

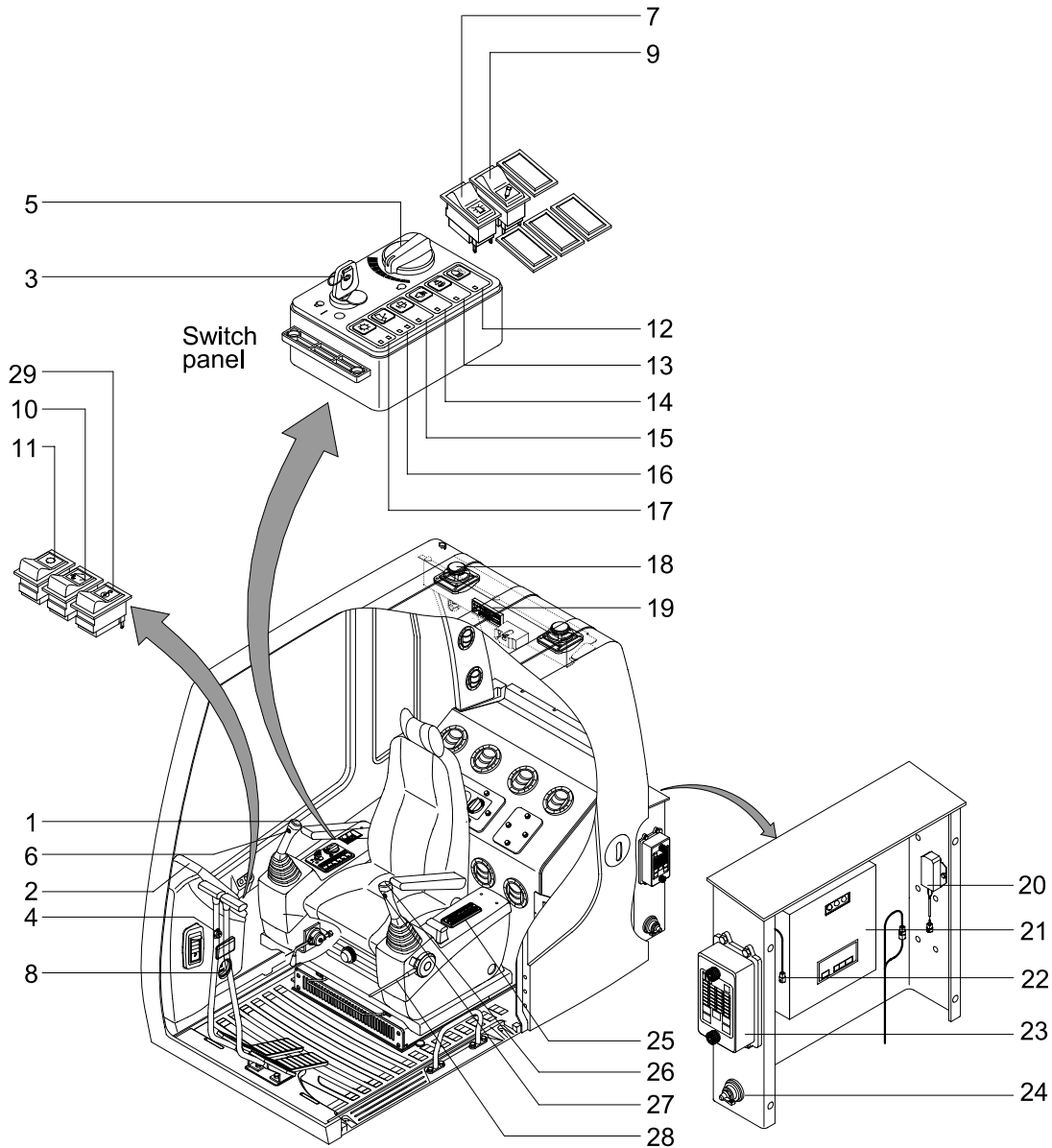
SECTION 4 ELECTRICAL SYSTEM

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SECTION 4 ELECTRICAL SYSTEM

GROUP 1 COMPONENT LOCATION

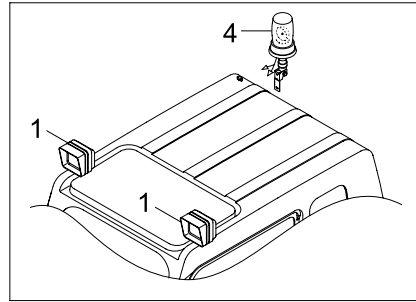
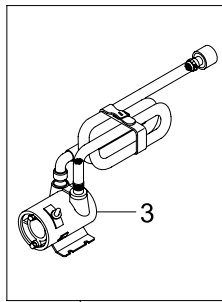
1. LOCATION 1



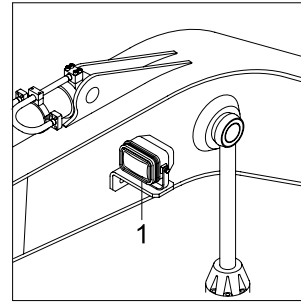
34074EL01

- | | | | | | |
|----|--------------------------|----|--------------------------|----|------------------------------|
| 1 | Horn switch | 11 | Econo switch | 21 | MCU |
| 2 | Cluster | 12 | Cab light switch | 22 | RS232 serial port |
| 3 | Starting switch | 13 | Travel alarm stop switch | 23 | Fuse box |
| 4 | Cigar lighter | 14 | Preheat switch | 24 | Master switch |
| 5 | Accel dial | 15 | Washer switch | 25 | Aircon & heater switch panel |
| 6 | Breaker switch | 16 | Wiper switch | 26 | One touch decel switch |
| 7 | Beacon switch | 17 | Main light switch | 27 | Power max switch |
| 8 | Service meter | 18 | Speaker | 28 | Safety lever |
| 9 | Breaker selection switch | 19 | Radio & USB player | 29 | Overload switch |
| 10 | Quick clamp switch | 20 | Resistor | | |

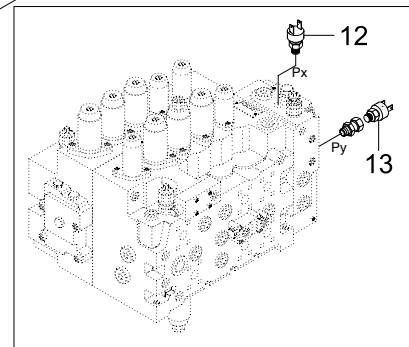
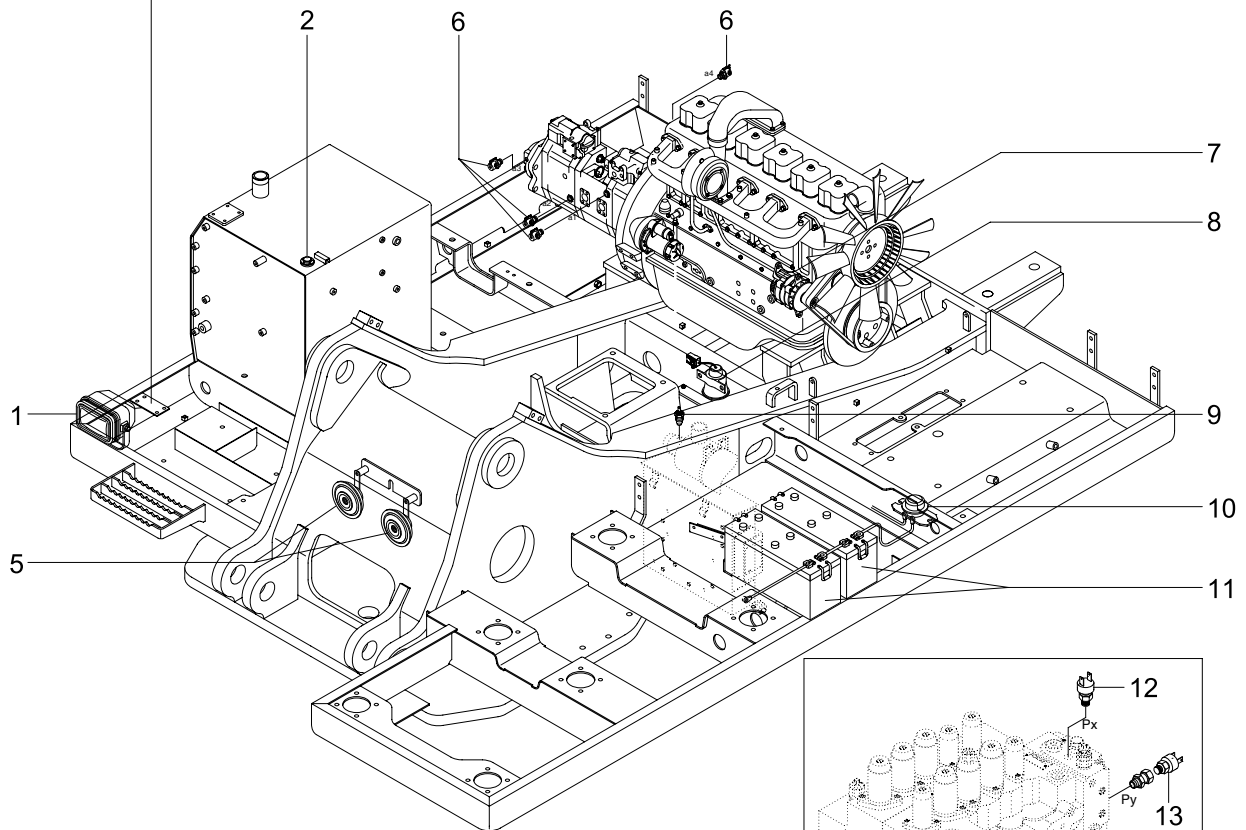
2. LOCATION 2



CAB



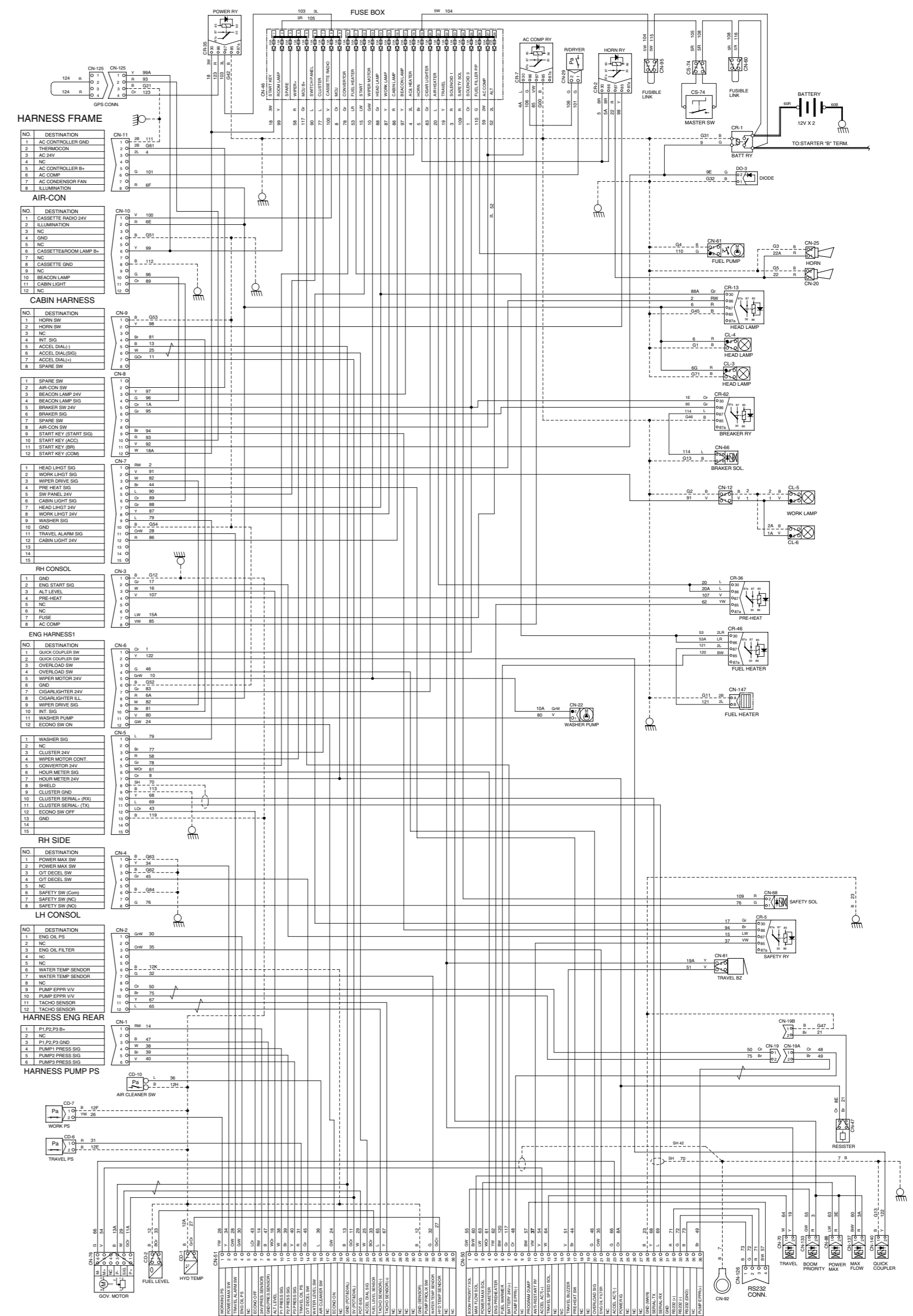
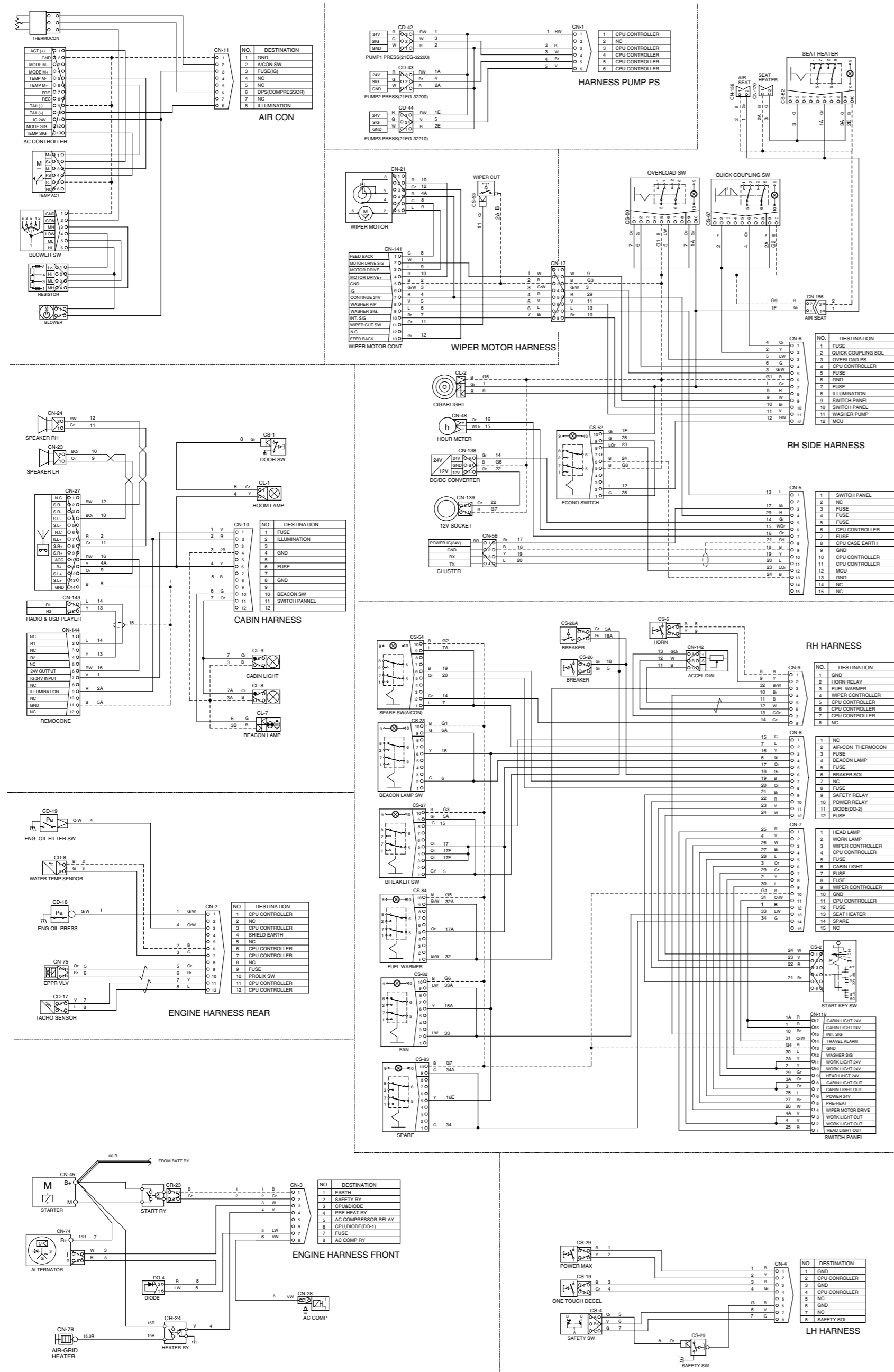
BOOM



