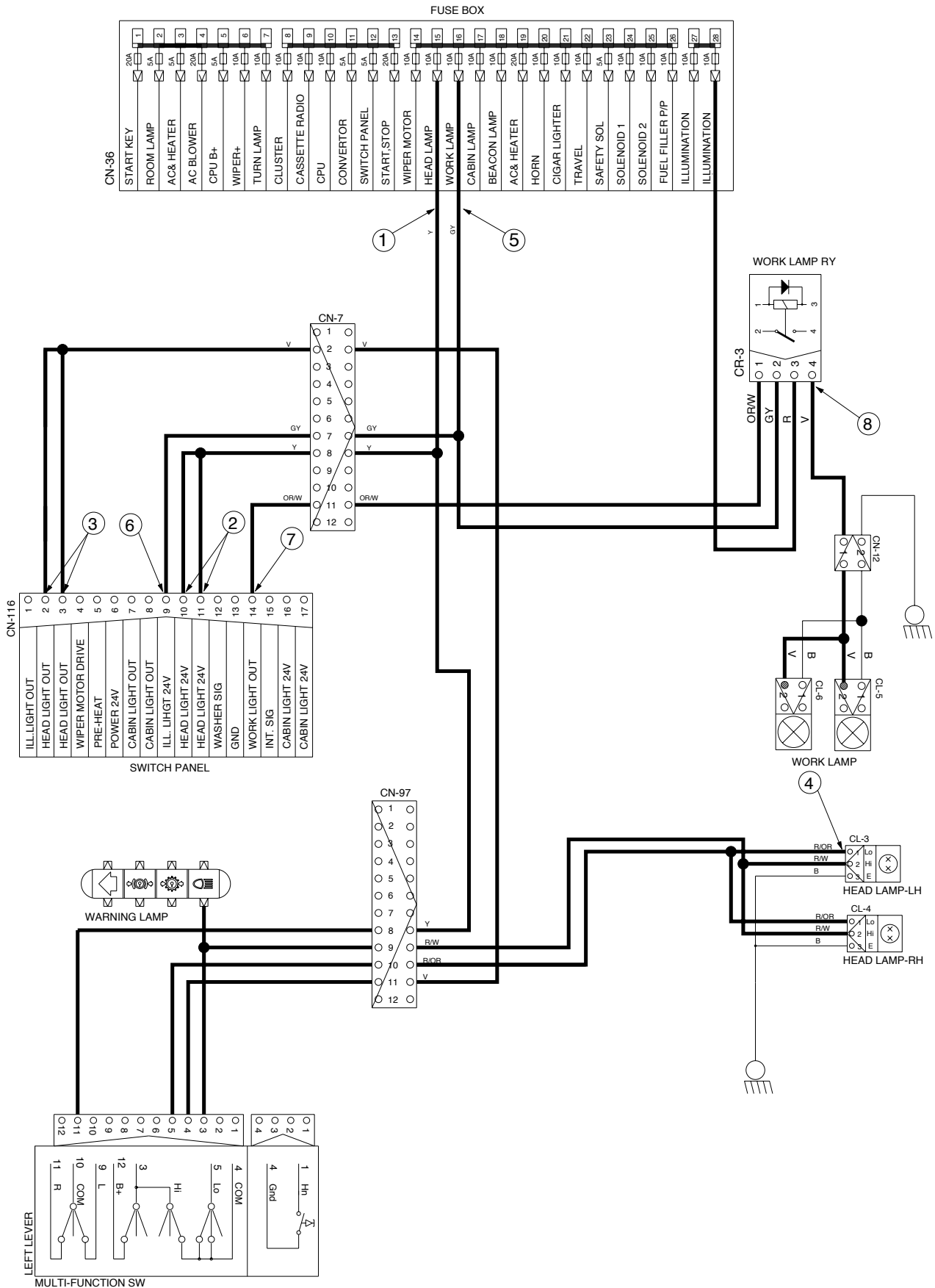
I/conn [ CN-12(1) ] → Work light ON [ CL-5(2), CL-6(2) ]

##### 2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	<ul style="list-style-type: none"> <li>- GND(Fuse box)</li> <li>- GND(Switch power input)</li> <li>- GND(Switch power output)</li> <li>- GND(Head light)</li> </ul>	20~25V
STOP	ON	<ul style="list-style-type: none"> <li>- GND(Fuse box)</li> <li>- GND(Switch power input)</li> <li>- GND(Switch power output)</li> <li>- GND(Work light)</li> </ul>	20~25V

GND : Ground

# HEAD AND WORK LIGHT CIRCUIT



14W74EL08

## 5. BEACON LAMP AND CAB LIGHT CIRCUIT

### 1) OPERATING FLOW

Fuse box (No.18) → I/conn [ CN-8(3) ] → Beacon lamp switch [ CN-23(6) ]

Fuse box (No.17) → 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

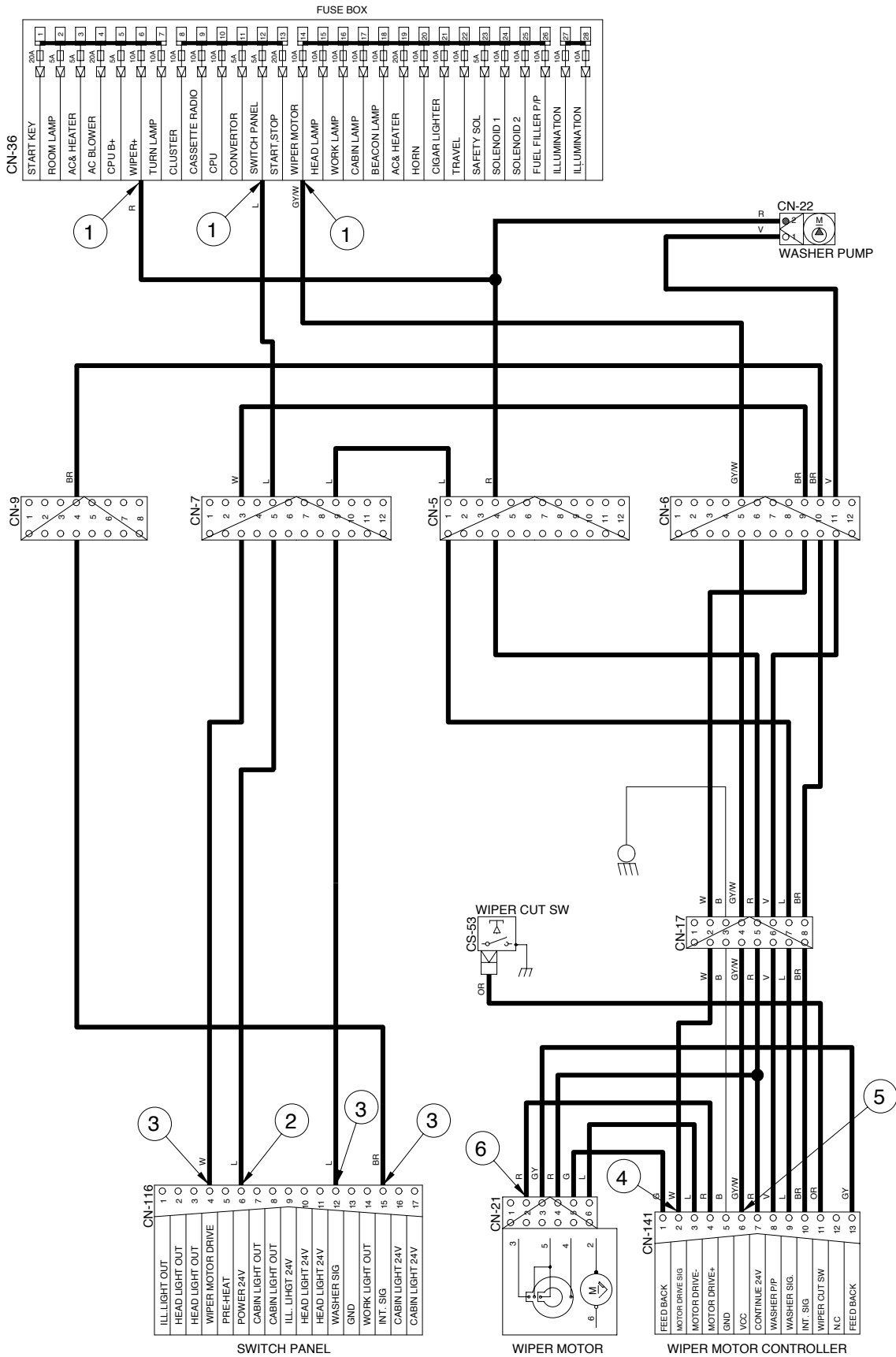
Engine	Start switch	Check point	Voltage
STOP	ON	- GND(Fuse box) - GND(Switch power input) - GND(Switch power output) - GND(Beacon lamp)	20~25V
STOP	ON	- GND(Fuse box) - GND(Switch power input) - GND(Switch power output) - GND(Cab light)	20~25V

