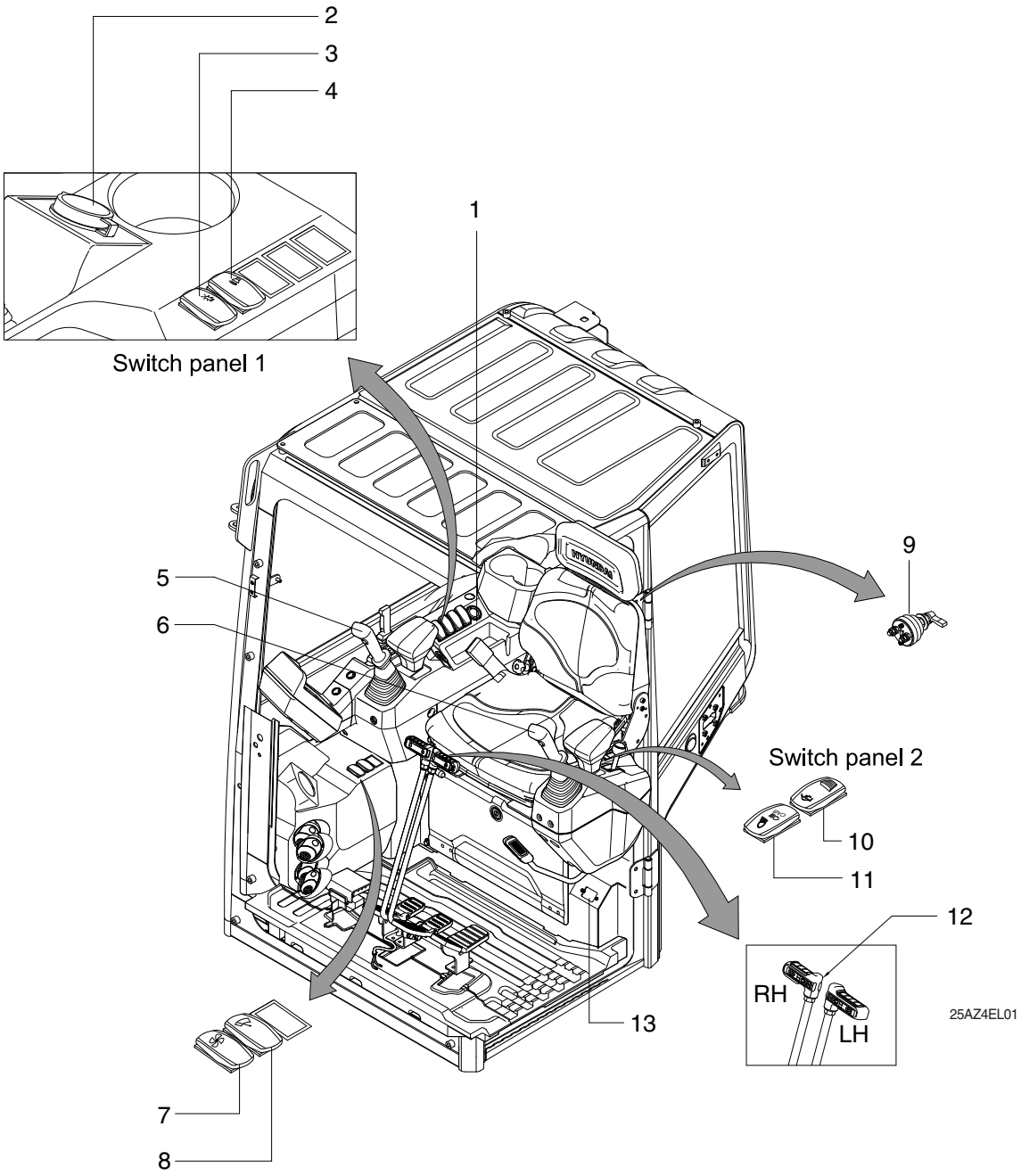
SECTION 4 ELECTRICAL SYSTEM

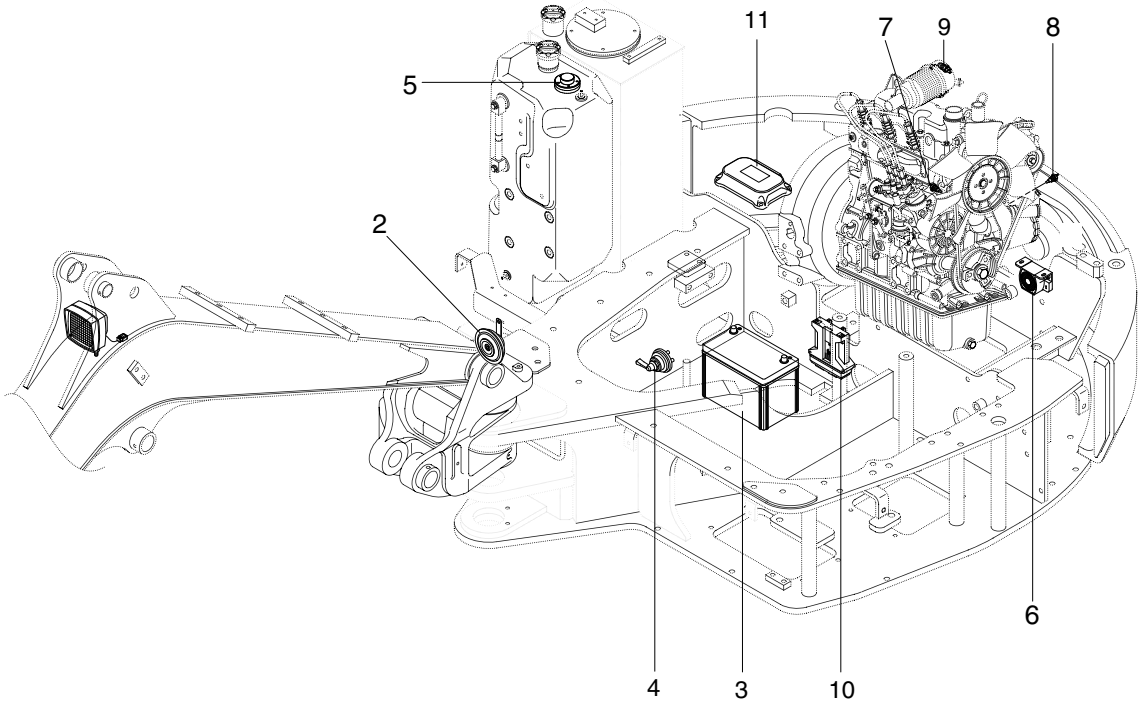
GROUP 1 COMPONENT LOCATION

1. LOCATION 1



1	12V socket	6	Switch on RH RCV	8	Washer/wiper switch
2	Start switch		- Breaker switch	9	Master switch
3	Beacon switch		- Horn switch	10	Quick coupler switch
4	Travel alarm switch		- Quick coupler switch	11	Work light switch
5	Switch on LH RCV		- 2-way switch	12	Travel speed control switch
	- Rotating switch	7	Heater switch	13	Emergency stop switch

2. LOCATION 2



25AZ4EL02

1	Work lamp	5	Fuel sender	9	Air cleaner pressure switch
2	Horn	6	Travel alarm buzzer	10	HCU assy
3	Battery	7	Water temperature sender	11	RMCU assy
4	Master switch	8	Engine oil pressure switch		

GROUP 2 MONITORING SYSTEM

1. OUTLINE

The cluster consists of LCD and switches as shown below. The LCD is to warn the operator in case of abnormal machine operation or conditions for the appropriate operation and inspection.

The LCD is to display for monitoring, manage and display set with the switches.

※ **The cluster installed on this machine does not entirely guarantee the condition of the machine. Daily inspection should be performed according to chapter 6, Maintenance.**

※ **When the cluster provides a warning, immediately check the problem and perform the required action.**

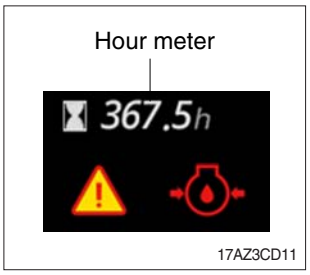
2. CLUSTER

1) MONITOR PANEL

25AZ4CD01

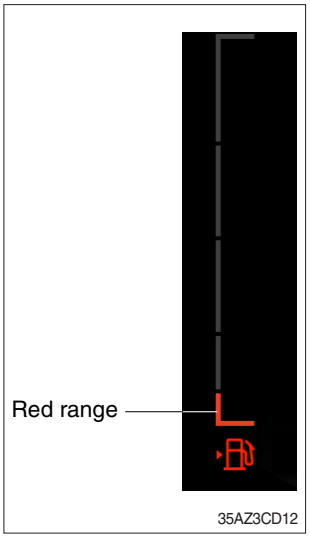
2) GAUGES AND DISPLAYS

(1) Hour meter



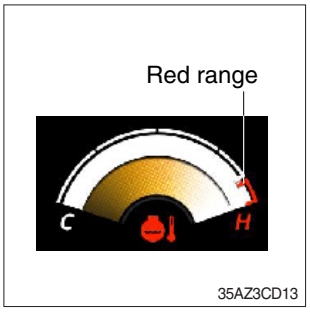
① This meter shows the total operation hours of the machine.
② Always ensure the operating condition of the meter during the machine operation.
Inspect and service the machine based on hours as indicated the operator's manual in chapter 6, maintenance.

(2) Fuel gauge



① This gauge indicates the amount of fuel in the fuel tank.
② Fill the fuel when in the red range or warning lamp ON.
※ **If the gauge illuminates the red range or warning lamp ON even though the machine is in the normal condition range, check the electric device as this can be caused by poor connection of sensor.**

(3) Engine coolant temperature gauge



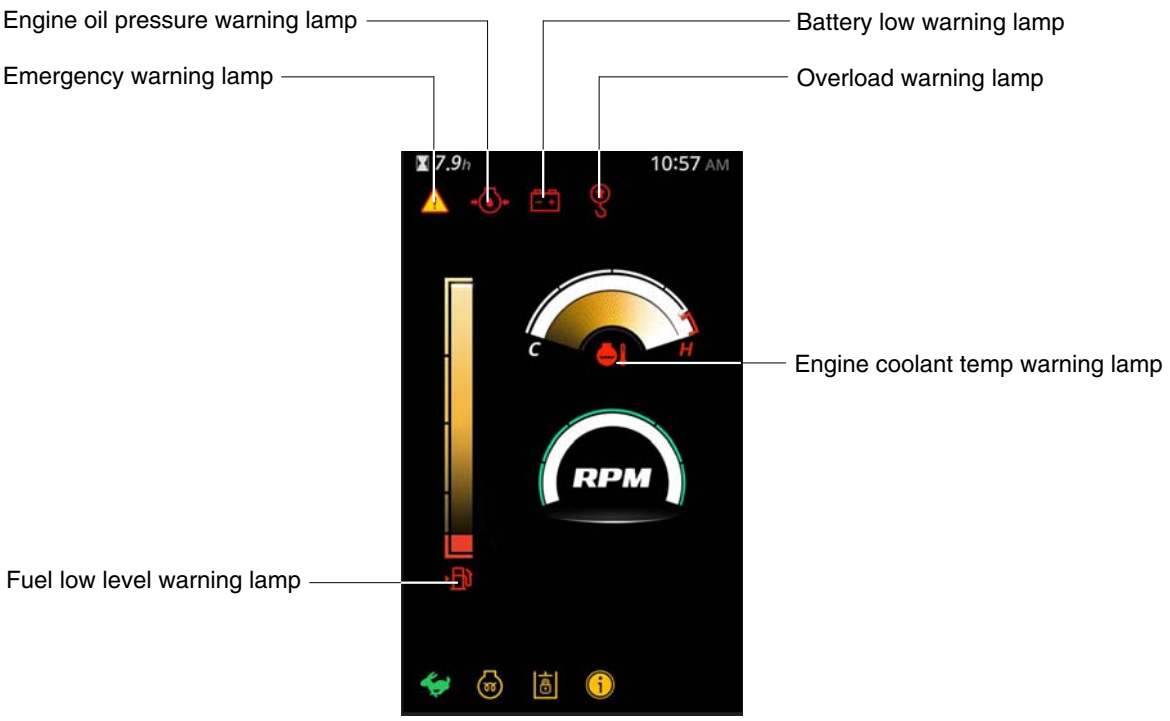
① This indicates the temperature of coolant.
· Red range : Above 105°C (221°F)
② When the red range pointed or warning lamp ON, engine do not abruptly stop but run it at medium speed to allow it to cool gradually, then stop it.
Check the radiator and engine.
※ **If the engine is stopped without cooled down running, the temperature of engine parts will rise suddenly, this could cause severe engine trouble.**
※ **If the gauge indicates the red range or warning lamp ON in red even though the machine is in the normal condition range, check the electric device as this can be caused by poor connection of sensor.**

(4) Engine rpm gauge

17AZ3CD15

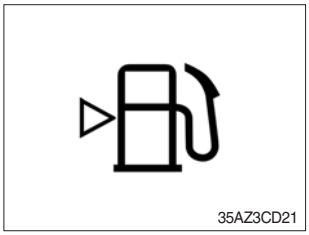
① This gauge indicates the engine speed.

3) WARNING LAMPS



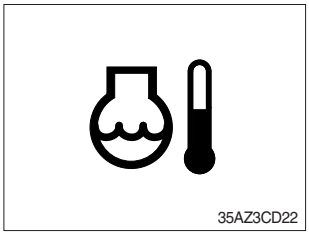
25AZ3CD20

(1) Fuel low level warning lamp



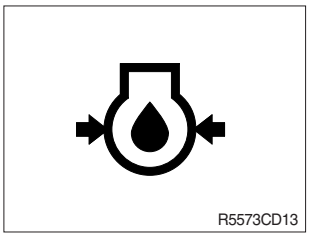
① This lamp lights up and buzzer sounds when the level of fuel is below 9 ℓ (2.4 U.S. gal).
② Fill the fuel immediately when the lamp ON.

(2) Engine coolant temperature warning lamp



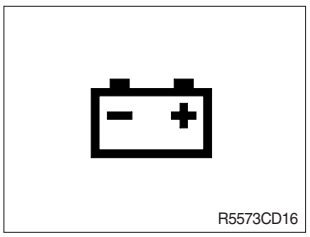
① This lamp lights up and buzzer sounds when the temperature of coolant is over the normal temperature 105°C (221°F).
② Check the cooling system when the lamp ON.

(3) Engine oil pressure low warning lamp



① This lamp lights up and buzzer sounds after starting the engine because of the low oil pressure.
② If the lamp ON during engine operation, shut OFF engine immediately. Check oil level.

(4) Battery low warning lamp



① This lamp lights up and buzzer sounds when the starting switch is ON, it is turned OFF after starting the engine.
② Check the battery charging circuit when this lamp does not turn off, or turns on or blinks during engine operation.

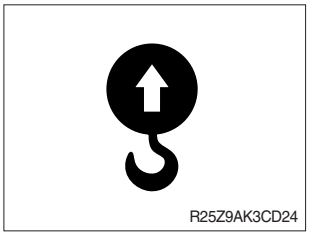
(5) Emergency warning lamp

① This lamp pops up and the buzzer sounds when each of the below warnings occurs.
- Engine coolant temperature high warning lamp ON

※ The pop-up warning lamp moves to the original position and lights up when the buzzer stop switch is pushed or pop-up is touched. The buzzer will stop.
This is same as following warning lamps.

