

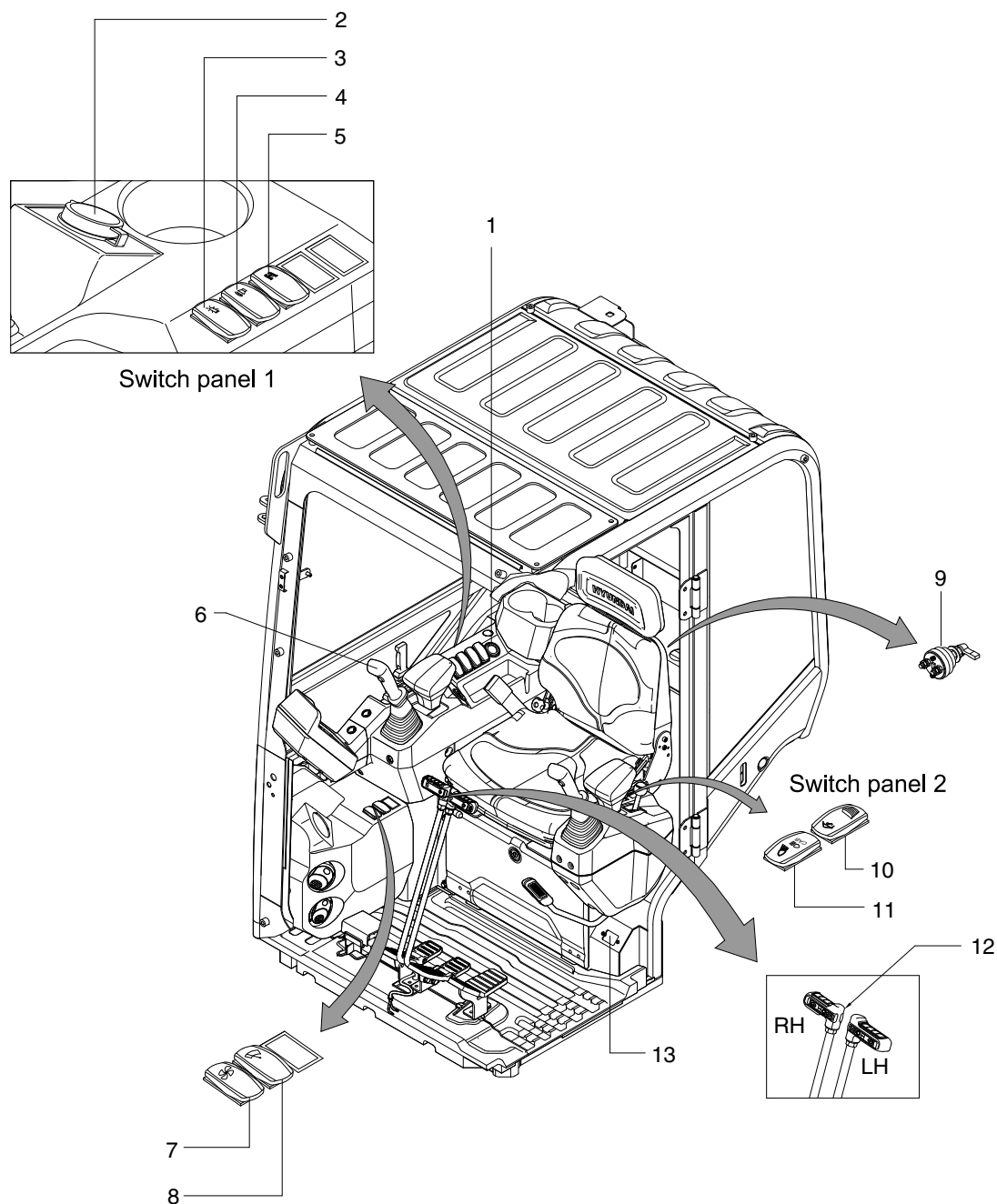
SECTION 4 ELECTRICAL SYSTEM

Group 1 Component Location	4-1
Group 2 Monitoring system	4-3
Group 3 Electrical Circuit	4-23
Group 4 Electrical Component Specification	4-35
Group 5 Connectors	4-40

SECTION 4 ELECTRICAL SYSTEM

GROUP 1 COMPONENT LOCATION

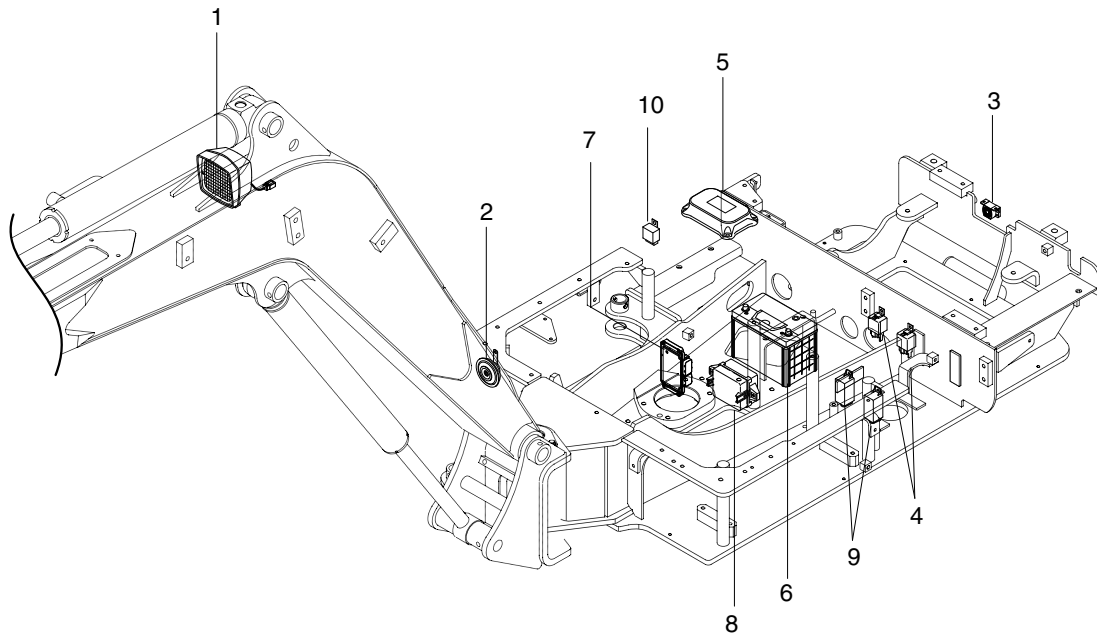
1. LOCATION 1



19A4EL01

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

2. LOCATION 2



19A4EL01

- | | | | | | |
|---|---------------------|---|----------|----|-----------------|
| 1 | Work lamp | 5 | RMCU | 9 | Micro 12V relay |
| 2 | Horn | 6 | Battery | 10 | Warning buzzer |
| 3 | Travel alarm buzzer | 7 | HCU assy | | |
| 4 | Power relay | 8 | Fuse box | | |

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

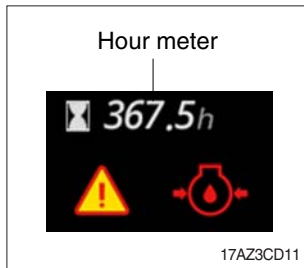
1) MONITOR PANEL



19A4CD10

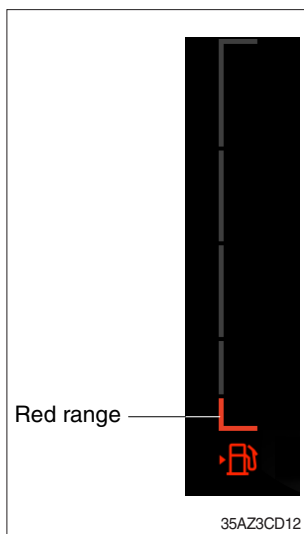
2) GAUGES AND DISPLAYS

(1) Hour meter



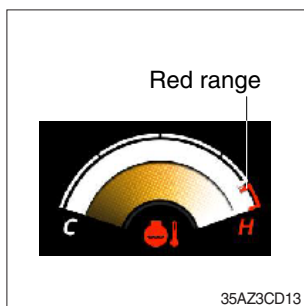
- ① This meter shows the total operation hours of the machine.
- ② Always ensure the operating condition of the meter during the machine operation.
Inspect and service the machine based on hours as indicated the operator's manual in chapter 6, maintenance.

(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.

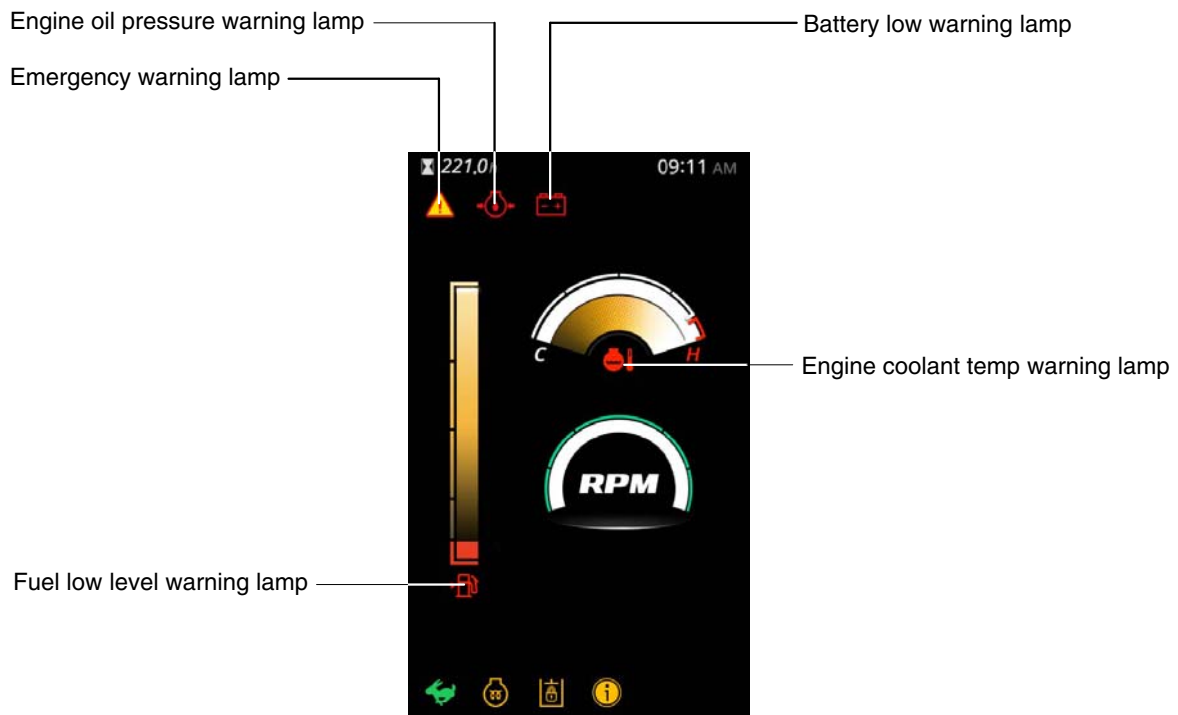
(4) Engine rpm gauge



17AZ3CD15

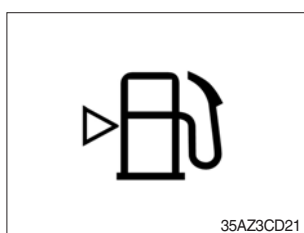
① This gauge indicates the engine speed.

3) WARNING LAMPS



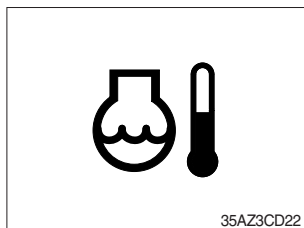
17AZ3CD20

(1) Fuel low level warning lamp



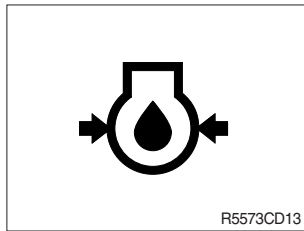
- ① This lamp lights up and buzzer sounds when the level of fuel is below 8.0 ℓ (2.1 U.S. gal).
- ② Fill the fuel immediately when the lamp ON.

(2) Engine coolant temperature warning lamp



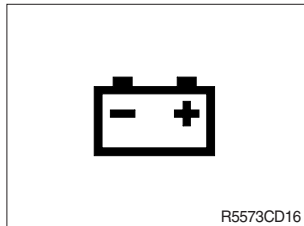
- ① This lamp lights up and buzzer sounds when the temperature of coolant is over the normal temperature 105°C (221°F) .
- ② Check the cooling system when the lamp ON.