GND : Ground

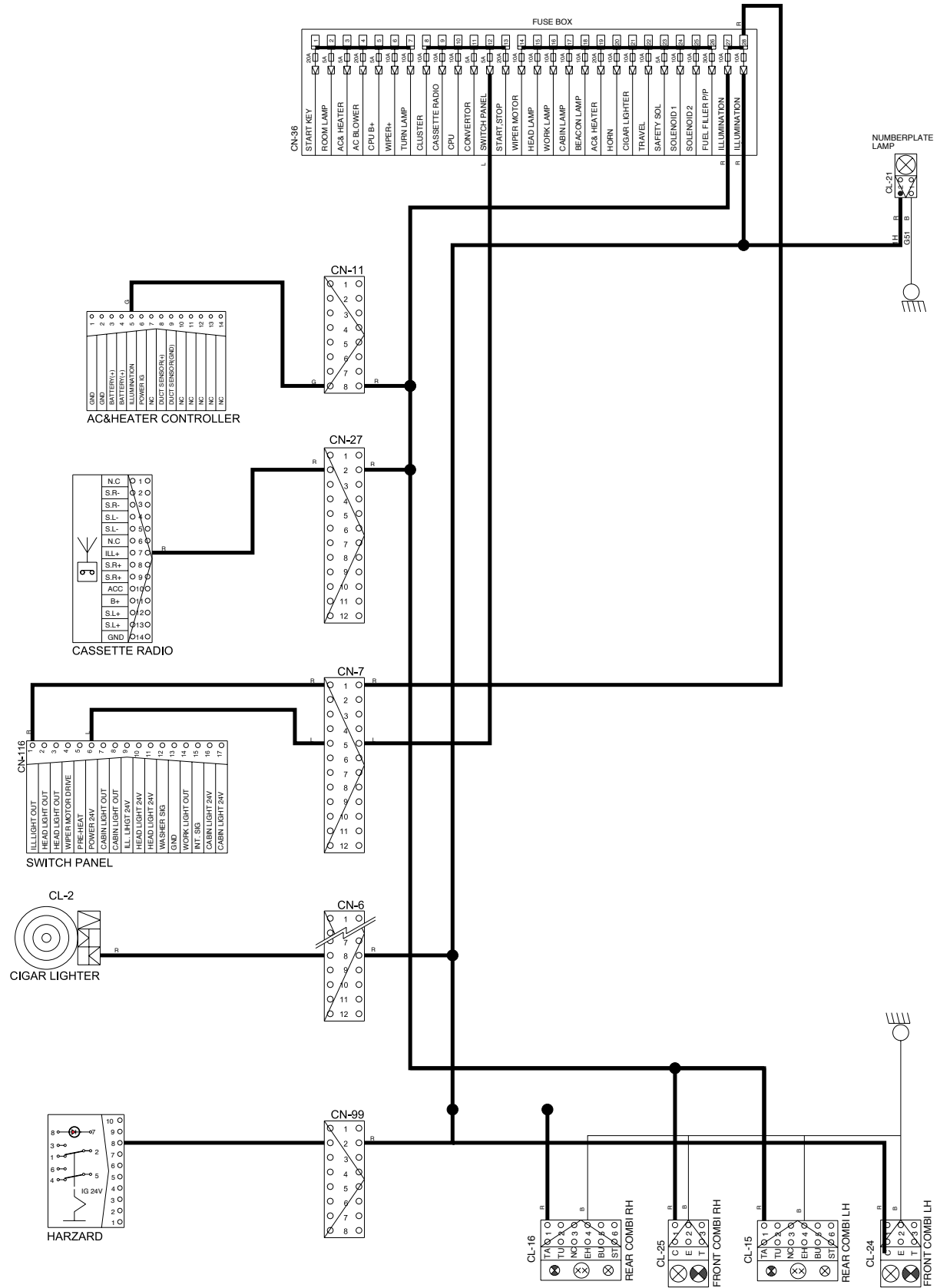




# WIPER AND WASHER CIRCUIT

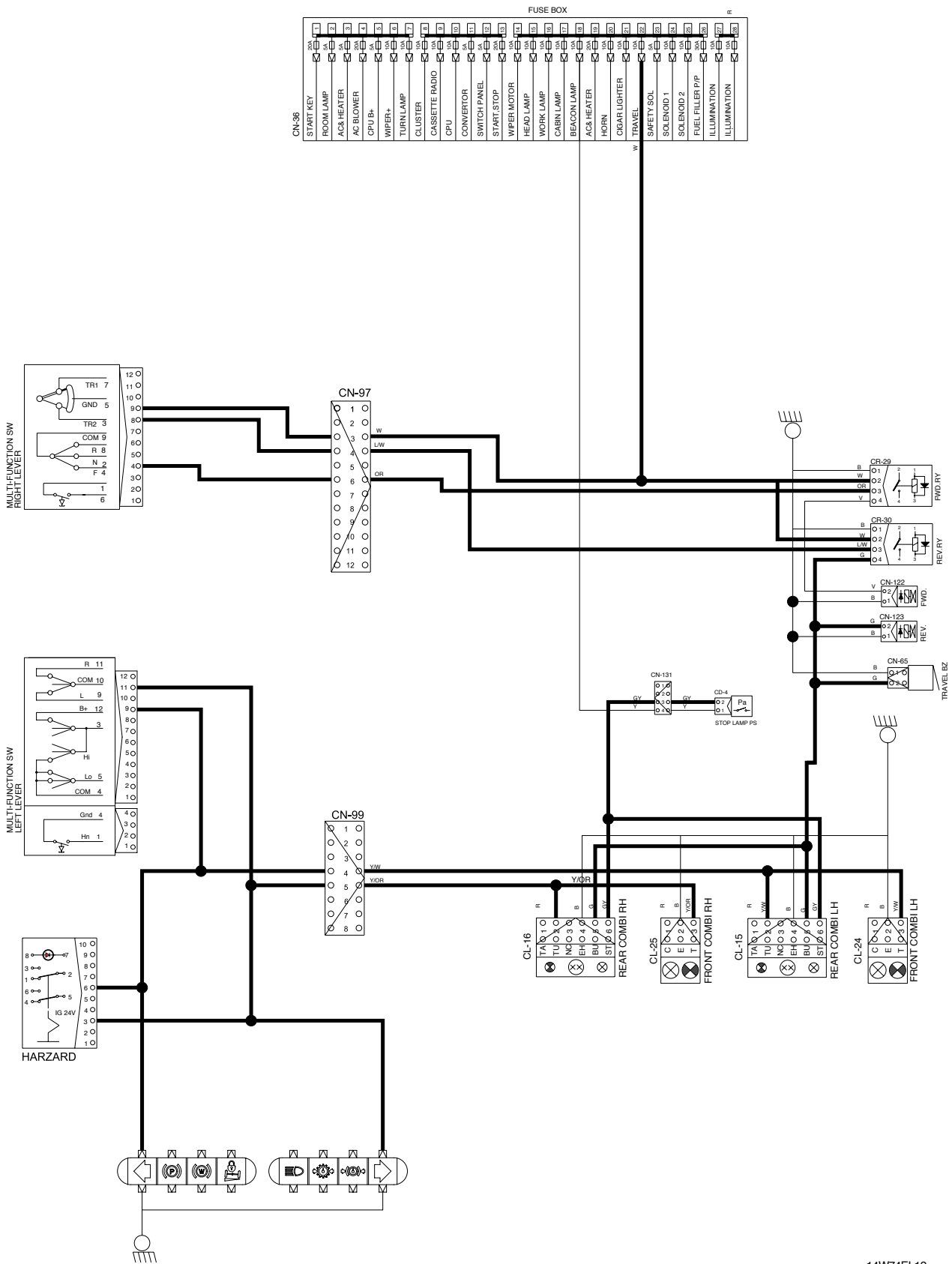


# ILLUMINATION CIRCUIT



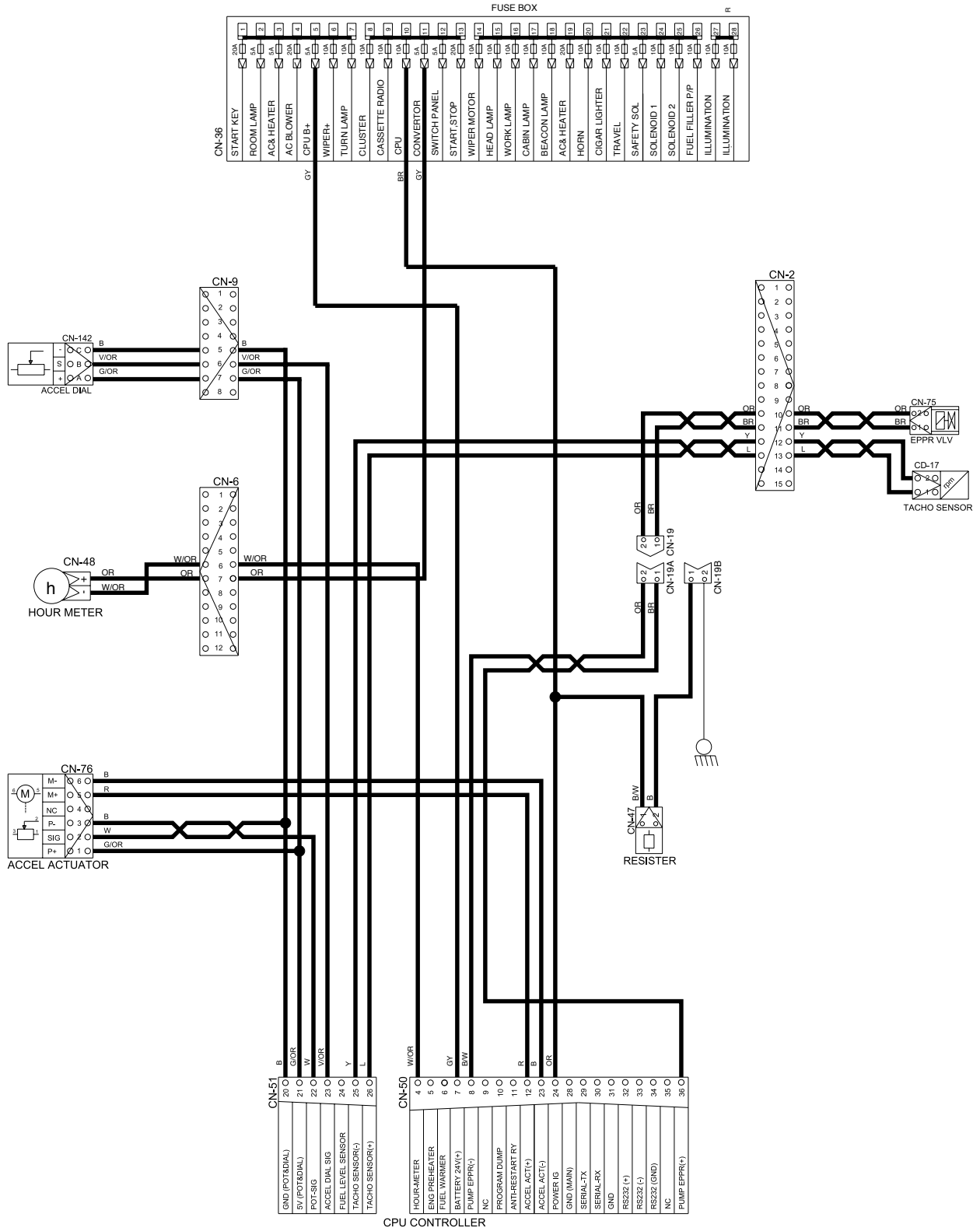
14W74EL11

# COMBINATION LAMP CIRCUIT



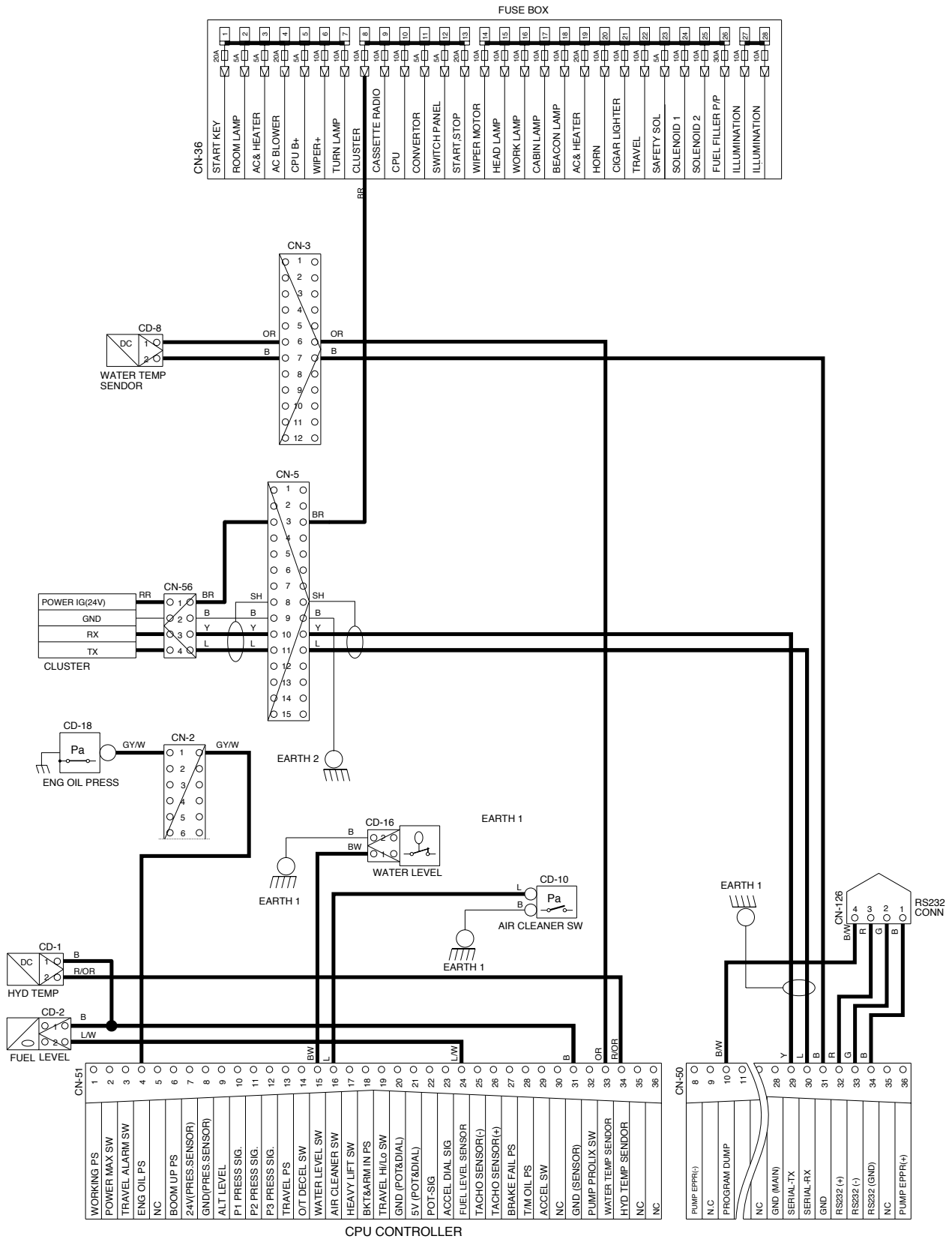
14W74EL12

# CONTROLLER CIRCUIT

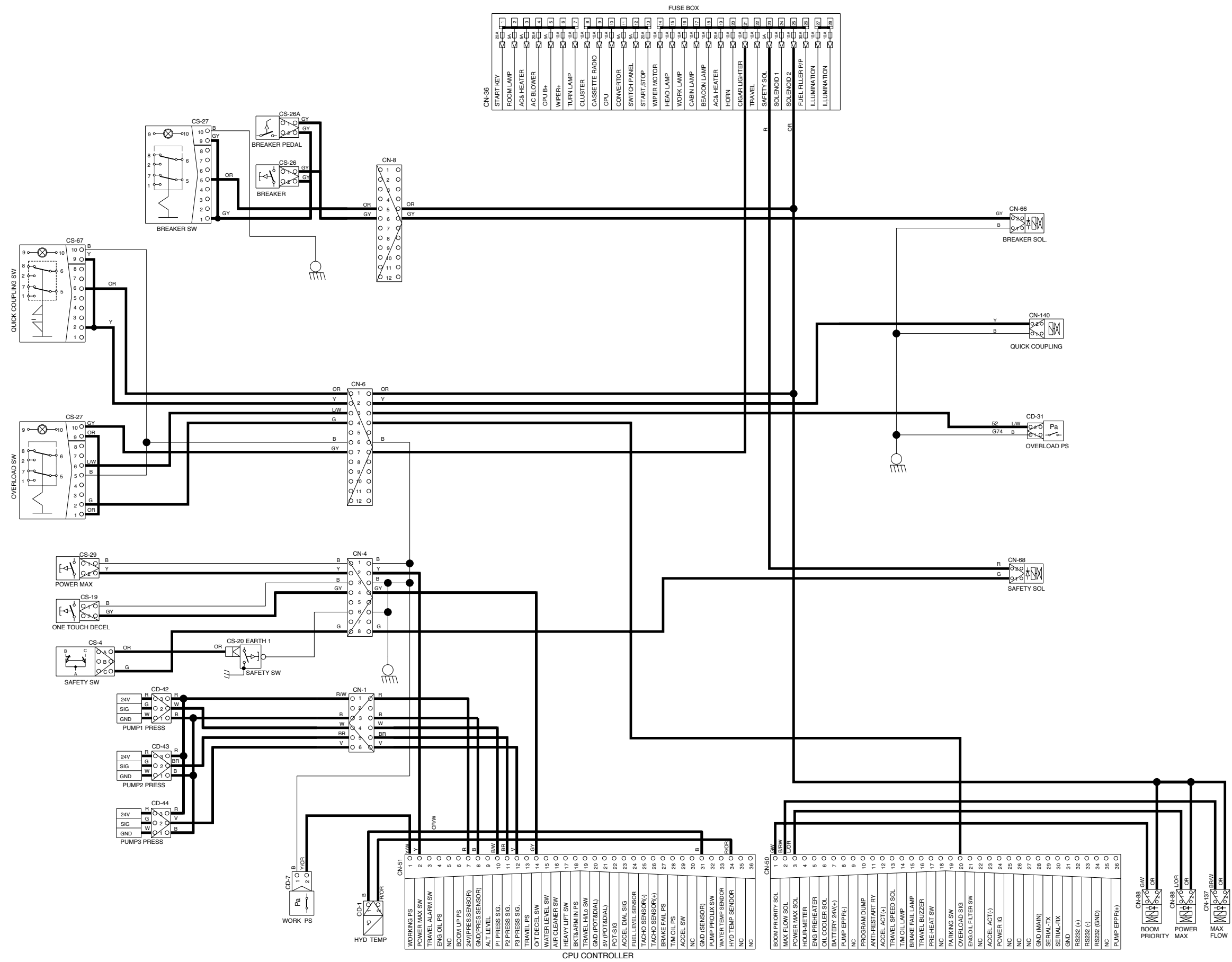


14W74EL13

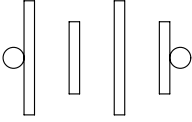
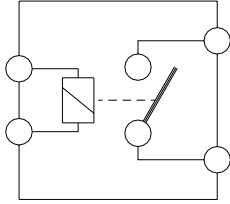
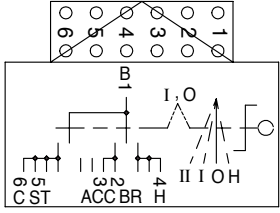
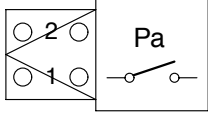
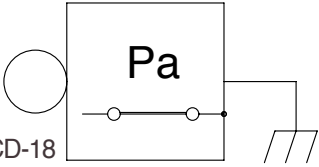
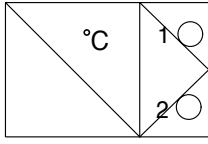
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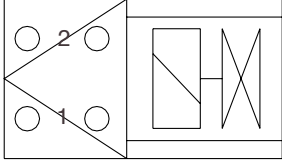
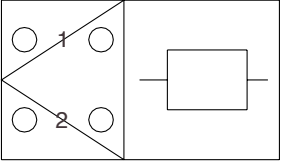
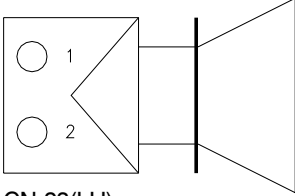
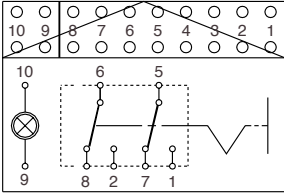
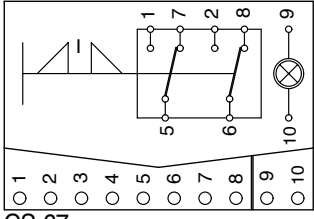
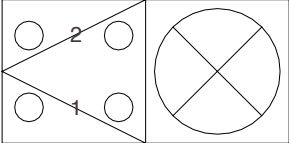
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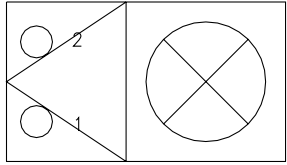
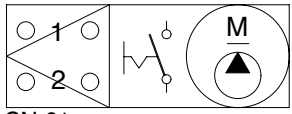
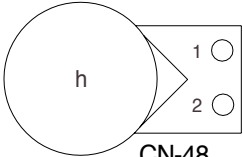
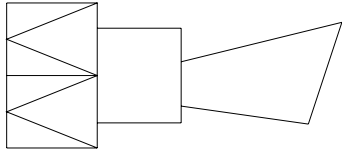
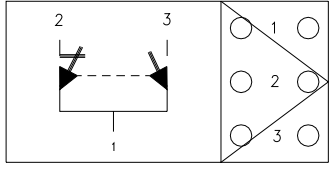
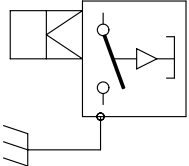


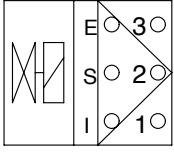
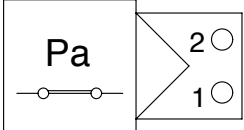
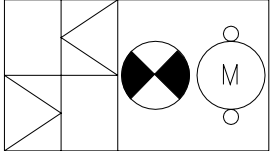
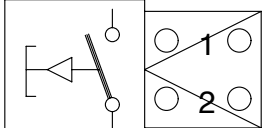
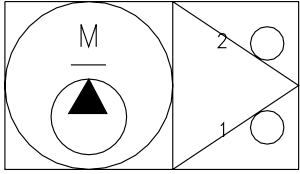
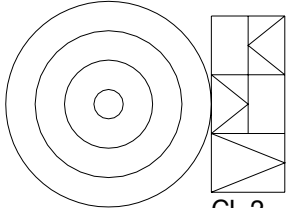
## GROUP 3 ELECTRICAL COMPONENT SPECIFICATION

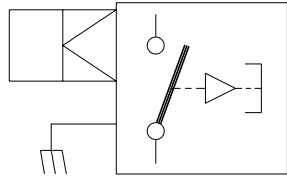
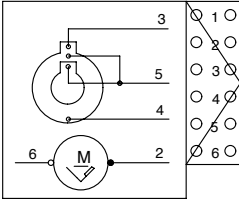
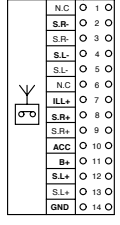
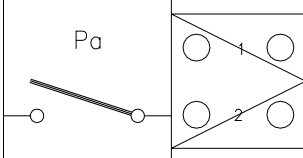
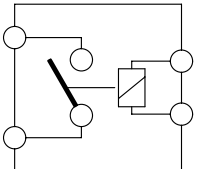
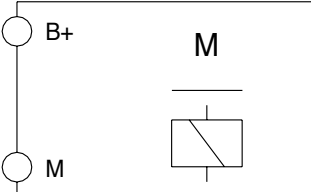
Part name	Symbol	Specification	Check
Battery		12V × 80Ah (2EA)	Check specific gravity 1.280 over : Over charged 1.280 ~ 1.250 : Normal 1.250 below : Recharging