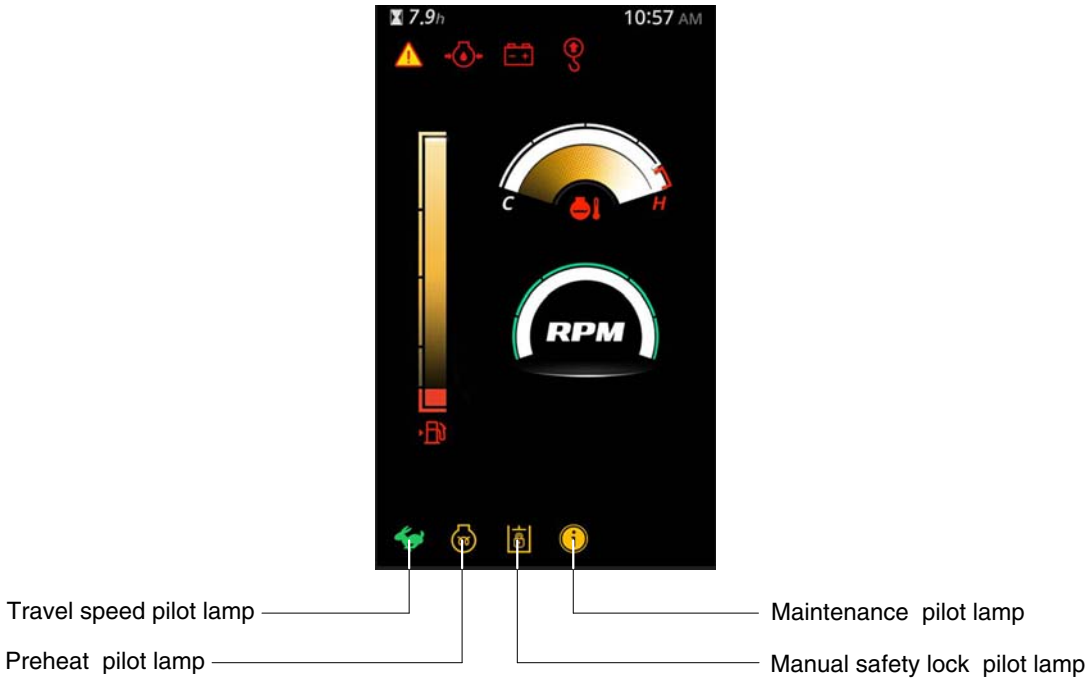
② When this warning lamp lights up, machine must be checked and serviced immediately.

(6) Overload warning lamp



① When the machine is overloaded, this lamp blinks and buzzer sounds.
② Reduce the machine load.

4) PILOT LAMP

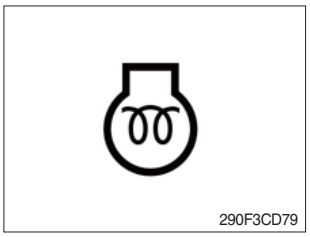


25AZ3CD30

(1) Travel mode pilot lamp

No	Mode	Pilot lamp	Selected mode
1	Travel mode		Low speed traveling High speed traveling

(2) Preheat pilot lamp



① Turning the start key switch to the ON position starts preheating in cold weather.
② Start the engine after this lamp goes OFF.
※ **Refer to the operator's manual page 4-4 for details.**

(3) Maintenance pilot lamp

① This lamp lights up when consumable parts are in need of replacement. It means that the change or replacement interval of parts is 30 hours from the required change interval.
② Check the message in maintenance information of main menu. Also, this lamp lights up for 3 minutes when the start switch is switched to the ON position.

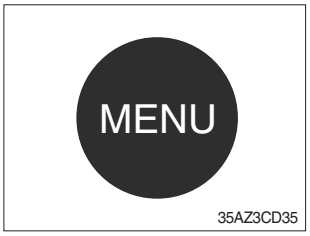
(4) Manual safety lock pilot lamp

① This lamp lights up when the safety lever is set to the LOCK position.
※ **Refer to the operator's manual page 3-29 for the safety lever.**

5) SWITCHES

Sound short beep when each button is pressed.

(1) Menu button



① Go into the menu screen.

※ **Please refer to page 4-11.**

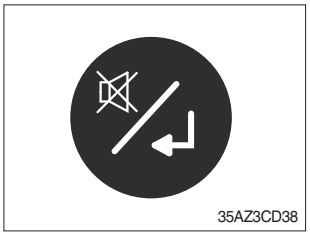
(2) Left/up/(+)

① Move left in sub menu.
② Move up in menu list
③ Increase input value in menu

(3) Right/down/(-) button

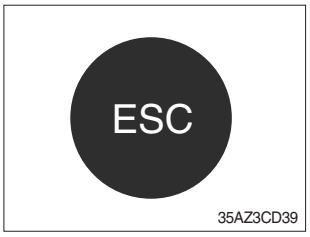
① Move right in sub menu.
② Move down in menu list
③ Decrease input value in menu

(4) Enter and buzzer stop button



① Select menu (enter).
② Stop buzzer sound when press this button immediately.

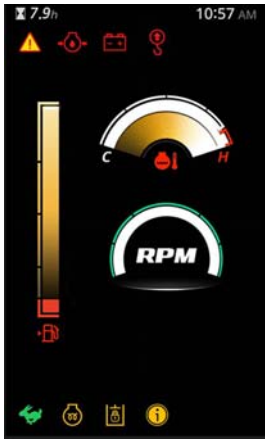
(5) ESC



① Escape in the menu.

6) MAIN MENU

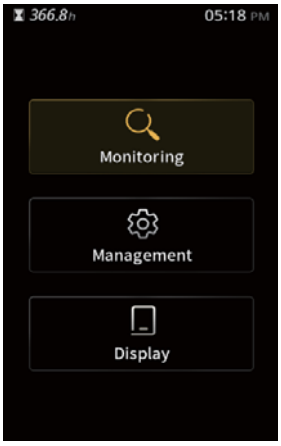
Operation screen



25AZ3CD100

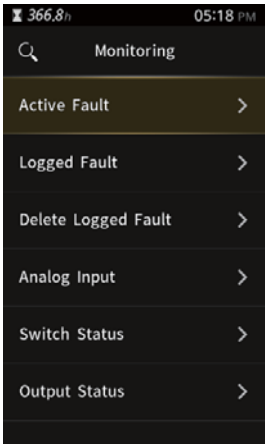
press MENU button

Main menu screen



17AZ3CD106

Sub menu screen

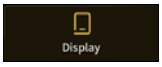


17AZ3CD110

※ Please refer to the switches, page 4-10 for selection and change of menus and input values.

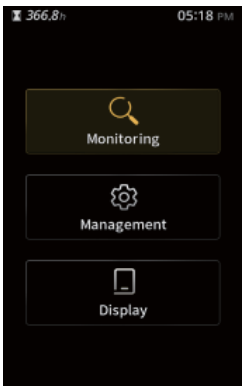
※ In the operation screen, press the menu button to access the sub-menu screen.

(1) Structure

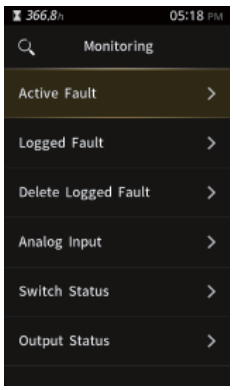
No	Main menu	Sub menu	Description
1	 Monitoring 17AZ3CD103	Active fault Logged fault Delete logged fault Analog input Switch status Output status	Active fault Logged fault Delete logged fault Coolant temp., Battery volt, Engine speed, Overload pressure Safety lever, Quick coupler 1, Quick coupler 2, Travel speed Quick coupler solenoid, Start limit relay, Buzzer
2	 Manage 35AZ3CD104	Operating hours Maintenance ESL mode Change password Warning setting Machine information A/S phone number	A day's operating hours Elapse, Interval, Replacement etc. Disabled, Enable (Always), Enable (Interval) Change password Overload on/off Machine, Engine, Cluster A/S phone number, A/S phone number change
3	 Display set 17AZ3CD105	Clock adjust Brightness Unit Language	12 hours, 24 hours Manual, Auto Temperature Korean, English, Turkish, etc (total 12 languages)

(2) Monitoring

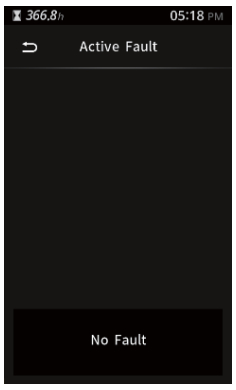
① Active fault



17AZ3CD106

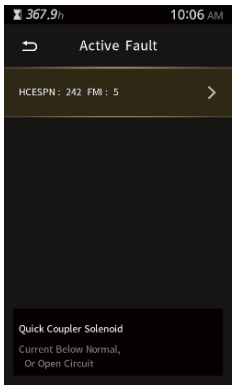


17AZ3CD110



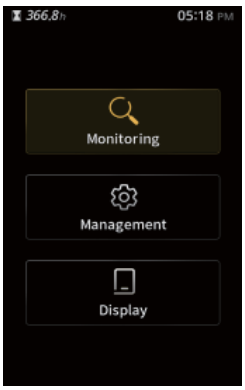
17AZ3CD111

- The active fault of the machine and engine can be checked by this menu.

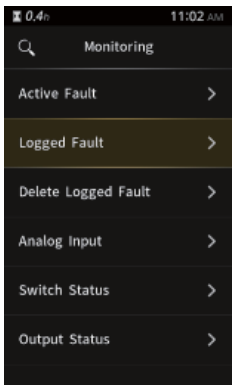


17AZ3CD112

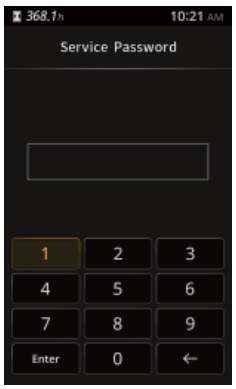
② Logged fault



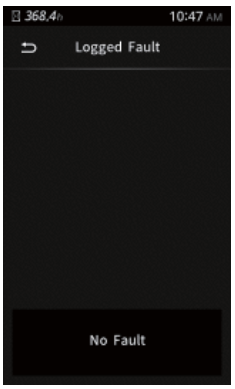
17AZ3CD106



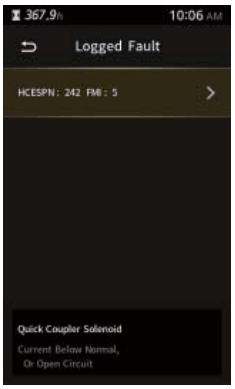
17AZ3CD113



17AZ3CD114



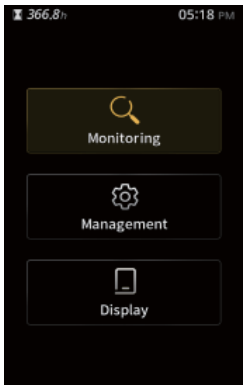
17AZ3CD115



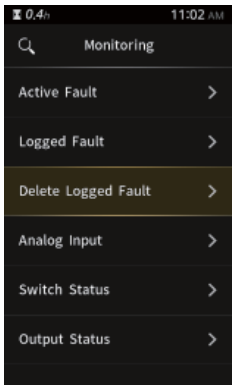
17AZ3CD116

- The logged fault of the machine and engine can be checked by this menu.
- This menu can be used only HCE service man.

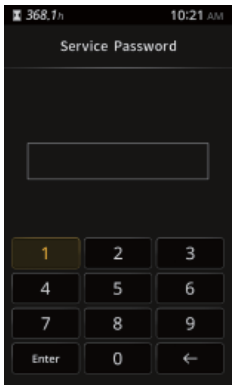
③ Delete logged fault



17AZ3CD106

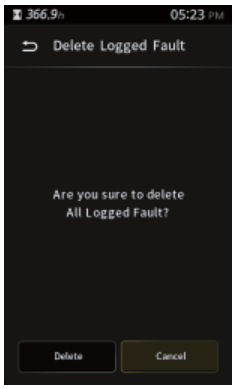


17AZ3CD117

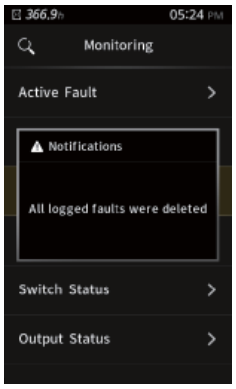


17AZ3CD118

- The logged fault of the machine and engine can be deleted by this menu.
  (It is possible under the engine stop conditions)



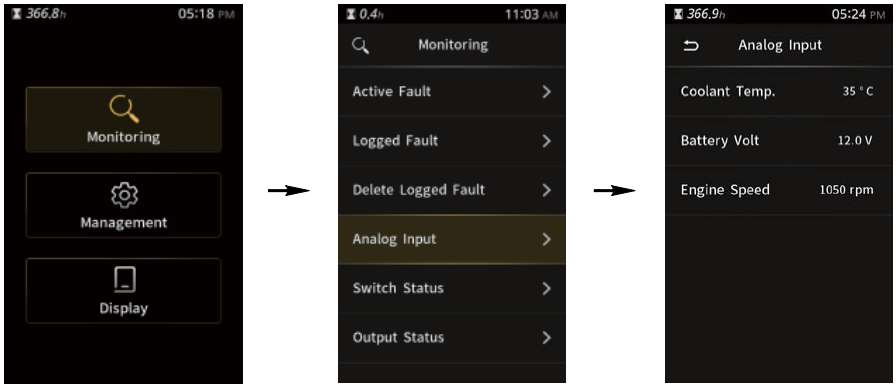
17AZ3CD119



17AZ3CD120

17AZ3CD121

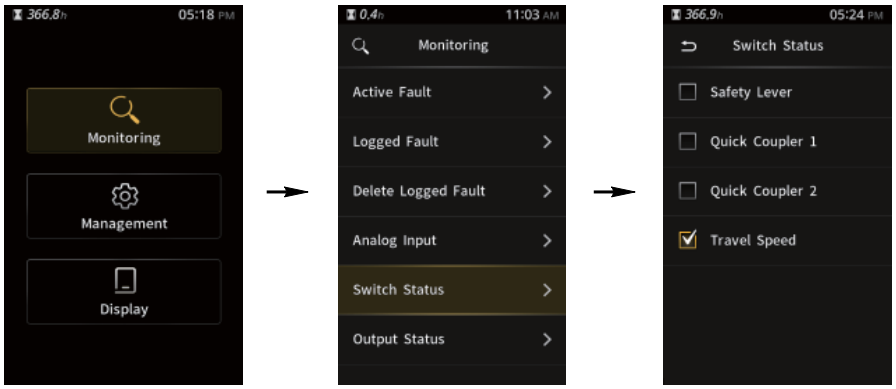
④ Analog input



17AZ3CD106 17AZ3CD122 17AZ3CD123

- The machine status such as the engine speed, coolant temperature, battery voltage can be checked by this menu.

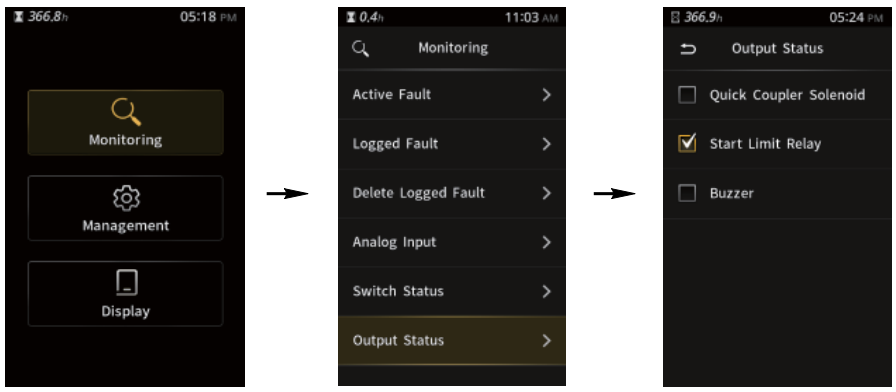
⑤ Switch status



17AZ3CD106 17AZ3CD124 17AZ3CD125

- The switch input status can be checked by this menu.

⑥ Output status

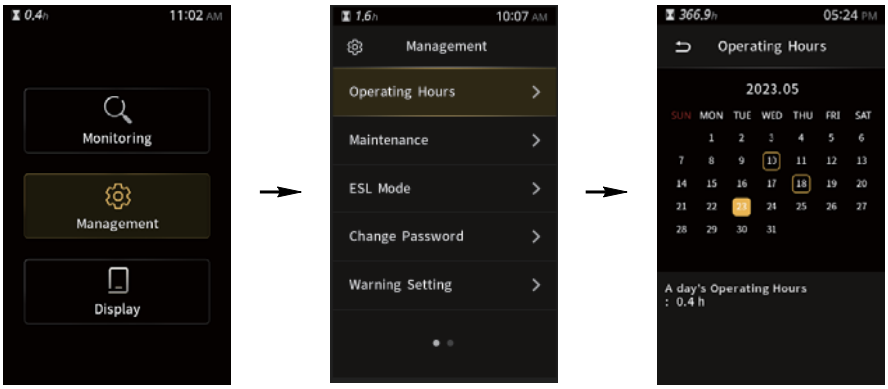


17AZ3CD106 17AZ3CD126 17AZ3CD127

- The output status can be confirmed by this menu.