(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



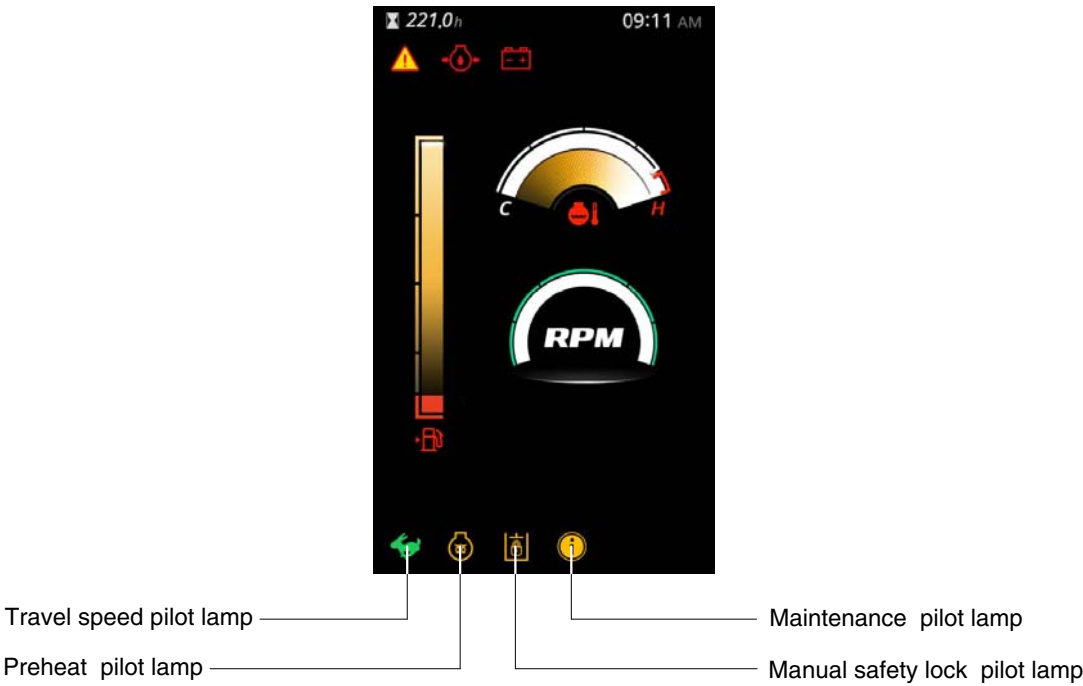
- ① This lamp lights up and buzzer sounds when the starting switch is ON, it is turned OFF after starting the engine.
- ② Check the battery charging circuit when this lamp does not turn off, or turns on or blinks during engine operation.

(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.

4) PILOT LAMP

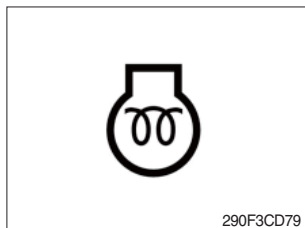


17AZ3CD30

(1) Travel mode pilot lamp

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

(2) Preheat pilot lamp



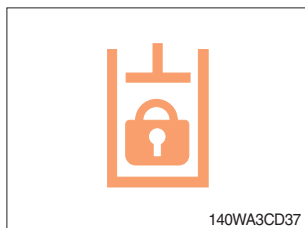
- ① Turning the start key switch to the ON position starts preheating in cold weather.
- ② Start the engine after this lamp goes OFF.
- ※ **Refer to the operator's manual page 4-4 for details.**

(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

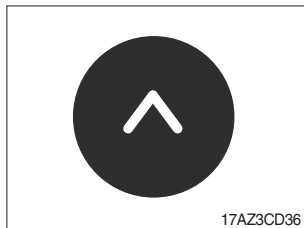
Sound short beep when each button is pressed.

(1) Menu button



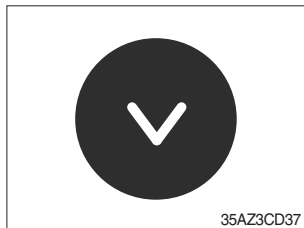
- ① Go into the menu screen.
- ※ Please refer to page 4-11.

(2) Left/up/(+) button



- 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



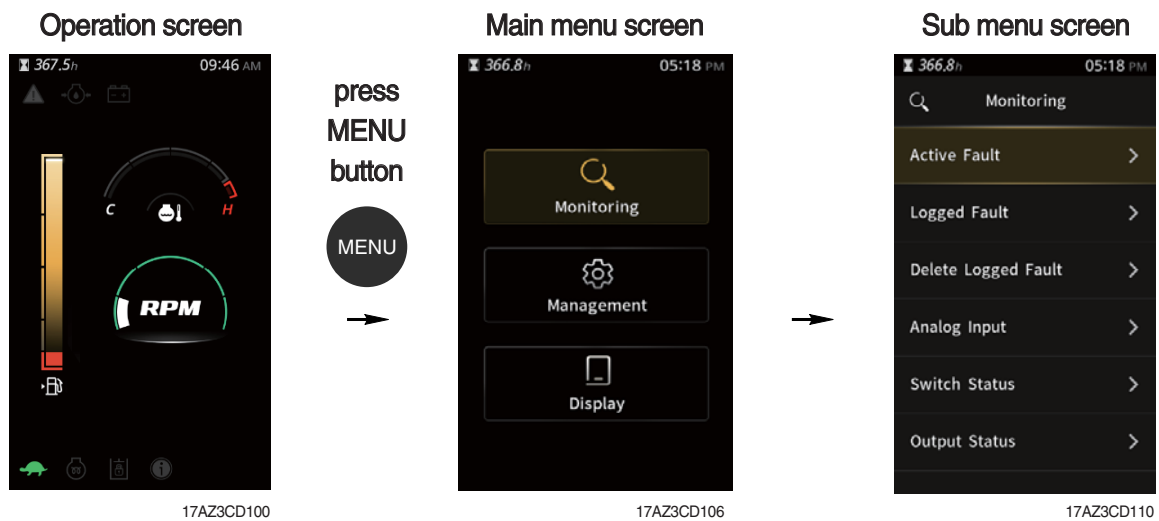
- ① Select menu (enter).
- ② Stop buzzer sound when press this button immediately.

(5) ESC



- ① Escape in the menu.

6) MAIN MENU



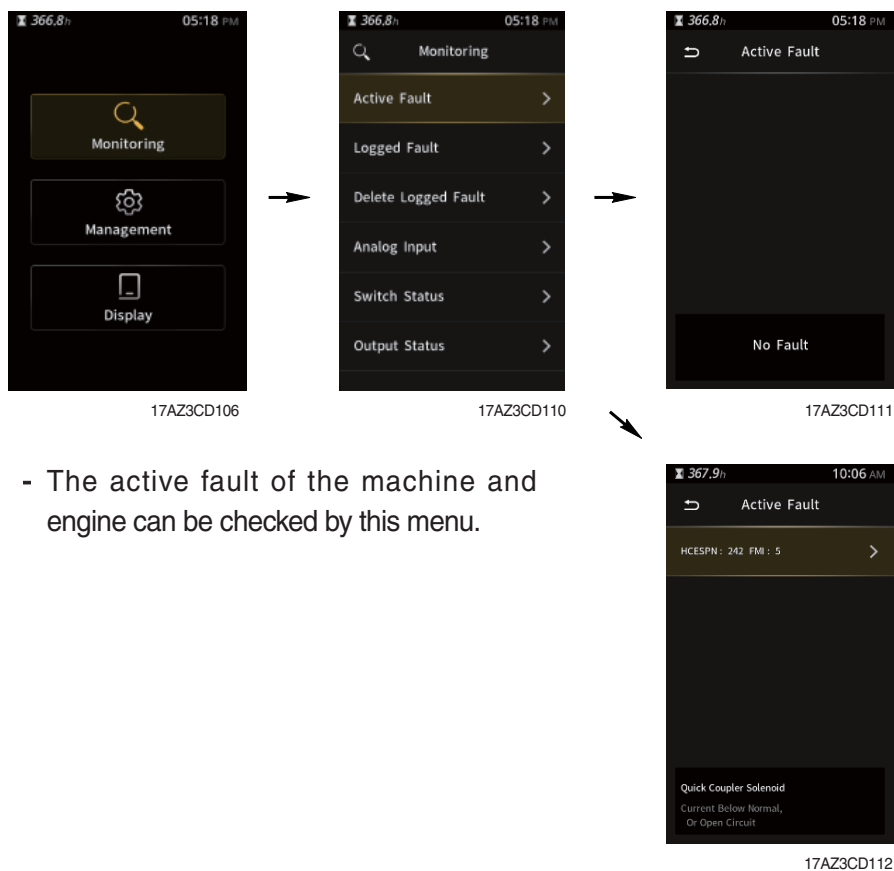
- ※ Please refer to the switches, page 4-10 for selection and change of menus and input values.
- ※ In the operation screen, press the menu button to access the sub-menu screen.

(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 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 Machine information A/S phone number	A day's operating hours Elapse, Interval, Replacement etc. Disabled, Enable (Always), Enable (Interval) Change password 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)

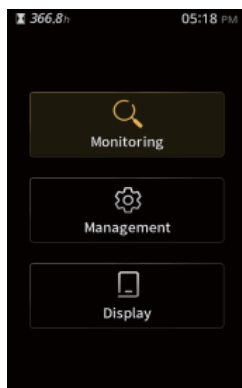
(2) Monitoring

① Active fault

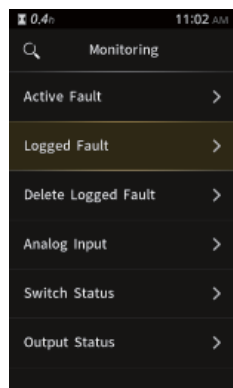


- The active fault of the machine and engine can be checked by this menu.