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- | | | | | | |
|---|------------------|----|---------------------|----|------------------------|
| 1 | Lamp | 6 | Coupling | 11 | Battery |
| 2 | Fuel sender | 7 | Alternator | 12 | Attach pressure sensor |
| 3 | Fuel filler pump | 8 | Travel alarm buzzer | 13 | Travel pressure sensor |
| 4 | Beacon lamp | 9 | Air cleaner switch | | |
| 5 | Horn | 10 | Battery relay | | |

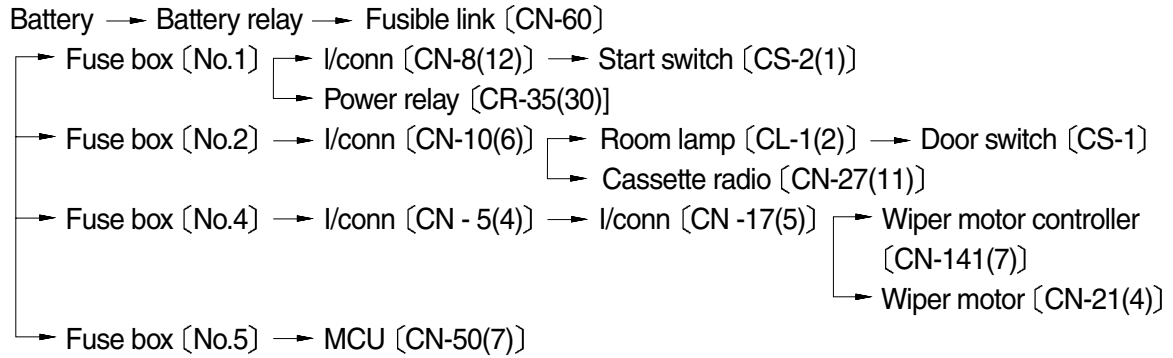
GROUP 2 ELECTRICAL CIRCUIT



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



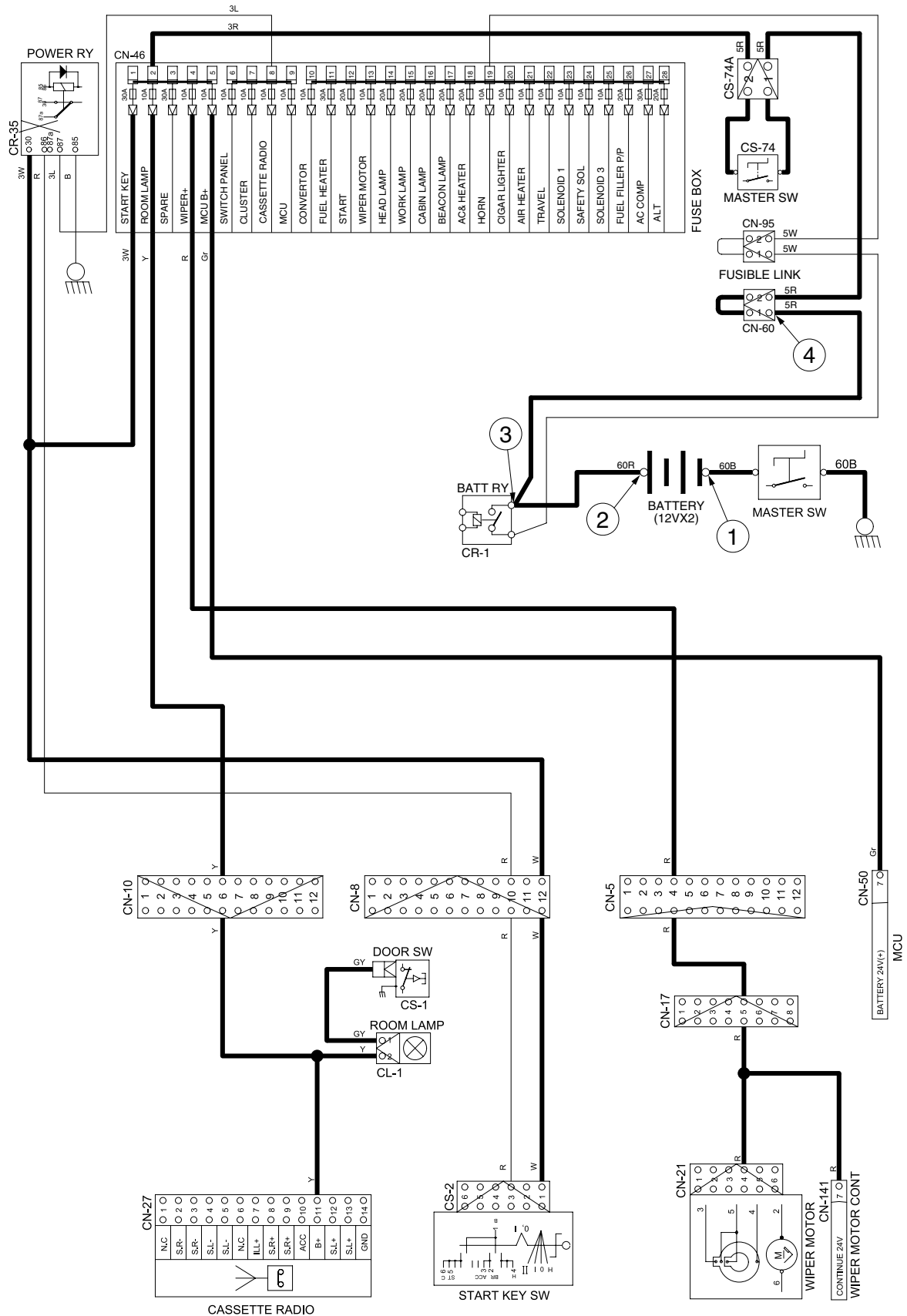
※ I/conn : Intermediate connector

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



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2. STARTING CIRCUIT

1) OPERATING FLOW

Battery(+) terminal → Battery relay〔CR-1〕 → Fusible link 〔CS-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.8〕

(2) When start key switch is in START position

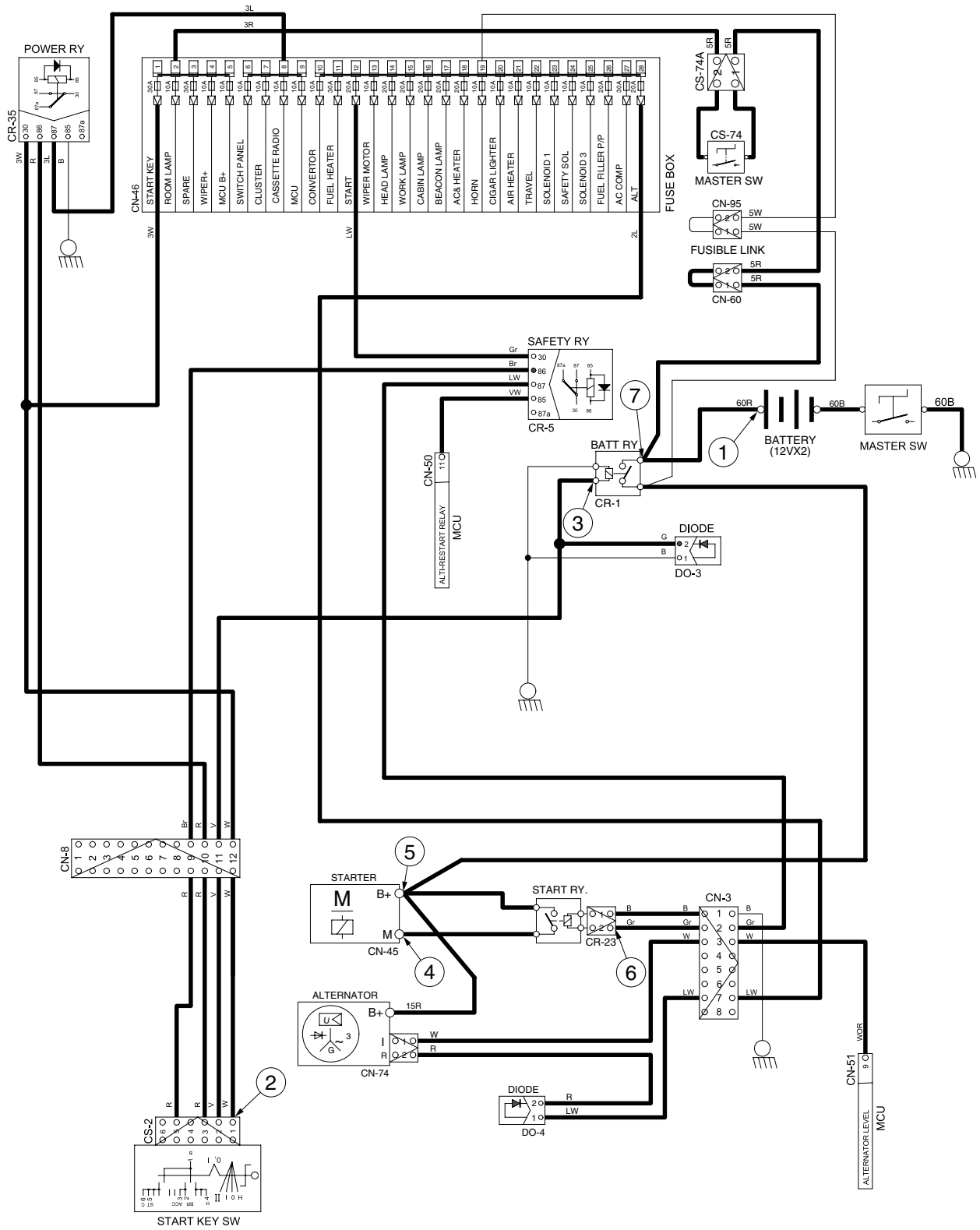
Start switch START 〔CS-2(5)〕 → I/conn 〔CN-8(9)〕 → Safety relay 〔CR-5(86) → (87)〕
 → I/conn 〔CN-3(2)〕 → Start relay 〔CR-23〕

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



34074EL05

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 [CN-74(1)] → I/conn [CN-3(3)] → MCU [CN-51(9)]

Cluster charging warning lamp(Via serial interface)