(3) Manage

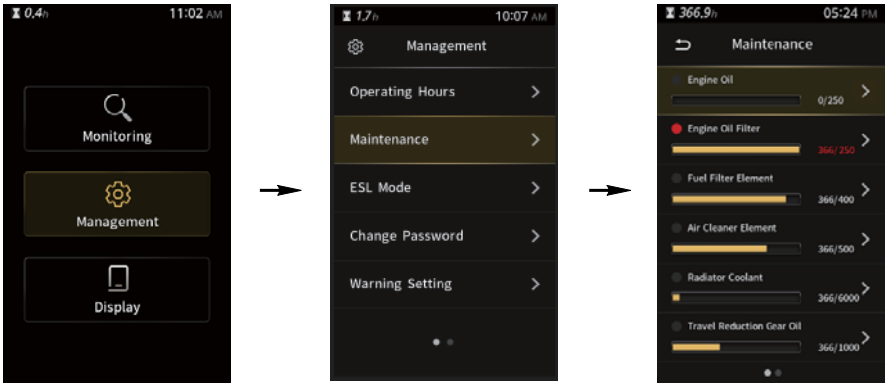
① Operating hours



17AZ3CD107 17AZ3CD130A 17AZ3CD131

- You can check the operating hours by this menu.

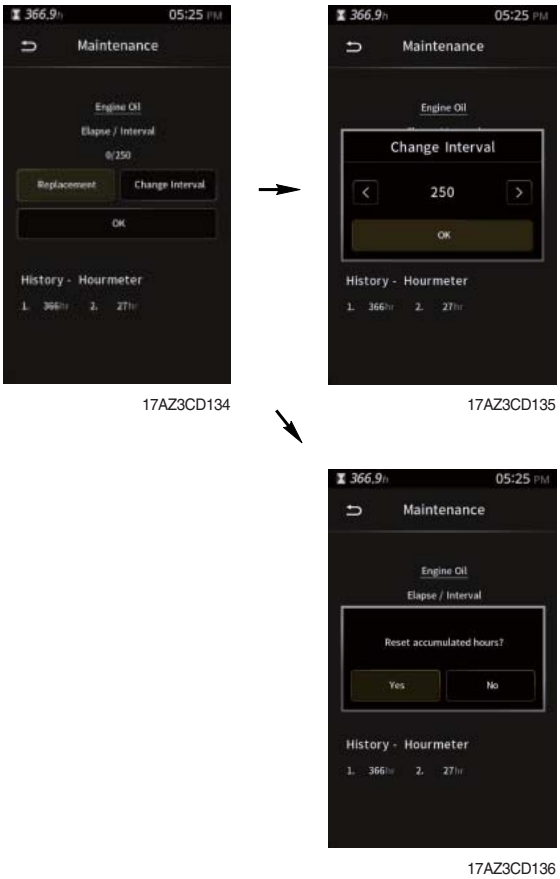
② Maintenance



17AZ3CD107 17AZ3CD132A 17AZ3CD133

- Elapse : Maintenance elapsed time.
- Interval : The change intervals can be changed in hour increments of 50.
- History-Hourmeter : Display elapsed time.
- Replacement : The elapsed time will be reset to zero (0).

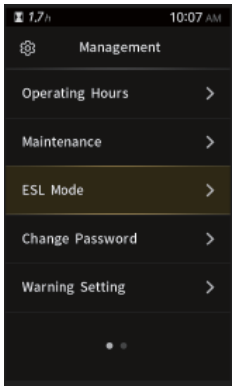
※ **Refer to section, Maintenance chart for further information of maintenance interval.**



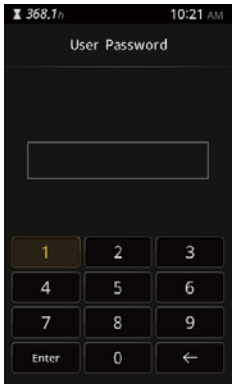
17AZ3CD134 17AZ3CD135 17AZ3CD136

③ ESL mode

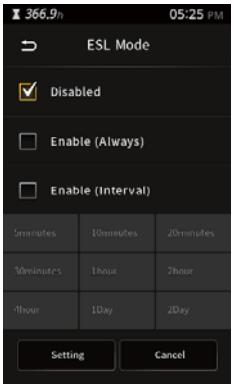
17AZ3CD107



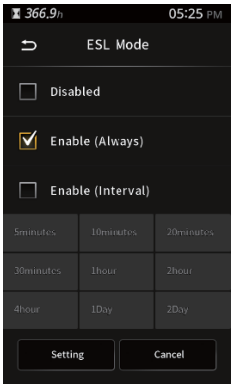
17AZ3CD137A



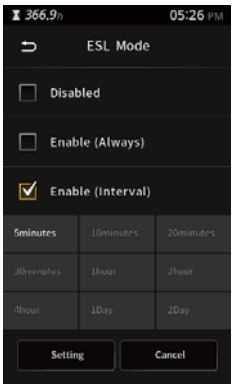
17AZ3CD138



17AZ3CD139



17AZ3CD140



17AZ3CD141

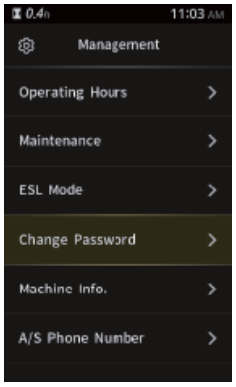
ESL mode setting

- ESL mode is designed to be a theft deterrent or will prevent the unauthorized operation of the machine.
- When you Enable the ESL mode, the password will be required when the starting switch is turned to the on position.
- Machine security
  - Disable : ESL function is disabled and password is not required to start engine.
  - Enable (Always) : The password is required whenever the operator starts engine.
  - Enable (Interval) : The password is required when the operator starts engine first. But the operator can restart the engine within the interval time without inputting the password. The interval time can be set to a maximum 2 days.

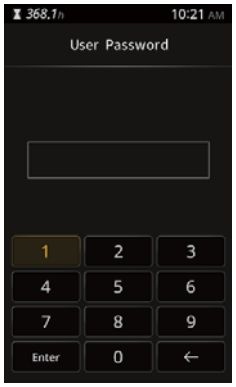
※ **ESL : Engine Starting Limit**

④ Change password

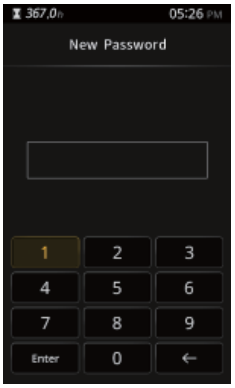
17AZ3CD107



17AZ3CD142A



17AZ3CD143

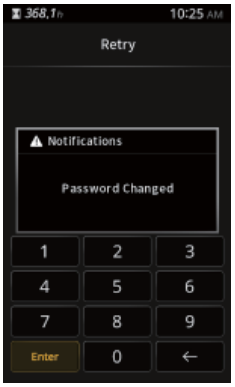


17AZ3CD144

- The password is 5~10 digits.

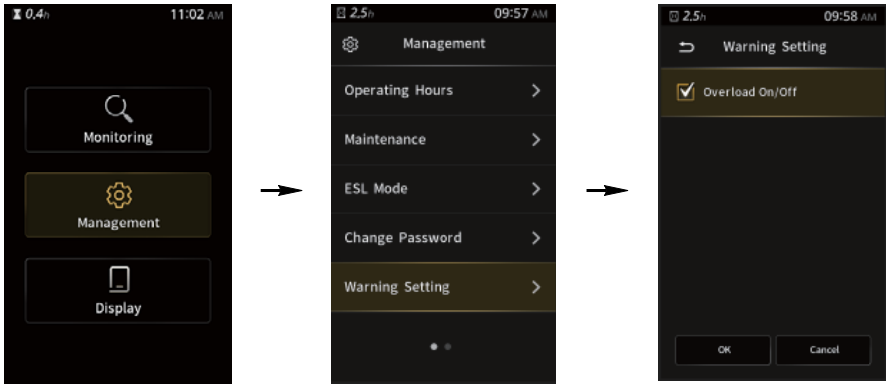
※ **Before first use, please set user password and owner password in advance for machine security.**

17AZ3CD145



17AZ3CD146

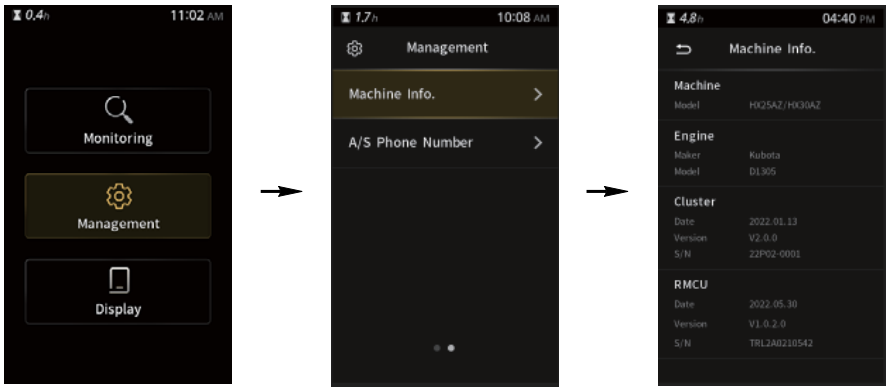
⑤ Warning setting



17AZ3CD107 25AZ3CD100 25AZ3CD101

- You can set the warning items by this menu (optional menu).

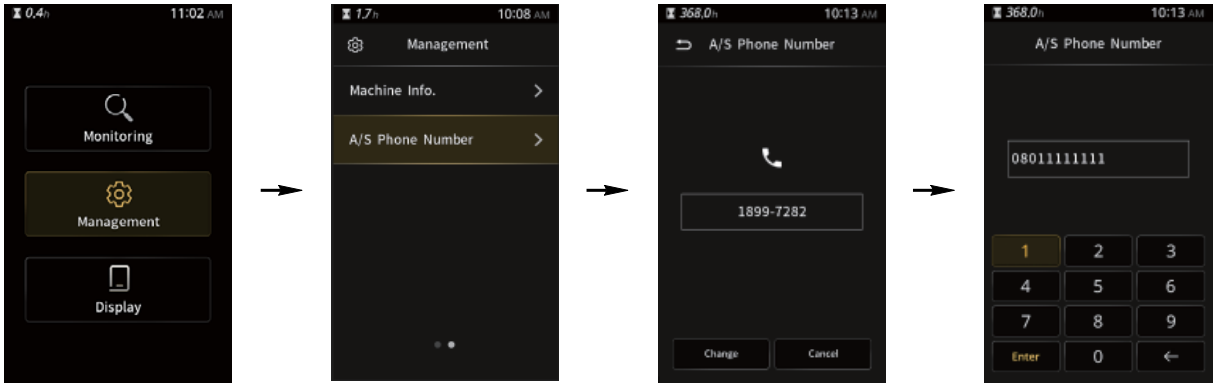
⑥ Machine information



17AZ3CD107 17AZ3CD147A 17AZ3CD148A

- This can confirm the identification of the machine, engine and cluster.

⑦ A/S phone number



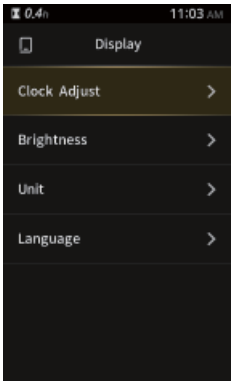
17AZ3CD107 17AZ3CD149A 17AZ3CD150 17AZ3CD151

- The A/S phone number can be checked and changed.

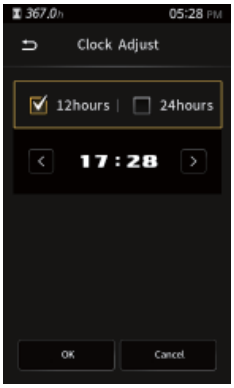
(4) Display set

① Clock adjust

17AZ3CD108



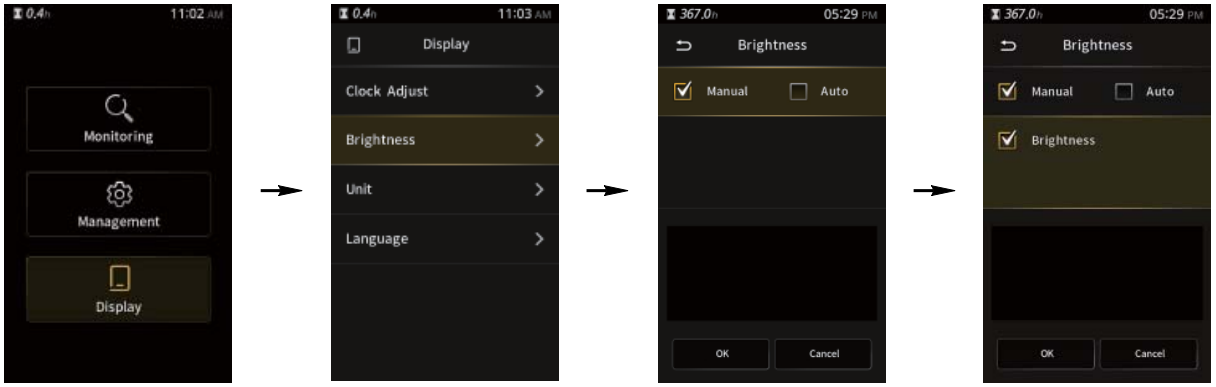
17AZ3CD160



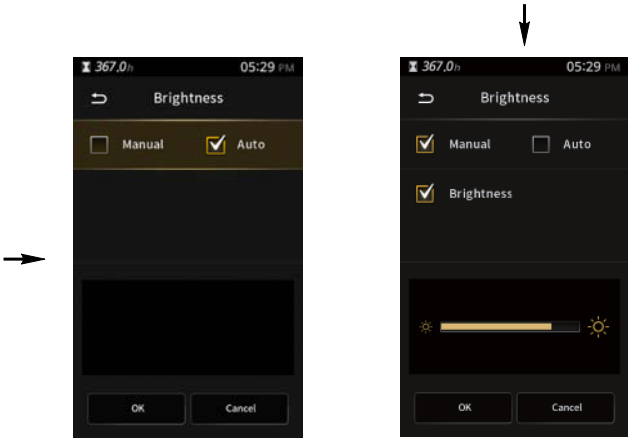
17AZ3CD161

- Set the time (12 hours or 24 hours)

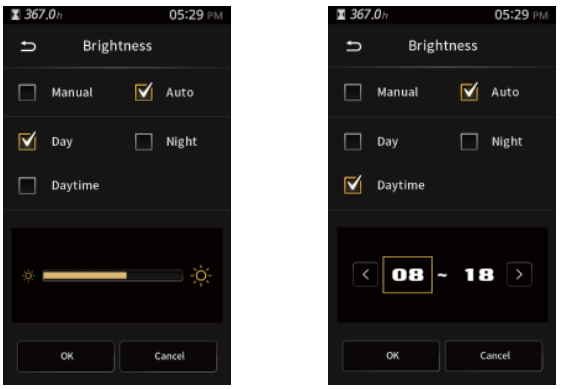
② Brightness



17AZ3CD108 17AZ3CD162 17AZ3CD163 17AZ3CD164



17AZ3CD166 17AZ3CD165



17AZ3CD167 17AZ3CD168

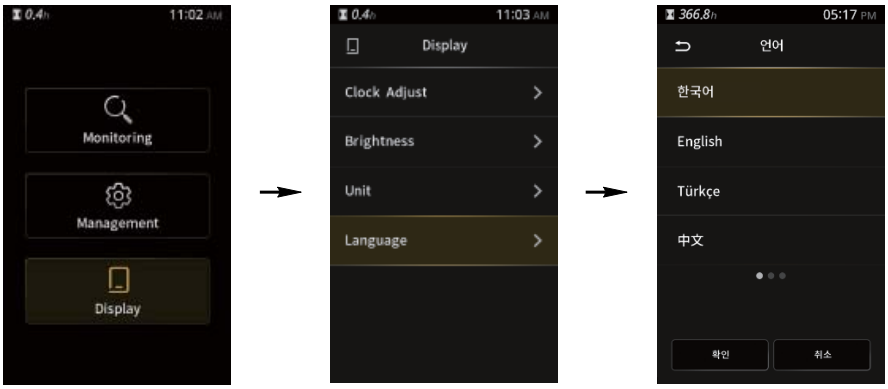
- Manual : Manual setting for LCD brightness.
- Automatic : Automatic control of LCD brightness as set level of Day/Night.
- Setting day time : Set the time for daylight.
  (in figure, black area represents night time while orange shows day time)