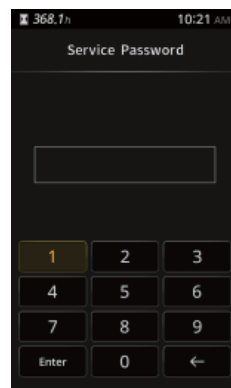
② Logged fault



17AZ3CD106



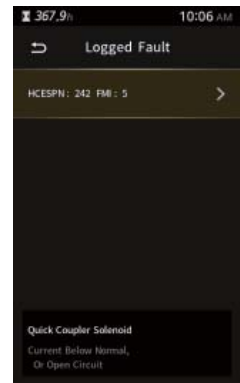
17AZ3CD113



17AZ3CD114



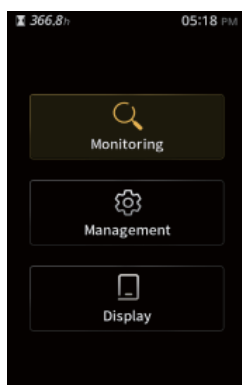
17AZ3CD115



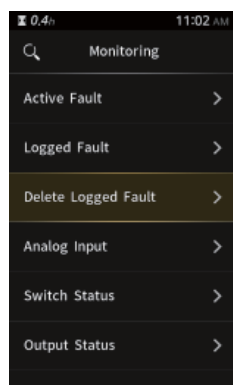
17AZ3CD116

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

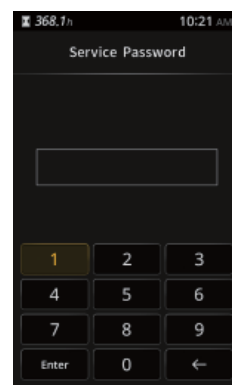
③ Delete logged fault



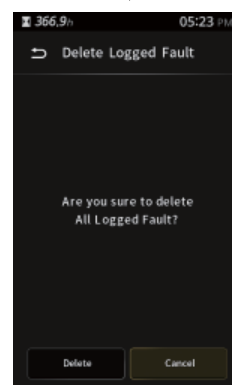
17AZ3CD106



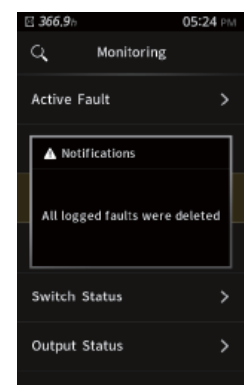
17AZ3CD117



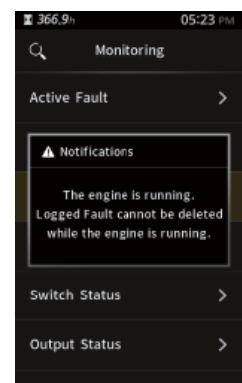
17AZ3CD118



17AZ3CD119



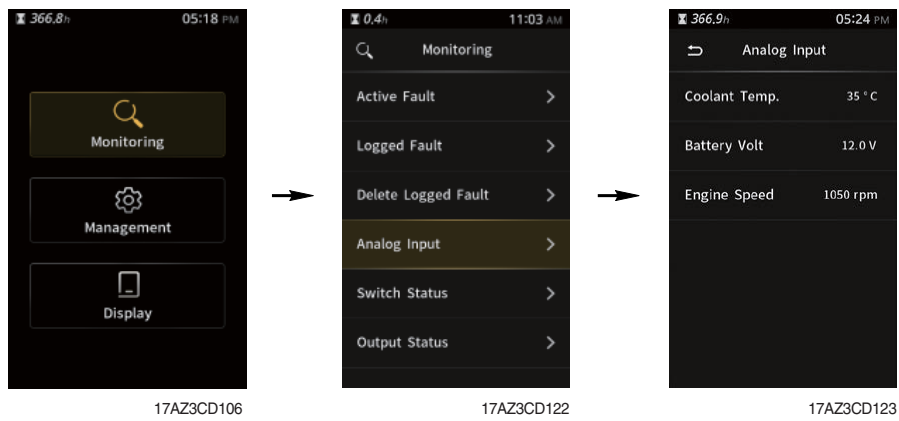
17AZ3CD120



17AZ3CD121

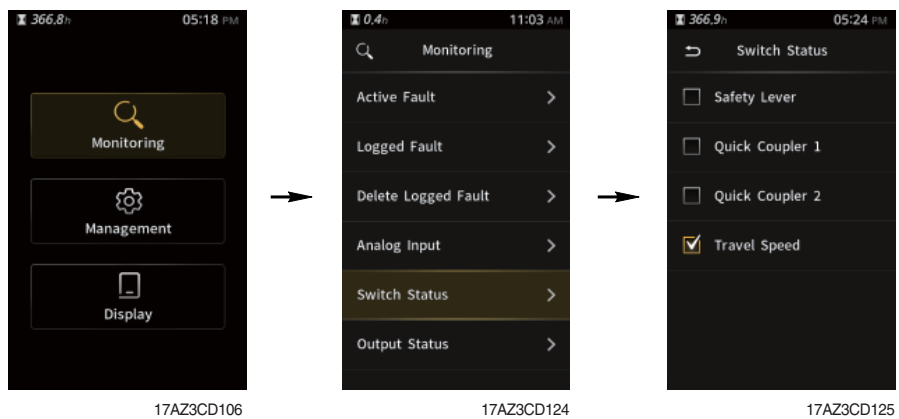
- The logged fault of the machine and engine can be deleted by this menu.
(It is possible under the engine stop conditions)

④ Analog input



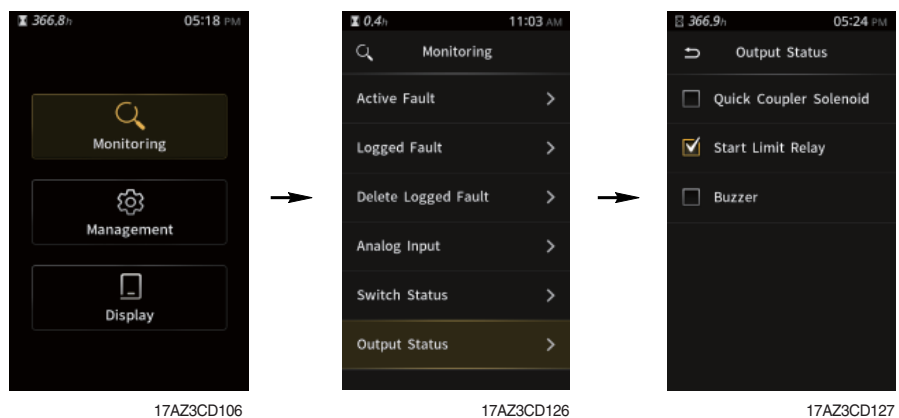
- The machine status such as the engine speed, coolant temperature, battery voltage can be checked by this menu.

⑤ Switch status



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

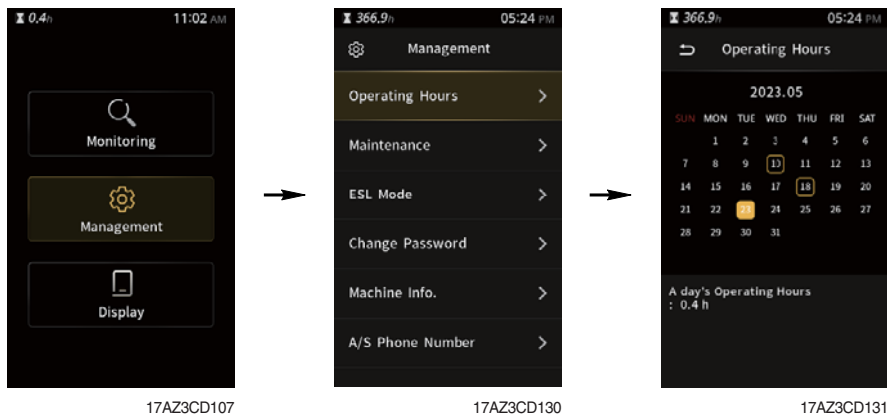
⑥ Output status



- The output status can be confirmed by this menu.

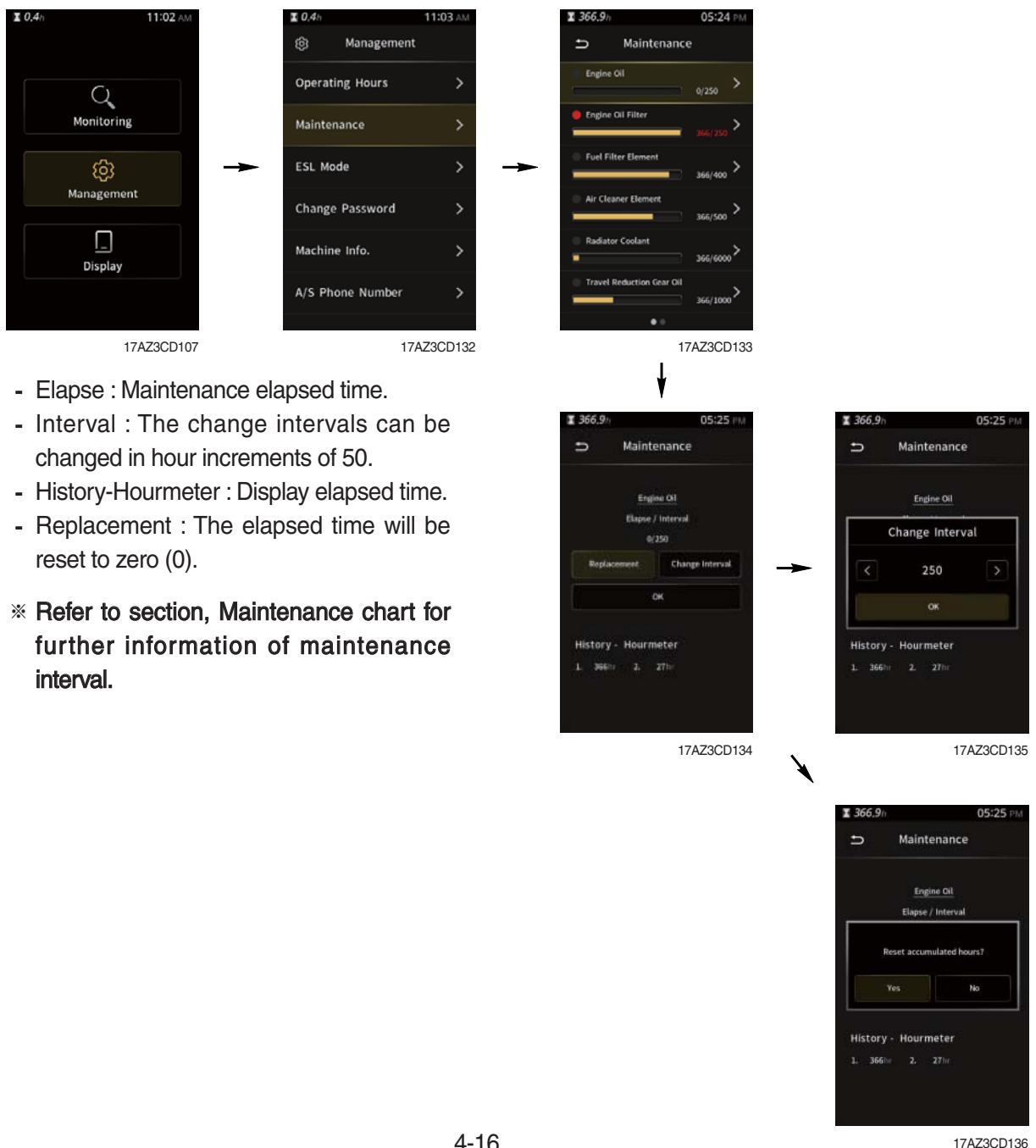
(3) Manage

① Operating hours



- You can check the operating hours by this menu.