(2) Charging flow

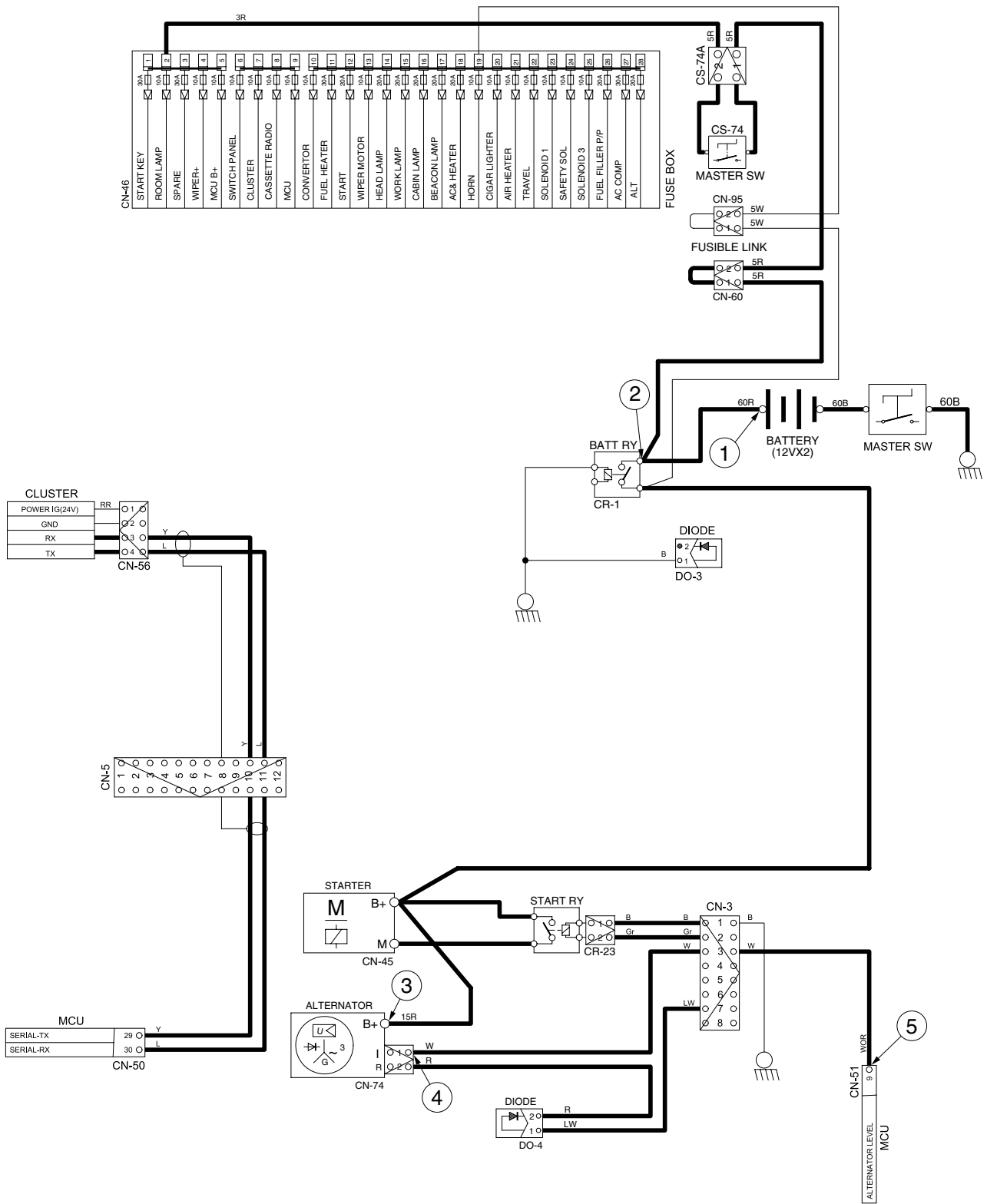
Alternator "B+" terminal → Battery relay(M8) → Battery(+) terminal
 → Fusible link [CS-61] → Fuse box

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(MCU)	20~30V

※ GND : Ground

CHARGING CIRCUIT



34074EL06

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 relay [CR-13(86) → (87)]

→ Head light ON [CL-4(2), CL-3(2)]

→ I/conn [CN-10(2)] → Radio & USB player illumination ON [CN-27(7)]
 → Remoto controller illumination ON [CN-144(9)]

→ I/conn [CN-11(8)] → AC & Heater controller illumination ON

→ I/conn [CN-6(8)] → Cigarlight [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)]

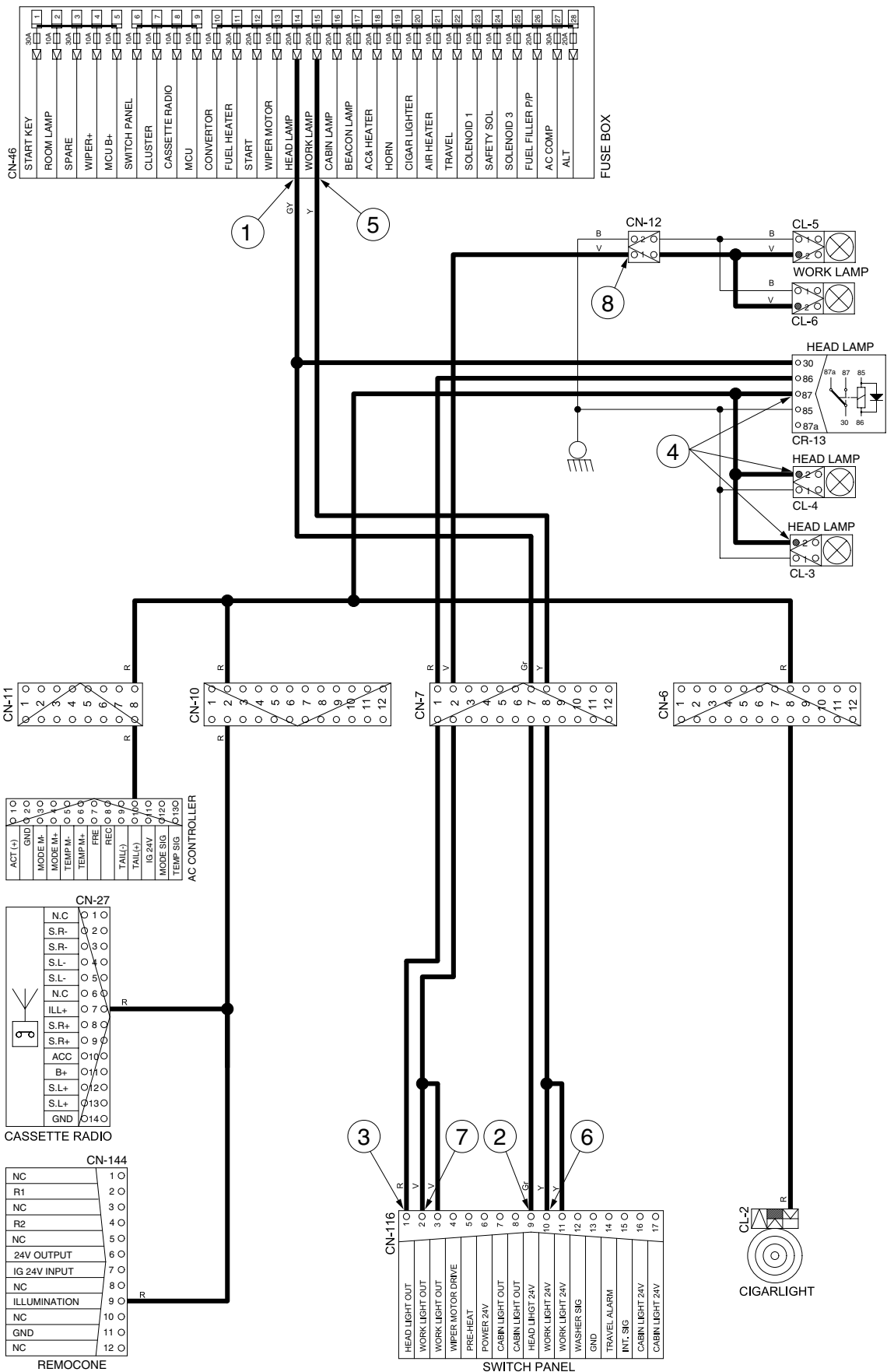
→ Work light ON [CL-5(2), CL-6(2)]

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



34074EL07

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

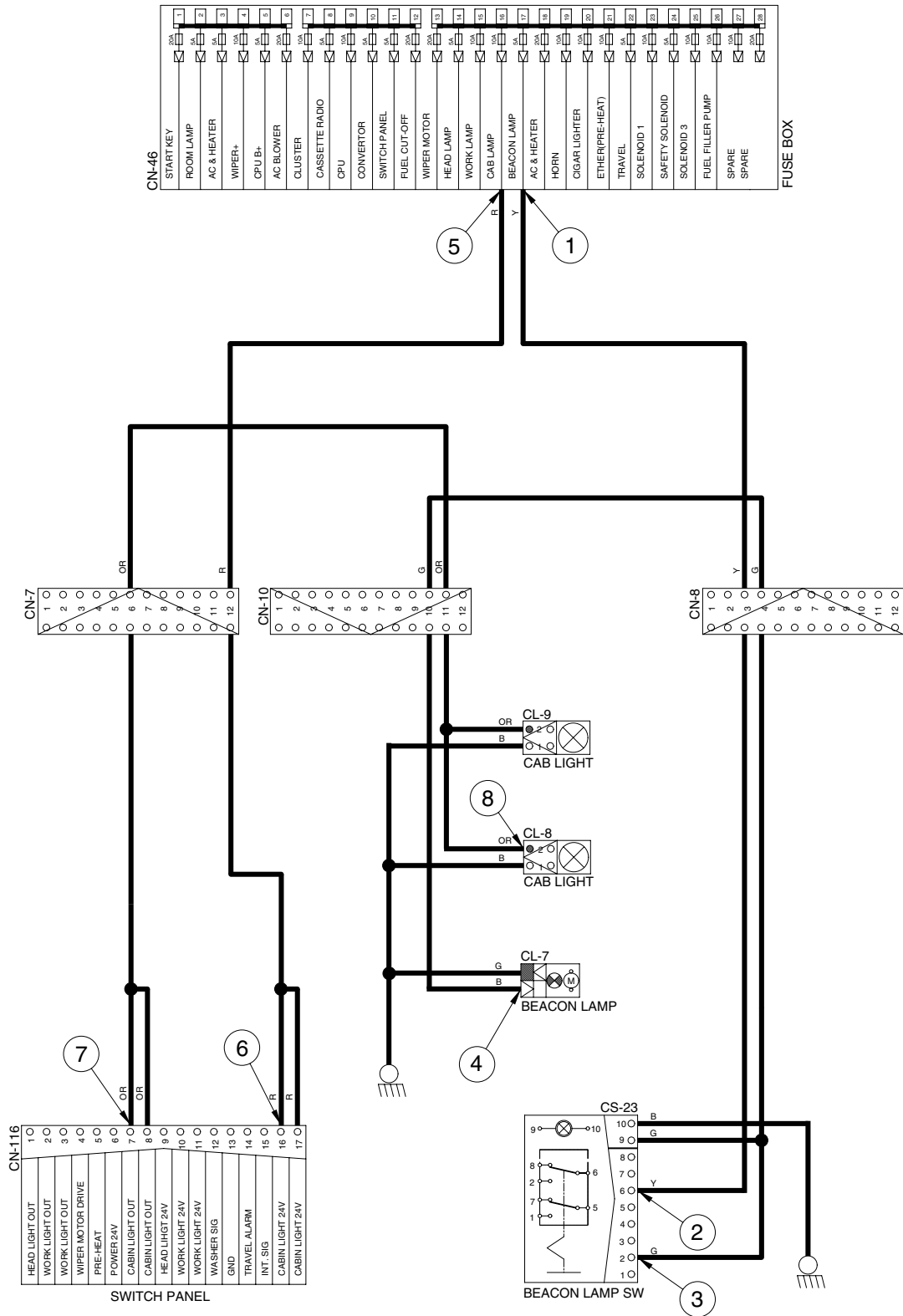
Cab light switch ON [CN-116(7, 8)] → I/conn [CN-7(6)] → I/conn [CN-10(11)]
 → Cab light ON [CL-8(2), CL-9(2)]

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



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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)

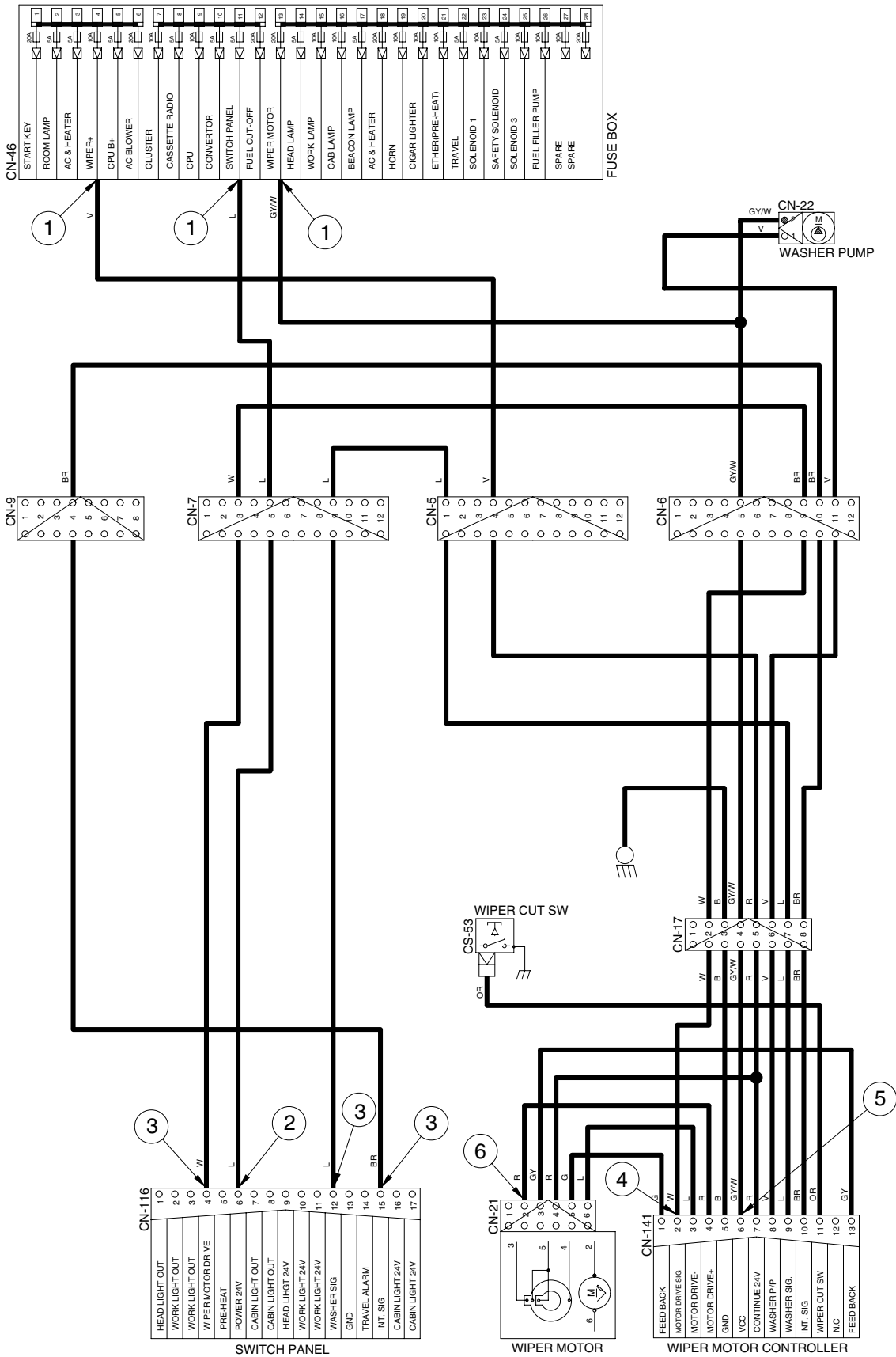
Switch OFF [CN-116(15)] → Wiper motor parking position by wiper motor controller