③ Unit

17AZ3CD108 17AZ3CD169 17AZ3CD170

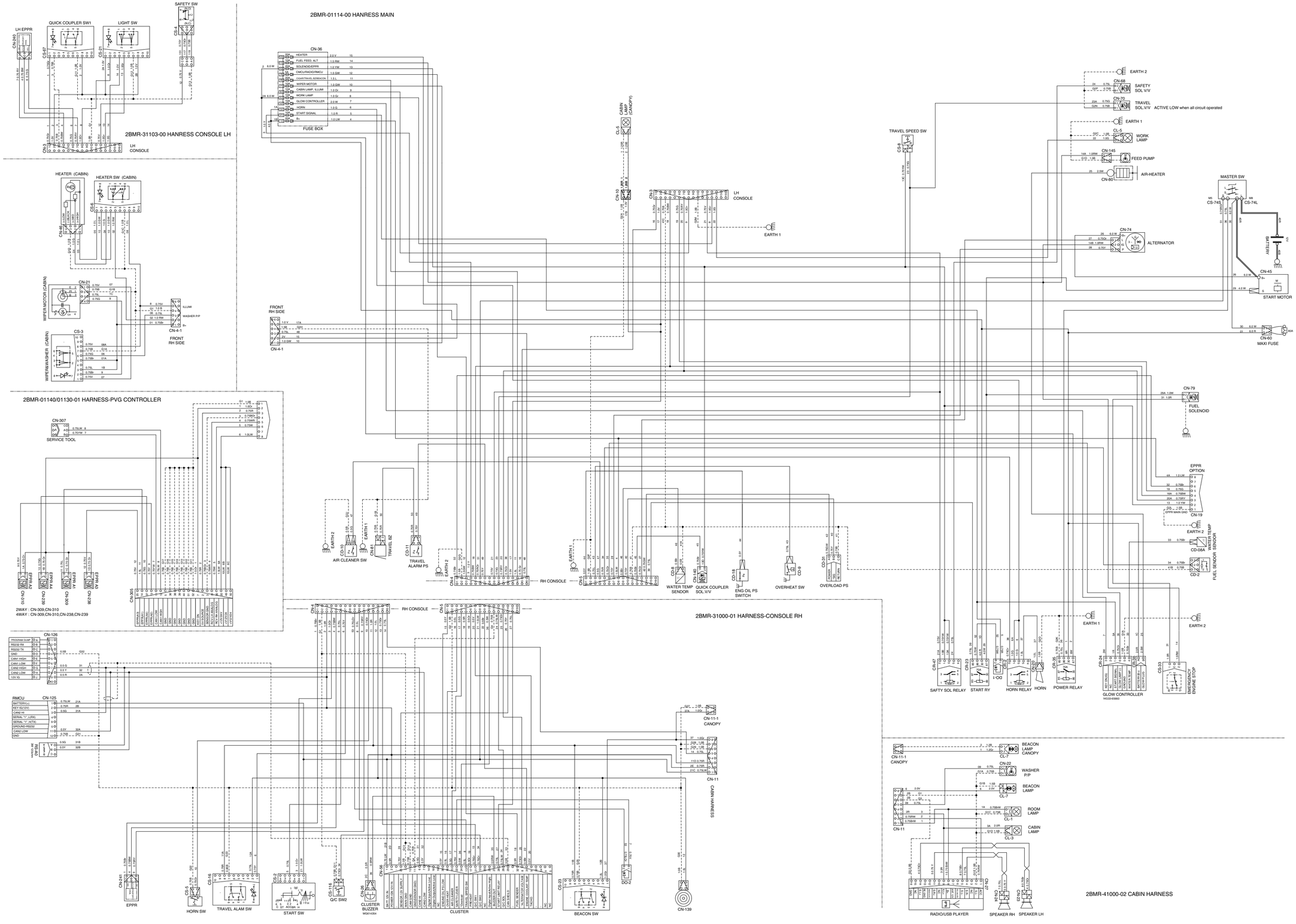
- Temperature : °C ↔ °F

④ Language



17AZ3CD108 17AZ3CD171 17AZ3CD172

- User can select preferable language and all displays are changed to the selected language (한국어, English, Turkish, etc ; total 12 languages).



2AMR-91013-00

MEMORANDUM

1. POWER CIRCUIT

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

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

1) OPERATING FLOW

Battery [B^+] → Master sw [CS-74 (L)] → Maxi fuse [CN-60]

- → Start motor [CN-45 (B^+)] → Alternator [CN-74 (B^+)]
- → Power relay [CR-35 (30)]
- → Start relay [CR-23 (30)]
- → Glow controller [CR-36 (A)]
- → Fuse box [No. 1]
  - → I/conn [CN-5 (1)]
    - → RMCU [CN-125 (1)]
    - → Cluster [CN-56 (1)]
    - → I/conn [CN-11 (1)]
      - → Room lamp [CL-1 (1)]
      - → Radio and USB player [CN-27 (8)]
    - → Start switch [CS-2 (1)]
  - → To option EPPR [CN-19 (8)]
- → Fuse box [No. 3] → Horn relay [CR-2 (1, 3)]

※ I/conn : Intermediate connector

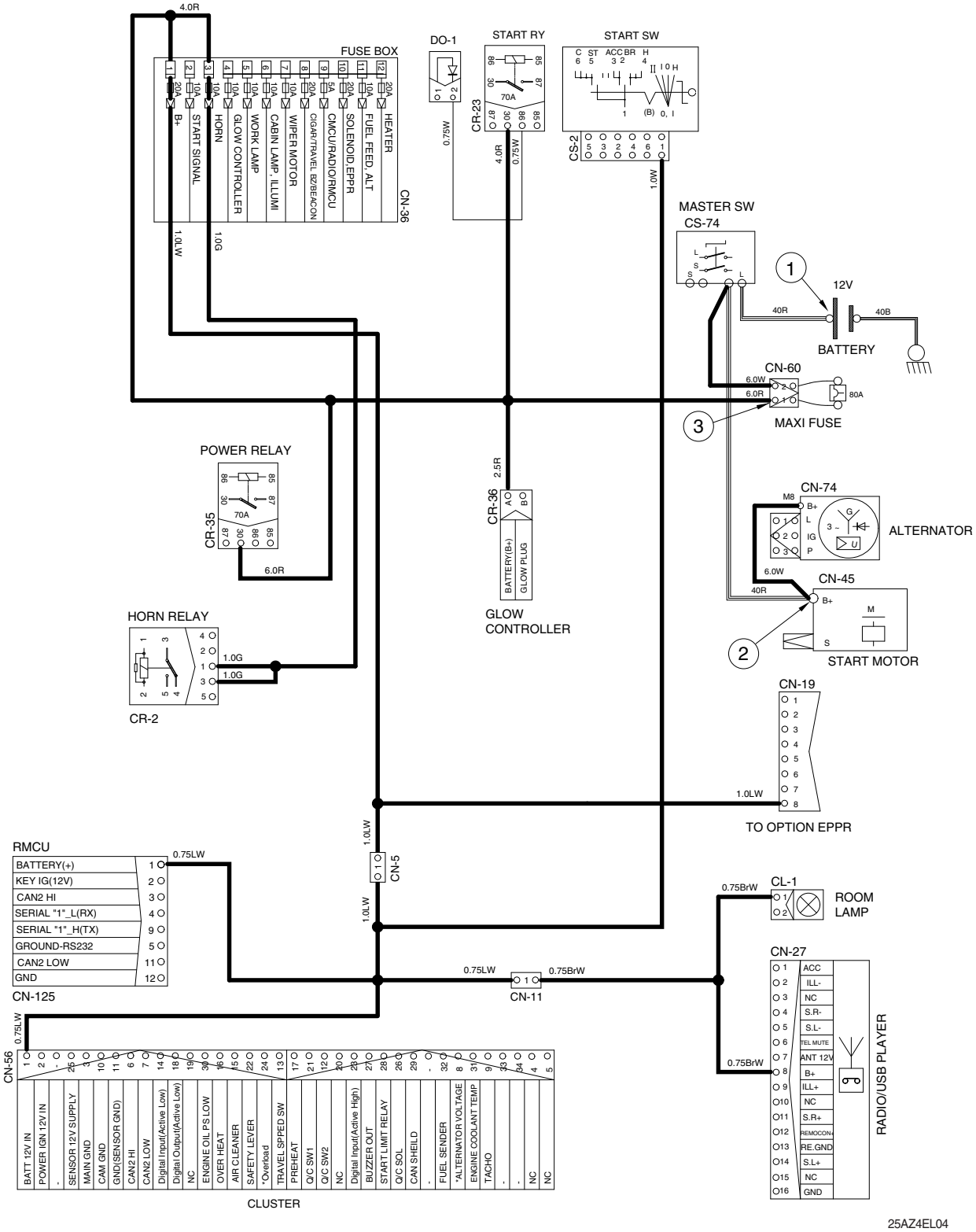
2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	OFF	① - GND (Battery) ② - GND (Start motor B^+) ③ - GND (Maxi fuse)	10~12.5 V

※ GND : Ground

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

POWER CIRCUIT



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

2. STARTING CIRCUIT

1) OPERATING FLOW

Battery [+] terminal → Master switch [CS-74L] → Maxi fuse [CN-60]
- → Fuse box [No. 1] → I/conn [CN-5 (1)] → Start switch [CS-2 (1)]
- → Power relay [CR-35 (30)]
- → Start relay [CR-23 (30)]
- → Glow controller [CR-36 (A)]

(1) Start switch : ON

Start switch [CS-2 (2)] → I/conn [CN-4 (6)] → Master switch [CS-74S]
→ Power relay [CR-35 (30) → (87)]
→ Fuse box [all power is supplied with electric component)

(2) Start switch : START

Start switch [CS-2 (6)] → I/conn [CN-4 (4)] → Fuse box [No.2]
- → Start relay [CR-23 (30) → (87)] → Start motor [CN-45 (S)]
  → Start motor operating
- → Glow controller [CR-24 (3)]

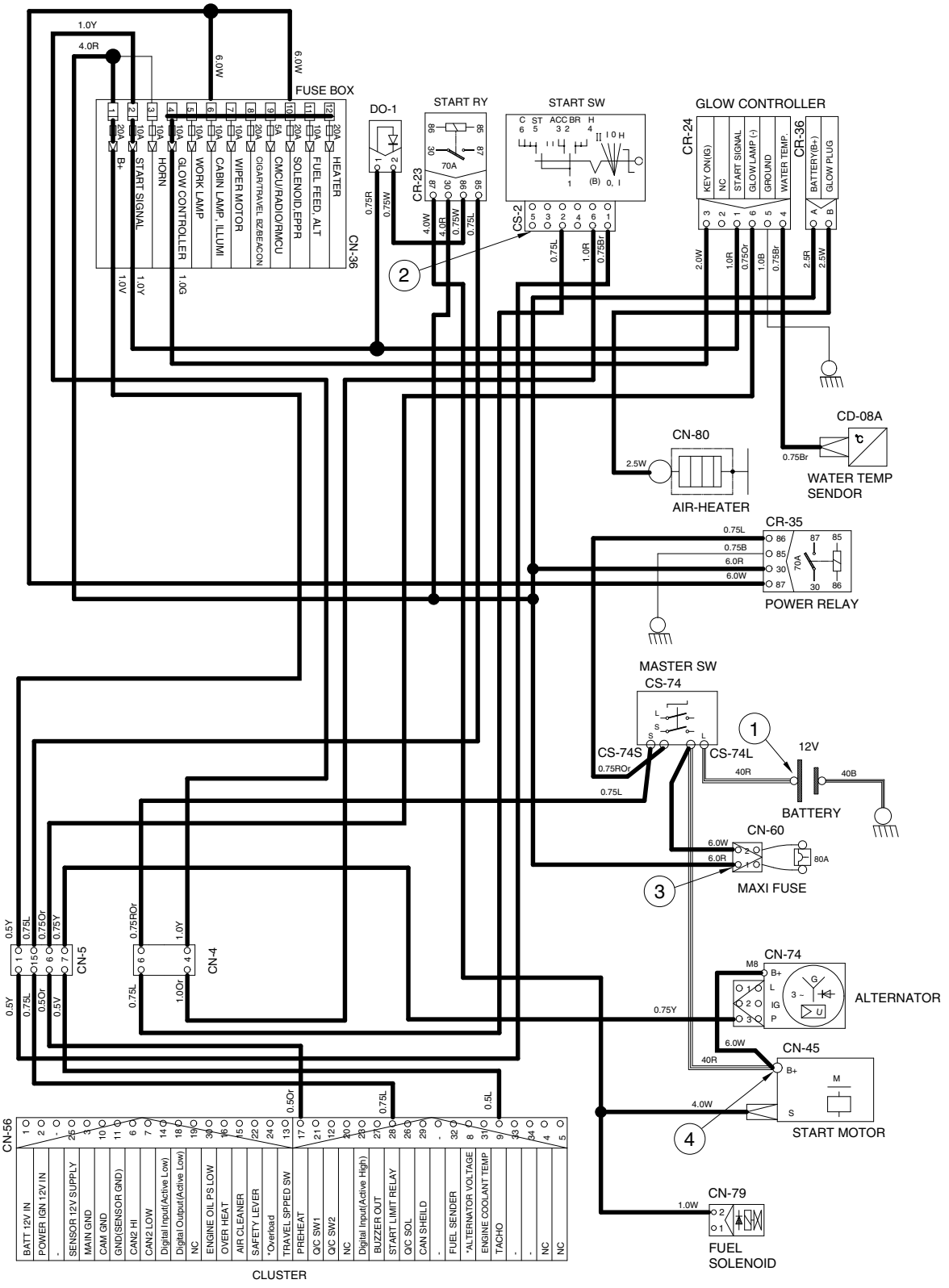
2) CHECK POINT

Engine	Start switch	Check point	Voltage
Operating	START	① − GND (Battery) ② − GND (Start switch) ③ − GND (Start motor B^+) ④ − GND (Start motor S)	10~12.5 V

※ GND : Ground

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

STARTING CIRCUIT



25AZ4EL05

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

3. CHARGING CIRCUIT

When the start motor is activated and the engine is started, the operator releases the start switch to the ON position.

Charging current generated by operating the alternator flows into the battery.

The current also flows from alternator to each electrical component and controller through the fuse box.