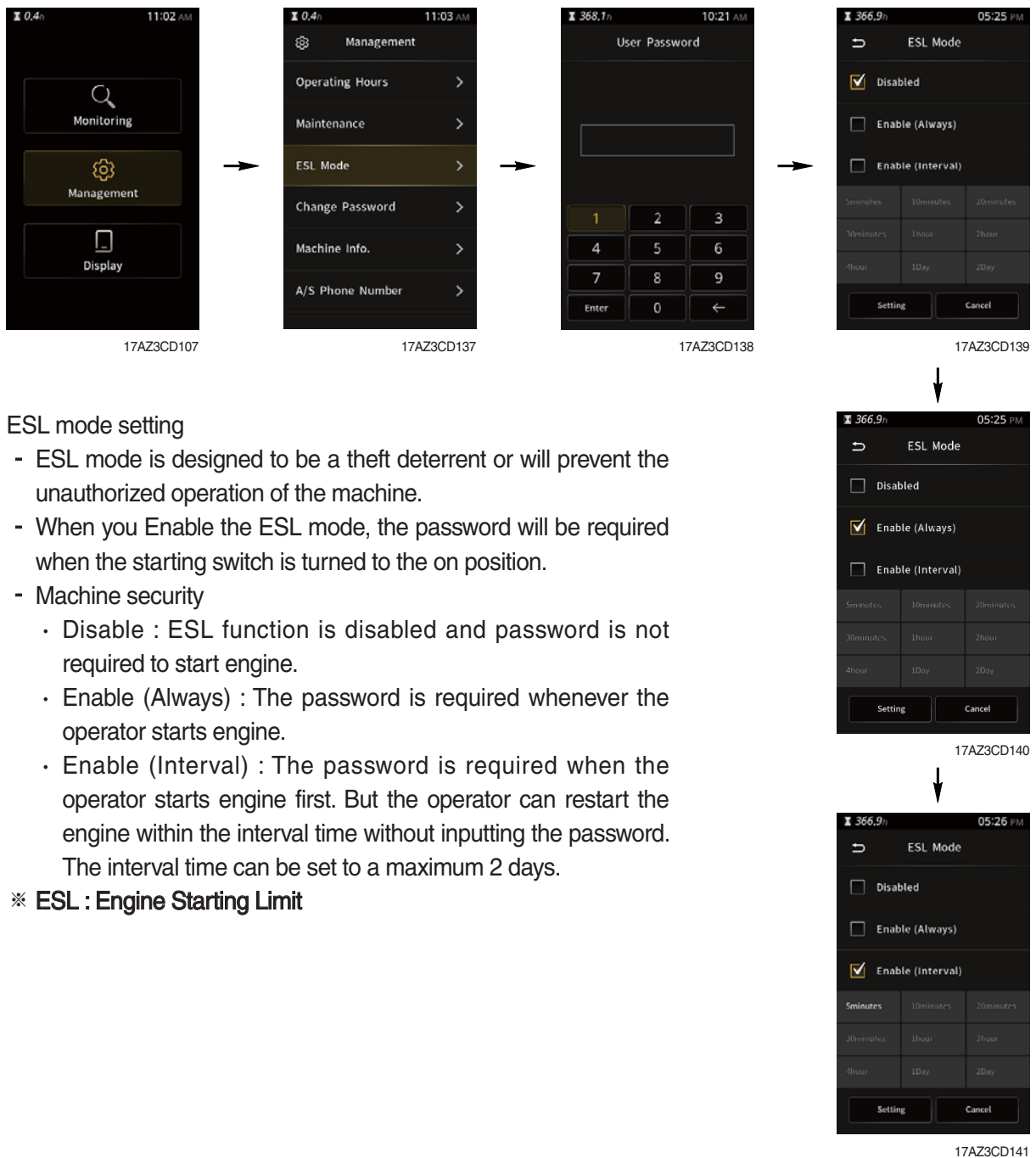
② Maintenance



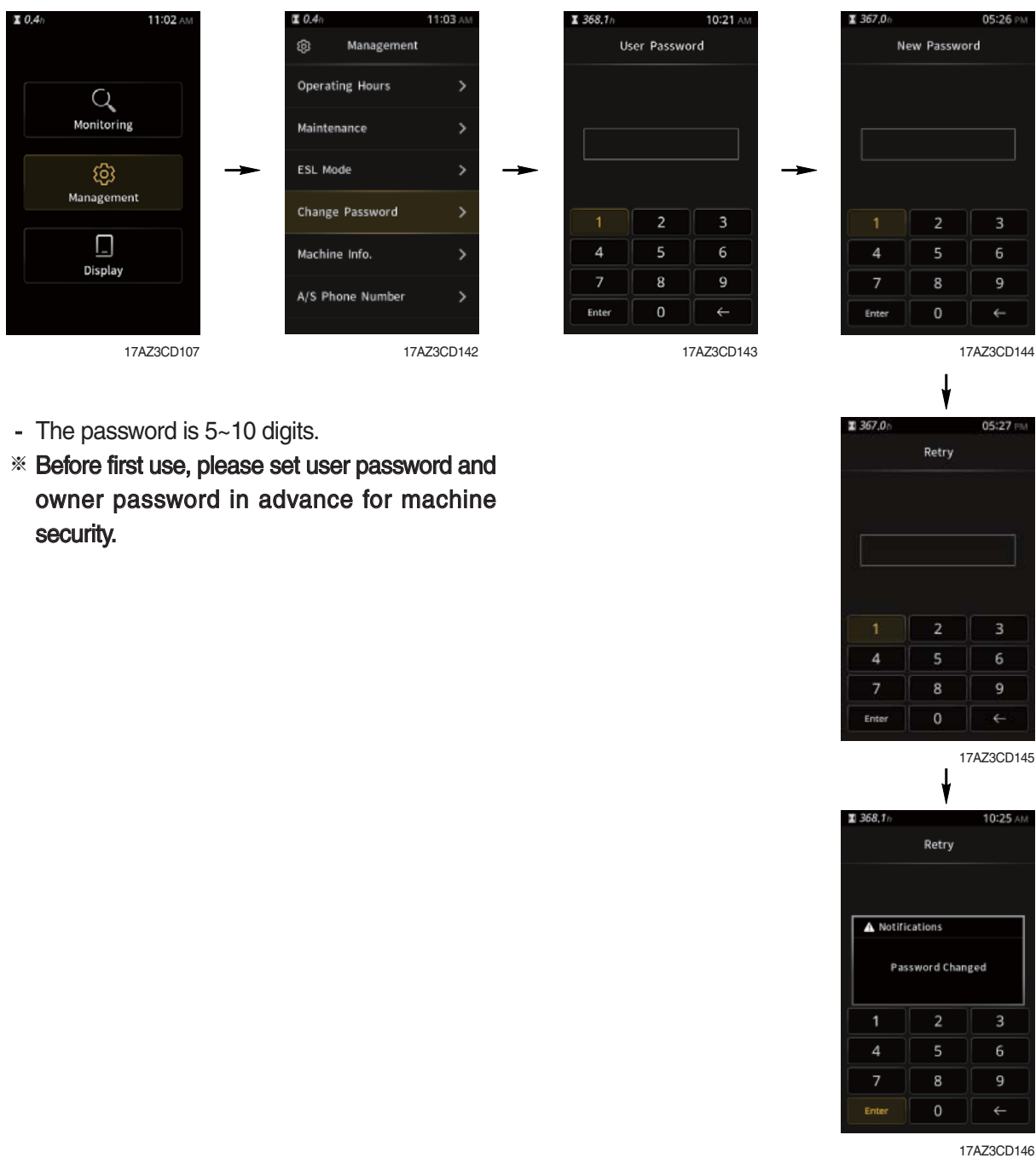
- Elapse : Maintenance elapsed time.
- Interval : The change intervals can be changed in hour increments of 50.
- History-Hourmeter : Display elapsed time.
- Replacement : The elapsed time will be reset to zero (0).

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

③ ESL mode



④ Change password

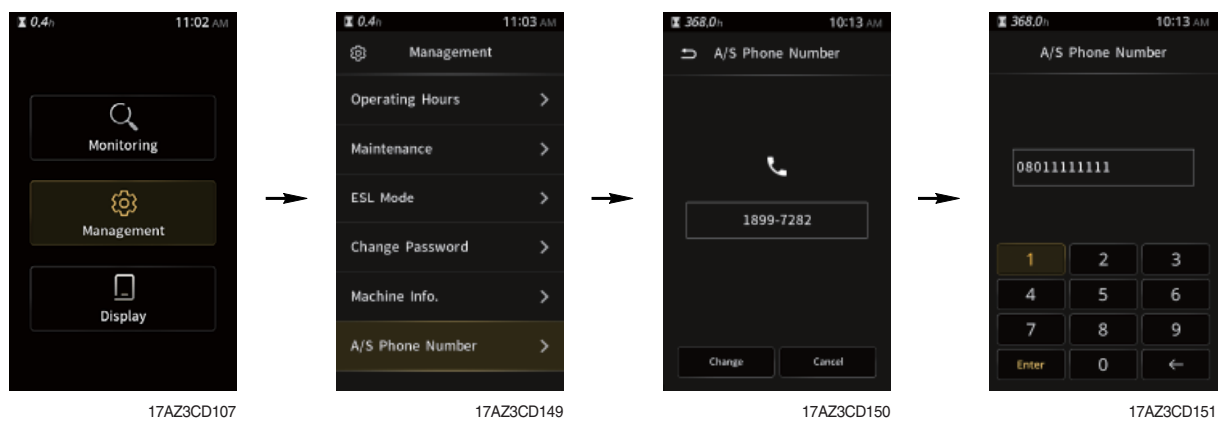


⑤ Machine information



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

⑥ A/S phone number



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

(4) Display set

① Clock adjust



- Set the time (12 hours or 24 hours)

② Brightness



- 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



- Temperature : °C ↔ °F

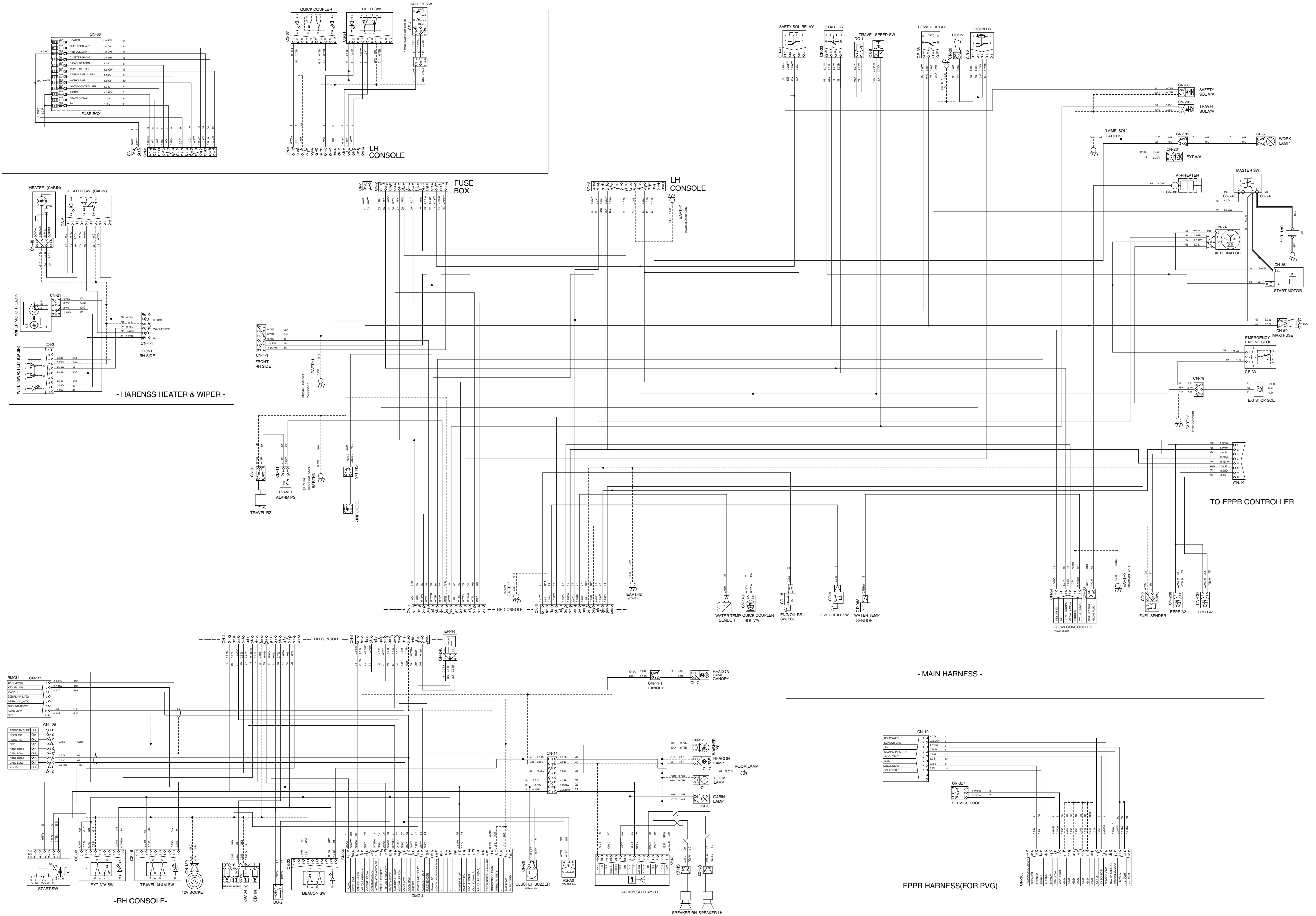
④ Language



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

GROUP 3 ELECTRICAL CIRCUIT

· ELECTRICAL CIRCUIT



MEMORANDUM

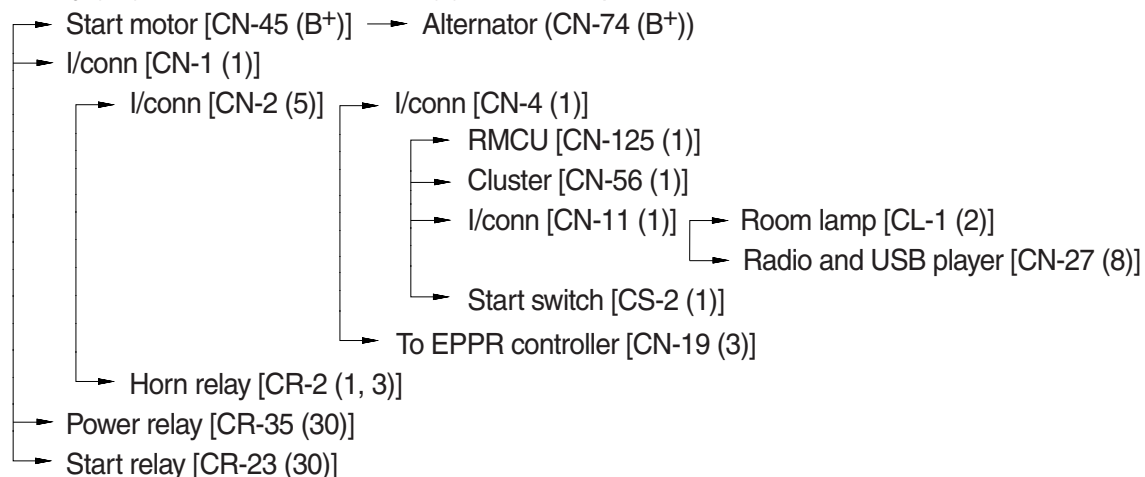
1. POWER CIRCUIT

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]