2) CHECK POINT

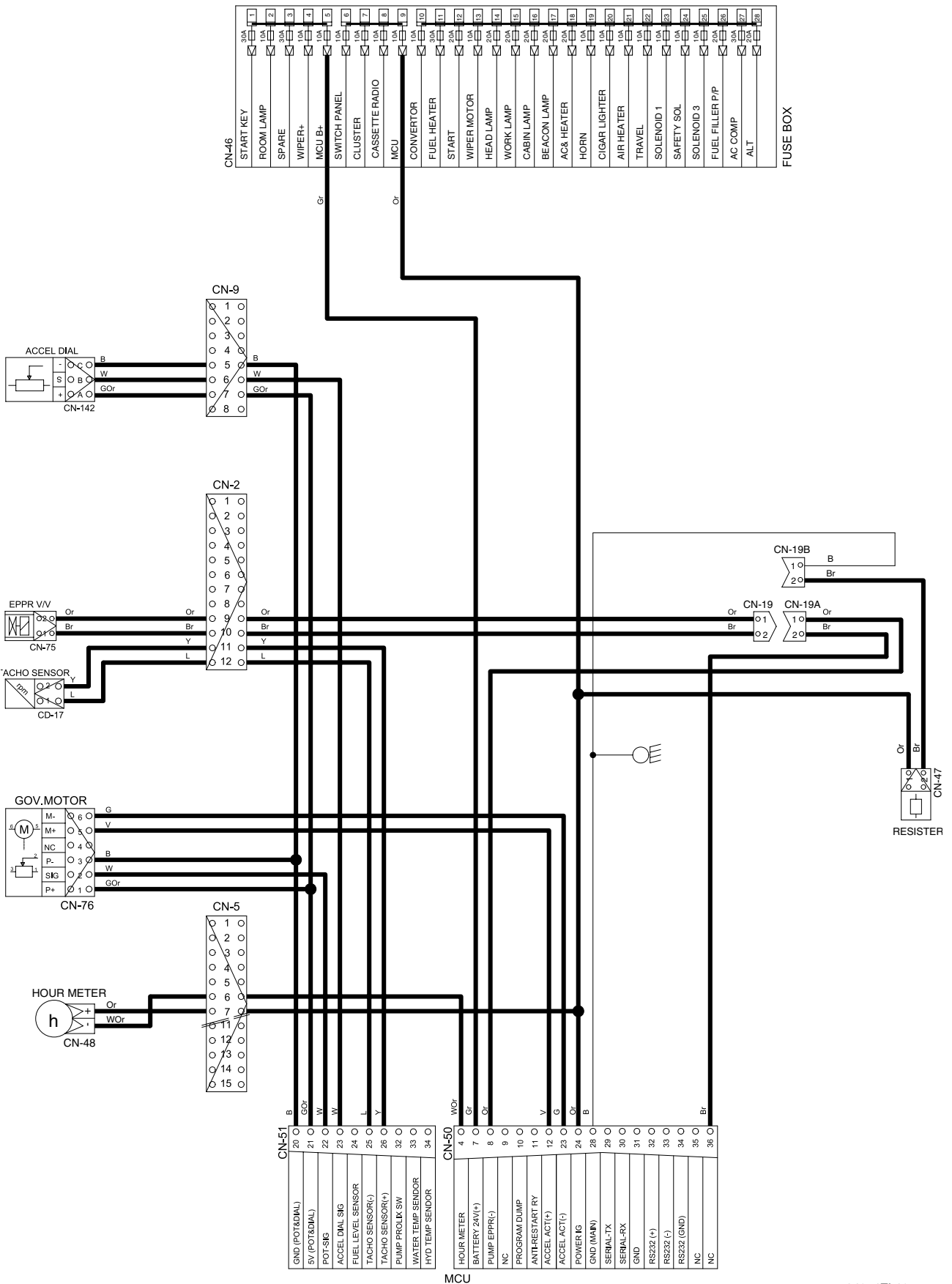
Engine	Start switch	Check point	Voltage
STOP	ON	① - GND(Fuse box) ② - GND(Switch power input) ③ - GND(Switch power output) ④ - GND(Wiper Power input) ⑤ - GND(Wiper power output) ⑥ - GND(Wiper motor)	20~25V

※ GND : Ground

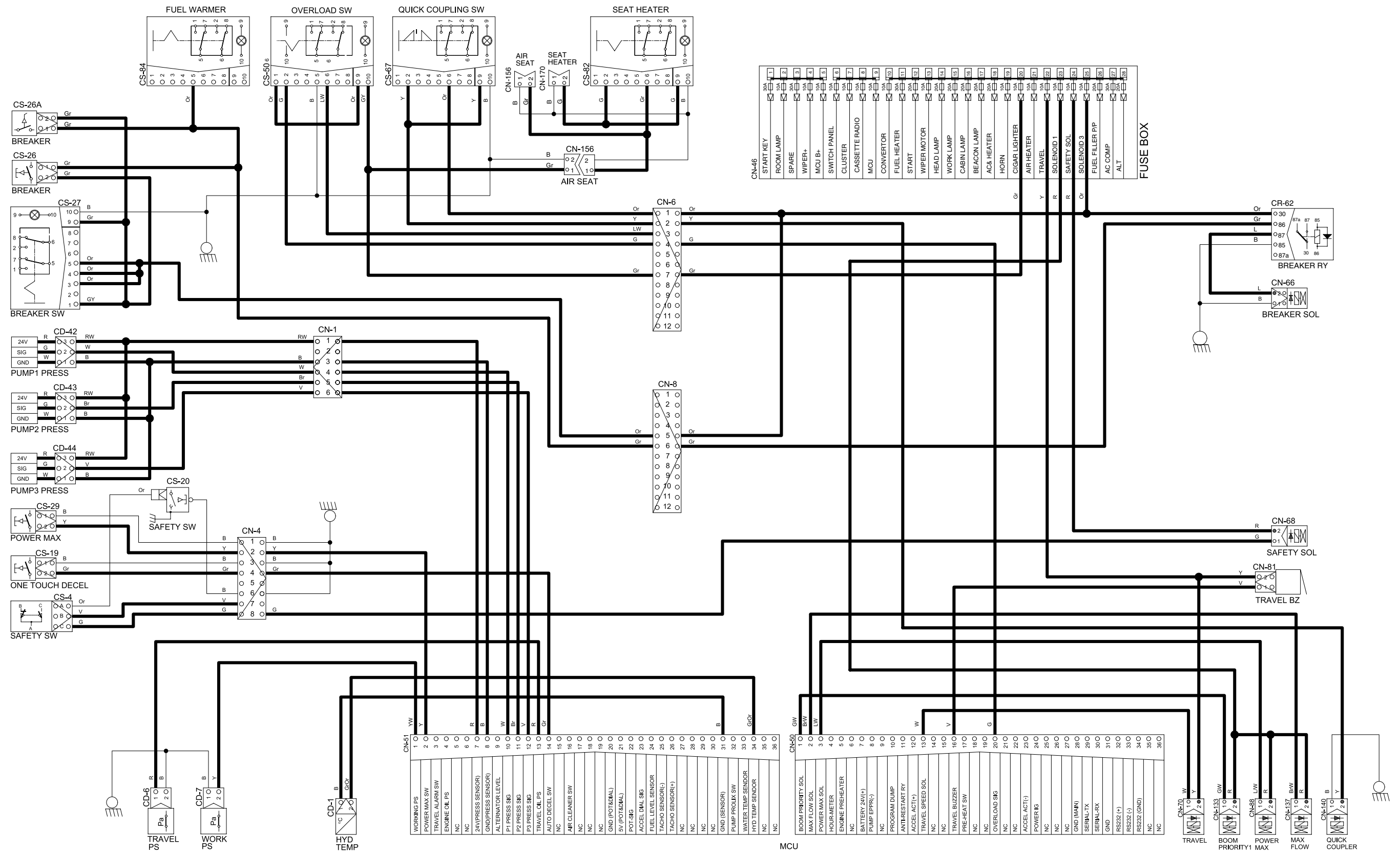
WIPER AND WASHER CIRCUIT



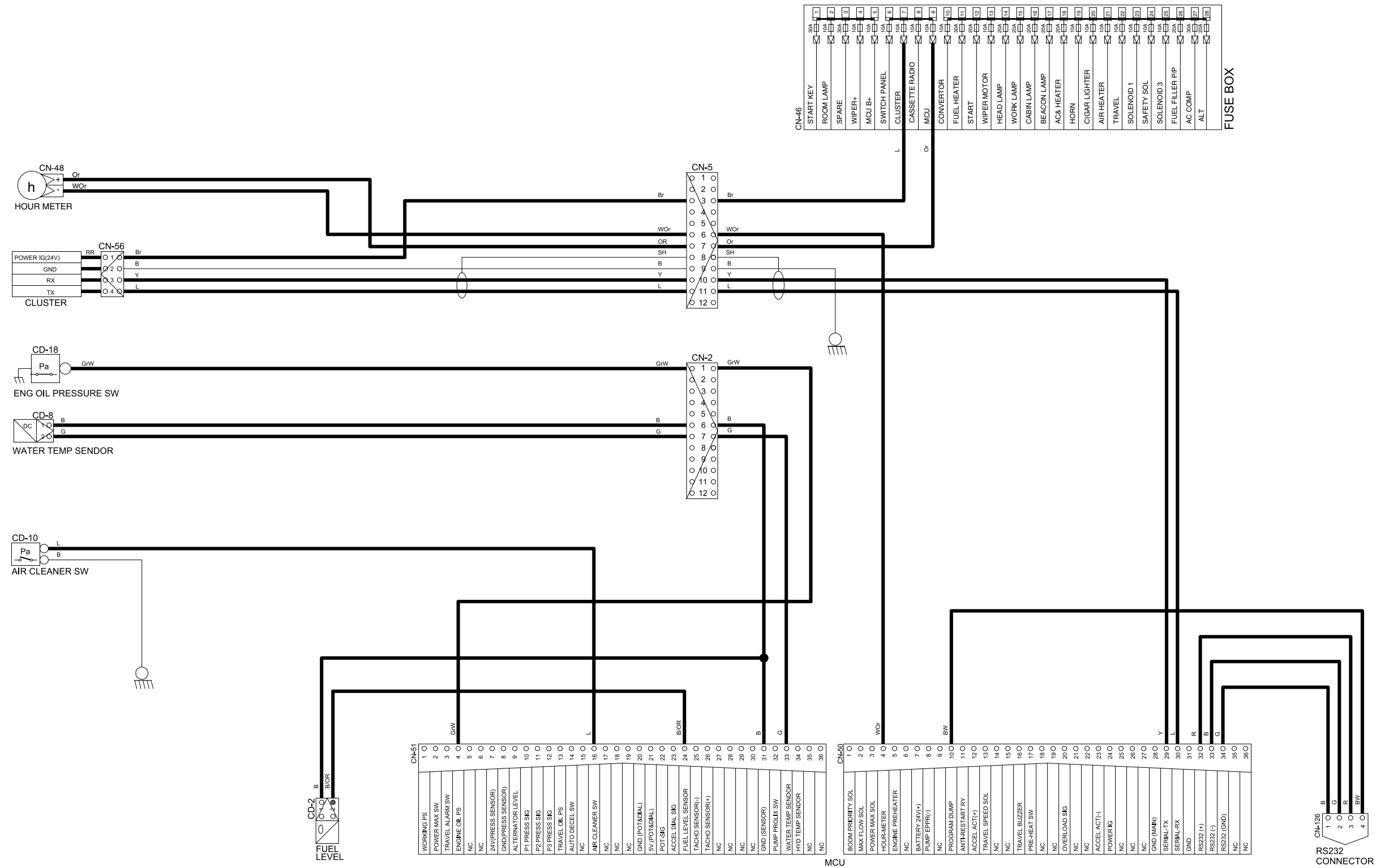
CONTROLLER CIRCUIT



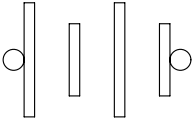
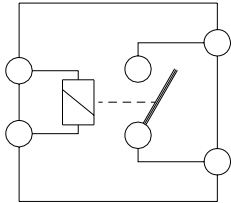
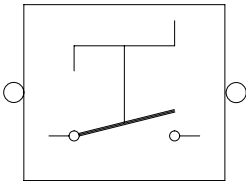
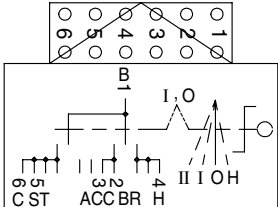
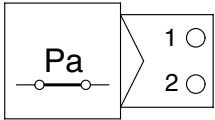
ELECTRIC CIRCUIT FOR HYDRAULIC