1) OPERATING FLOW

(1) Warning flow

Alternator terminal [CN-74 (1)] → I/conn [CN-5 (13)] → Cluster [CN-56 (8)]
→ Cluster warning lamp ON

(2) Charging flow

Alternator terminal [CN-74 (B^+)] → Start motor [CN-45 (B^+)] → Master switch [CS-74L]
→ Battery [+] terminal
→ Maxi fuse [CN-60] → Fuse box [No. 1, 3]
→ Power relay [CR-35 (30) → (87)] → Fuse box [No. 4~12]

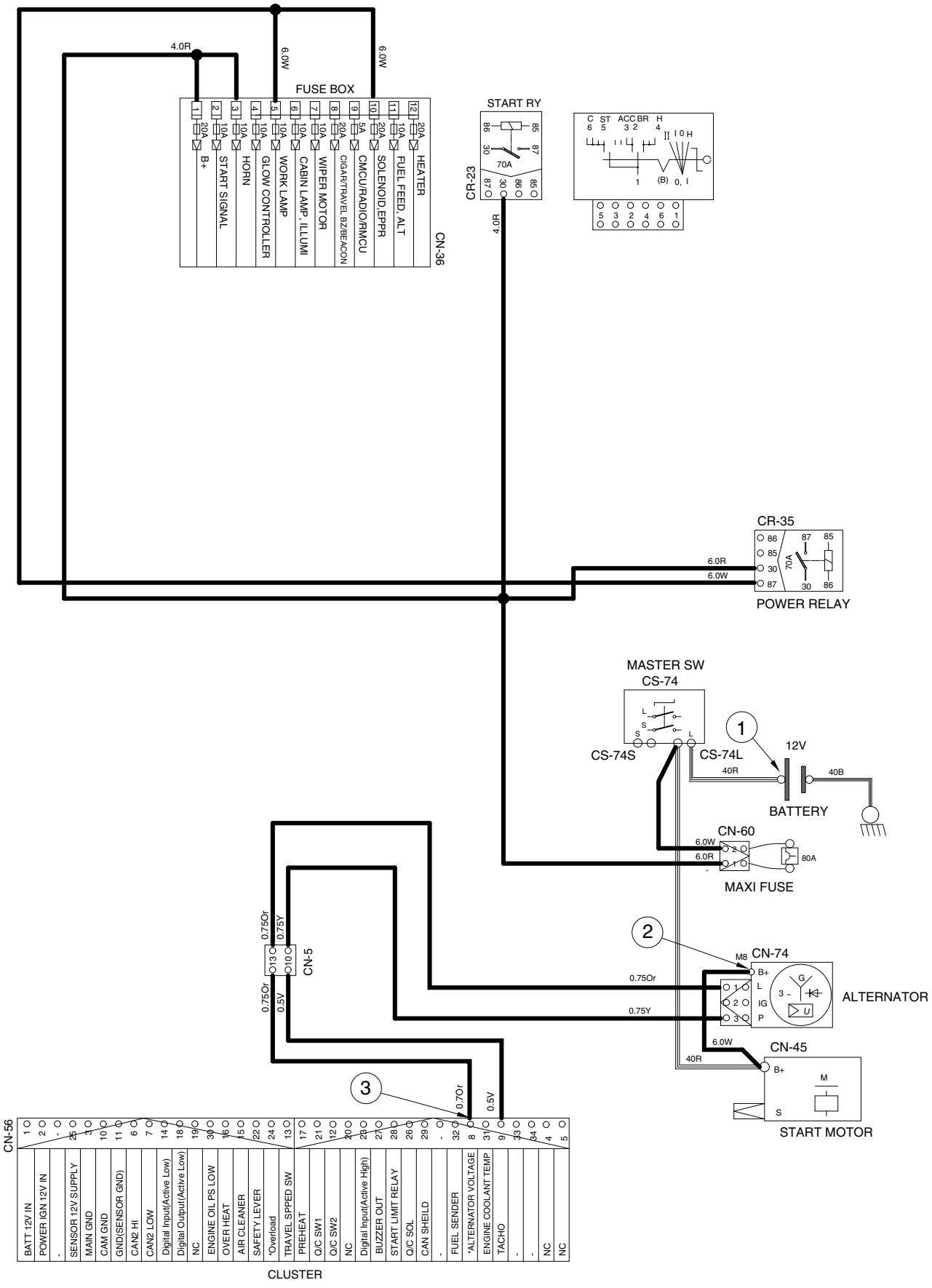
2) CHECK POINT

Engine	Start switch	Check point	Voltage
Operating	ON	① - GND (Battery voltage) ② - GND (Alternator B^+ terminal) ③ - GND (Cluster)	10~12.5 V

※ GND : Ground

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

CHARGING CIRCUIT



25AZ4EL06

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

4. WORK LIGHT CIRCUIT

1) OPERATING FLOW

Fuse box [No.6] → I/conn [CN-3 (8)] → Light switch [CS-21 (2)]
Fuse box [No.5] → I/conn [CN-3 (13)] → Light switch [CS-21 (5)]

(1) Main light switch ON : 1st step

Main light switch ON [CS-21 (2)]
- → Light switch illumination ON [CS-21 (8)]
- → I/conn [CN-3 (2)] → I/conn [CN-4 (13)]
  - → I/conn [CN-11 (3)]
    - → Cabin lamp [CL-3 (2)]
    - → Radio/USB player [CN-27 (9)]
  - → I/conn [CN-4-1 (5)]
    - → Heater switch illumination ON [CS-6 (8)]
    - → Wiper & washer illumination ON [CS-3 (8)]
  - → Beacon switch illumination ON [CS-23 (8)]
  - → Travel alarm switch illumination ON [CS-16 (8)]

(2) Main light switch ON : 2nd step

Main light switch ON [CS-21 (4)] → I/conn [CN-3 (14)] → Work light ON [CL-5 (2)]

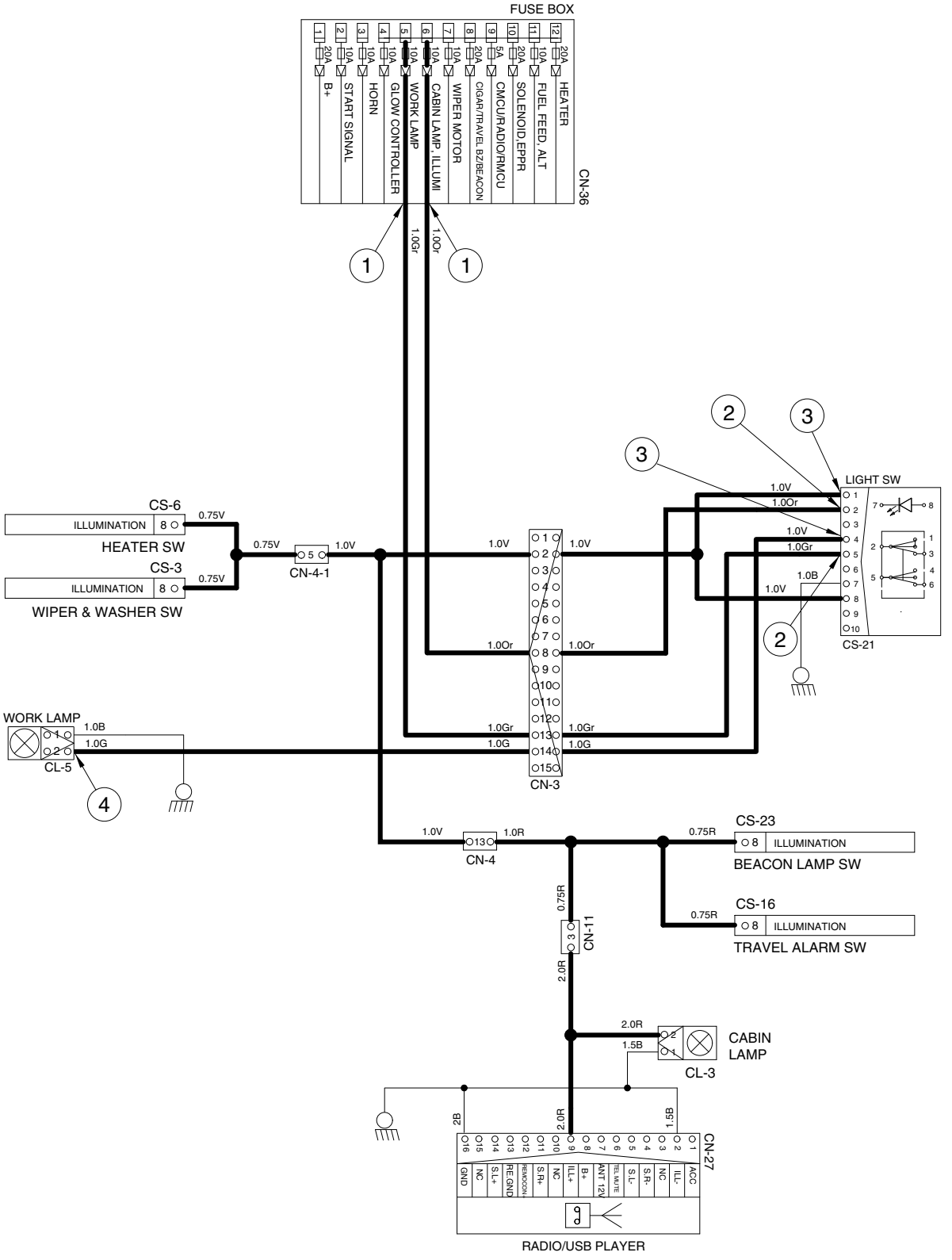
2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① – GND (Fuse box) ② – GND (Switch power input) ③ – GND (Switch power output) ④ – GND (Work light)	10~12.5 V

※ GND : Ground

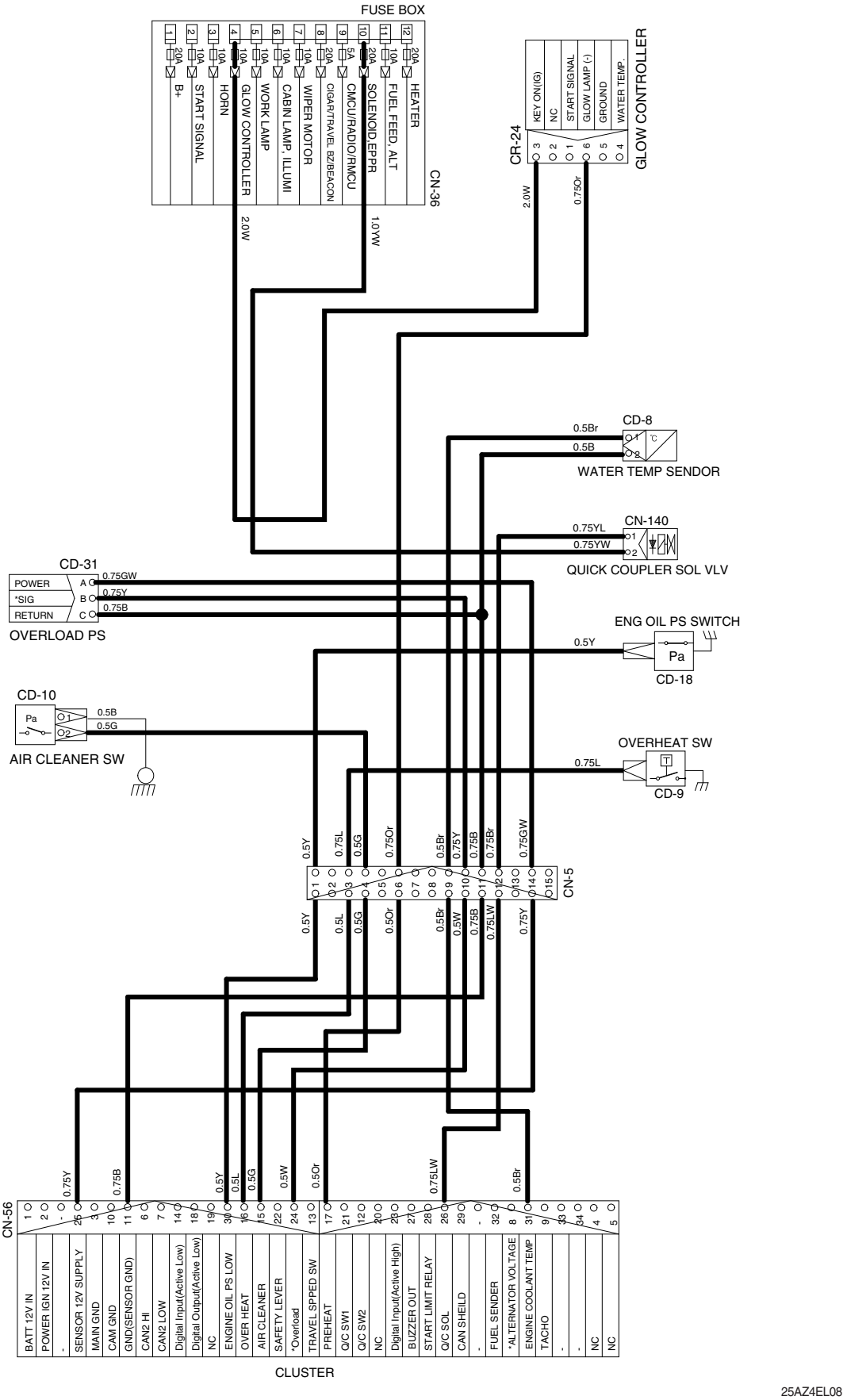
※ The circuit diagram may differ from the equipment, so please check before a repair.

WORK LAMP CIRCUIT



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

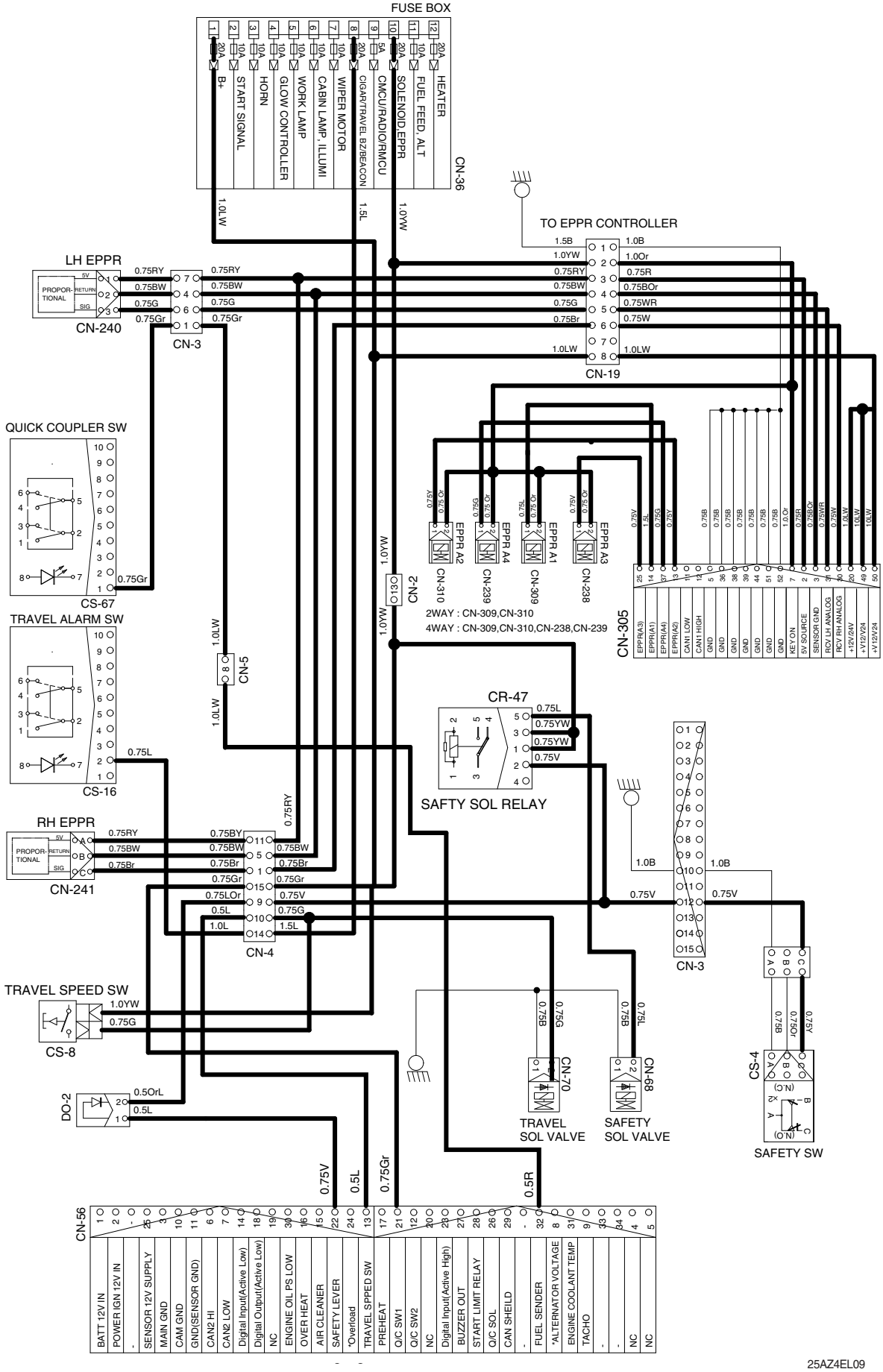
MONITORING CIRCUIT



25AZ4EL08

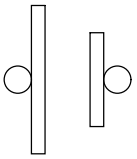
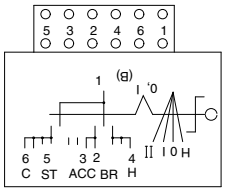
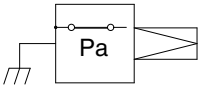
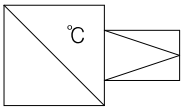
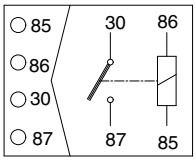
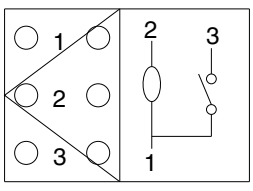
※ The circuit diagram may differ from the equipment, so please check before a repair.