※ I/conn : Intermediate connector

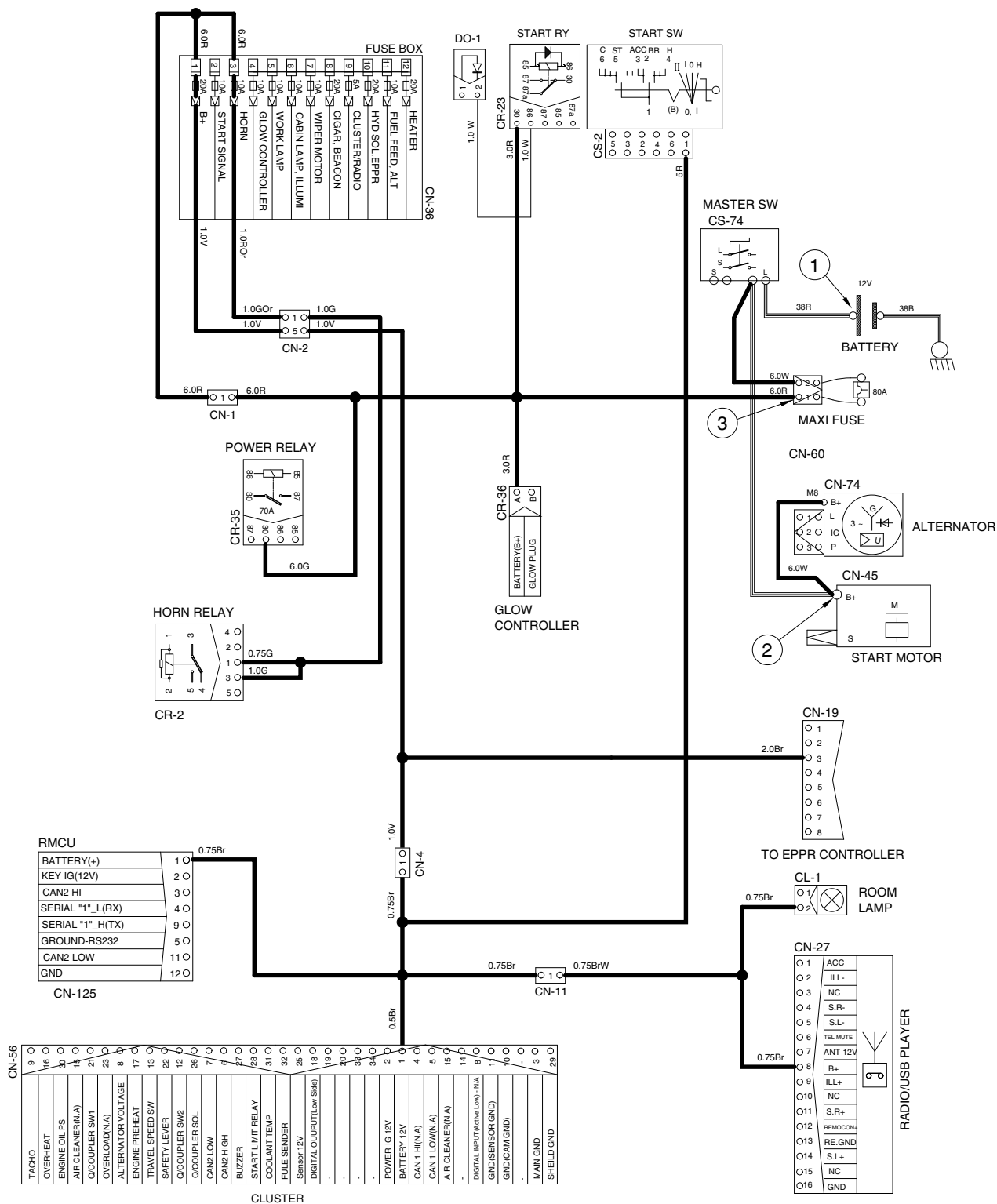
2) CHECK POINT

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

※ GND : Ground

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

POWER CIRCUIT



19A4EL04

※ 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-74] → Maxi fuse [CN-60]

→ I/conn [CN-1 (1)] → I/conn [CN-2 (5)] → I/conn [CN-4 (1)] → Start switch [CS-2 (1)]
→ Power relay [CR-35 (30)]
→ Start relay [CR-23 (30)]

(1) Start switch : ON

Start switch [CS-2 (2)] → I/conn [CN-5 (4)] → Master switch [CS-74]
→ Power relay [CR-35 (30) → (87)] → I/conn [CN-1 (2)]
→ Fuse box [all power is supplied with electric component]

(2) Start switch : START

Start switch [CS-2 (6)] → I/conn [CN-4 (15)] → I/conn [CN-2 (8)] → Fuse box [No.2]
→ I/conn [CN-2 (2)] → Start relay [CR-23 (30) → (87)] → Start motor [CN-45 (S)]
→ Start motor operating
→ Glow controller [CR-24 (3)]

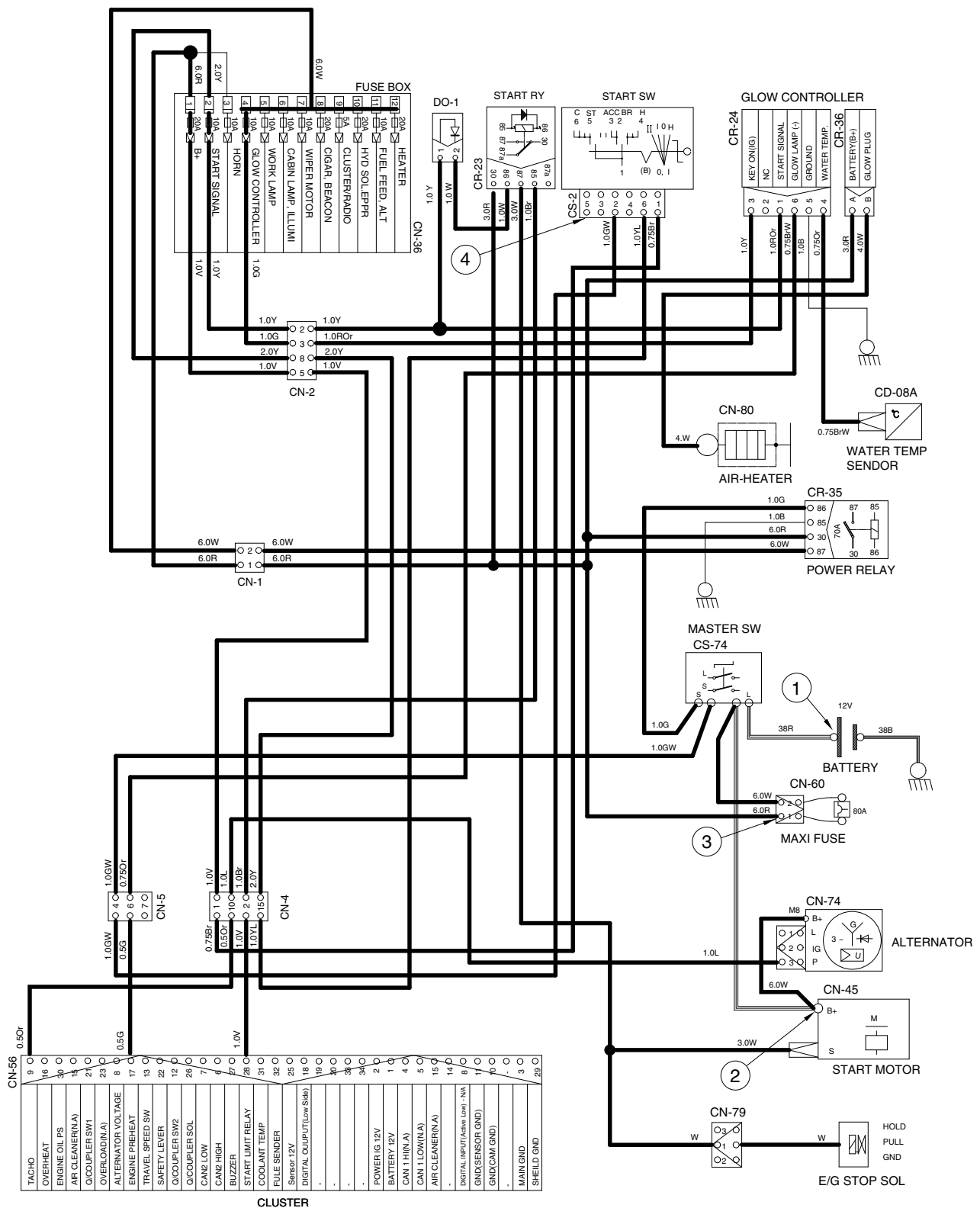
2) CHECK POINT

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



19A4EL05

※ 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-74]

→ Battery(+) terminal

→ Maxi puse [CN-60]

→ I/conn [CN-1 (1)] → Fuse box [No. 1, 3]

→ Power relay [CR-35 (30) → (87)] → I/conn [CN-1 (2)]

→ Fuse box [No. 4~12]

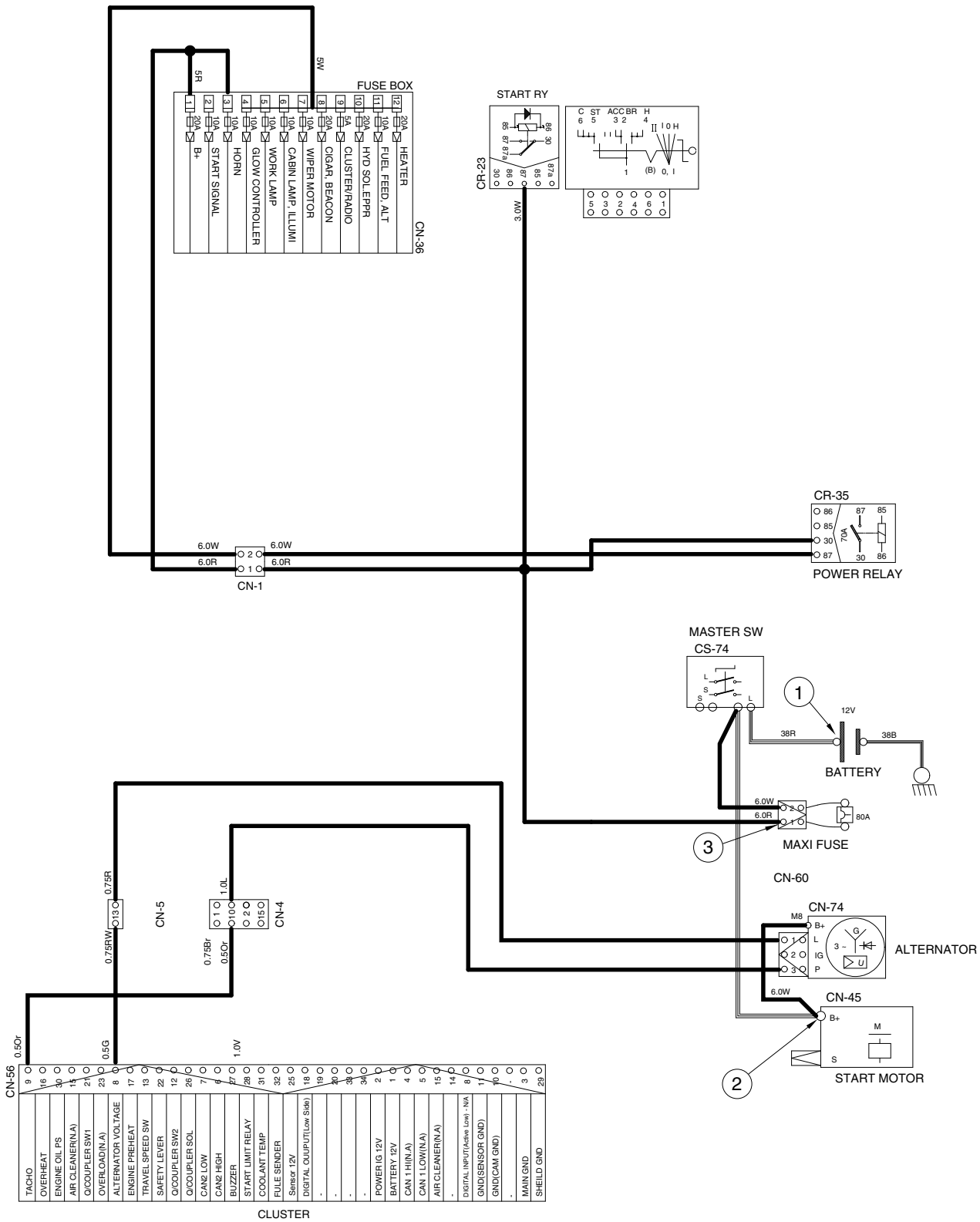
2) CHECK POINT

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



19A4EL06

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

4. WORK LIGHT CIRCUIT

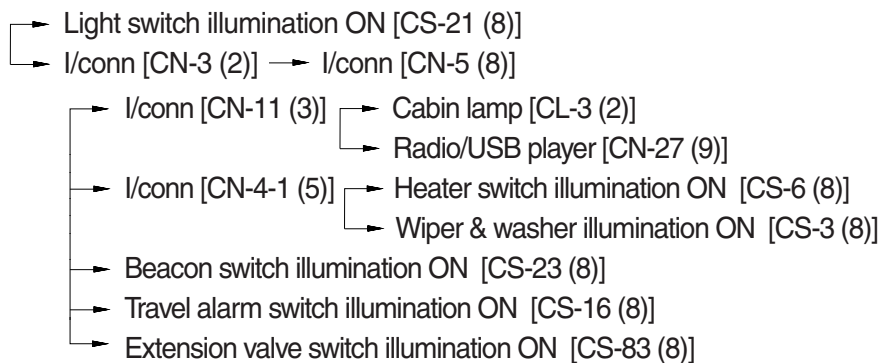
1) OPERATING FLOW

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

Fuse box (No.5) → I/conn [CN-2 (10)] → I/conn [CN-3 (13)] → Light switch [CS-21 (5)]