Battery relay	 <p style="text-align: center;">CR-1</p>	Rated load : 24V 100A(continuity) 1000A(30seconds)	Check coil resistance (M4 to M4) Normal : About 50 Check contact Normal :
Start key	 <p style="text-align: center;">CS-2</p>	B-BR : 24V 1A B-ACC : 24V 10A B-ST : 24V 40A	Check contact OFF : (For each terminal) ON : 0 (For terminal 1-3 and 1-2) START : 0 (For terminal 1-5)
Pressure switch (For overload)	 <p style="text-align: center;">CD-31</p>	3 ~ 6 kgf/cm <sup>2</sup> (N.O TYPE)	Check contact Normal : (OPEN)
Pressure switch (For engine oil)	 <p style="text-align: center;">CD-18</p>	0.5 kgf/cm <sup>2</sup> (N.C TYPE)	Check resistance Normal : 0 (CLOSE)
Temperature sensor	 <p style="text-align: center;">CD-1</p>	-	Check resistance 50, C : 804 80, C : 310 100, C : 180

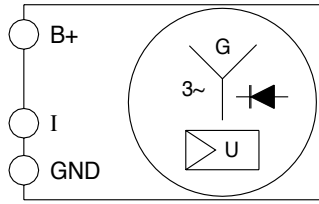
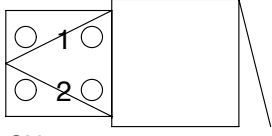
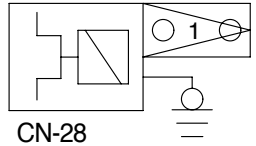
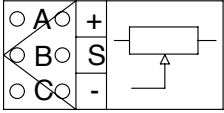
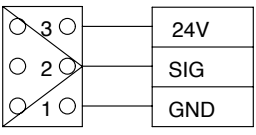
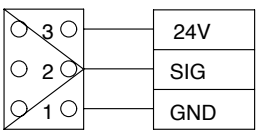


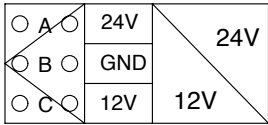
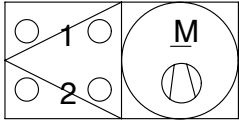
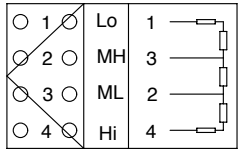
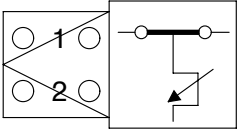
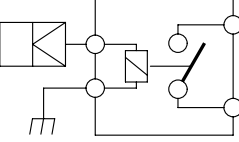
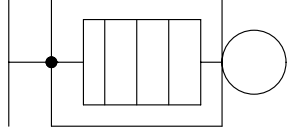
Part name	Symbol	Specification	Check
EPPR valve	 CN-75	700mA	Check resistance Normal : 18~25 (For terminal 1-2)
Resistor	 CN-47	50 20W ± 5%	Check resistance Normal : 50
Speaker	 CN-23(LH) CN-24(RH)	4 20W	Check resistance Normal : 4
Switch (Locking type)	 CS-23 CS-27 CS-50 CS-52 CS-54	24V 8A	Check contact Normal ON - 0 (For terminal 1-5,2-6) - (For terminal 5-7,6-8) OFF - (For terminal 1-5,2-6) - 0 (For terminal 5-7,6-8)
Switch (Quick clamp)	 CS-67	24V 8A	Check contact Normal ON - 0 (For terminal 1-5,2-6) - (For terminal 5-7,6-8) OFF - (For terminal 1-5,2-6) - 0 (For terminal 5-7,6-8)
Head lamp, Work lamp, Cab lamp, Number plate	 CL-5 CL-6 CL-8 CL-9 CL-21	24V 70W (H3 TYPE)	Check disconnection Normal : 1.2