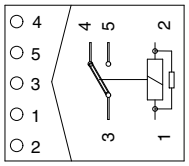
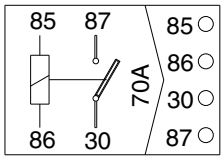
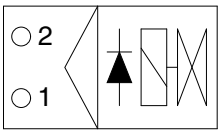
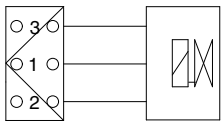
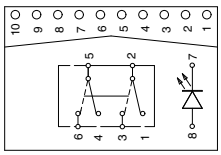
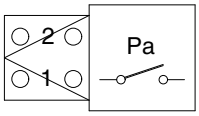
ELECTRIC CIRCUIT FOR HYDRAULIC

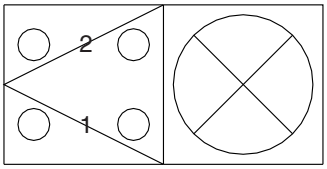
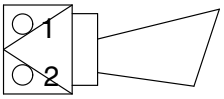
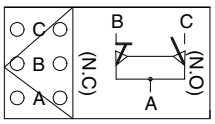
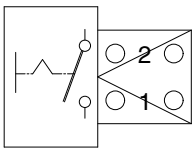
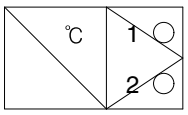
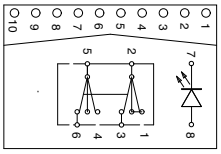


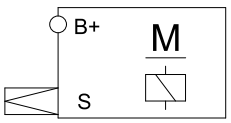
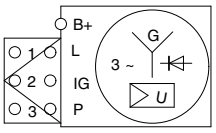
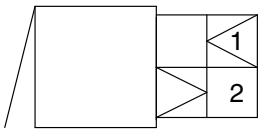
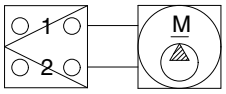
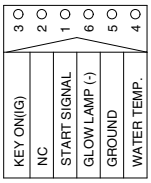
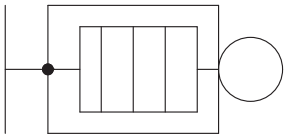
※ The circuit diagram may differ from the equipment, so please check before a repair.

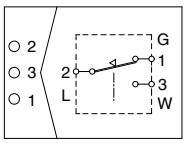
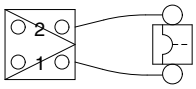
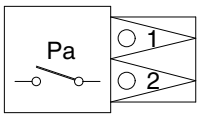
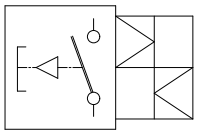
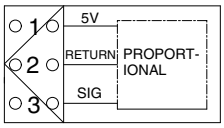
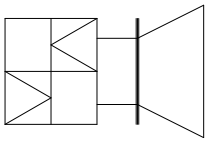
GROUP 4 ELECTRICAL COMPONENT SPECIFICATION

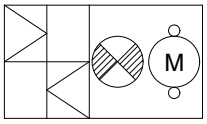
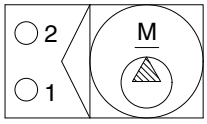
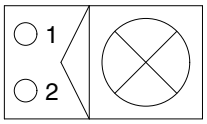
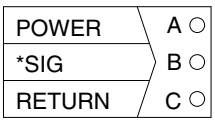
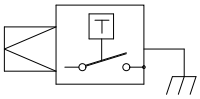
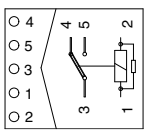
Part name	Symbol	Specification	Check
Battery		12V × 72Ah	※ Check specific gravity 1.280 over : Over charged 1.280 ~ 1.250 : Normal 1.250 below : Recharging
Start switch	 CS-2	12V	※Check contact OFF : ∞Ω(for each terminal) ON : 0Ω(for terminal 1-2) START : 0Ω(for terminal 1-6)
Pressure switch (for engine oil)	 CD-18	0.5 kgf/cm² (N.C TYPE)	※ Check resistance Normal : 0Ω(CLOSE)
Water temp sendor	 CD-08A	Pressure: 635 mmH₂O	-
Start relay	 CR-23	12V 60A	※ Rated coil current 1.2±0.3A
Fuel sender	 CD-2	-	※ Check resistance Full : 30Ω Low : 100Ω Empty warning : 200Ω

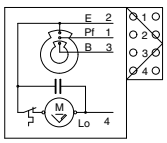
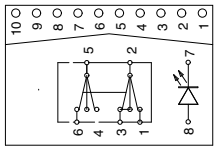
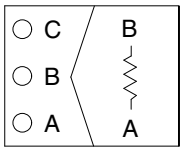
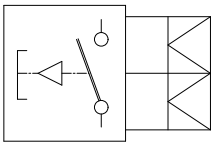
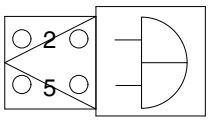
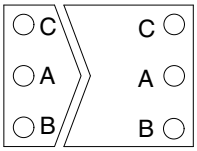
Part name	Symbol	Specification	Check
Horn relay	 CR-2	12V 20A	※ Check resistance Normal : About 200Ω (for terminal 1-3) : 0Ω (for terminal 2-4)
Power relay	 CR-35	12V 70A	※ Rated coil current 1.2±0.3 A
Solenoid valve	 CN-68 CN-70 CN-140 CN-238 CN-239 CN-309 CN-310	12V 1A	※ Check resistance Normal : 15~25Ω (for terminal 1-2)
Solenoid valve (engine stop)	 CN-79	12V	※Coil resistance : 1.8Ω
Switch (looking type)	 CS-16 CS-23 CS-67	12V 16A	※ Check contact Normal OFF - ∞Ω (for terminal 2-1) - 0Ω (for terminal 2-3)
Pressure switch	 CD-11	10bar (N.O type)	※ Check contact Normal : 0.1Ω

Part name	Symbol	Specification	Check
Work lamp	 CL-5	12V 55W (H3 TYPE) 12V LED (opt)	※ Check disconnection Normal : 1.2Ω
Horn	 CN-20	12V 6A	132±5 dB
Safety switch	 CS-4	Micro 12V 15A	※ Check contact Normal : 0Ω Operating : ∞Ω
Horn switch	 CS-5	12V 10A	※ Check contact Normal : 0Ω
Water temp sender	 CD-8	-	※ Check contact 50°C : 0.748~0.904Ω 67°C : 0.538~0.650Ω 102°C : 0.185~0.167Ω 110°C : 0.143~0.130Ω 135°C : 0.076~0.100Ω
Light switch	 CS-21	12V 16A	※Check contact Normal : ∞Ω

Part name	Symbol	Specification	Check
Start motor	 CN-45	12V 1.4kW	※ Check contact Normal : 0.1Ω
Alternator	 CN-74	12V 40A	※ Check contact Normal : 0Ω(For terminal B+-1) Normal : 10 ~ 12.5V
Travel alarm	 CN-81	12V	-
Fuel feed pump	 CN-145	12V	-
Glow controller	 CR-24	12V	-
Air-heater	 CN-80	12V 42A 500W	-

Part name	Symbol	Specification	Check
Emergency engine stop	 CS-33	12V	-
Maxi fuse	 CN-60	80A	-
Air cleaner switch	 CD-10	12V (N.O type)	-
Travel speed switch	 CS-8	12V	-
EPPR valve	 CN-240 CN-241	12V	-
Speaker	 CN-23 (LH) CN-24 (RH)	4Ω 20W	※Check resistance Normal : 4Ω

Part name	Symbol	Specification	Check
Beacon lamp	 CL-7	12V LED	※ Check disconnection Normal : a few Ω
Washer pump	 CN-22	12V 3.8A	※ Check contact Normal : 3 Ω (for terminal 1-2)
Room lamp	 CL-1	12V 10W	※ Check disconnection Normal : a few Ω
Pressure sensor	 CD-31	12V	-
Overheat switch	 CD-9	12V	-
Relay	 CR-47	12V 20A	※ Check resistance Normal : 0 Ω (for terminal 1-5) ∞ Ω (for terminal 1-3)

Part name	Symbol	Specification	Check
Wiper motor	 CN-21	12V 3A	※ Check contact Normal : 6Ω (for terminal 2-4)
Wiper and washer switch	 CS-3	12V 16A	※ Check disconnection Normal : ∞Ω (for terminal 2-3, 5-6)
Resistor	 RS-A0	3W 120Ω	-
Quick coupler switch 2	 CS-116	12V	-
Cluster buzzer	 CN-26	12V	-
Service tool	 CN-307	-	-

GROUP 5 CONNECTORS

1. CONNECTOR DESTINATION

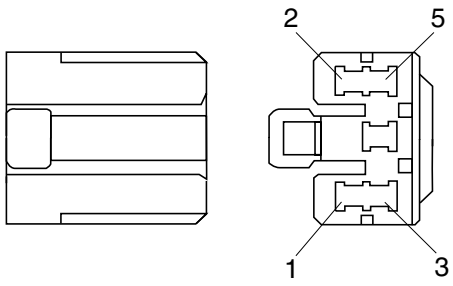
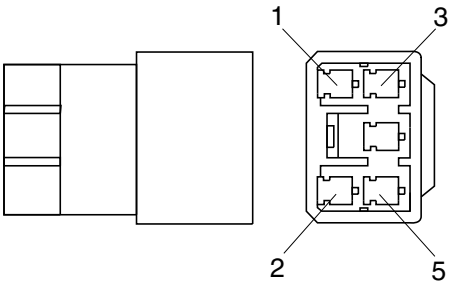
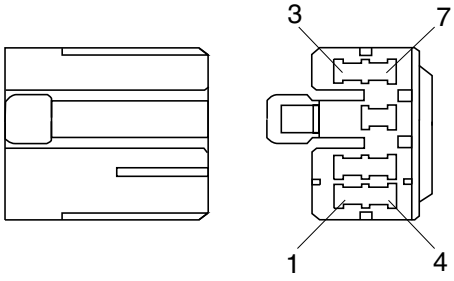
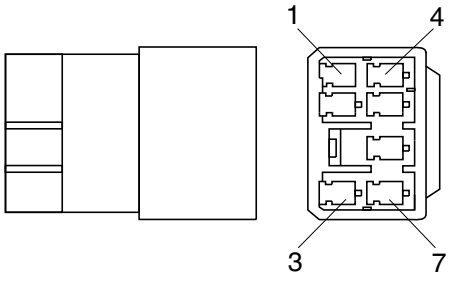
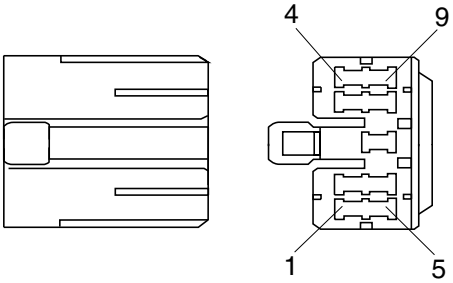
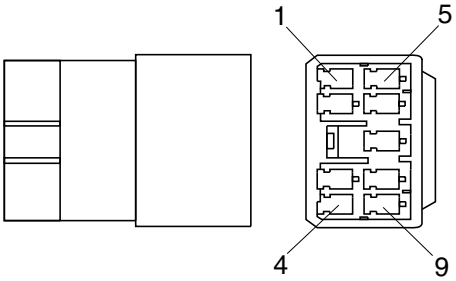
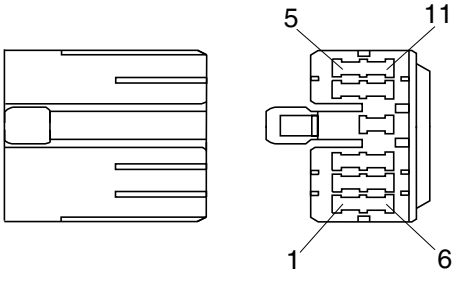
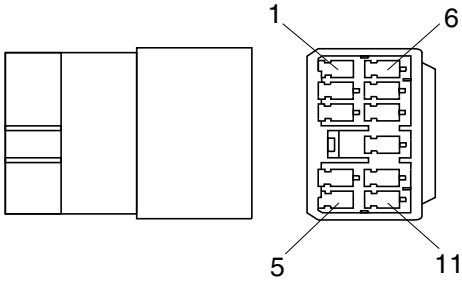
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-3	AMP	16	I/conn (LH console harness-main harness)	368047-1	368050-1
CN-4	AMP	16	I/conn (RH console harness-main harness)	368047-1	368050-1
CN-4-1	AMP	6	I/conn (Upper harness-washer harness)	174262-2	174264-2
CN-5	AMP	16	I/conn (Main harness-RH console harness)	368047-1	368050-1
CN-10	DEUTSCH	2	Canopy lamp	DT06-2S-EP06	DT04-2P-E005
CN-11	AMP	8	I/conn (RH console harness-cab harness)	174982-2	174984-2
CN-11-1	AMP	2	I/conn (RH console harness-canopy harness)	174352-2	174354-2
CN-19	AMP	8	I/conn (Main harness-PVG controller harness)	174982-2	174984-2
CN-20	DEUTSCH	2	Horn	DT06-2S-EP06	-
CN-21	AMP	4	Wiper moter	180900-0	-
CN-22	KET	2	Washer tank	MG640605	-
CN-23	KET	2	Speaker-LH	MG610070	-
CN-24	KET	2	Speaker-RH	MG610070	-
CN-26	KET	5	Buzzer	MG614354	-
CN-27	-	16	Radio & USB player	PK145-16017	-
CN-36	-	-	Fuse box	F12 890 010	-
CN-45	YAZAKI	1	Start motor	7123-2115	-
CN-45	RINGTERM	1	Start motor B+	ST710285-2	-
CN-46	AMP	4	Heater	180900-0	-
CN-56	AMP	34	CMCU	4-1437290-0	-
CN-60	-	-	Maxi fuse	03.21000	03.01080
CN-68	DEUTSCH	2	Safety solenoid valve	DT06-2S-EP06	-
CN-70	DEUTSCH	2	Travel speed solenoid valve	DT06-2S-EP06	-
CN-74	SUMITOMO	3	Alternator	6189-0443	-
CN-74	KET	1	Alternator B+	S820-306000	-
CN-79	SUMITOMO	2	Engine stop solenoid	6195-0003	-
CN-80	KET	1	Air heater	S820-104000	-
CN-81	KET	2	Travel buzzer	MG610320	-
CN-112	DEUTSCH	2	I/conn (Upper harness-boom harness)	-	DT04-2P
CN-112	DEUTSCH	2	To work lamp	DT06-2S-EP06	-
CN-125	DEUTSCH	12	GPS telematics	DT06-12S	DT06-12P
CN-126	AMP	10	Service tool	174655-2	174657-2
CN-139	AMP	2	12V socket	172434-2	-
CN-140	DEUTSCH	2	Quick coupler solenoid valve	DT06-2S-EP06	DT04-2P-E005
CN-145	TE	2	Fuel feed pump	174198-1	-