(1) Main light switch ON : 1st step

Main light switch ON [CS-21 (2)]



(2) Main light switch ON : 2nd step

Main light switch ON [CS-21 (4)] → I/conn [CN-3 (14)] → I/conn [CN-112 (2)]

→ Work light ON [CL-5 (2)]

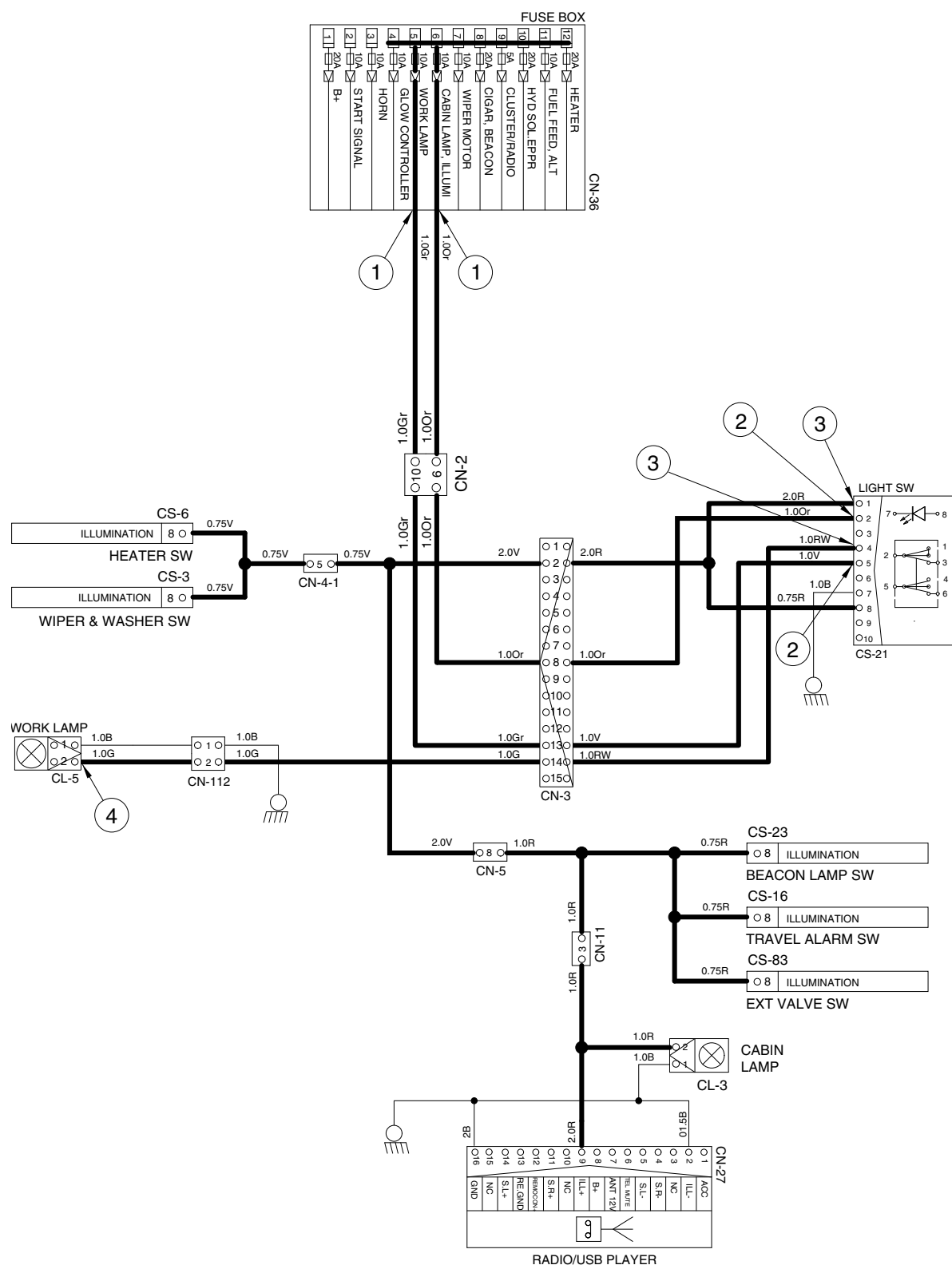
2) CHECK POINT

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.

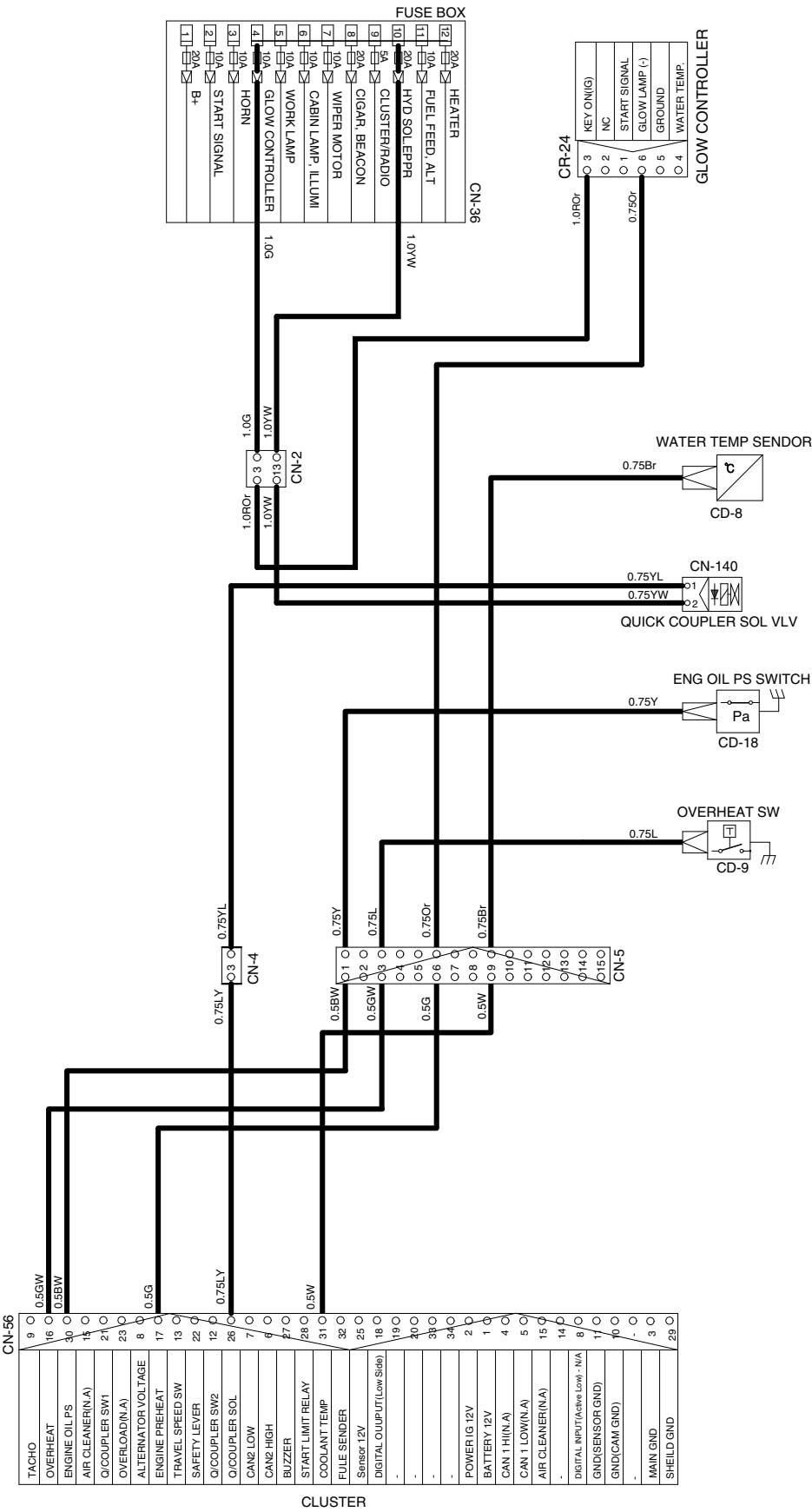
WORK LAMP CIRCUIT



19A4EL07

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

MONITORING CIRCUIT



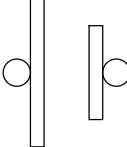
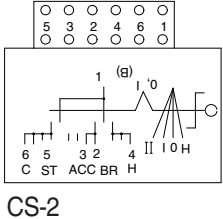
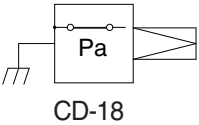
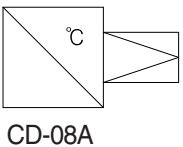
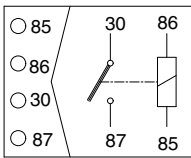
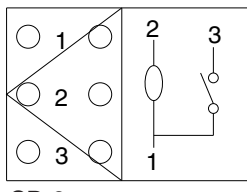
19A4EL08

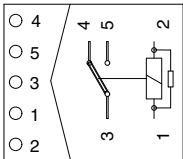
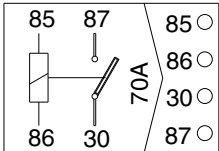
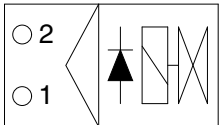
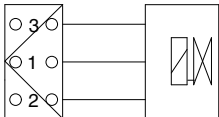
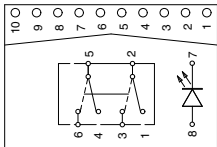
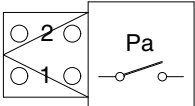
※ The circuit diagram may differ from the equipment, so please check before a repair.

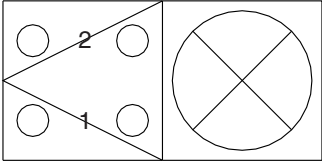
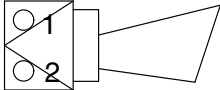
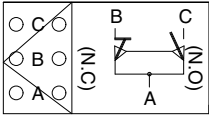
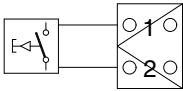
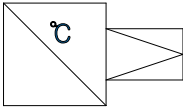
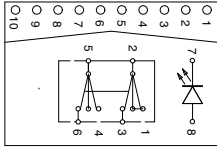
※ The circuit diagram may differ from the equipment, so please check before a repair.

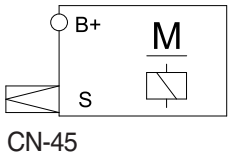
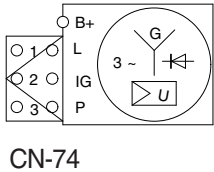
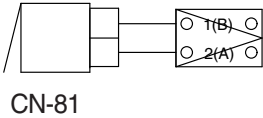
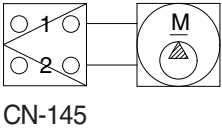
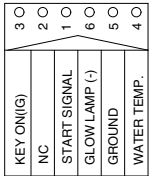
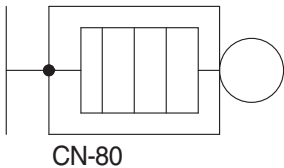


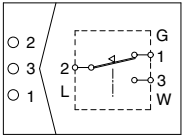
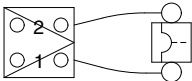
GROUP 4 ELECTRICAL COMPONENT SPECIFICATION

Part name	Symbol	Specification	Check
Battery		12V × 80Ah	※ 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 : 0 Ω (for terminal 1-2) START : 0 Ω (for terminal 1-6)
Pressure switch (for engine oil)	 CD-18	0.5 kgf/cm ² (N.C TYPE)	※ Check resistance Normal : 0 Ω (CLOSE)
Water temp sendor	 CD-08A	Pressure: 635 mmH ₂ O (N.O TYPE)	-
Start relay	 CR-23	12V 60A	※ Rated coil current 1.2 ± 0.3A
Fuel sender	 CD-2	-	※ Check resistance Full : 30 Ω Low : 100 Ω Empty warning : 200 Ω

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-264	12V 1A	※ Check resistance Normal : 15~25Ω (for terminal 1-2)
Solenoid valve (engine stop)	 CN-79	12V	※ Coil resistance : 1.8Ω
Switch (locking type)	 CS-16 CS-23 CS-83	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 1.2kW	※ Check contact Normal : 0.1 Ω
Alternator	 CN-74	12V 40A	※ Check contact Normal : 0 Ω (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	-