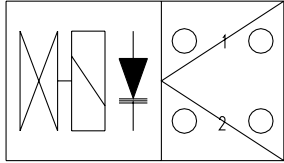
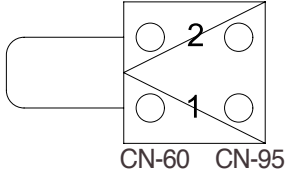
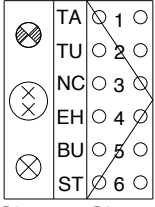
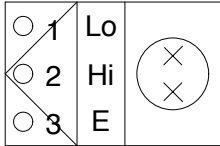
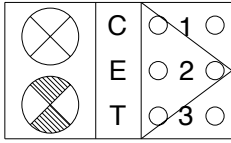
Part name	Symbol	Specification	Check
Room lamp	 <p>CL-1</p>	24V 10W	Check disconnection Normal : A few
Fuel filler pump	 <p>CN-61</p>	24V 10A 35 /min	Check resistance Normal : 1.0
Hour meter	 <p>CN-48</p>	16V ~ 32V	Check operation · Supply power(24V) to terminal No. 2 and connect terminal No. 1 and ground.
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 (For terminal 1-2) :     (For terminal 1-3) Operating :     (For terminal 1-2) : 0 (For terminal 1-3)
Safety switch 2 Wiper cut sw	 <p>CS-20 CS-53</p>	24V (N.C TYPE)	Check contact Normal : 0 (one pin to ground)

Part name	Symbol	Specification	Check
Fuel cut-off	 <p>CN-79</p>	24V	Check resistance Normal : 15~25
Pressure switch (T/M, Breaker, auto idle)	 <p>CD-3 CD-5 CD-7</p>	10bar (N.C type)	Check contact Normal : 0.1
Beacon lamp	 <p>CL-7</p>	24V 70W	Check disconnection Normal : 1.1
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 :
Washer tank	 <p>CN-22</p>	24V 3.8A	Check contact Normal : 10.7 (For terminal 1-2)
Cigar lighter	 <p>CL-2</p>	24V 5A 1.4W	Check coil resistance Normal : About 1M Check contact Normal : Operating time : 5~15sec

Part name	Symbol	Specification	Check
Door switch	 <p>CS-1</p>	24V 2W	Check resistance Normal : About 5M
Wiper motor	 <p>CN-21</p>	24V 2A	Check contact Normal : 7 (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
Start relay	 <p>CR-23</p>	24V 300A	Check contact Normal : 0.94 (For terminal 1-2)
Starter	 <p>CN-45</p>	Delco Remy 28MT 24V	Check contact Normal : 0.1

Part name	Symbol	Specification	Check
Alternator	 <p>CN-74</p>	24V 60A	Check contact Normal : 0 (For terminal B -1) Normal : 24 ~ 27.5V
Travel alarm buzzer	 <p>CN-81</p>	24V 0.5A	Check contact Normal : 5.2
Aircon compressor	 <p>CN-28</p>	24V 79W	Check contact Normal : 13.4
Accel dial	 <p>CN-142</p>	-	Check resistance Normal : About 5k (For terminal A-C) Check voltage Normal : About 5V (For terminal A-C) : 2 ~ 4.5V (For terminal C-B)
Transducer (Pump 1,2)	 <p>CD-42 CD-43</p>	500 bar	0bar : 1V(For terminal 1-2) 500bar : 5V(For terminal 1-2)
Transducer (Pump 3)	 <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 (For terminal 1-2)
Aircon resistor		-	Check resistance 1.12 (For terminal 4-2) 2.07 (For terminal 2-3) 3.17 (For terminal 3-1)
Duct sensor (Switch)		1,C OFF 4,C ON	Check resistance :0 (For terminal 1-2, the atmosphere temp : over 4,C)
Preheater relay	 <p>CR-24</p>	24V 200A	Check contact Normal : 0.94 (For terminal 1-GND)
Preheater		24V 200A	check resistance : 0.25 ~ 0.12

Part name	Symbol	Specification	Check
Quick clamp	 CN-140	24V 6A	Check contact Normal : 28.9M (For terminal 1-2)
Fusible link	 CN-60 CN-95	60A	Check disconnection Normal : 0 (Connect ring terminal and check resist between terminal 1 and 2)
Rear combination lamp-LH,RH	 CL-15 CL-16	24V 21W x 3 24V 10W	Normal : 4.8 (For terminal 1-4) Normal : 2.1 (For terminal 2-4, 4-5, 4-6)
Front combination lamp-LH, RH	 CL-24 CL-25	24V 21W 24V 10W	Normal : 4.8 (For terminal 1-2) Normal : 2.1 (For terminal 2-3)
Head lamp -LH, RH	 CL-3 CL-4	24V 75/70W	Normal : 1.0 (For terminal 1-3, 2-3) Normal : 1.5 (For terminal 1-2)

## GROUP 4 CONNECTORS

### 1. CONNECTOR DESTINATION

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	AMP	6	l/conn(Engine harness 2-frame harness)	S816-006002	S816-106002
CN-2	AMP	12	l/conn(Engine harness 2-frame harness)	S816-012002	S816-112002
CN-3	AMP	8	l/conn(Engine harness 1-frame harness)	S816-008002	S816-108002
CN-4	AMP	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	AMP	12	l/conn(Side harness RH-frame harness)	S816-012002	S816-112002
CN-7	AMP	15	l/conn(Console harness RH-frame harness)	2-85262-1	368301-1
CN-8	AMP	12	l/conn(Console harness RH-frame harness)	A816-012002	S816-112002
CN-9	AMP	8	l/conn(Console harness RH-frame harness)	S816-008002	S816-108002
CN-10	DEUTSCH	12	l/conn(Cab harness-frame harness)	DT06S-12S	DT04-12P
CN-11	DEUTSCH	8	Air-con harness	DT06-8S	-
CN-12	DEUTSCH	2	Work lamp harness	DT06-2S-P012	DT04-2P-P012
CN-15	KET	2	2pcs auto idle pressure	S814-002100	S814-102100
CN-17	DEUTSCH	8	l/conn(Side harness RH-wiper harness)	DT06-8S	DT04-8P
CN-20	MOLEX	2	Horn	35825-0211	-
CN-21	AMP	6	Wiper motor	925276-0	-
CN-22	KET	2	Washer tank	MG640605	-
CN-23	KET	2	Speaker-LH	MG610070	-
CN-24	KET	2	Speaker-RH	MG610070	-
CN-25	MOLEX	2	Horn	35825-0211	-
CN-27	AMP	14	Cassette radio	173852	-
CN-28	MWP	1	AC compressor	MWP01F-B	-
CN-29	KET	2	Receiver dryer	MG640795	-
CN-36	DEUTSCH	3	Fuse box body	21N8-20041	-
CN-45	RING-TERM	-	Start motor B+	ST710264-2	-
CN-47	AMP	2	Resistor	S810-002202	-
CN-48	AMP	2	Hour meter	GP-890469	-
CN-50	AMP	36	CPU controller	3441110	-
CN-51	AMP	36	CPU controller	3441110	-
CN-56	DEUTSCH	4	Cluster	-	DT04-4P-E004
CN-60	YAZAKI	2	Fusible link	7122-4125-50	-
CN-61	DEUTSCH	2	Fuel filler pump	DT06-2S-P012	-
CN-65	KET	2	Back up buzzer	DT06-2S	-
CN-66	DEUTSCH	2	Breaker solenoid	DT06-2S-P012	DT04-2P-P012
CN-68	DEUTSCH	2	Safety solenoid	DT06-2S-P012	DT04-2P-P012

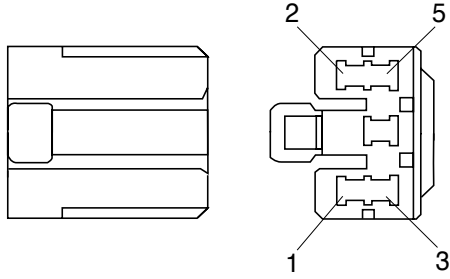
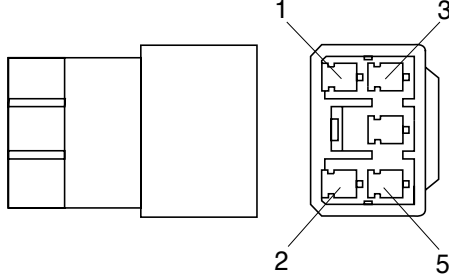
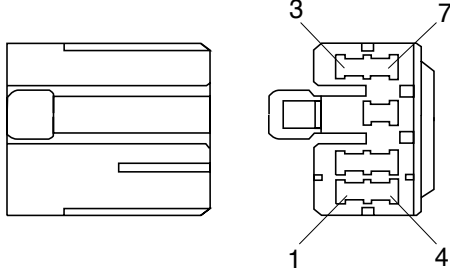
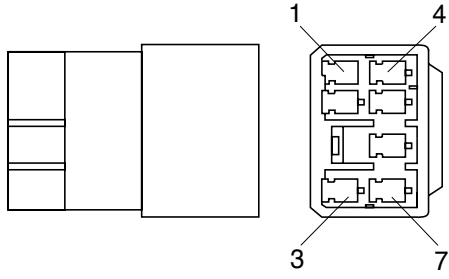
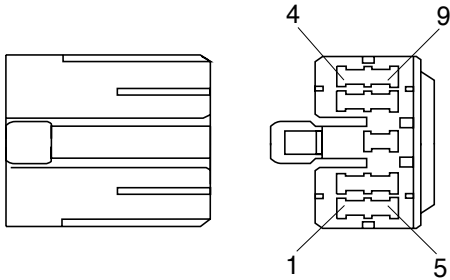
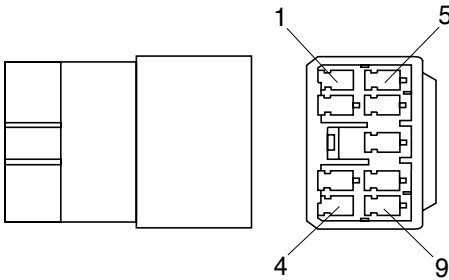
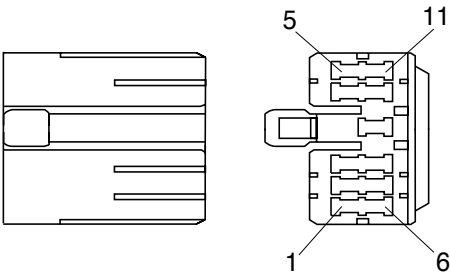
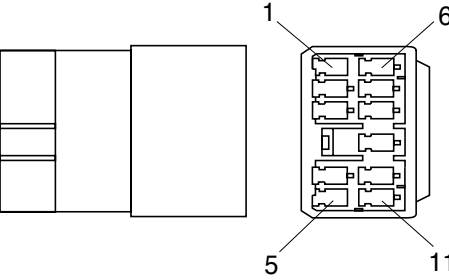
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-69	KET	2	Ram lock solenoid	S814-002100	-
CN-70	KET	2	Travel solenoid	S814-002100	-
CN-71	KET	2	Parking solenoid	S814-002100	-
CN-73	DEUTSCH	2	Dozer & Outrigger	DT06-2S-P012	DT04-2P-P012
CN-74	RING-TERM	-	Alternator "I" term	S820-105000	-
CN-75	AMP	2	EPPR valve	S816-002002	-
CN-76	DEUTSCH	6	DC motor	DT06-6S-EP06	-
CN-79	PACKARD	3	Fuel cut off	S818-020311	-
CN-81	DEUTSCH	2	Travel buzzer solenoid	DT06-2S-P012	-
CN-88	DEUTSCH	2	Power max solenoid	DT06-2S-P012	-
CN-95	YAZAKI	2	Fusible link	-	S813-130201
CN-97	AMP	12	Mutifunction switch	-	S816-112002
CN-98	AMP	10	Mutifunction switch	-	S816-110002
CN-99	AMP	8	Mutifunction switch	-	S816-108002
CN-116	PA	17	Switch panel	S811-017002	-
CN-122	DEUTSCH	2	FWD	DT06-2S-P012	DT04-2P-P012
CN-123	DEUTSCH	2	REV	DT06-2S-P012	DT04-2P-P012
CN-126	DEUTSCH	4	RS 232 connector	DT06-4S-P012	DT04-4P-E004
CN-131	AMP	4	Pressur switch	S816-002002	S816-102002
CN-133	DEUTSCH	2	Boom prioity solenoid	DT06-2S-P012	-
CN-137	DEUTSCH	2	Max flow sclenoid	DT06-2S-P012	-
CN-138	DEUTSCH	3	DC/DC converter	DT06-3S-P012	-
CN-139	DEUTSCH	2	12V socket	-	DT04-2P-E004
CN-140	DEUTSCH	2	Quick clamp	DT06-2S	-
CN-141	AMP	13	Wiper motor controller	142176-2	-
CN-142	DEUTSCH	3	Accel dial	DT06-3S-P012	-
CN-143	KET	12	Cassette radio(With remocon)	MG610406	-
CN-144	AMP	12	Remocon-cassette radio	174045-2	-
· Relay					
CR-1	RING-TERN	-	Battery relay	-	S820-208002
CR-3	AMP	4	Work lamp relay	S810-004202	-
CR-23	RING-TERM	2	Start relay	-	S814-102001
CR-24	RING-TERM	1	Pre-heater relay	S822-014000	-
CR-29	AMP	4	Fwd relay	S810-004202	-
CR-30	AMP	4	Rev relay	S810-004202	-
CR-47	AMP	6	Safety relay	S810-006202	-