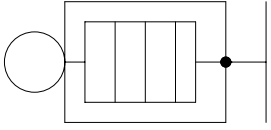
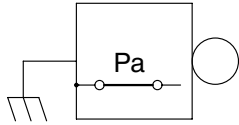
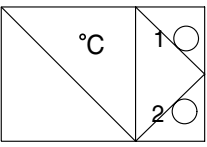
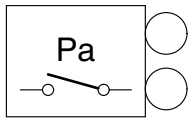
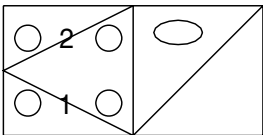
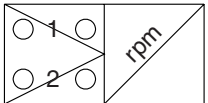


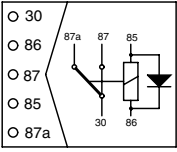
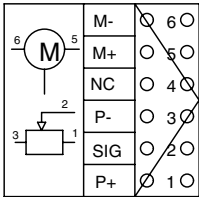
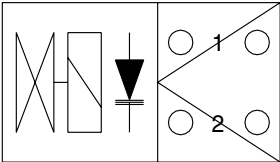
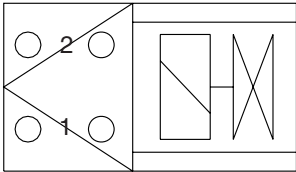
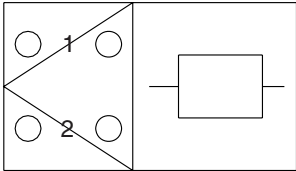
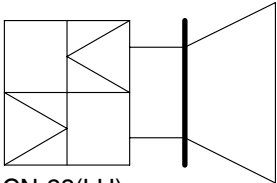
MONITORING CIRCUIT

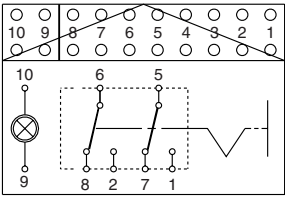
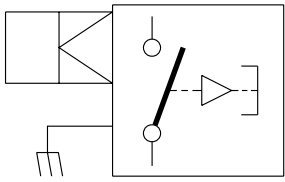
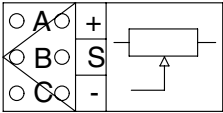
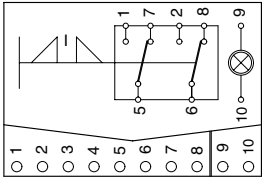
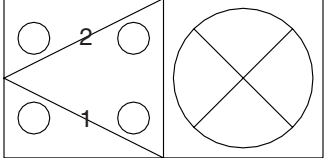
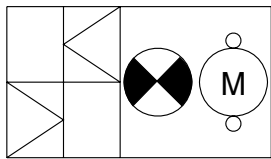


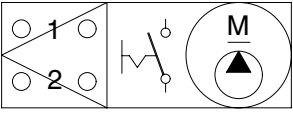
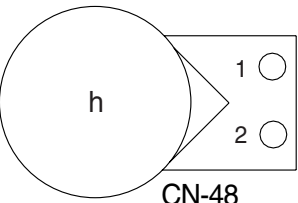
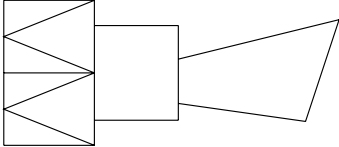
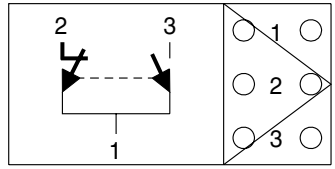
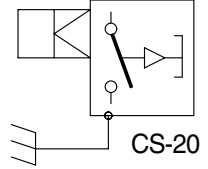
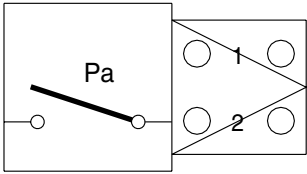
GROUP 3 ELECTRICAL COMPONENT SPECIFICATION

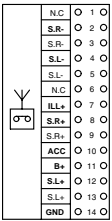
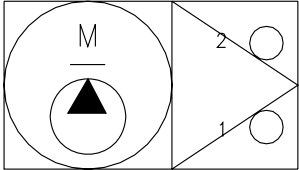
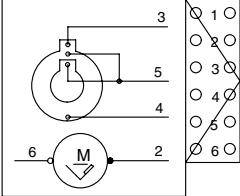
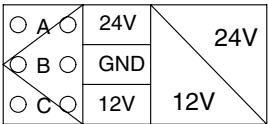
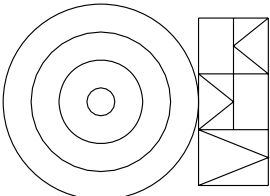
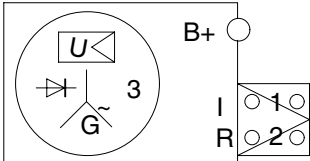
Part name	Symbol	Specifications	Check
Battery		12V × 160Ah (2EA)	※ Check specific gravity 1.280 over : Over charged 1.280 ~ 1.250 : Normal 1.250 below : Recharging
Battery relay	 <p style="text-align: center;">CR-1</p>	Rated load : 24V 100A(continuity) 1000A(30seconds)	※ Check coil resistance(M4 to M4) Normal : About 50 Ω ※ Check contact Normal : ∞ Ω
Master switch	 <p style="text-align: center;">CS-74</p>	Continuous : 180AMPS Rush : 1000AMPS	※ Check disconnection Normal : About 0 Ω
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 : ∞ Ω (For each terminal) ON : 0 Ω (For terminal 1-3 and 1-2) START : 0 Ω (For terminal 1-5)
Pressure switch (Travel, working)	 <p style="text-align: center;">CD-6 CD-7</p>	10kgf/cm ² (N.C TYPE)	※ Check contact Normal : 0.1 Ω

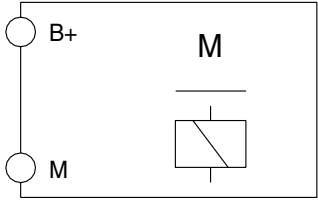
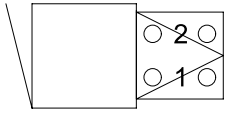
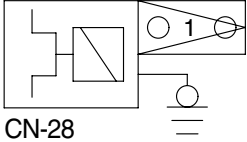
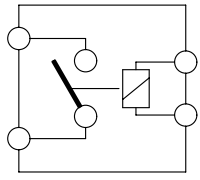
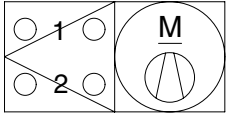
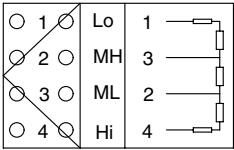
Part name	Symbol	Specifications	Check
Air gird heater	 CN-78	24V 200A	※ Check contact 0.25-0.12 Ω
Pressure switch (For engine oil)	 CD-18	0.5kgf/cm ² (N.C TYPE)	※ Check resistance Normal : ∞ Ω (CLOSE)
Temperature sensor (Coolant, Hydraulic)	 CD-1 CD-8	-	※ Check resistance 50°C : 804 Ω 80°C : 310 Ω 100°C : 180 Ω
Air cleaner pressure switch	 CD-10	-	※ Check contact High level : ∞ Ω Low level : 0 Ω
Fuel sender	 CD-2	-	※ Check resistance Full : 50 Ω 6/12 : 350 Ω 11/12 : 100 Ω 5/12 : 400 Ω 10/12 : 150 Ω 4/12 : 450 Ω 9/12 : 200 Ω 3/12 : 500 Ω 8/12 : 250 Ω 2/12 : 550 Ω 7/12 : 300 Ω 1/12 : 600 Ω Empty warning : 700 Ω
Tacho sensor	 CD-17	-	※ Check resistance Normal : 300 Ω (For terminal 1-2)

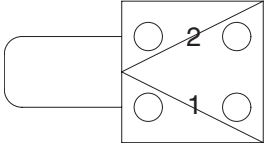
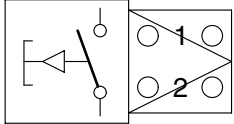
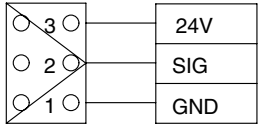
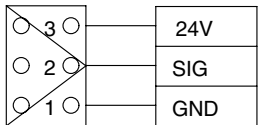
Part name	Symbol	Specifications	Check
Relay	 <p>CR-2 CR-5 CR-7 CR-13 CR-35 CR-36 CR-46 CR-62</p>	24V 16A	※ Check resistance Normal : About 160 Ω (For terminal 85-86) 0 Ω (For terminal 30-87) ∞ Ω (For terminal 30-87)
Accel actuator	 <p>CN-76</p>	-	※ Check resistance Normal : 1~2 Ω (For terminal 5-6) 0.8~1.2kΩ (For terminal 1-3)
Solenoid valve	 <p>CN-66 CN-68 CN-70 CN-88 CN-133 CN-137 CN-140</p>	24V 1A	※ Check resistance Normal : 15~25 Ω (For terminal 1-2)
EPPR valve	 <p>CD-75</p>	700mA	※ Check resistance Normal : 15~25 Ω (For terminal 1-2)
Resistor	 <p>CD-47</p>	45 Ω 20W±5%	※ Check resistance Normal : 45 Ω
Speaker	 <p>CN-23(LH) CN-24(RH)</p>	20W	※ Check disconnection Normal : 0~2 Ω

Part name	Symbol	Specifications	Check
Switch (Locking type)	 <p>CS-23 CS-27 CS-50 CS-52 CS-54 CS-82 CS-83 CS-84</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)
Door switch Wiper cut switch	 <p>CS-1 CS-53</p>	24V 2W	※ Check resistance Normal : About 5MΩ
Accel dial	 <p>CN-142</p>	-	※ Check resist Normal : About 5kΩ (For terminal A-C) Normal : About 5V (For terminal A-C) : 2~4.5V (For terminal C-B)
Switch	 <p>CS-67</p>	24V 8A	※ Check disconnection Normal : 1.0 Ω ON : 0 Ω (For terminal 1-5, 2-6) ∞ Ω (For terminal 5-7, 6-8) OFF : ∞ Ω (For terminal 1-5, 6-8) 0 Ω (For terminal 5-7, 6-8)
Head lamp, Work lamp, Room lamp, Cab lamp	 <p>CL-1 CL-3 CL-4 CL-5 CL-6 CL-8 CL-9</p>	24V 70W (H3 Type) 24V 10W (Room lamp)	※ Check disconnection 24V 70W : About 10 Ω 24V 10W : About 50 Ω
Beacon lamp	 <p>CL-7</p>	21V 70A (H1 type)	※ Check disconnection Normal : About 10 Ω

Part name	Symbol	Specifications	Check
Fuel filler pump	 <p>CN-61</p>	24V 10A 35 l /min	※ Check resistance Normal : 1.0 Ω
Hour meter	 <p>CN-48</p>	16~32V	※ Check operation Supply power(24V) to terminal No.2 and connect terminal No.1 and ground
Horn	 <p>CN-20, CN-25</p>	DC22~28V 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)
Safety switch 2	 <p>CS-20</p>	24V (N.C TYPE)	※ Check contact Normal : 0 Ω (One pin to ground)
Receiver dryer	 <p>CN-29</p>	24V 2.5A	※ Check contact Normal : ∞ Ω

Part name	Symbol	Specifications	Check
Radio&USB player	 <p>CN-27</p>	24V 2A	※ Check voltage 20~25V (For terminal 10-14, 11-14)
Washer pump	 <p>CN-22</p>	24V 3.8A	※ Check contact Normal : 10.7 Ω (For terminal 1-2)
Wiper motor	 <p>CN-21</p>	24V 2A	※ Check disconnection Normal : 7 Ω (For terminal 2-6)
DC/DC Converter	 <p>CN-138</p>	12V 3A	24V(A-B) 12V (B-C)
Cigar lighter	 <p>CL-2</p>	24V 5A 1.4W	※ Check coil resistance Normal : About 1MΩ ※ Check contact Normal : ∞ Ω Operating time : 5~15sec
Alternator	 <p>CN-74</p>	24V 55A	※ Check contact Normal : 0 Ω (For terminal B+ - I) Normal : 24~27.5V

Part name	Symbol	Specifications	Check
Starter	 <p>CN-45</p>	Delco Remy 28MT 24V	※ Check contact Normal : 0.1 Ω
Travel alarm	 <p>CN-81</p>	24V 0.5A	※ Check contact Normal : 5.2 Ω
Aircon compressor	 <p>CN-28</p>	24V 79W	※ Check contact Normal : 13.4 Ω
Start relay	 <p>CR-23</p>	24V 300A	※ Check contact Normal : 0.94 Ω (For terminal 1-2)
Blower motor		24V 9.5A	※ Check resistance Normal : 2.5 Ω (For terminal 1-2)
Aircon resistor		-	※ Check resistance Normal : 1.12 Ω (For terminal 4-2) 2.07 Ω (For terminal 2-3) 3.17 Ω (For terminal 3-1)

Part name	Symbol	Specifications	Check
Fusible link	 <p>CN-60 CN-95</p>	60A	<p>※ Check disconnection Normal : 0 Ω (connect ring terminal and check resist between terminal 1 and 2)</p>
Switch (Power max, one touch decel, horn, breaker)	 <p>CS-5 CS-19 CS-26 CS-26A CS-29</p>	24V 6A	<p>※ Check resistance Normal : ∞ Ω</p>
Transducer	 <p>CD-42 CD-43</p>	500bar	<p>0bar : 1V(For terminal 1-2) 500bar : 5V(For terminal 1-2)</p>
Transducer	 <p>CD-44</p>	50bar	<p>0bar : 1V(For terminal 1-2) 50bar : 5V(For terminal 1-2)</p>