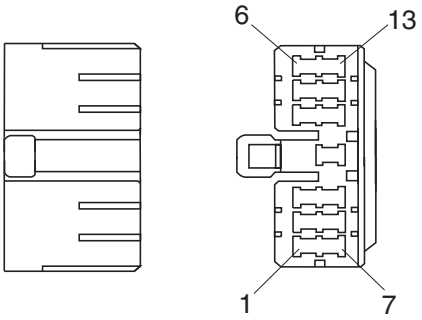
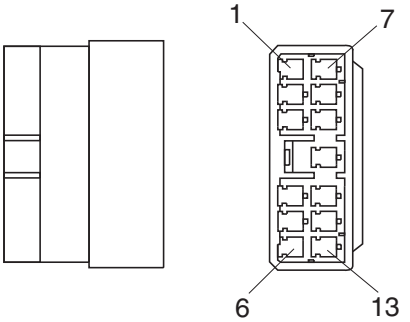
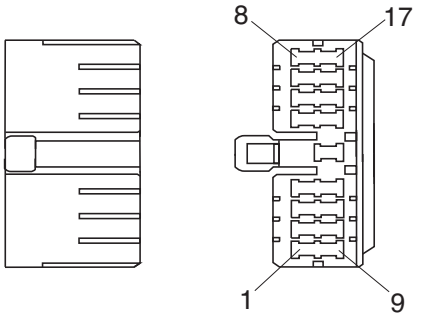
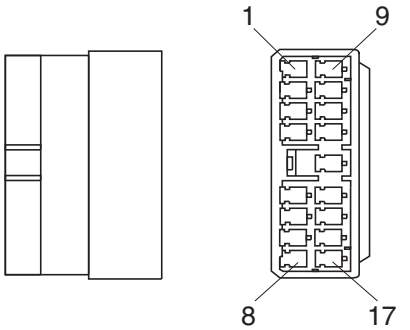
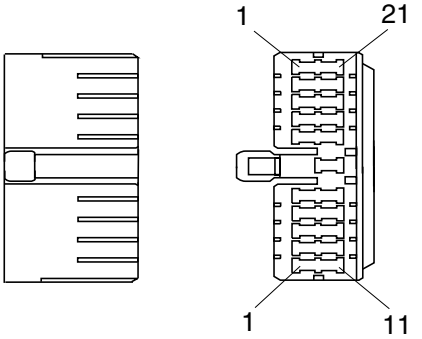
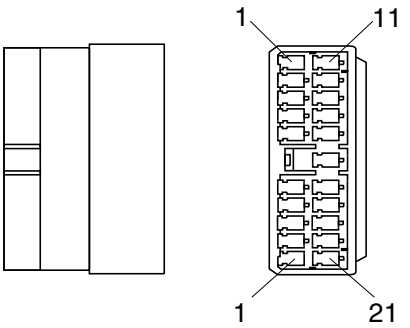
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-238	DEUTSCH	2	EPPR A3	DT06-2S	DT04-2P
CN-239	DEUTSCH	2	EPPR A1	DT06-2S	DT04-2P
CN-240	DEUTSCH	3	EPPR-LH	DT06-3S	DT04-3P
CN-241	DEUTSCH	3	EPPR-RH	DT06-3S	DT04-3P
CN-264	DEUTSCH	2	Extention valve	DT06-2S	DT06-2P
CN-305	REXROTH	56	EPPR controller	1-928-405-161	-
CN-307	DEUTSCH	3	Service tool	DT06-3S	DT04-3P
CN-309	DEUTSCH	2	EPPR A1	DT06-2S	-
CN-310	DEUTSCH	2	EPPR A2	DT06-2S	-
LAMP					
CL-1	KET	2	Room lamp	MG610392	-
CL-3	DEUTSCH	2	Cab lamp	DT06-2S	-
CL-5	KET	2	Boom lamp	DT06-2S-EP06	-
CL-7	DEUTSCH	2	Beacon lamp	DT06-2S-EP06	-
RELAY					
CR-2	AMP	5	Horn relay	VCFM-1002	-
CR-23	KET	4	Start relay	MG612017-5	-
CR-24	SUMITOMO	6	Glow controller relay	6195-0021	-
CR-35	KET	4	Power relay	MG612017-5	-
CR-36	SUMITOMO	2	Glow controller	6195-0060	-
CR-47	AMP	5	Safety solenoid relay	VCFM-1002	-
SENSOR					
CD-2	AMP	2	Fuel sender	174357-2	-
CD-8	AMP	2	Water temp sender	174374-3	-
CD-08A	AMP	1	Water temp sender	171809-2	-
CD-9	AMP	1	Overheat switch	172320-2	-
CD-11	KET	2	Travel alarm pressure switch	MG640795	-
CD-18	KET	1	Engine oil pressure switch	S820-104000	-
CD-31	DEUTSCH	3	Overload pressure switch	DT06-3S-EP06	DT04-3P
DO-01	-	2	Diode	21EA-50550	-
DO-02	-	2	Diode	21EA-50550	-
SWITCH					
CS-2	KET	6	Start switch	MG610335	-
CS-3	CARLING	10	Wiper & washer switch	21HN-56300	-
CS-4	DEUTSCH	3	Safety switch	DT06-3S	-
CS-5	DEUTSCH	2	Horn switch	-	DT04-2P
CS-6	CARLING	10	Heater switch	21HN-56300	-
CS-8	KET	1	Travel speed switch	S822-014000	S822-114000

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CS-16	CARLING	10	Travel alarm switch	21HN-56300	-
CS-21	CARLING	10	Light switch	VC2-01	-
CS-23	CARLING	10	Beacon switch	21HN-56300	-
CS-33	TE	6	Emergency engine stop switch	174262-2	-
CS-67	CARLING	10	Quick coupler switch 1	VC2-01	-
CS-74S	KET	1	Master switch-S	S820-306000	-
CS-74L	KET	1	Master switch-L	ST710287-2	-
CS-116	-	1	Quick coupler sw 2	-	CA104

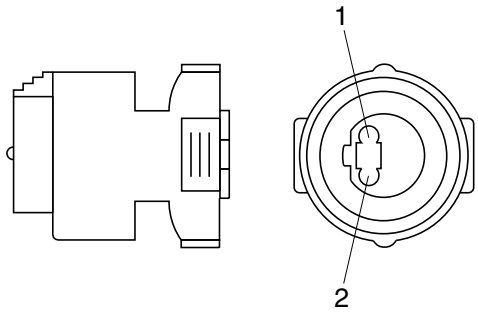
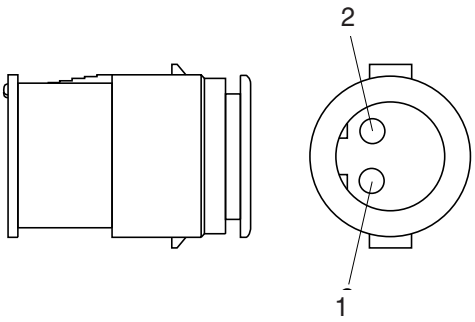
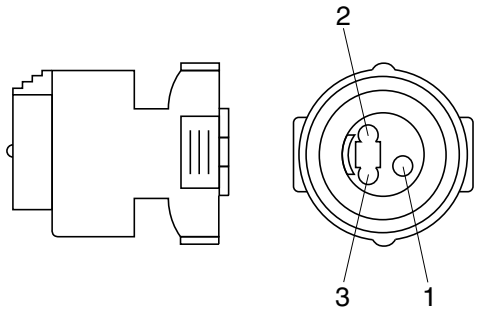
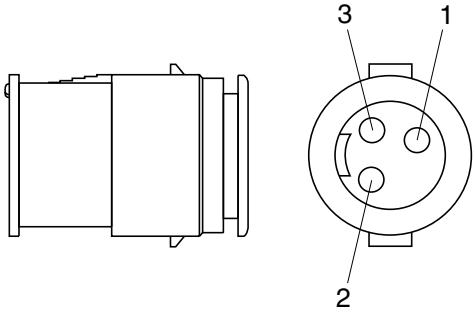
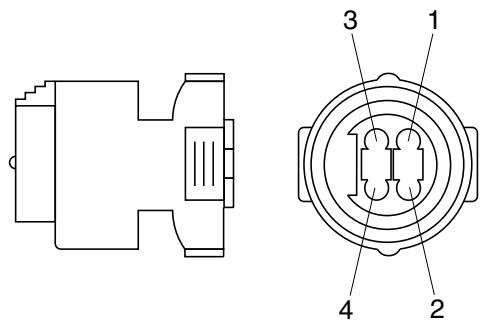
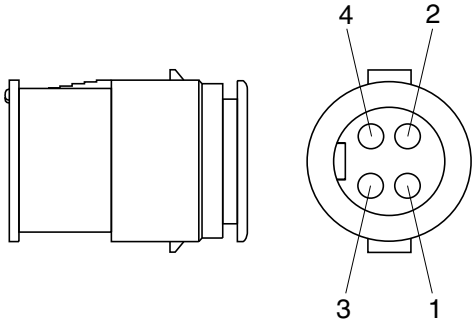
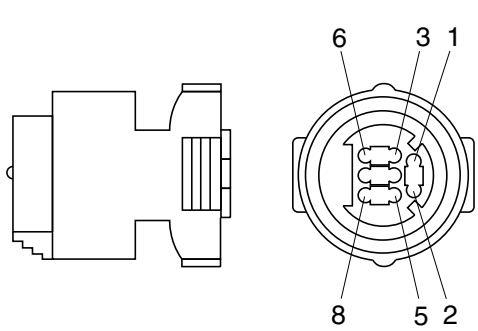
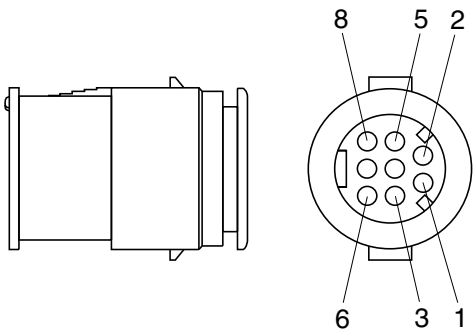
2. CONNECTION TABLE FOR CONNECTORS

1) PA TYPE CONNECTOR

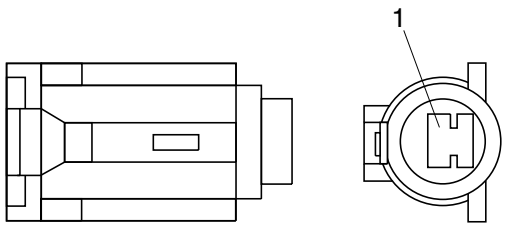
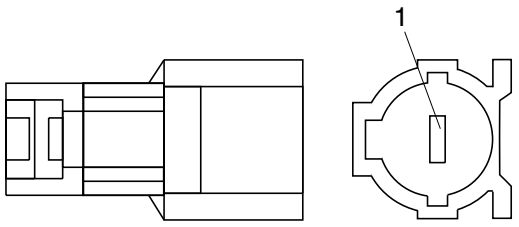
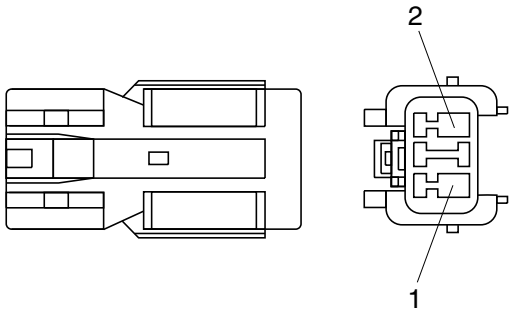
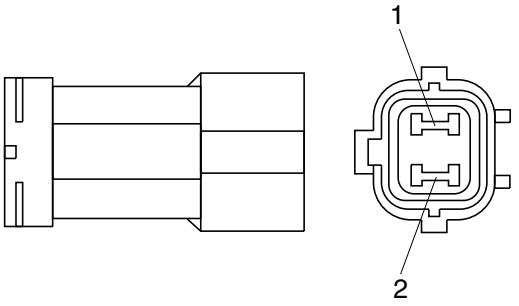
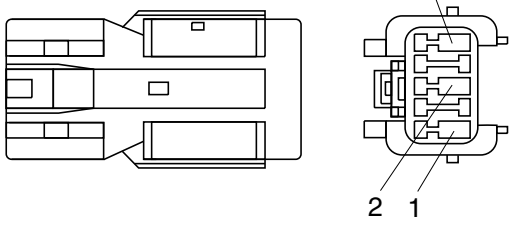
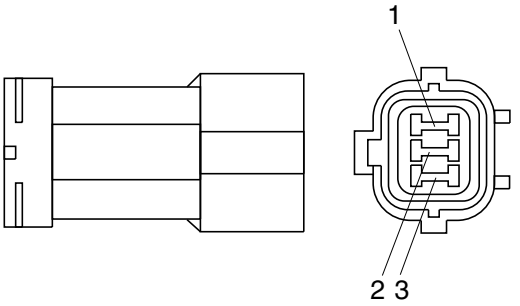
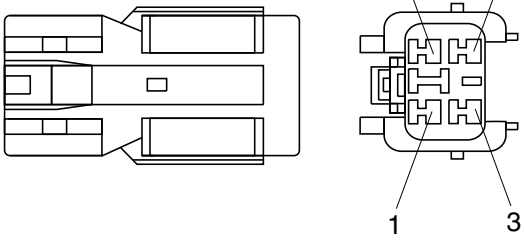
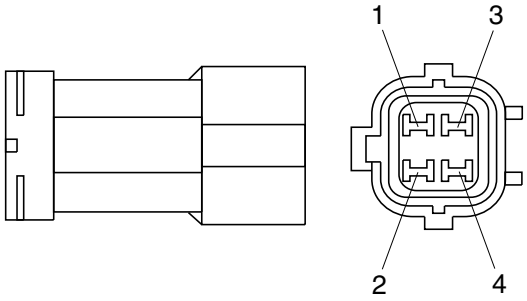
No. of pin	Receptacle connector (female)	Plug connector (male)
5	 S811-005002	 S811-105002
7	 S811-007002	 S811-107002
9	 S811-009002	 3S811-109002
11	 S811-011002	 S811-111002

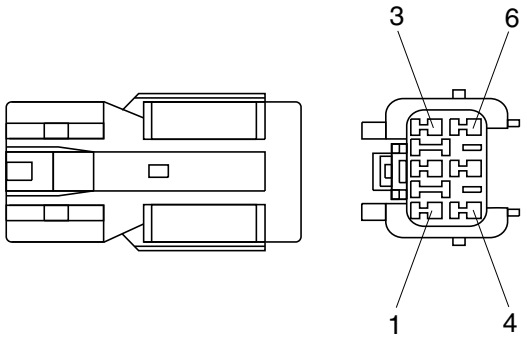
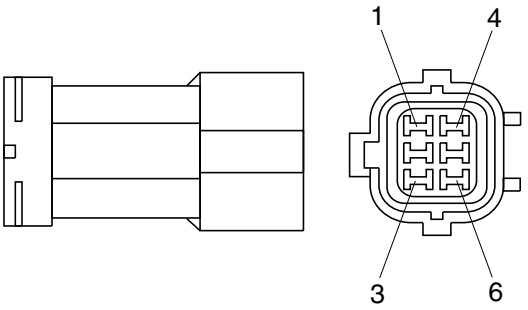
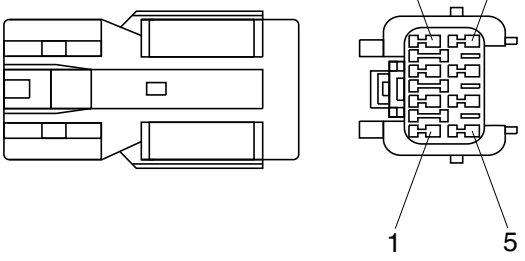
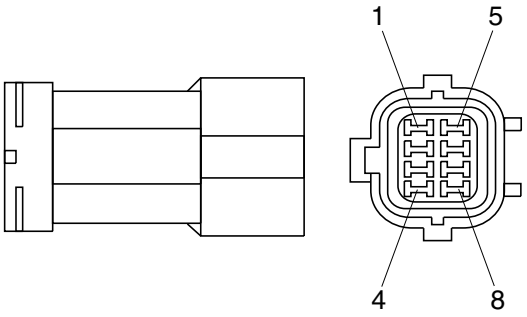
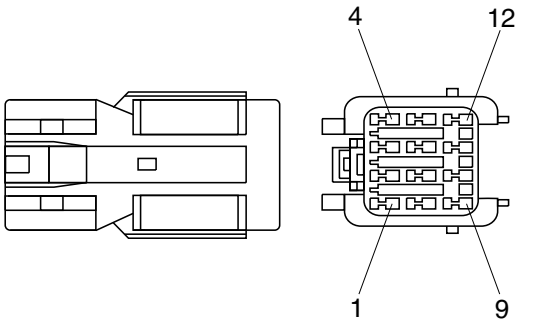
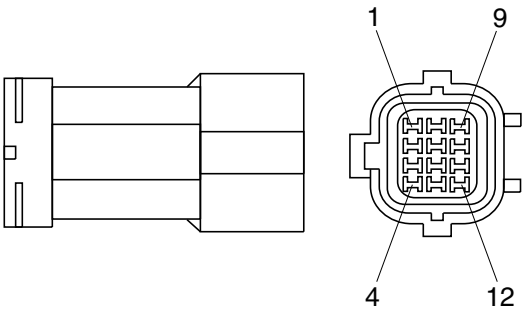
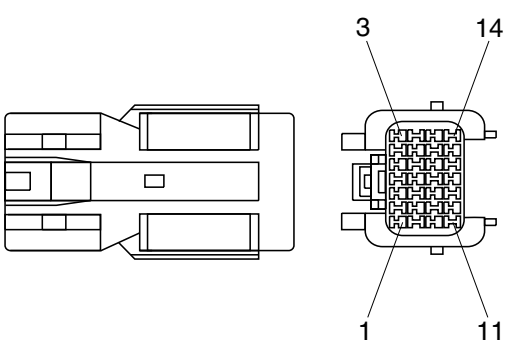
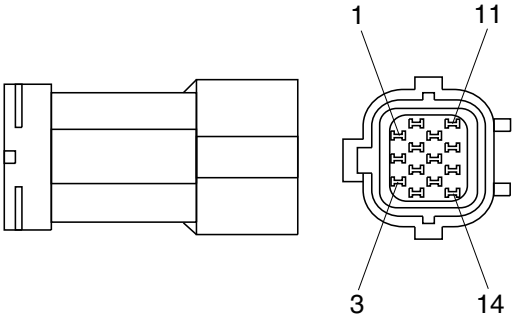
No. of pin	Receptacle connector (female)	Plug connector (male)
13	 S811-013002	 S811-113002
17	 S811-017002	 S811-117002
21	 S811-021002	 S811-121002