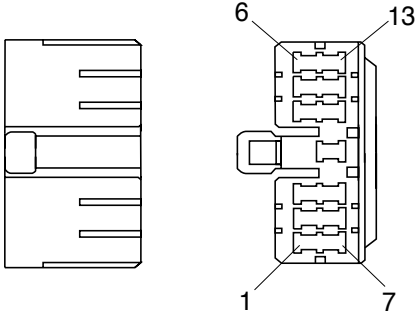
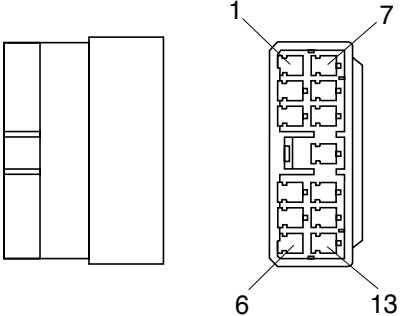
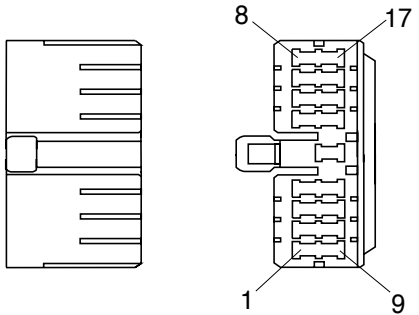
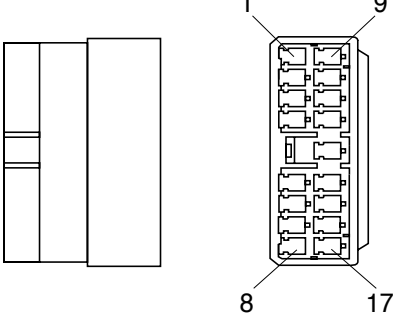
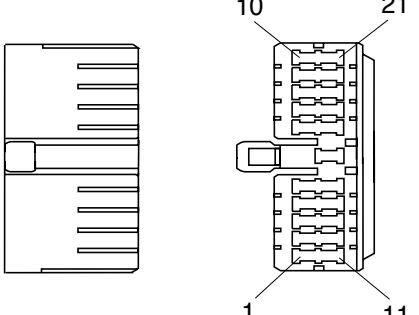
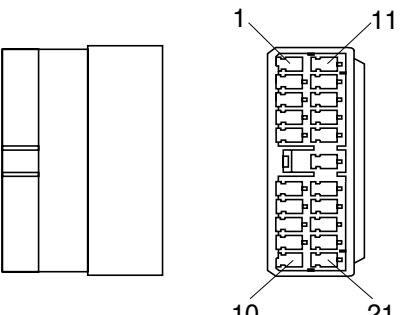
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
· Switch					
CS-1	SHUR	1	Door switch	S822-014004	-
CS-2	SWP	6	Start key switch	S814-006000	-
CS-4	DEUTSCH	3	Safety switch	DT06-3S-P012	-
CS-5	DEUTSCH	1	Horn switch	-	DT04-2P-E004
CS-19	DEUTSCH	2	One touch decel	-	DT04-2P-E004
CS-20	AMP	1	Safety switch	S822-014002	-
CS-23	SWF	10	Beacon lamp switch	SWF593757	-
CS-26	DEUTSCH	1	Breaker switch	DT06-2S-P012	-
CS-27	SWF	10	Breaker switch	SWF593757	-
CS-29	DEUTSCH	2	Powe max switch	DT06-2S-P012	-
CS-50	SWF	10	Overload switch	SWF593757	-
CS-53	SHUR	1	Wiper cut switch	S822-014002	-
CS-54	SWF	10	Spare switch	SWF593757	-
· Light					
CL-1	KET	2	Room lamp	MG 610406	-
CL-2	AMP	1	Cigar light	S822-014002	-
CL-3	AMP	3	Head lamp	S810-003702	-
CL-4	AMP	3	Head lamp	S810-003702	-
CL-5	DEUTSCH	2	Work lamp-LH	-	DT04-2P
CL-6	DEUTSCH	2	Work lamp-RH	-	DT04-2P
CL-7	SHUR	1	Beacon lamp	S822-014004	S822-114004
CL-8	DEUTSCH	2	Cab light-LH	-	DT04-2P
CL-9	DEUTSCH	2	Cab light-RH	-	DT04-2P
CL-15	KET	6	Rear combination lamp-LH	S814-006000	-
CL-16	KET	6	Rear combination lamp-RH	S814-006000	-
CL-21	KET	2	Numberplate lamp	S814-002100	-
CL-24	KET	3	Front combination lamp-LH	S814-003000	-
CL-25	KET	3	Front combination lamp-RH	S814-003000	-
· Sensor, sendor					
CD-1	AMP	2	Hydraulic oil temp sender	85202-1	-
CD-2	DEUTSCH	2	Fuel sender	DT06-2S-P012	-
CD-7	KET	2	Auto idle pressure switch	21EA-00310	-
CD-8	AMP	2	Water temp sender	85202-1	-
CD-10	RING-TERM	-	Air cleaner switch	-	S820-104002
CD-17	PACKARD	2	Tachosensor	-	S818-120221
CD-18	RING-TERM	1	Engine oil pressure switch	-	S820-104000
CD-31	DEUTSCH	2	Overload pressure switch	DT06-2S-P012	DT04-2P-P012

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CD-42	AMP	3	Pump pressure 1	S816-003002	-
CD-43	AMP	3	Pump pressure 2	S816-003002	-
CD-44	AMP	3	Pump pressure 3	S816-003002	-

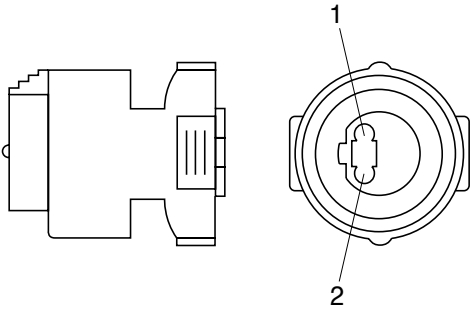
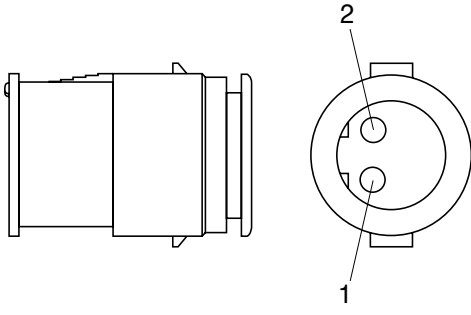
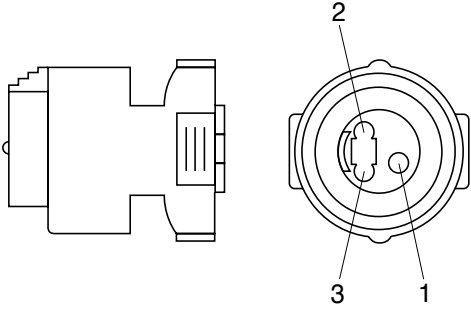
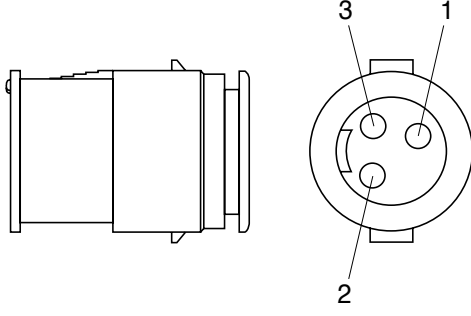
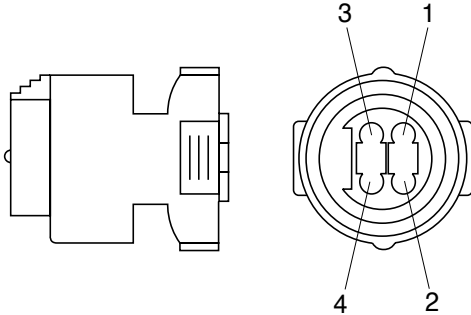
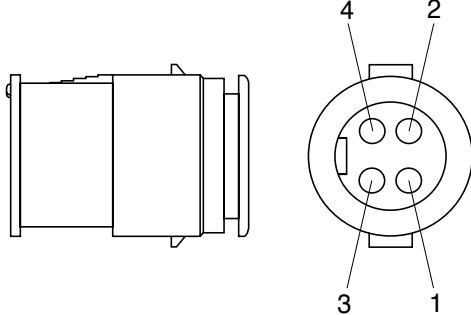
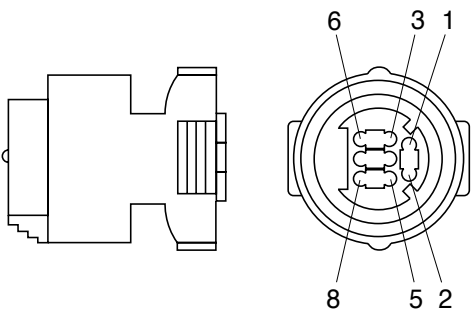
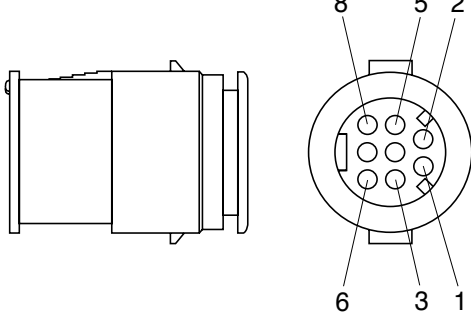
## 2. CONNECTION TABLE FOR CONNECTORS