GROUP 4 CONNECTORS

1. CONNECTOR DESTINATION

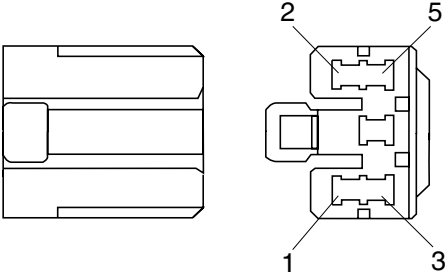
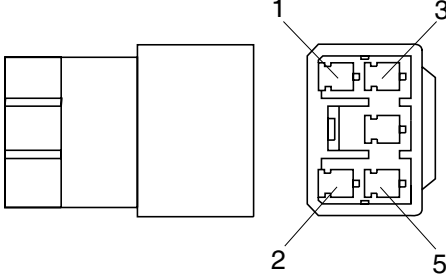
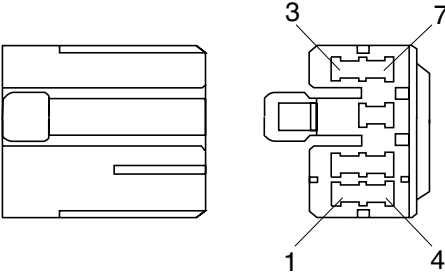
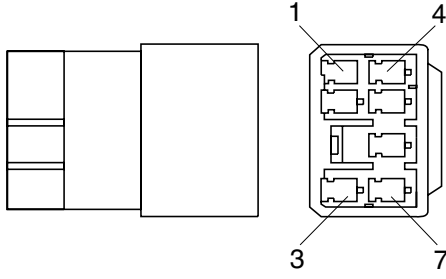
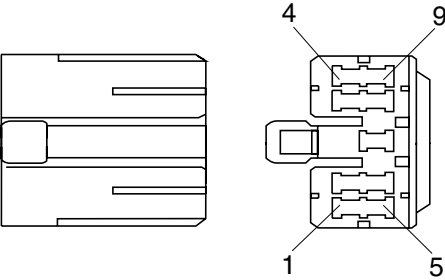
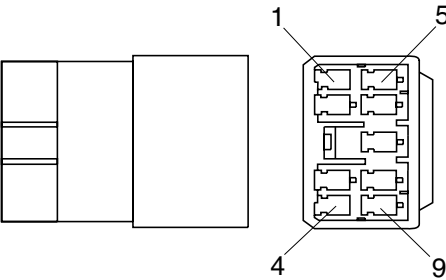
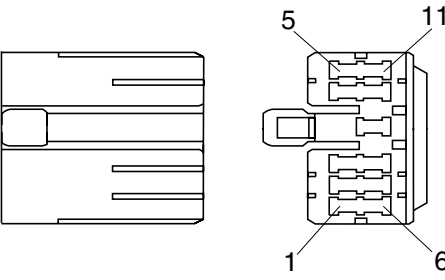
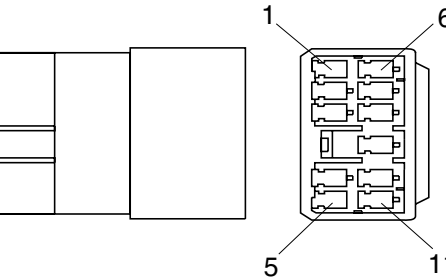
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	AMP	6	l/conn(Frame harness-main pump)	S816-006002	S816-106002
CN-2	AMP	12	l/conn(Frame harness-engine harness)	S816-012002	S816-112002
CN-3	AMP	8	l/conn(Frame harness-engine harness)	S816-008002	S816-108002
CN-4	AMP	8	l/conn(Console harness LH-frame harness)	S816-008002	S816-108002
CN-5	AMP	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(Wire harness RH-frame harness)	S816-012002	S816-112002
CN-9	AMP	8	l/conn(Wire 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	l/conn(Air con harness-frame harness)	DT06-8S	DT06-8P
CN-12	DEUTSCH	2	Boom wire harness	DT06-2S-EP06	DT06-2P
CN-16	AMP	6	Pump pressure harness	S816-006002	S816-106002
CN-17	DEUTSCH	8	l/conn(Wiper harness)	DT06-8S	DT04-8P
CN-19	AMP	2	Emergency MCU connector	S816-002002	S816-102002
CN-20	MOLEX	2	Horn	35825-0211	-
CN-21	AMP	6	Wiper motor	925276-0	-
CN-21A	AMP	6	Wiper motor	S816-006202	-
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	Radio & USB player	173852	-
CN-28	MWP	1	AC compressor	NMWP01F-B	-
CN-29	KET	2	Receiver dryer	MG640795	-
CN-45	RING-TERM	-	Start motor B ⁺	-	S820-412000
CN-46	-	-	Fuse box	S820-106000	-
CN-47	AMP	2	Resistor	S810-002202	S810-102202
CN-48	KET	1	Hour meter	GP890469	-
CN-50	AMP	36	MCU	3441111-1	-
CN-51	AMP	36	MCU	3441111-1	-
CN-56	DEUTSCH	4	Cluster	-	DT04-4P-E004
CN-60	YAZAKI	2	Fusible link	21N4-01320	7122-4125-50
CN-61	DEUTSCH	2	Fuel filler pump	DT06-2S-EP06	DT04-2P

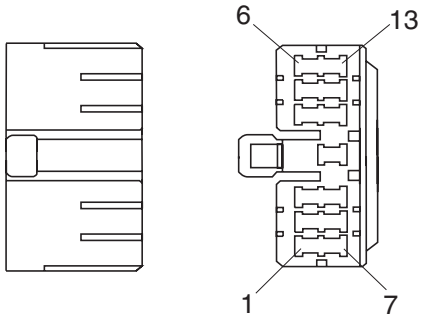
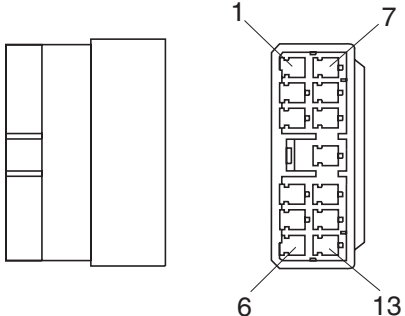
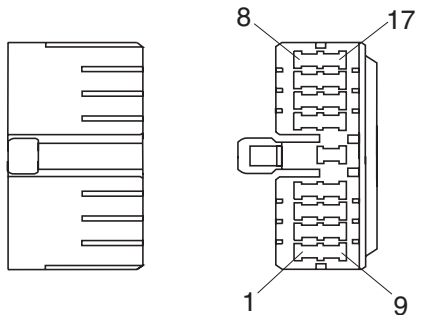
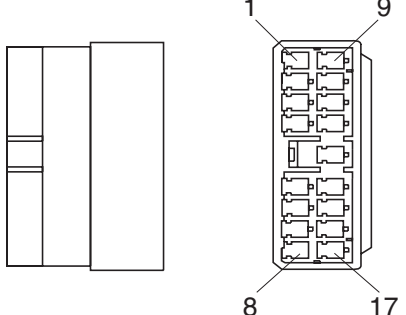
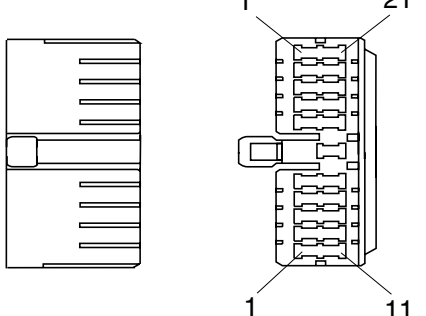
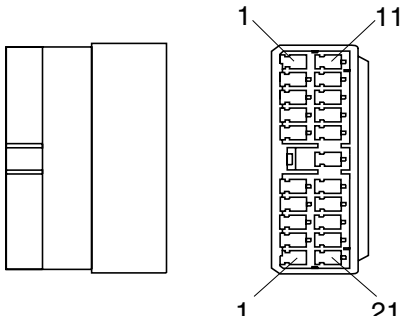
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-66	DEUTSCH	2	Breaker solenoid	DT06-2S-EP06	DT04-2P
CN-68	DEUTSCH	2	Safety solenoid	DT06-2S-EP06	DT04-2P
CN-70	DEUTSCH	2	Travel solenoid	DT06-2S-EP06	DT04-2P
CN-74	KET	2	Alternator "I" term	MG640188-4	-
CN-75	AMP	2	EPPR valve	S816-002002	-
CN-76	DEUTSCH	6	DC motor	DT06-6S-EP06	-
CN-81	DEUTSCH	2	Travel buzzer	DT06-2S-EP06	DT04-2P
CN-88	DEUTSCH	2	Power max solenoid	DT06-2S-EP06	DT04-2P
CN-95	YAZAKI	2	Fusible link	S813-130200	21N4-01311
CN-116	PA	17	Switch panel	S811-017002	-
CN-126	DEUTSCH	4	RS 232 connector	DT06-4S-P012	DT04-4P-E004
CN-133	DEUTSCH	2	Boom priority	DT06-2S-EP06	-
CN-137	DEUTSCH	2	Max flow	DT06-2S-EP06	-
CN-138	DEUTSCH	3	DC/DC converter	DT06-3S-P012	-
CN-139	DEUTSCH	2	12V socket	DT06-2S	DT04-2P-E004
CN-140	DEUTSCH	2	Quick clamp	DT06-2S-EP06	-
CN-141	AMP	13	Wiper motor controller	172498-1	-
CN-142	DEUTSCH	3	Accel dial	DT06-3S-P012	-
CN-143	KET	2	Radio & USB player(With remocon)	S816-002002	-
CN-144	AMP	12	Remocon-radio & USB player	174045-2	-
CN-147	PACKARD	2	Fuel heater	15300027	-
• Relay					
CR-1	RING-TERM	-	Battery relay	-	S820-104002
CR-13	AMP	4	Head lamp relay	S810-004002	-
CR-23	AMP	2	Start relay	S816-002003	-
CR-24	AMP	1	Pre-heater relay	S822-014000	-
CR-46	AMP	4	Fuel warmer relay	S810-004202	-
CR-62	AMP	4	Breaker relay	S810-004002	-
• Switch					
CS-1	SHUR	1	Door switch	S822-014004	-
CS-2	AMP	6	Start key switch	S814-006000	-
CS-4	DEUTSCH	3	Safety switch	DT06-3S-P012	-
CS-5	DEUTSCH	2	Horn switch	-	DT04-2P-E004
CS-19	DEUTSCH	2	One touch decel	DT06-2S-P012	DT04-2P-E004
CS-20	AMP	1	Safety switch	S822-014002	-
CS-23	SWF	10	Beacon lamp switch	SWF 593757	-
CS-26	DEUTSCH	2	Breaker switch	DT06-2S-P012	-
CS-26A	AMP	2	Breaker switch	S816-002002	S816-102002

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CS-27	SWF	10	Breaker switch	SWF 593757	-
CS-29	DEUTSCH	2	Powe max switch	DT06-2S-P012	-
CS-50	SWF	10	Overload switch	SWF 593757	-
CS-52	SWF	10	Econo switch	SWF 593757	-
CS-53	AMP	1	Wiper cut switch	S822-014002	-
CS-54	SWF	10	Spears switch	SWF 593757	-
CS-67	SWF	10	Quick clamp switch	SWF 593757	-
CS-74	AMP	2	Master switch	S813-030200	-
CS-82	SWF	2	Fuel warmer switch	SWF 593757	-
CS-83	SWF	2	Seat heater switch	SWF 593757	-
CS-84	SWF	2	Spare switch	SWF 593757	-
• Light					
CL-1	KET	2	Room lamp	MG 610392	-
CL-2	AMP	1	Cigar light	S822-014002	-
CL-4	AMP	2	Head lamp	85202-1	-
CL-5	DEUTSCH	2	Work lamp-LH	DT06-2S	DT04-2P-E005
CL-6	DEUTSCH	2	Work lamp-RH	DT06-2S	DT04-2P
CL-7	SHUR	1	Beacon lamp	S822-014004	S822-114004
CL-8	DEUTSCH	2	Cab light-LH	DT06-2S	DT04-2P-E005
CL-9	DEUTSCH	2	Cab light-RH	DT06-2S	DT04-2P-E005
• Sensor, sendor					
CD-1	AMP	2	Hydraulic oil temp sender	85202-1	-
CD-2	DEUTSCH	2	Fuel sender	DT06-2S-EP06	DT04-2P
CD-6	KET	2	Travel pressure switch	MG 640795	-
CD-7	KET	2	Working pressure switch	MG 640795	-
CD-8	AMP	2	Water temp sender	85202-1	-
CD-10	RING-TERM	-	Air cleaner switch	-	S820-104002
CD-17	AMP	2	Tachosensor	S816-002002	S818-120221
CD-18	RING-TERM	1	Engine oil pressure switch	-	S820-104000
CD-19	AMP	1	Engine oil filter switch	S819-010122	-
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	-
• Diode					
DO-3	AMP	2	-	21EA-50550	-
DO-4	AMP	2	-	21EA-50550	-