2) J TYPE CONNECTOR

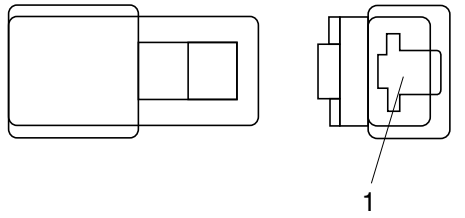
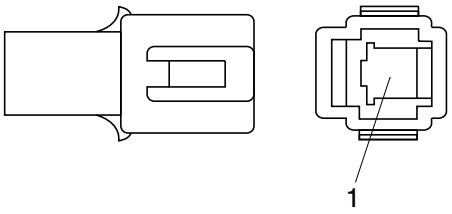
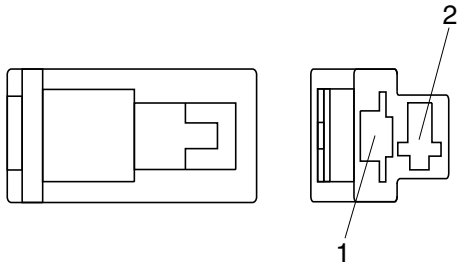
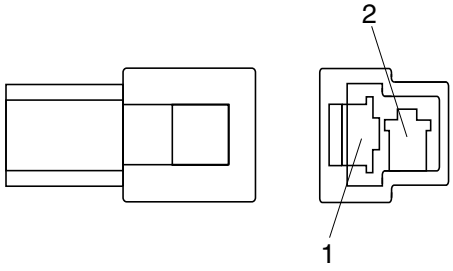
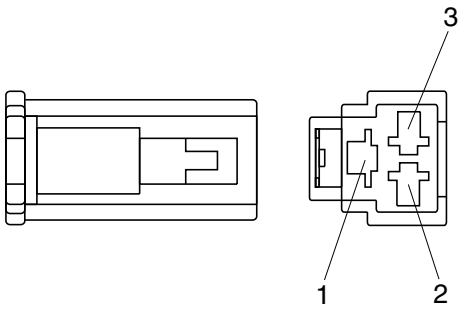
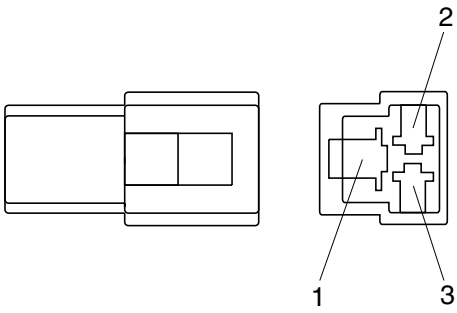
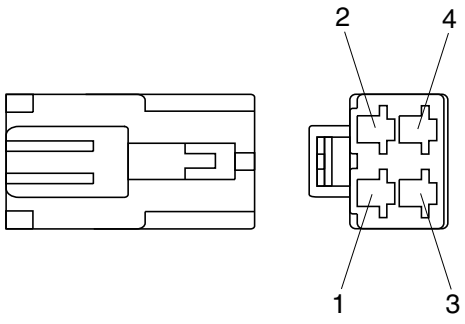
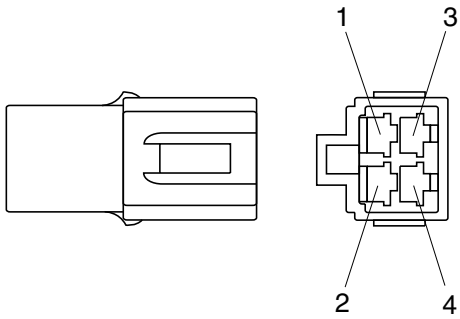
No. of pin	Receptacle connector (female)	Plug connector (male)
2	 S816-002001	 S816-102001
3	 S816-003001	 S816-103001
4	 S816-004001	 S816-104001
8	 S816-008001	 S816-108001

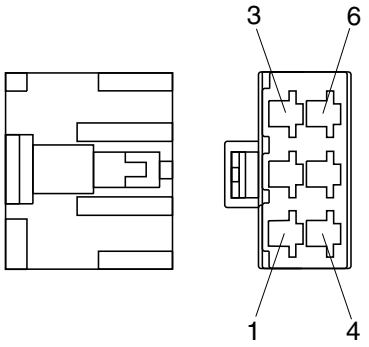
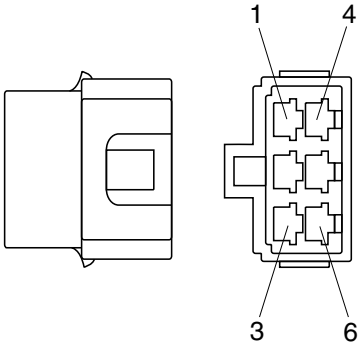
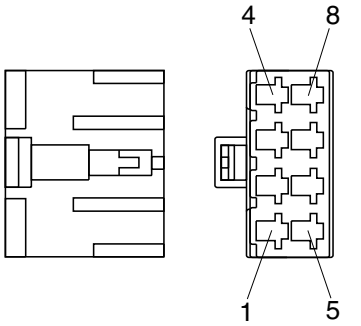
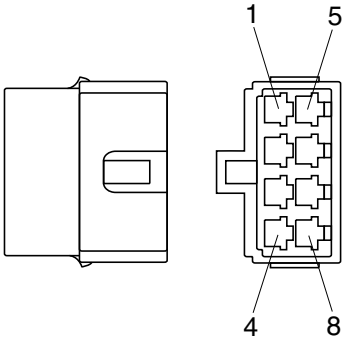
3) SWP TYPE CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
1	 S814-001000	 S814-101000
2	 S814-002000	 S814-102000
3	 S814-003000	 S814-103000
4	 S814-004000	 S814-104000

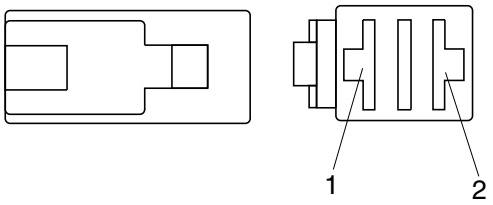
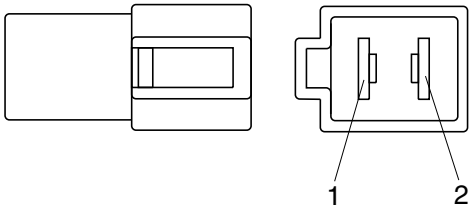
No. of pin	Receptacle connector (female)	Plug connector (male)
6	 S814-006000	 S814-106000
8	 S814-008000	 S814-108000
12	 S814-012000	 S814-112000
14	 S814-014000	 S814-114000

4) CN TYPE CONNECTOR

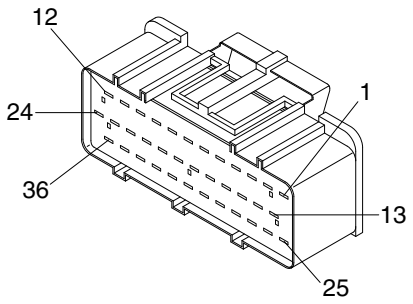
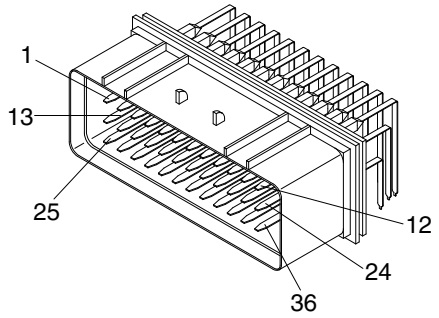
No. of pin	Receptacle connector (female)	Plug connector (male)
1	 S810-001202	 S810-101202
2	 S810-002202	 S810-102202
3	 S810-003202	 S810-103202
4	 S810-004202	 S810-104202

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

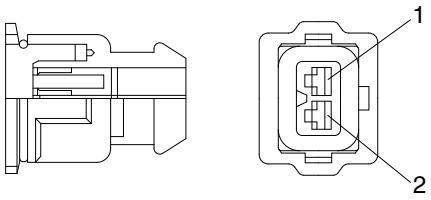
5) 375 FASTEN TYPE CONNECTOR

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

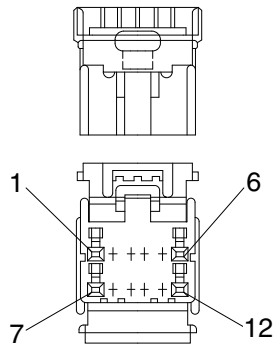
6) AMP ECONOSEAL CONNECTOR

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

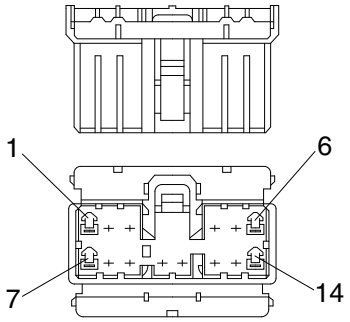
7) AMP TIMER CONNECTOR

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

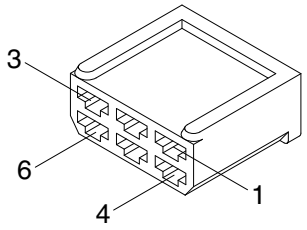
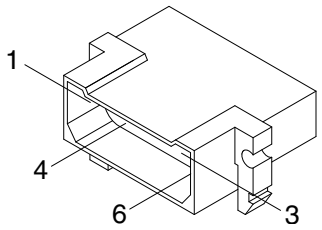
8) AMP 040 MULTILOCK CONNECTOR

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

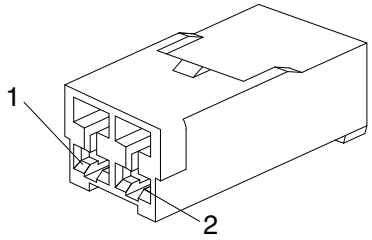
9) AMP 070 MULTILOCK CONNECTOR

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

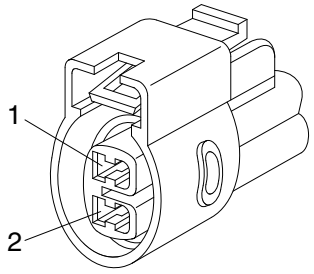
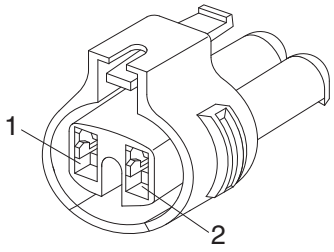
10) AMP FASTIN - FASTON CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
6	 925276-0	 480003-9

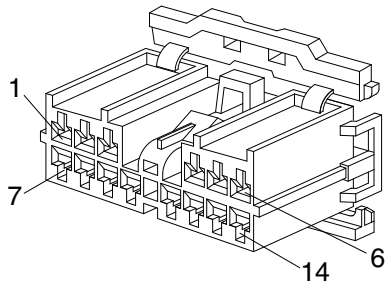
11) KET 090 CONNECTOR

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

12) KET 090 WP CONNECTORS

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

13) KET SDL CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
14	 MG610406	

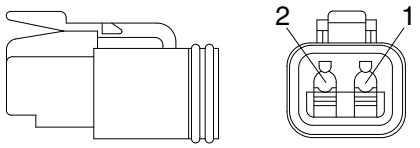
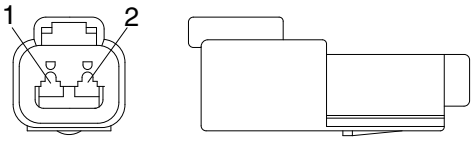
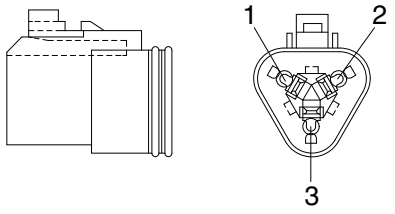
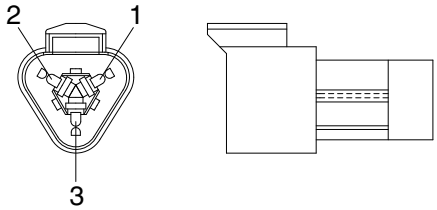
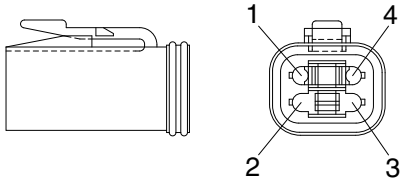
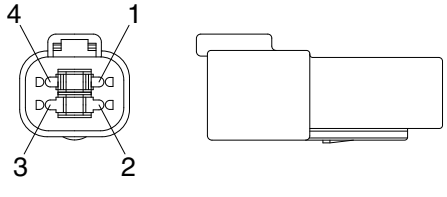
14) DEUTSCH DT CONNECTORS

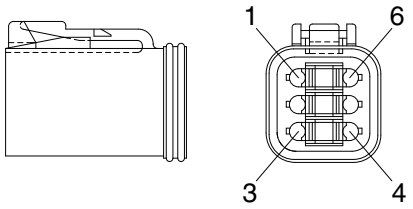
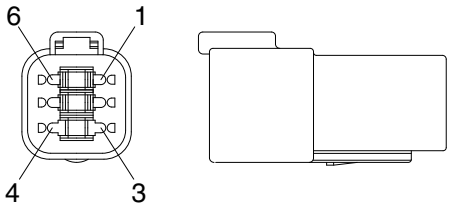
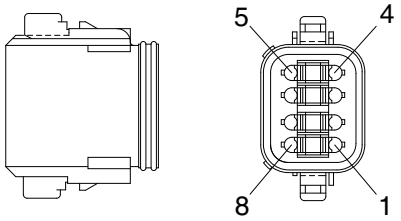
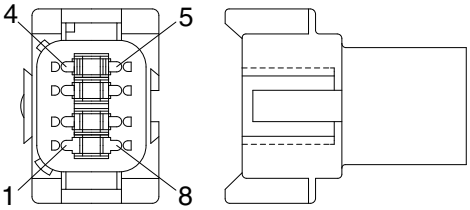
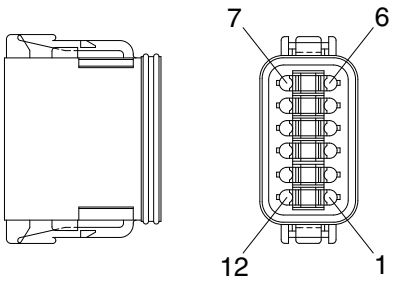
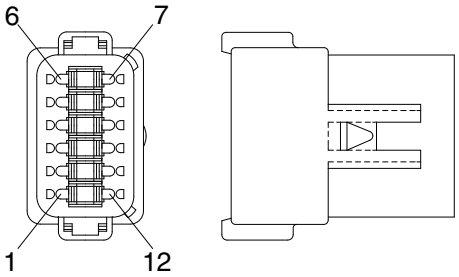
DT 06 - 3S - ★★★★

- ★★★★ : Modifications (See below)
- 3S : Number of contacts (P : Pin, S : Socket)
- 06 : Receptacle, 04 : Plug
- DT : Deutsch connectors

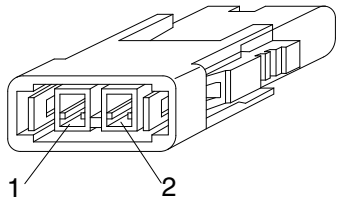
※ Modification

E003 : Standard end cap - gray
E004 : Color of connector to be black
E005 : Combination - E004 & E003
EP04 : End cap
EP06 : Combination P012 & EP04
P012 : Front seal enhancement - connectors color to black for 2, 3, 4 & 6pin

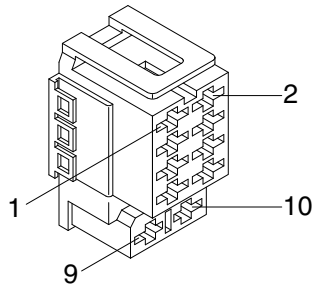
No. of pin	Receptacle connector (female)	Plug connector (male)
2	 DT06-2S	 DT04-2P
3	 DT06-3S	 DT04-3P
4	 DT06-4S	 DT04-4P

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

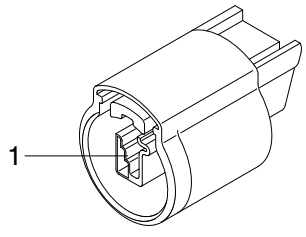
15) MOLEX 2CKTS CONNECTOR

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

16) ITT SWF CONNECTOR

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

17) MWP NMWP CONNECTOR

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