### 1) PA TYPE CONNECTOR

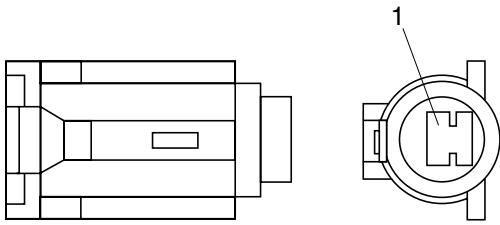
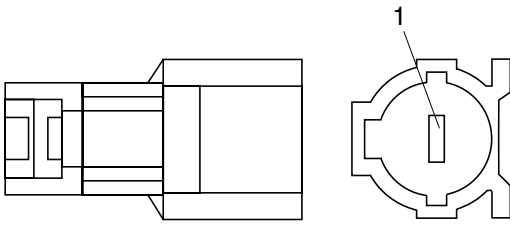
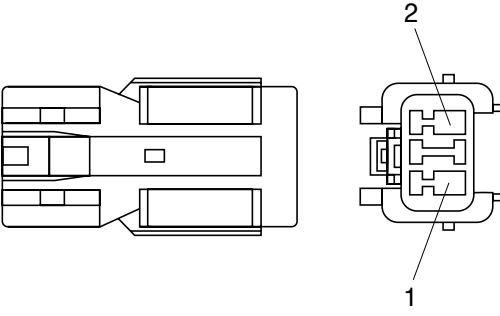
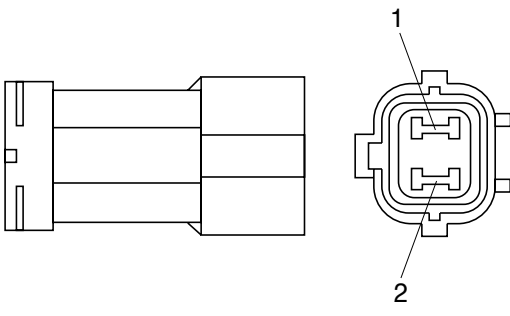
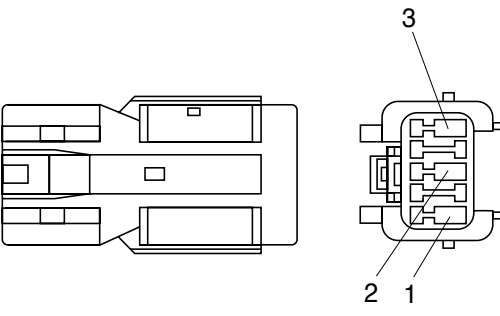
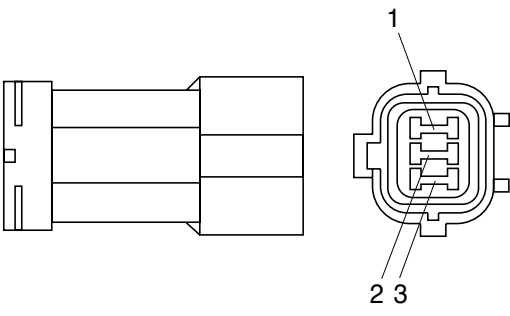
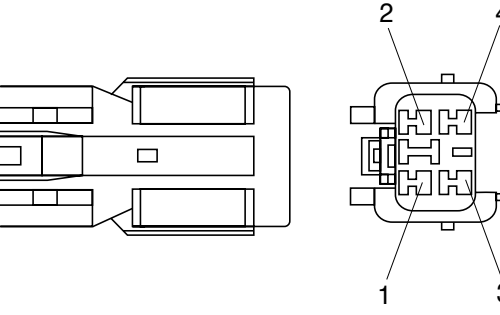
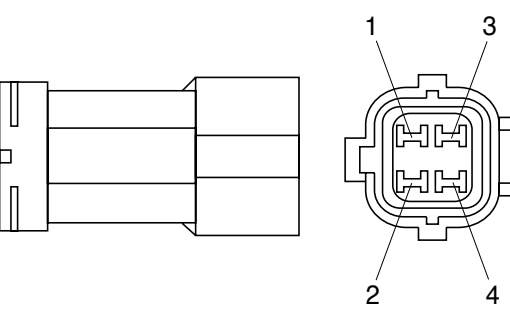
No. of pin	Receptacle connector(Female)	Plug connector(Male)
5	 <p style="text-align: center;">S811-005002</p>	 <p style="text-align: center;">S811-105002</p>
7	 <p style="text-align: center;">S811-007002</p>	 <p style="text-align: center;">S811-107002</p>
9	 <p style="text-align: center;">S811-009002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

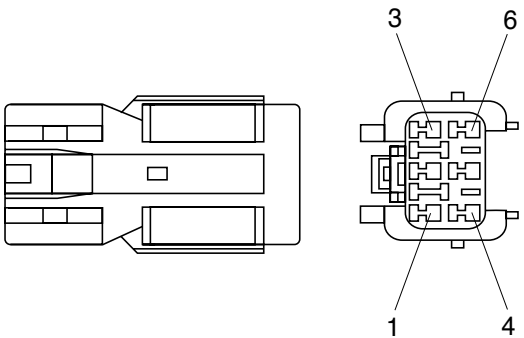
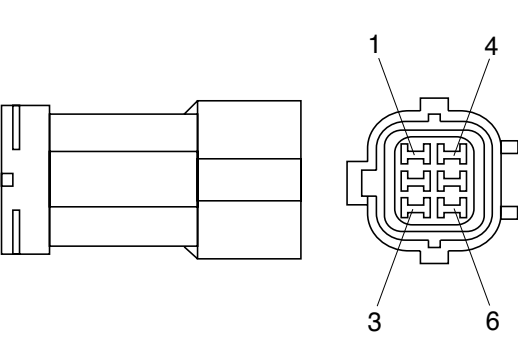
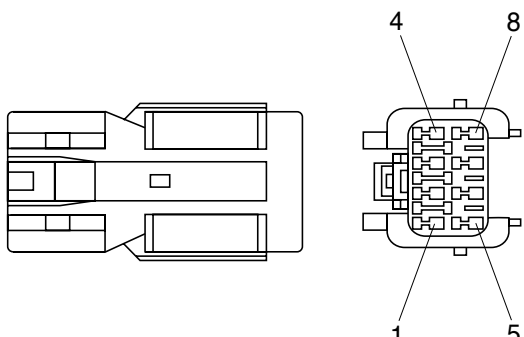
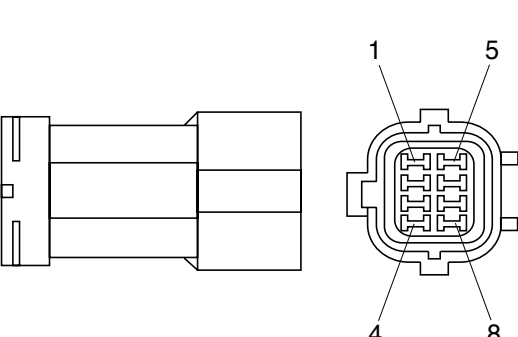
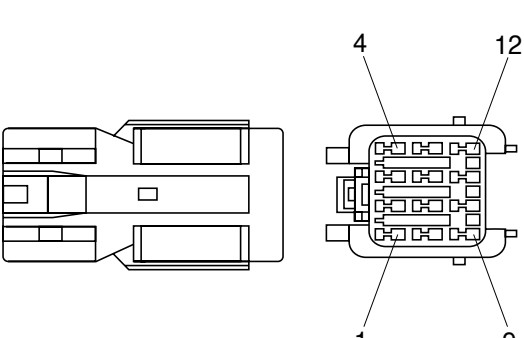
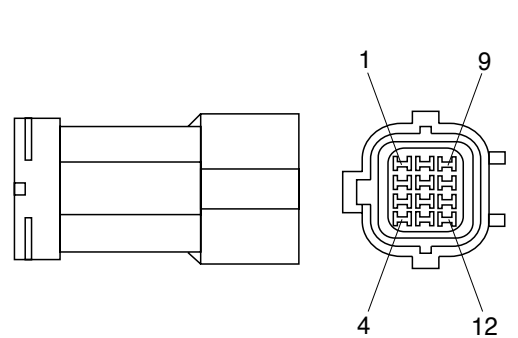
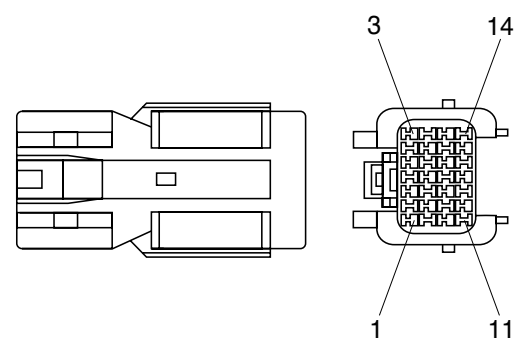
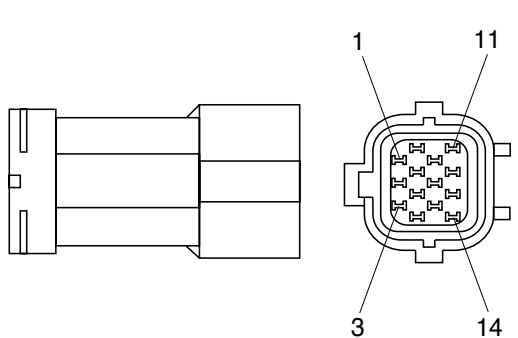
No. of pin	Receptacle connector(Female)	Plug connector(Male)
13	 <p style="text-align: center;">S811-013002</p>	 <p style="text-align: center;">S811-113002</p>
17	 <p style="text-align: center;">S811-017002</p>	 <p style="text-align: center;">S811-117002</p>
21	 <p style="text-align: center;">S811-021002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

## 2) J TYPE CONNECTOR

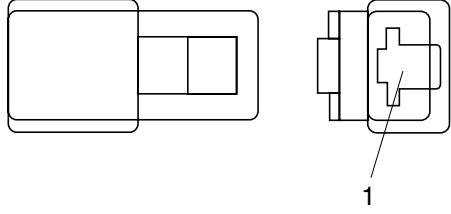
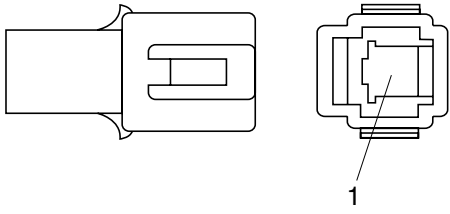
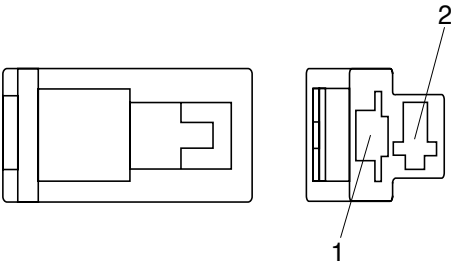
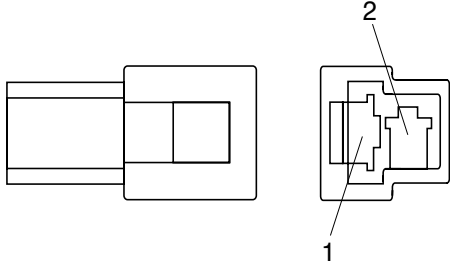
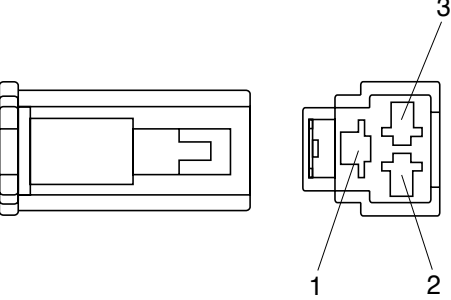
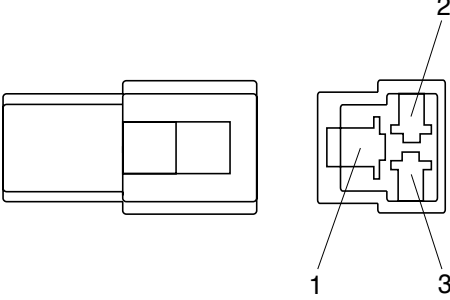
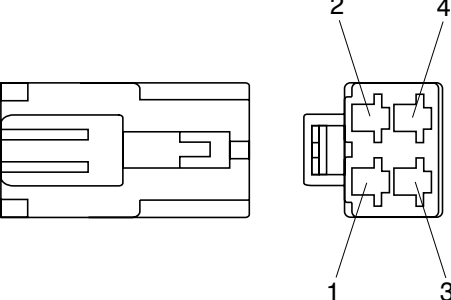
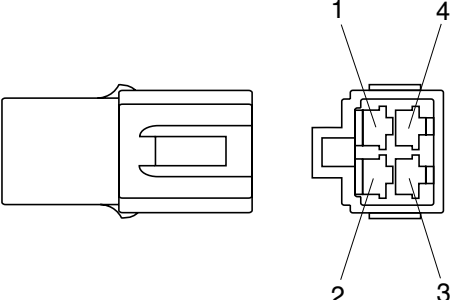
No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p style="text-align: center;">S816-002001</p>	 <p style="text-align: center;">S816-102001</p>
3	 <p style="text-align: center;">S816-003001</p>	 <p style="text-align: center;">S816-103001</p>
4	 <p style="text-align: center;">S816-004001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