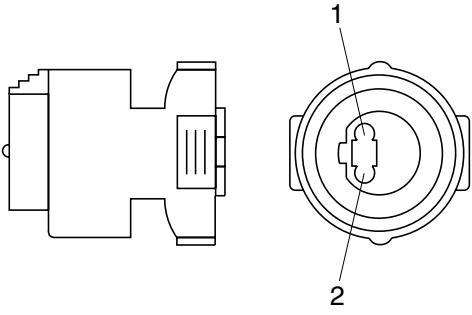
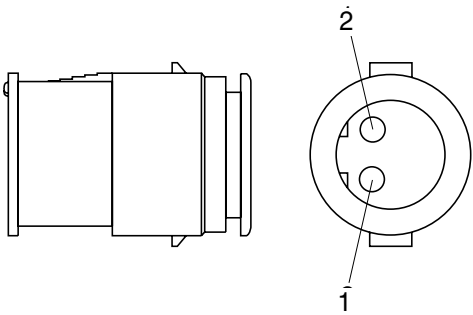
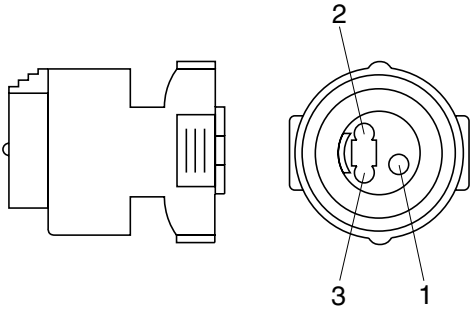
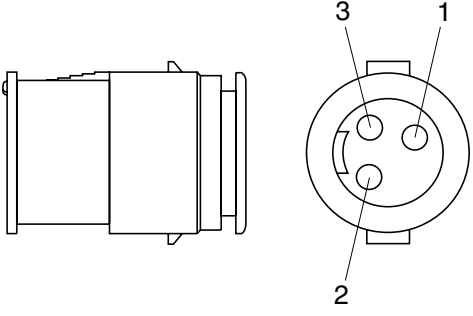
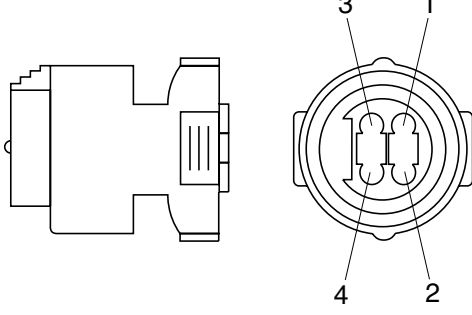
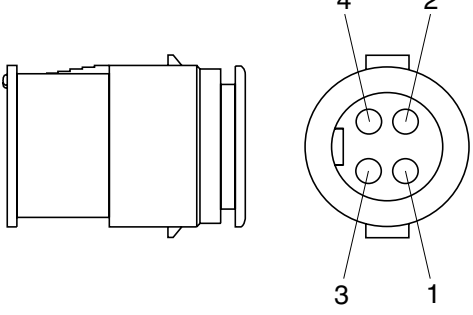
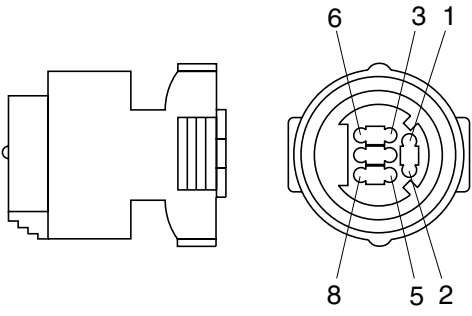
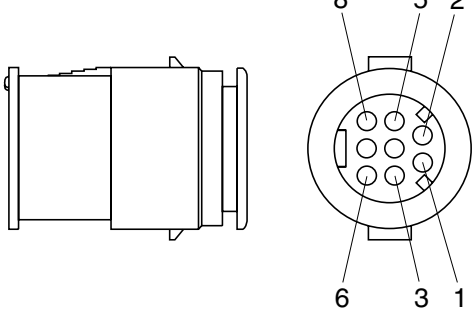
2. CONNECTION TABLE FOR CONNECTORS

1) PA TYPE CONNECTOR

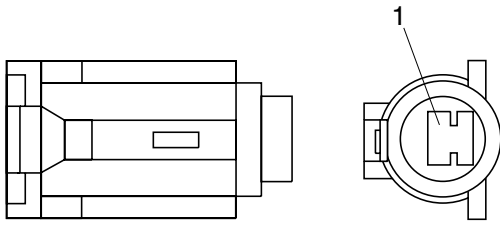
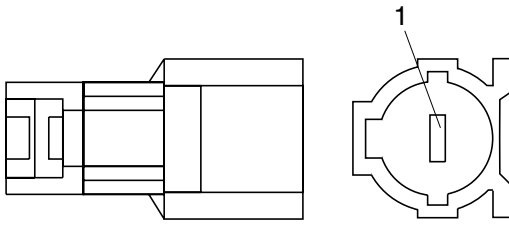
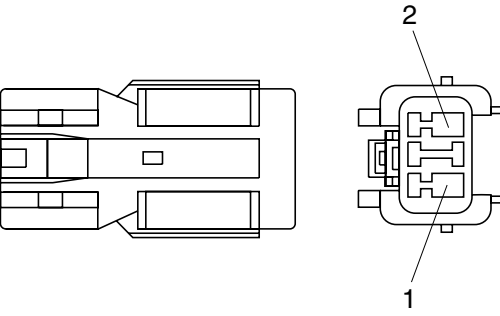
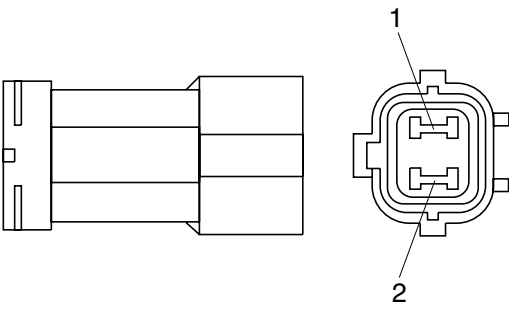
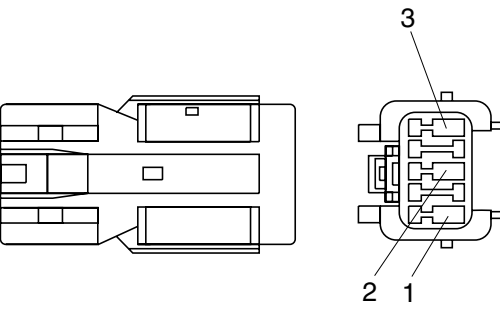
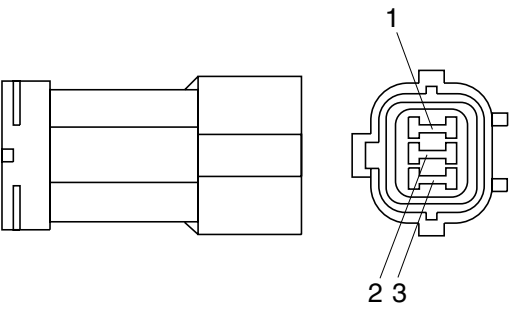
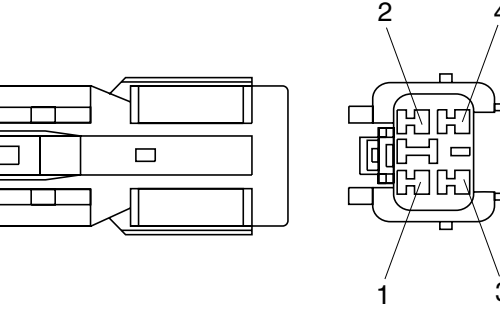

No. of pin	Receptacle connector(Female)	Plug connector(Male)
5	 <p data-bbox="689 734 837 766">S811-005002</p>	 <p data-bbox="1241 734 1390 766">S811-105002</p>
7	 <p data-bbox="689 1137 837 1169">S811-007002</p>	 <p data-bbox="1241 1137 1390 1169">S811-107002</p>
9	 <p data-bbox="689 1547 837 1579">S811-009002</p>	 <p data-bbox="1230 1547 1378 1579">3S811-109002</p>
11	 <p data-bbox="689 1957 837 1989">S811-011002</p>	 <p data-bbox="1241 1957 1390 1989">S811-111002</p>

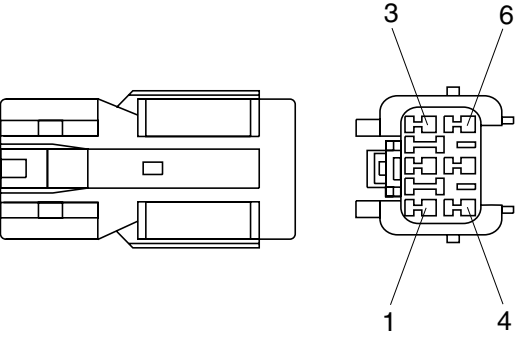
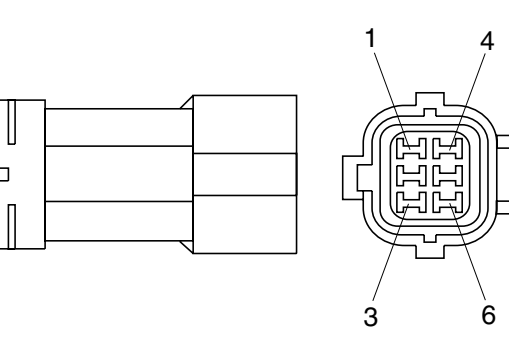
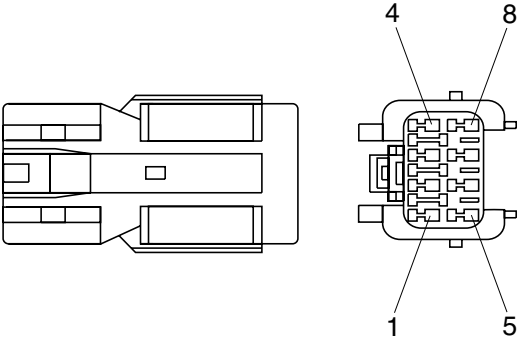
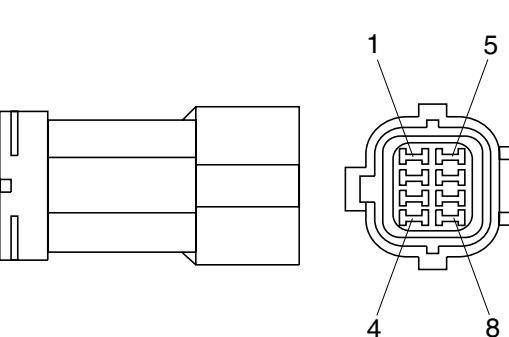
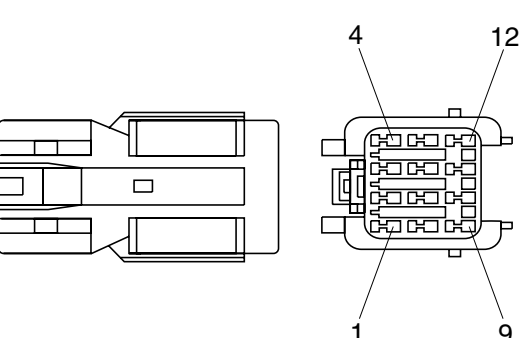
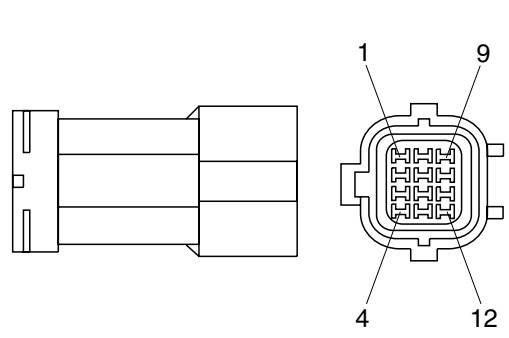
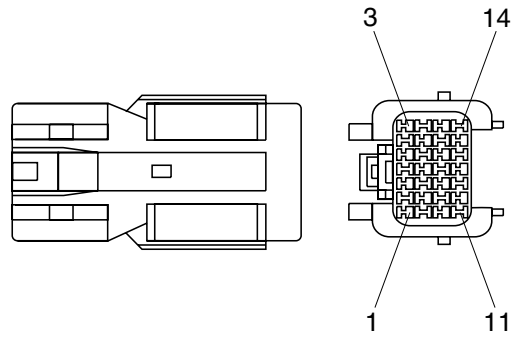
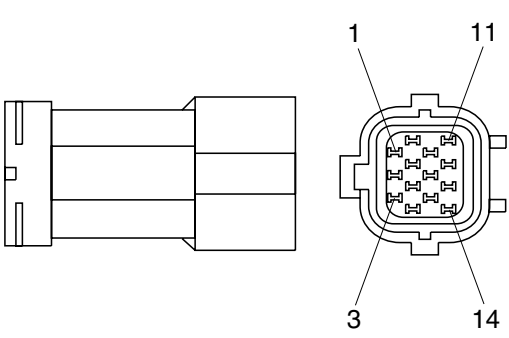
No. of pin	Receptacle connector(Female)	Plug connector(Male)
13	 <p data-bbox="689 631 837 660">S811-013002</p>	 <p data-bbox="1244 631 1393 660">S811-113002</p>
17	 <p data-bbox="689 1043 837 1072">S811-017002</p>	 <p data-bbox="1244 1043 1393 1072">S811-117002</p>
21	 <p data-bbox="689 1447 837 1476">S811-021002</p>	 <p data-bbox="1244 1447 1393 1476">S811-121002</p>

2) J TYPE CONNECTOR

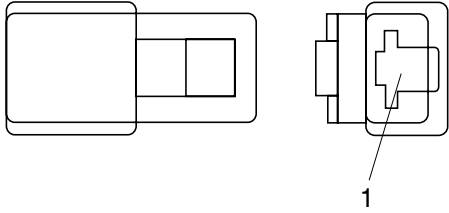
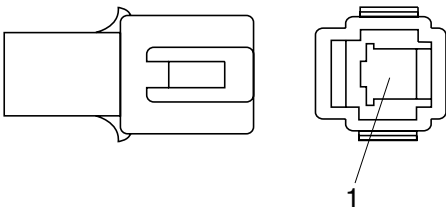
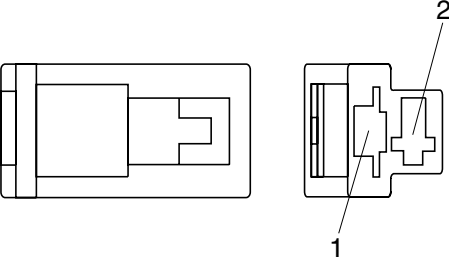
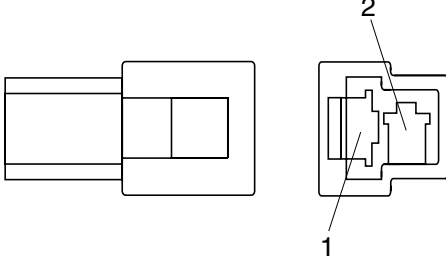
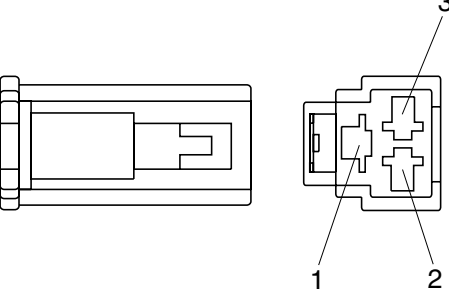
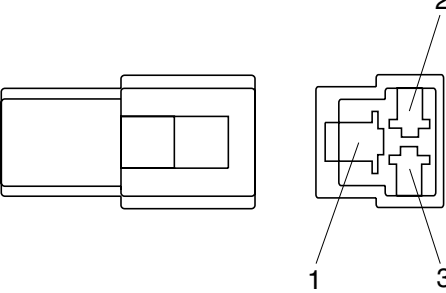
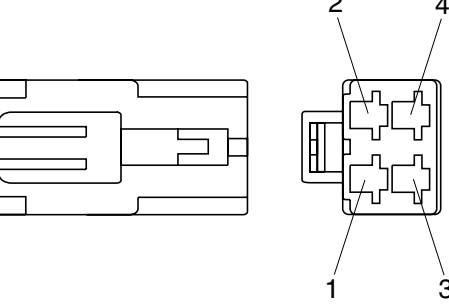
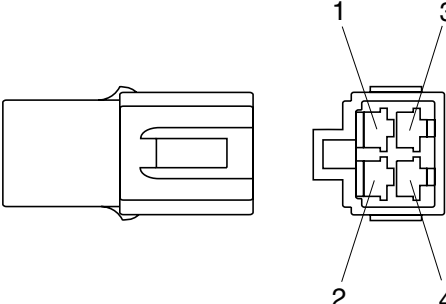
No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p style="text-align: center;">S816-002001</p>	 <p style="text-align: center;">S816-102001</p>
3	 <p style="text-align: center;">S816-003001</p>	 <p style="text-align: center;">S816-103001</p>
4	 <p style="text-align: center;">S816-004001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