GROUP 5 CONNECTORS

1. CONNECTOR DESTINATION

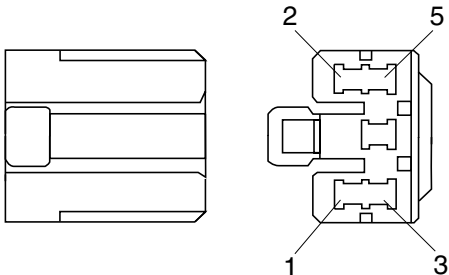
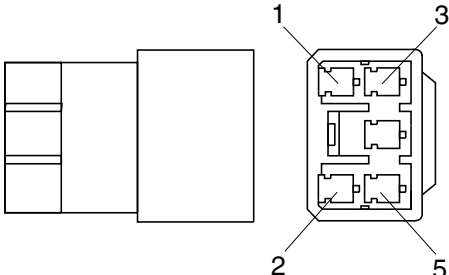
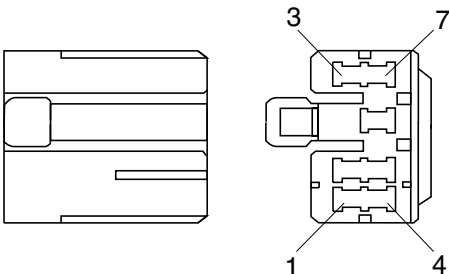
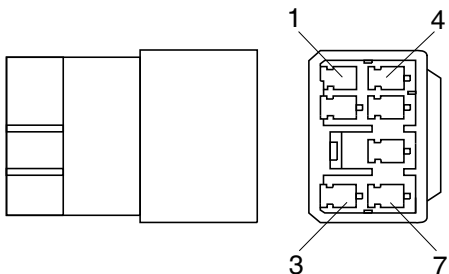
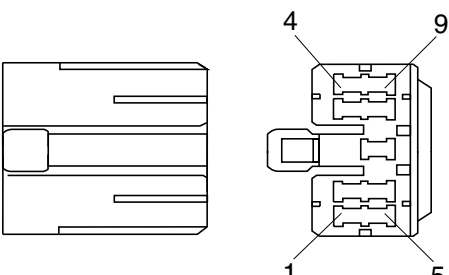
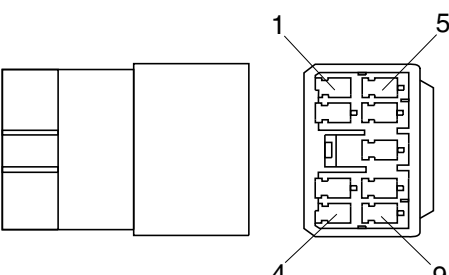
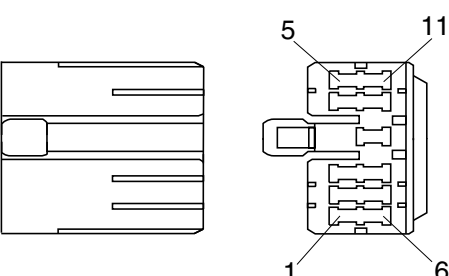
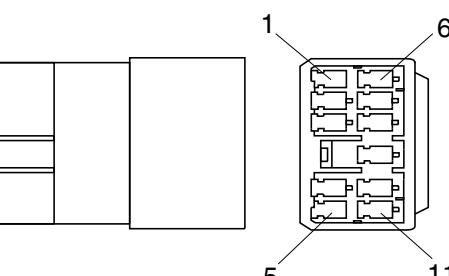
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	KET	1	I/conn (Main harness-fuse harness)	MG610557	MG620558
CN-2	AMP	15	I/conn (Main harness-fuse harness)	2-85262-1	368301-3
CN-3	AMP	16	I/conn (LH console harness-main harness)	368047-1	-
CN-4	AMP	16	I/conn (RH console 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-11	AMP	8	I/conn (RH console harness-cab harness)	174982-2	174984-2
CN-11-1	AMP	2	I/conn (Upper harness-beacon harness)	174352-2	174354-2
CN-19	TE	8	To EPPR harness	174982-2	174984-2
CN-20	DEUTSCH	2	Horn	DT06-2S	-
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	KET	1	Start motor B+	S820-208000	-
CN-46	AMP	-	Heater	180900-0	-
CN-56	-	34	CMCU	4-1437290-0	-
CN-60	-	-	Maxi fuse	03.21000	03.01080
CN-68	DEUTSCH	2	Safety solenoid valve	DT06-2S	-
CN-70	DEUTSCH	2	Travel speed solenoid valve	DT06-2S	-
CN-74	SUMITOMO	3	Alternator	6189-0443	-
CN-74	KET	1	Alternator B+	S820-306000	-
CN-79	KET	3	Engine stop solenoid	MG610045	-
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-E005
CN-112	DEUTSCH	2	To work lamp	DT06-2S	-
CN-116	-	1	Quick coupler switch	-	CA104
CN-125	DEUTSCH	12	GPS telematics	DT06-12S	-
CN-126	AMP	10	RS232 connect	174655-2	174657-2
CN-139	AMP	2	12V socket	172434-2	-

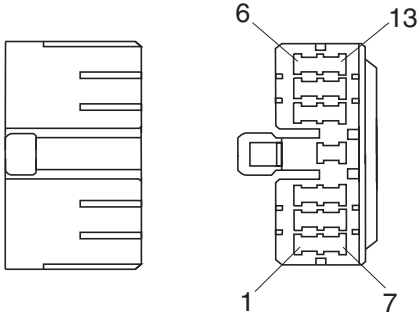
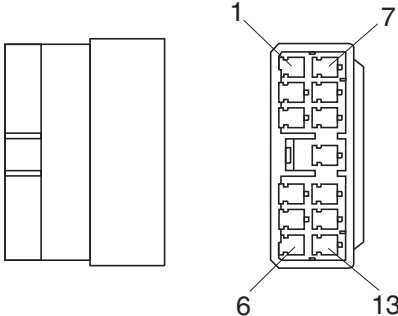
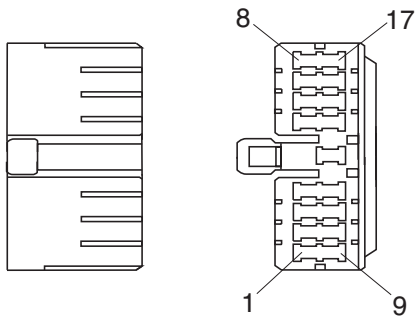
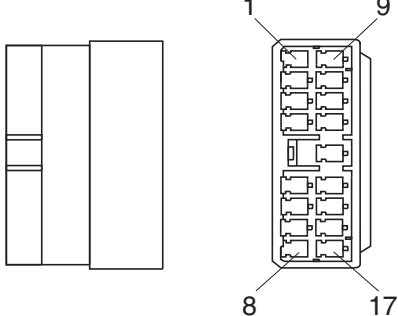
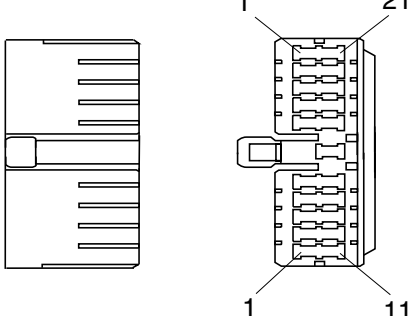
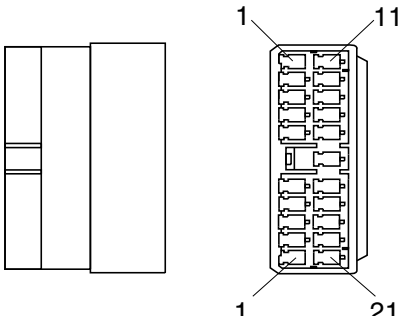
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-140	DEUTSCH	2	Quick coupler solenoid valve	DT06-2S	DT04-2P
CN-145	TE	2	Fuel feed pump	174198-1	-
CN-238	DEUTSCH	2	EPPR solenoid LH	DT06-2S	DT04-2P
CN-239	DEUTSCH	2	EPPR solenoid RH	DT06-2S	DT04-2P
CN-240	DEUTSCH	3	EPPR	DT06-3S-EP06	-
CN-264	DEUTSCH	2	Extention valve	DT06-2S	DT06-2P
CN-305	REXROTH	56	EPPR controller	1-928-405-16	-
CN-307	DEUTSCH	3	Service tool	DT06-3S	DT04-3P
LAMP					
CL-1	KET	2	Room lamp	MG610392	-
CL-2	AMP	3	Cigar	174200-1	-
CL-3	DEUTSCH	2	Cab lamp	DT06-2S	-
CL-5	DEUTSCH	1	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	-
	YAZAKI			7323-2446	-
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	VCFM1002	-
SENSOR					
CD-2	AMP	2	Fuel sender	17435942-2	-
CD-8	TE	1	Water temp sender	171809-2	-
CD-08A	TE	1	Water temp sender	171809-2	-
CD-9	TE	1	Overheat switch	172320-2	-
CD-11	KET	2	Travel alarm pressure switch	MG640795	-
CD-18	KET	1	Engine oil pressure switch	S820-104000	-
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 harness	21HN-56300	-
CS-4	DEUTSCH	3	Safety switch	DT06-3S-EP06	-
CS-5	DEUTSCH	2	Horn switch	-	DT04-2P-E005
CS-6	CARLING	10	Heater switch	21HN-56300	-
CS-8	KET	1	Travel speed switch	CB104	CA104

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CS-16	SWF	10	Travel alarm switch	583757	-
CS-21	CARLING	10	Light switch	21HN-56300	-
CS-23	SWF	10	Beacon switch	583757	-
CS-33	TE	6	Emergency engine stop switch	174262-2	-
CS-67	CARLING	10	Quick coupler switch	21HN-56300	-
CS-74	KET	1	Mater switch-S	S820-306000	-
CS-74	KET	1	Mater switch-L	S820-210000	-
CS-83	SWF	10	Extention valve switch	583757	-

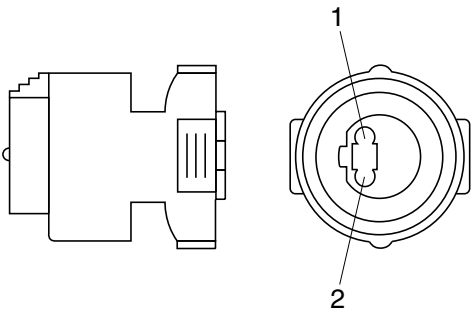
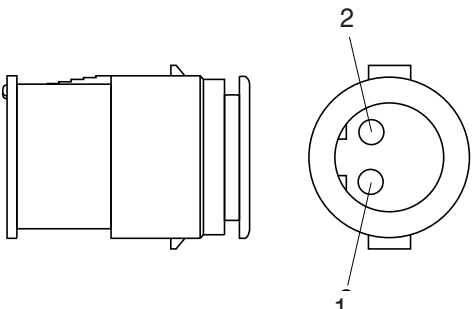
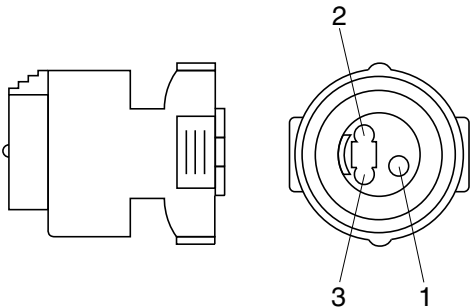
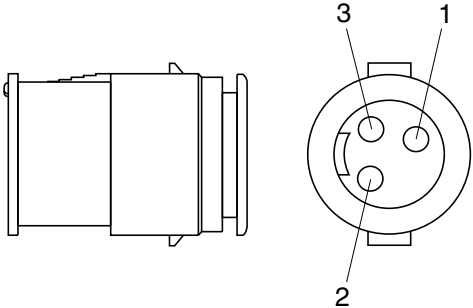
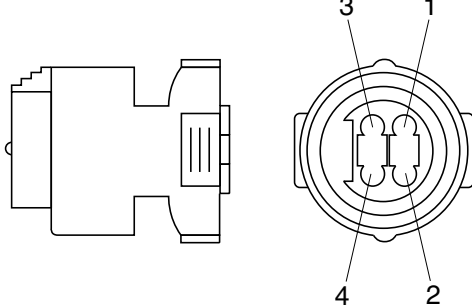
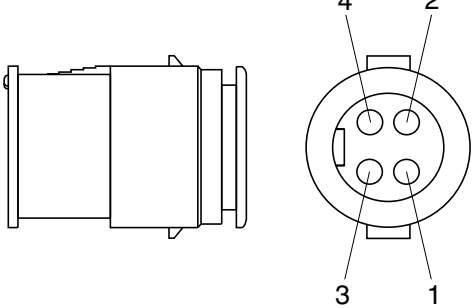
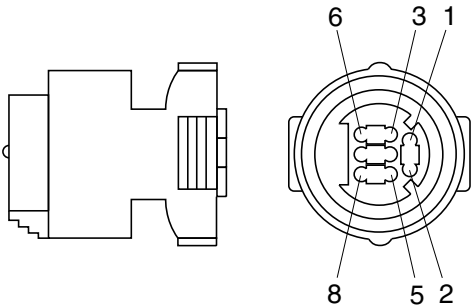
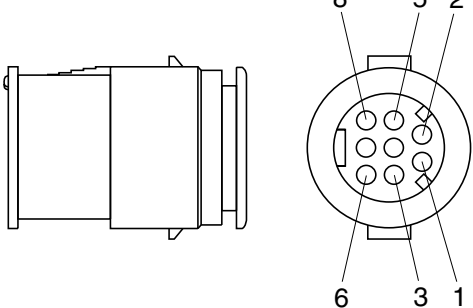
2. CONNECTION TABLE FOR CONNECTORS