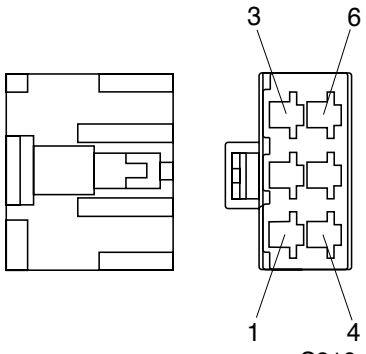
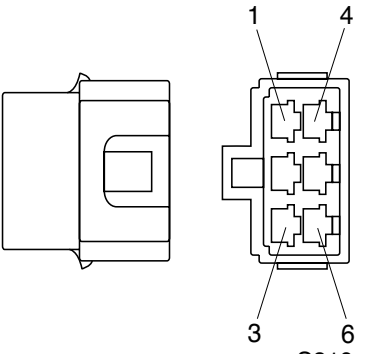
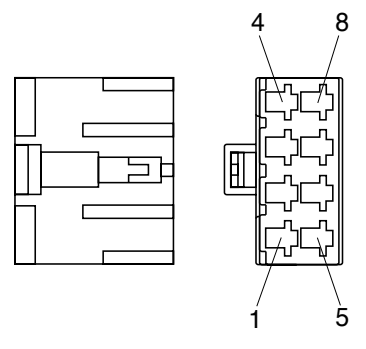
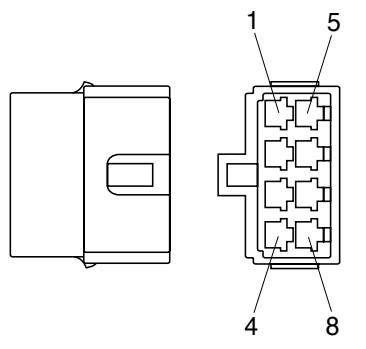
### 3) SWP TYPE CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
1	 <p data-bbox="686 672 837 705">S814-001000</p>	 <p data-bbox="1236 672 1388 705">S814-101000</p>
2	 <p data-bbox="686 1075 837 1108">S814-002000</p>	 <p data-bbox="1236 1075 1388 1108">S814-102000</p>
3	 <p data-bbox="686 1478 837 1512">S814-003000</p>	 <p data-bbox="1236 1478 1388 1512">S814-103000</p>
4	 <p data-bbox="686 1881 837 1915">S814-004000</p>	 <p data-bbox="1236 1881 1388 1915">S814-104000</p>

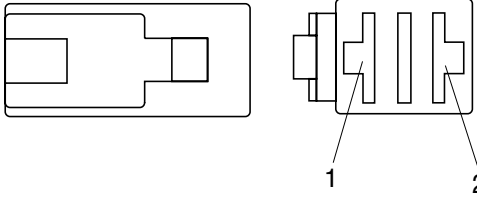
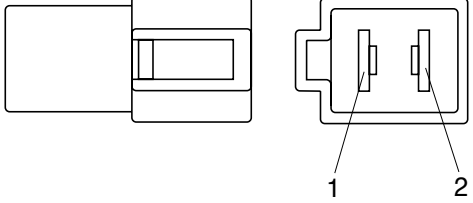
No. of pin	Receptacle connector(Female)	Plug connector(Male)
6	 <p data-bbox="686 627 837 660">S814-006000</p>	 <p data-bbox="1244 627 1396 660">S814-106000</p>
8	 <p data-bbox="686 1030 837 1064">S814-008000</p>	 <p data-bbox="1244 1030 1396 1064">S814-108000</p>
12	 <p data-bbox="686 1438 837 1471">S814-012000</p>	 <p data-bbox="1244 1438 1396 1471">S814-112000</p>
14	 <p data-bbox="686 1845 837 1879">S814-014000</p>	 <p data-bbox="1244 1845 1396 1879">S814-114000</p>

#### 4) CN TYPE CONNECTOR

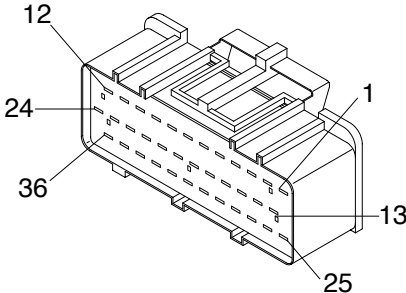
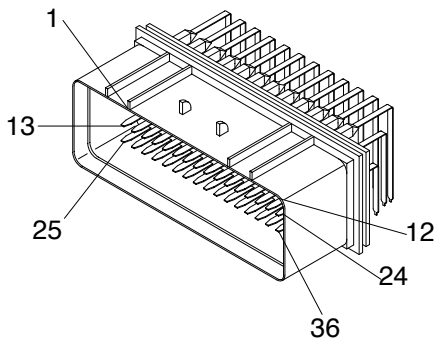
No. of pin	Receptacle connector(Female)	Plug connector(Male)
1	 <p data-bbox="687 678 836 707">S810-001202</p>	 <p data-bbox="1241 678 1390 707">S810-101202</p>
2	 <p data-bbox="687 1081 836 1111">S810-002202</p>	 <p data-bbox="1241 1081 1390 1111">S810-102202</p>
3	 <p data-bbox="687 1491 836 1520">S810-003202</p>	 <p data-bbox="1241 1491 1390 1520">S810-103202</p>
4	 <p data-bbox="687 1895 836 1924">S810-004202</p>	 <p data-bbox="1241 1895 1390 1924">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 1030 837 1064">S810-008202</p>	 <p data-bbox="1244 1030 1396 1064">S810-108202</p>

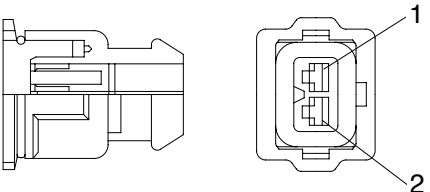
### 5) 375 FASTEN TYPE CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p data-bbox="687 678 836 707">S810-002402</p>	 <p data-bbox="1241 678 1390 707">S810-102402</p>

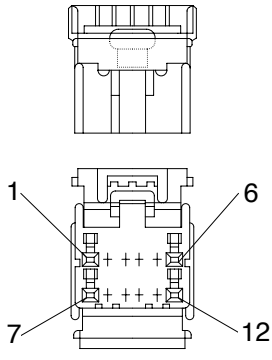
### 6) AMP ECONOSEAL CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
36	 <p data-bbox="730 1265 836 1294">344111-1</p>	 <p data-bbox="1284 1265 1390 1294">344108-1</p>

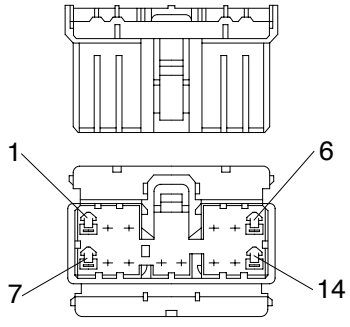
### 7) AMP TIMER CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p data-bbox="742 1854 836 1883">85202-1</p>	

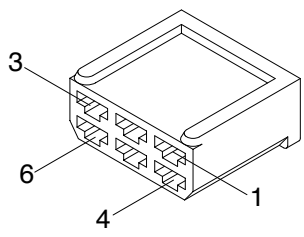
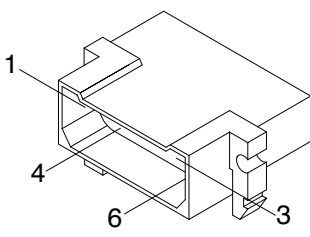
### 8) AMP 040 MULTILOCK CONNECTOR

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

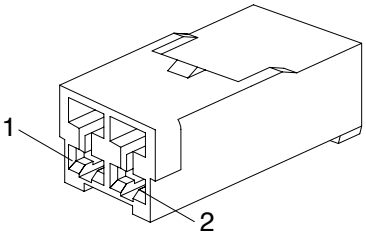
### 9) AMP 070 MULTILOCK CONNECTOR

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

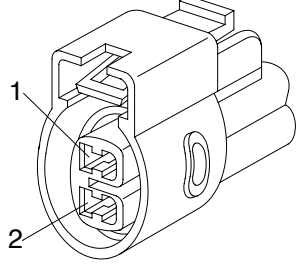
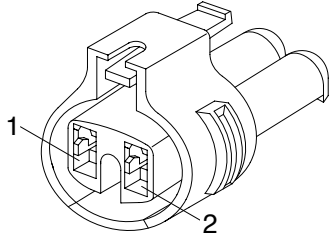
### 10) AMP FASTIN - FASTON CONNECTOR

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>

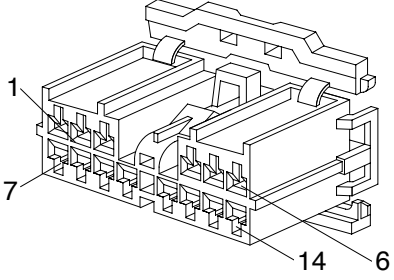
**11) KET 090 CONNECTOR**

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

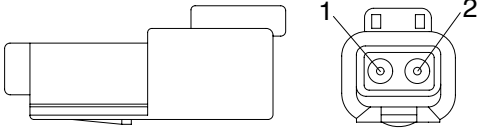
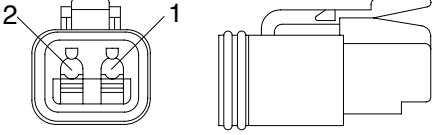
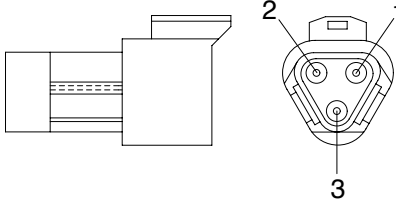
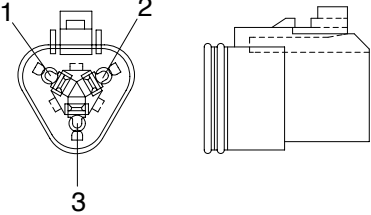
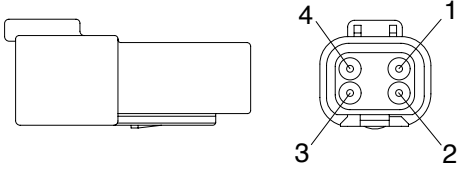
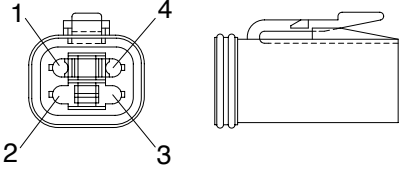
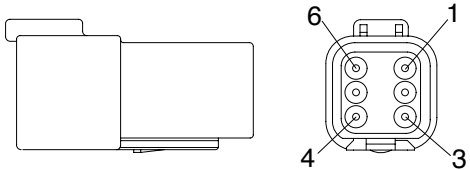
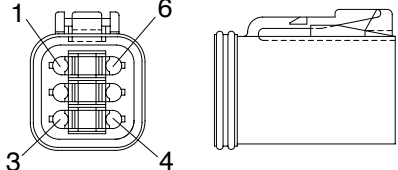
**12) KET 090 WP CONNECTORS**