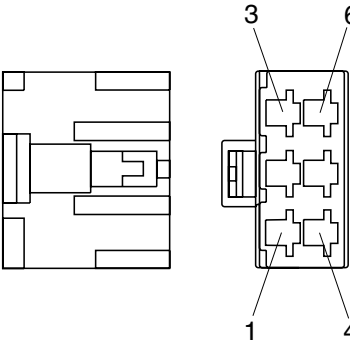
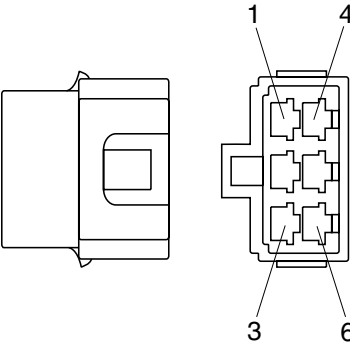
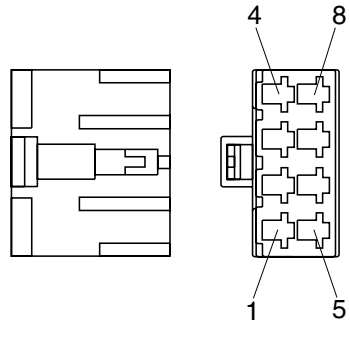
3) SWP TYPE CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
1	 <p data-bbox="686 683 837 712">S814-001000</p>	 <p data-bbox="1244 683 1396 712">S814-101000</p>
2	 <p data-bbox="686 1086 837 1115">S814-002000</p>	 <p data-bbox="1244 1086 1396 1115">S814-102000</p>
3	 <p data-bbox="686 1489 837 1518">S814-003000</p>	 <p data-bbox="1244 1489 1396 1518">S814-103000</p>
4	 <p data-bbox="686 1892 837 1921">S814-004000</p>	 <p data-bbox="1244 1892 1396 1921">S814-104000</p>

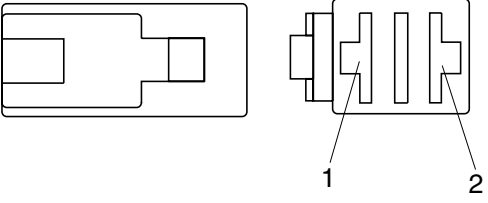
No. of pin	Receptacle connector(Female)	Plug connector(Male)
6	 <p data-bbox="686 627 837 660">S814-006000</p>	 <p data-bbox="1244 627 1396 660">S814-106000</p>
8	 <p data-bbox="686 1030 837 1064">S814-008000</p>	 <p data-bbox="1244 1030 1396 1064">S814-108000</p>
12	 <p data-bbox="686 1438 837 1471">S814-012000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

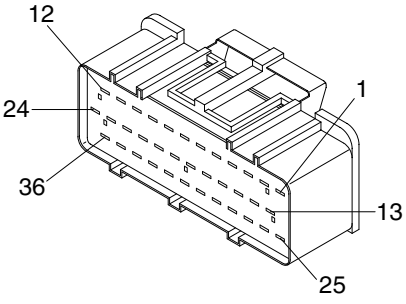
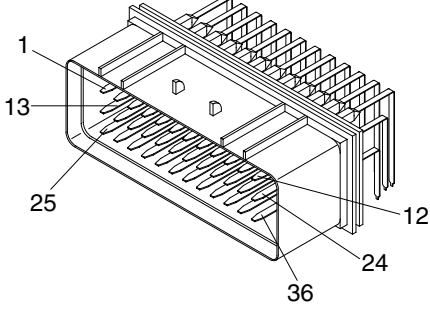
No. of pin	Receptacle connector(Female)	Plug connector(Male)
1	 <p style="text-align: center;">S810-001202</p>	 <p style="text-align: center;">S810-101202</p>
2	 <p style="text-align: center;">S810-002202</p>	 <p style="text-align: center;">S810-102202</p>
3	 <p style="text-align: center;">S810-003202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

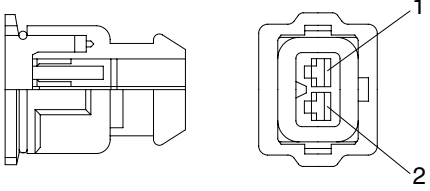
5) 375 FASTEN TYPE CONNECTOR

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>

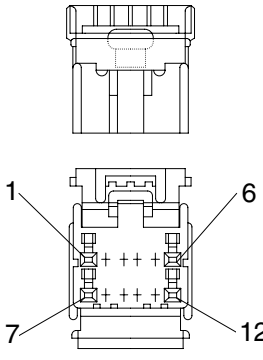
6) AMP ECONOSEAL CONNECTOR

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>

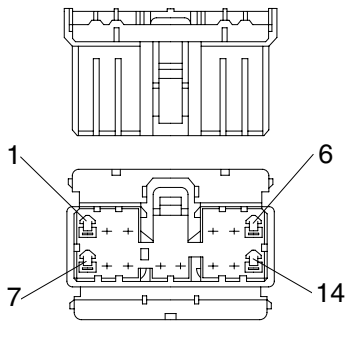
7) AMP TIMER CONNECTOR

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

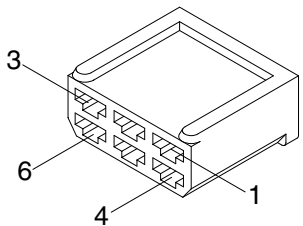
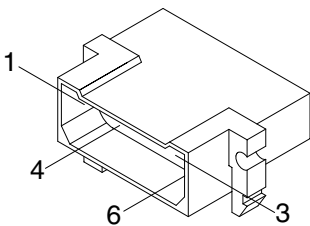
8) AMP 040 MULTILOCK CONNECTOR

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

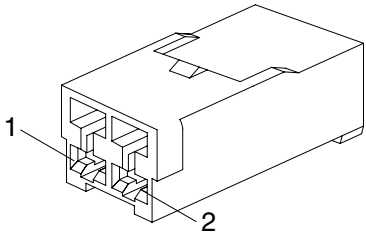
9) AMP 070 MULTILOCK CONNECTOR

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

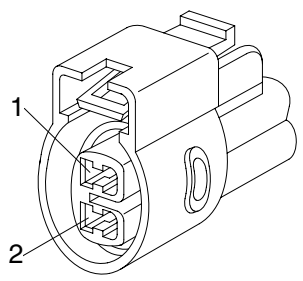
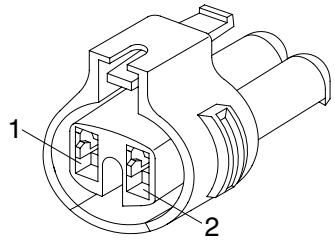
10) AMP FASTIN - FASTON CONNECTOR

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>

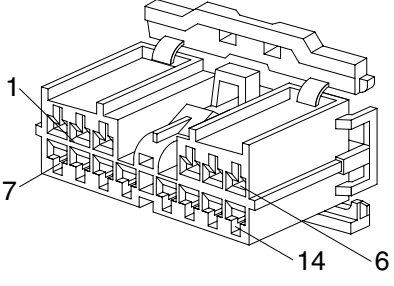
11) KET 090 CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p data-bbox="715 674 837 703">MG610070</p>	

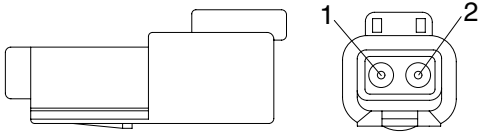
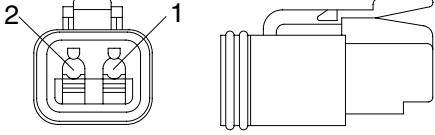
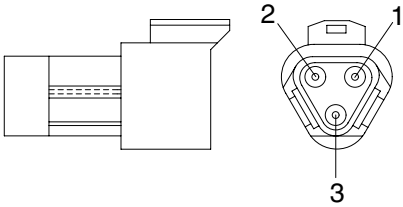
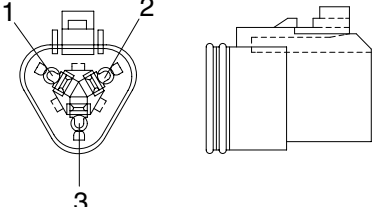
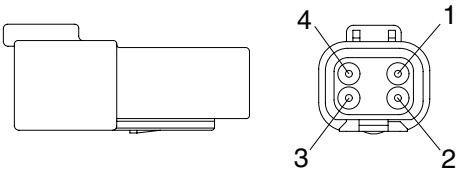
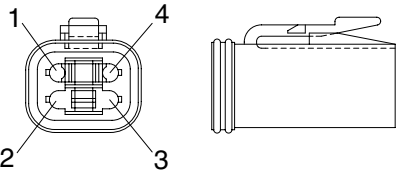
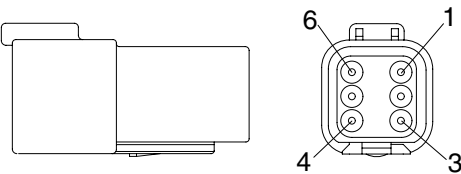
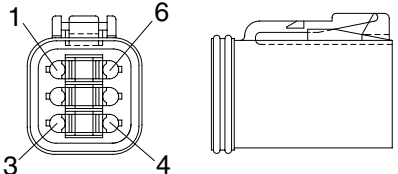
12) KET 090 WP CONNECTORS

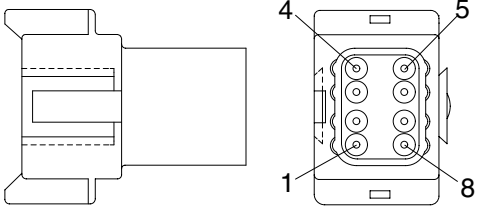
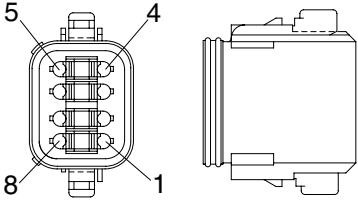
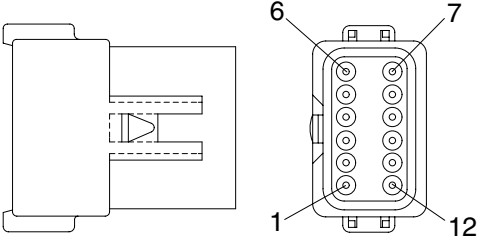
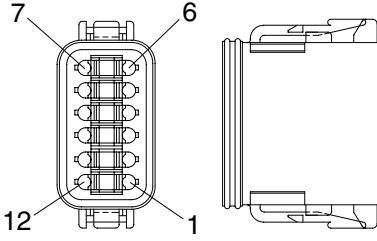
No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p data-bbox="715 1279 837 1308">MG640605</p>	
2	 <p data-bbox="715 1686 837 1715">MG640795</p>	

13) KET SDL CONNECTOR

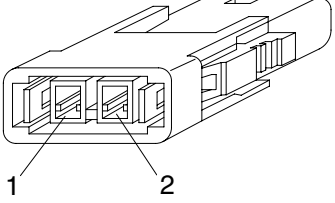
No. of pin	Receptacle connector(Female)	Plug connector(Male)
14	 <p style="text-align: center;">MG610406</p>	

14) DEUTSCH DT CONNECTORS

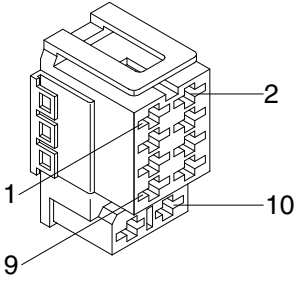
No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p style="text-align: center;">DT06-2S</p>	 <p style="text-align: center;">DT06-2P</p>
3	 <p style="text-align: center;">DT06-3S</p>	 <p style="text-align: center;">DT06-3P</p>
4	 <p style="text-align: center;">DT06-4S</p>	 <p style="text-align: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

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

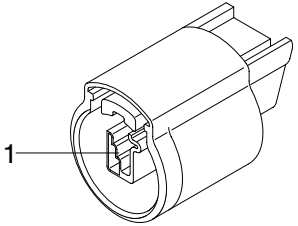
15) MOLEX 2CKTS CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p data-bbox="705 676 837 705">35215-0200</p>	

16) ITT SWF CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
10	 <p data-bbox="699 1279 837 1308">SWF593757</p>	

17) MWP NMWP CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
1	 <p data-bbox="689 1881 837 1910">NMWP01F-B</p>	