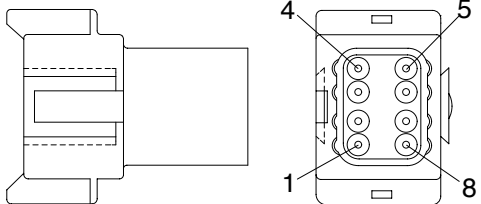
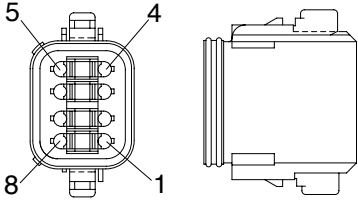
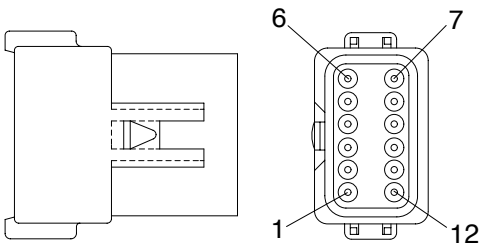
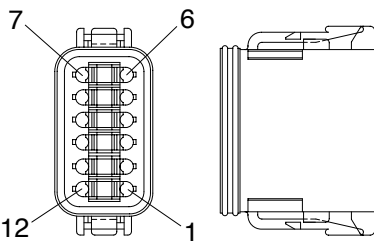
No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p style="text-align: right;">MG640605</p>	
2	 <p style="text-align: right;">MG640795</p>	

### 13)KET SDL CONNECTOR

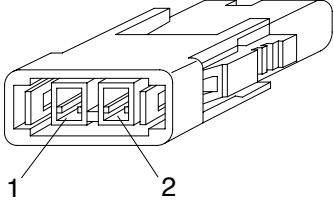
No. of pin	Receptacle connector(Female)	Plug connector(Male)
14	 <p data-bbox="715 678 837 707">MG610406</p>	

### 14) DEUTSCH DT CONNECTORS

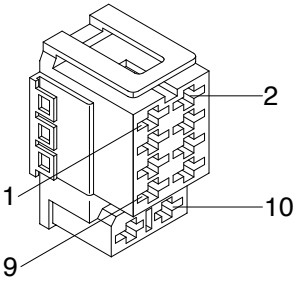
No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p style="text-align: center;">DT06-2S</p>	 <p style="text-align: center;">DT04-2P</p>
3	 <p style="text-align: center;">DT06-3S</p>	 <p style="text-align: center;">DT04-3P</p>
4	 <p style="text-align: center;">DT06-4S</p>	 <p style="text-align: center;">DT04-4P</p>
6	 <p style="text-align: center;">DT06-6S</p>	 <p style="text-align: center;">DT04-6P</p>

No. of pin	Receptacle connector(Female)	Plug connector(Male)
8	 <p data-bbox="734 627 837 660">DT06-8S</p>	 <p data-bbox="1284 627 1388 660">DT04-8P</p>
12	 <p data-bbox="718 1030 837 1064">DT06-12S</p>	 <p data-bbox="1276 1030 1396 1064">DT04-12P</p>

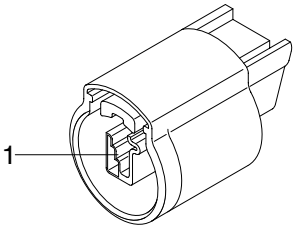
### 15) MOLEX 2CKTS CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p data-bbox="703 678 836 707">35215-0200</p>	

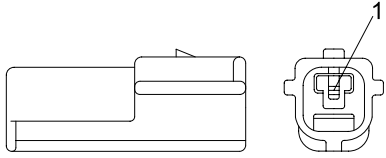
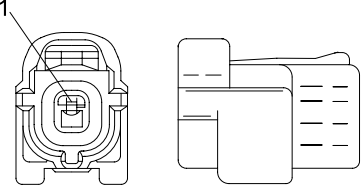
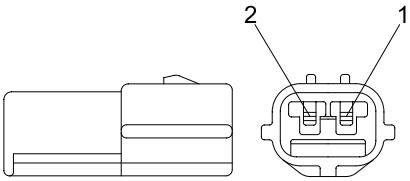
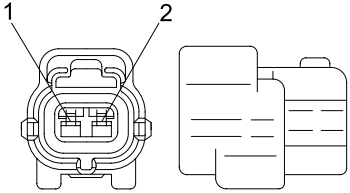
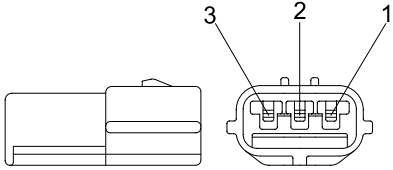
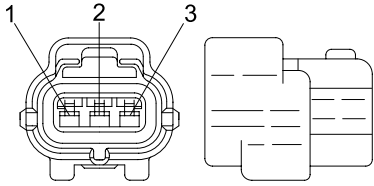
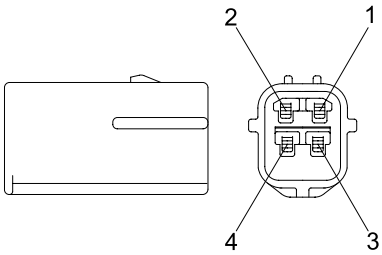
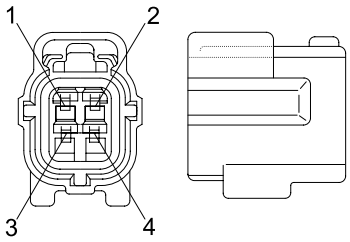
### 16)ITT SWF CONNECTOR

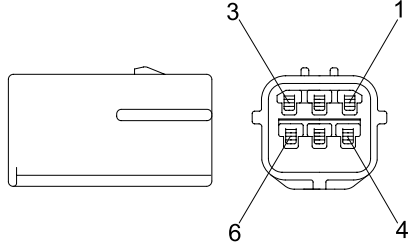
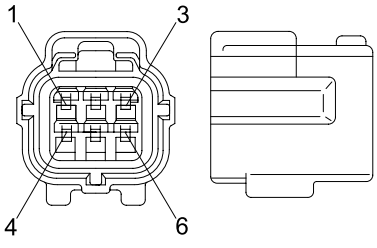
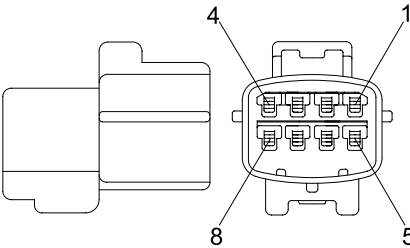
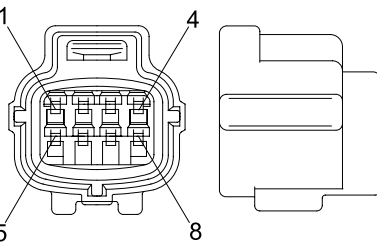
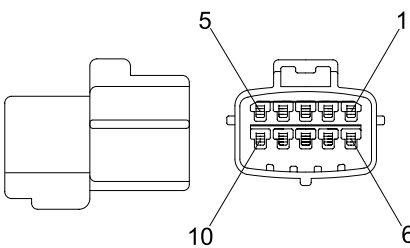
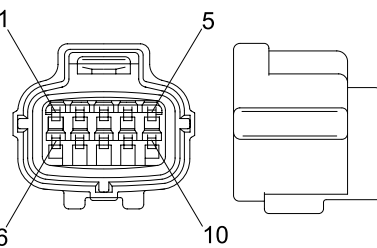
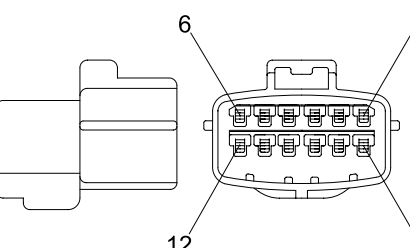
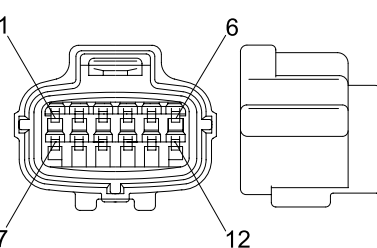
No. of pin	Receptacle connector(Female)	Plug connector(Male)
10	 <p data-bbox="699 1261 836 1290">SWF593757</p>	

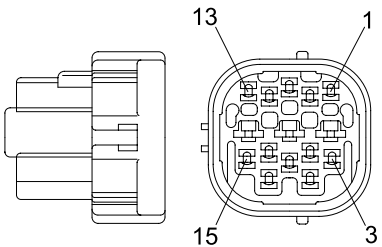
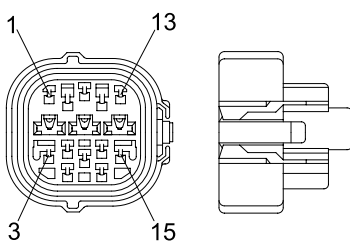
### 17)MWP NMWP CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
1	 <p data-bbox="687 1850 836 1879">NMWP01F-B</p>	

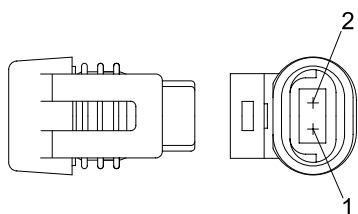
18) ECONOSEAL J TYPE CONNECTORS

No. of pin	Receptacle connector(Female)	Plug connector(Male)
1	 <p data-bbox="687 678 839 707">S816-001002</p>	 <p data-bbox="1243 678 1394 707">S816-101002</p>
2	 <p data-bbox="687 1081 839 1111">S816-002002</p>	 <p data-bbox="1243 1081 1394 1111">S816-102002</p>
3	 <p data-bbox="687 1489 839 1518">S816-003002</p>	 <p data-bbox="1243 1489 1394 1518">S816-103002</p>
4	 <p data-bbox="687 1897 839 1926">S816-004002</p>	 <p data-bbox="1243 1897 1394 1926">S816-104002</p>

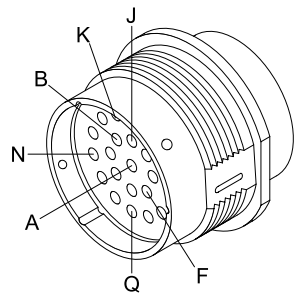
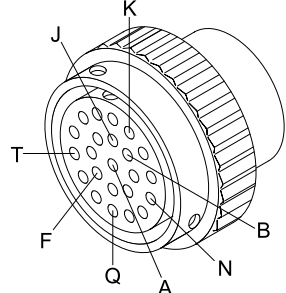
No. of pin	Receptacle connector(Female)	Plug connector(Male)
6	 <p data-bbox="687 633 836 663">S816-006002</p>	 <p data-bbox="1243 633 1391 663">S816-106002</p>
8	 <p data-bbox="687 1037 836 1066">S816-008002</p>	 <p data-bbox="1243 1037 1391 1066">S816-108002</p>
10	 <p data-bbox="687 1440 836 1469">S816-010002</p>	 <p data-bbox="1243 1440 1391 1469">S816-110002</p>
12	 <p data-bbox="687 1843 836 1872">S816-012002</p>	 <p data-bbox="1243 1843 1391 1872">S816-112002</p>

No. of pin	Receptacle connector(Female)	Plug connector(Male)
15	 <p data-bbox="730 631 836 658">368301-1</p>	 <p data-bbox="1278 631 1383 658">2-85262-1</p>

### 19) METRI-PACK TYPE CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p data-bbox="726 1232 831 1258">12040753</p>	

### 20) DEUTSCH HD30 CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
23	 <p data-bbox="667 1836 836 1863">HD36-24-23SN</p>	 <p data-bbox="1220 1836 1390 1863">HD34-24-23PN</p>