1) PA TYPE CONNECTOR

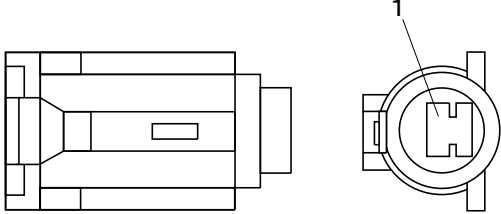
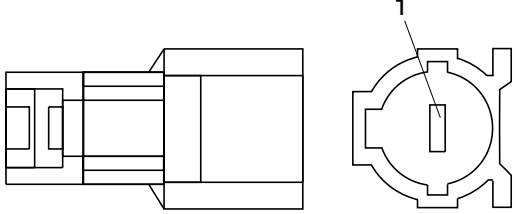
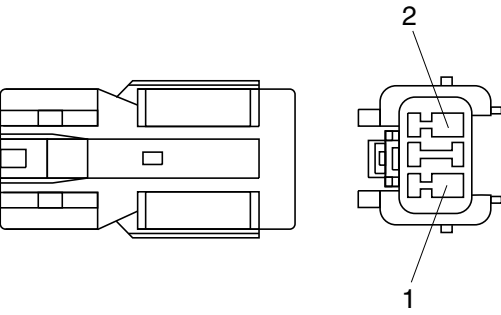
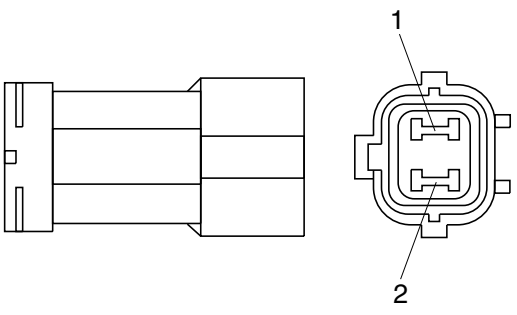
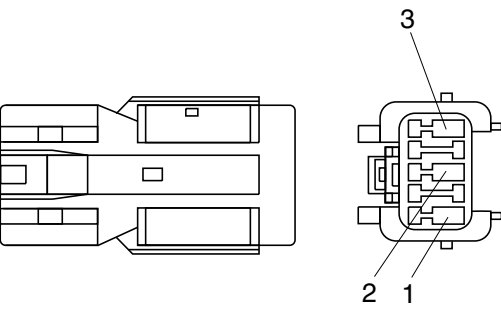
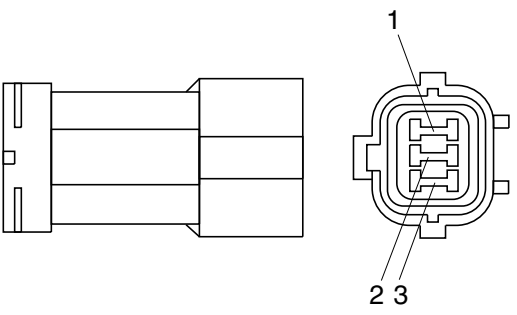
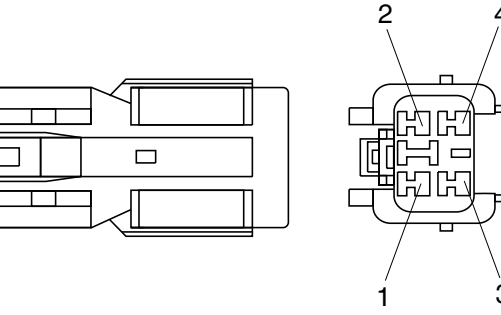
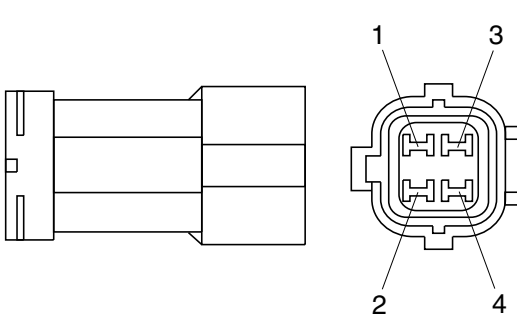
No. of pin	Receptacle connector (female)	Plug connector (male)
5	 S811-005002	 S811-105002
7	 S811-007002	 S811-107002
9	 S811-009002	 3S811-109002
11	 S811-011002	 S811-111002

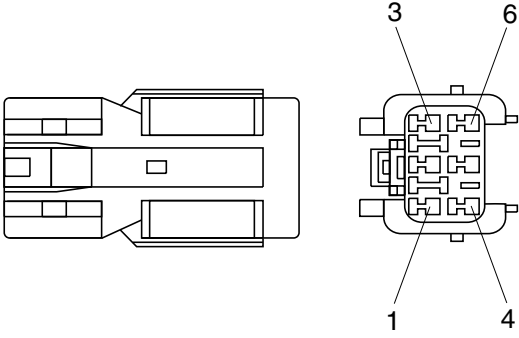
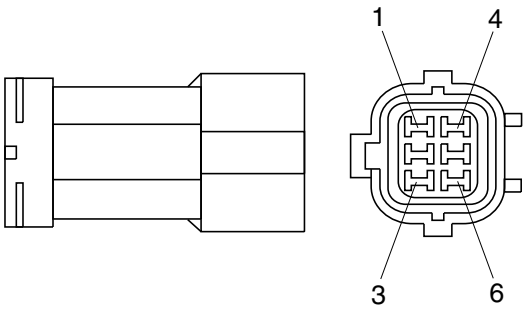
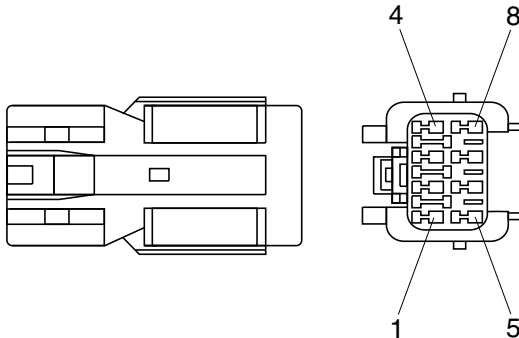
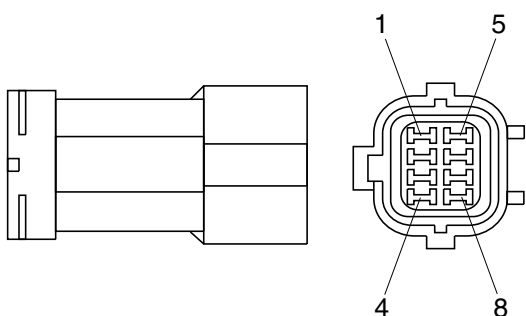
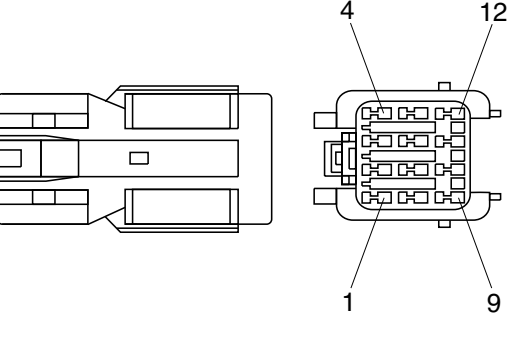
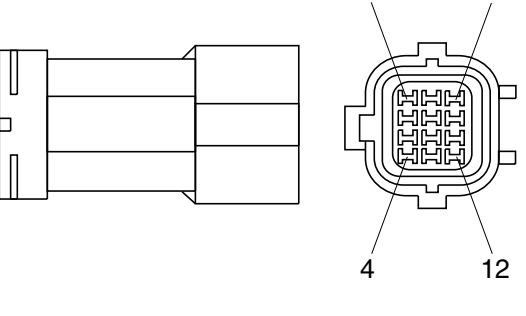
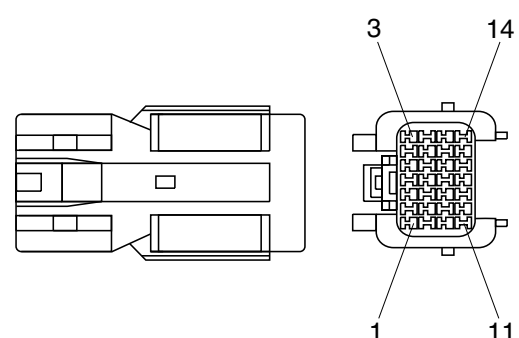
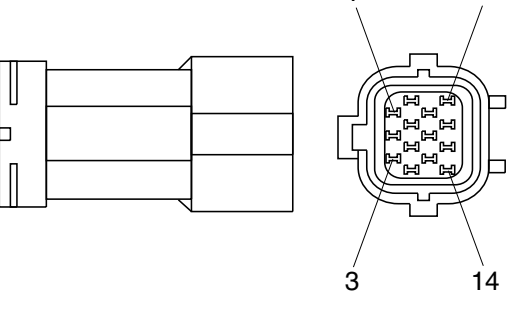
No. of pin	Receptacle connector (female)	Plug connector (male)
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17	 S811-017002	 S811-117002
21	 S811-021002	 S811-121002

2) J TYPE CONNECTOR

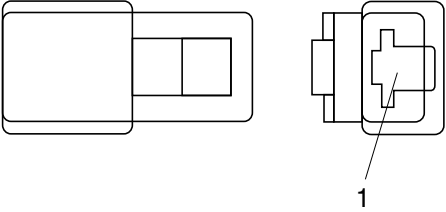
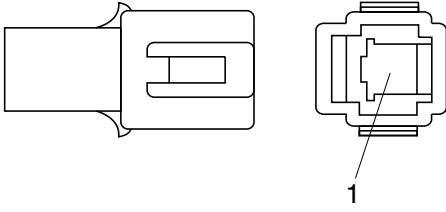
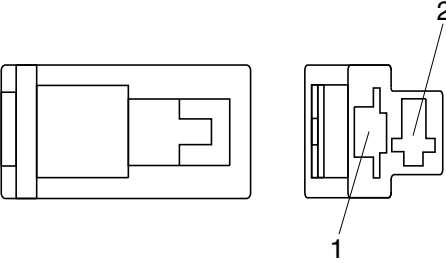
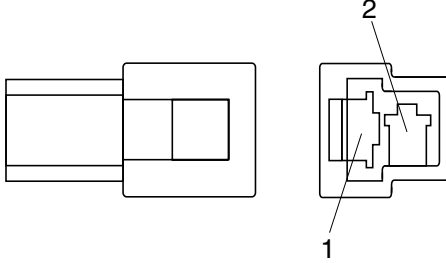
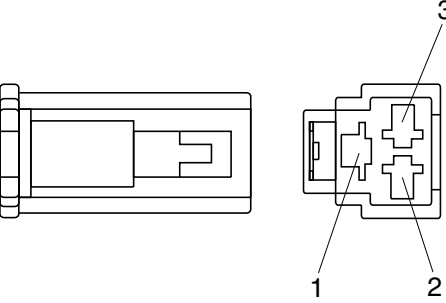
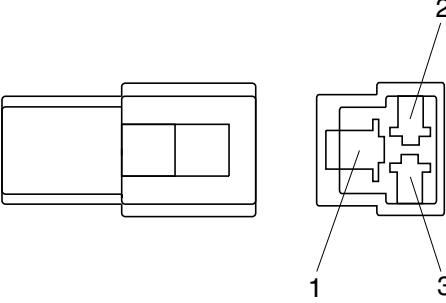
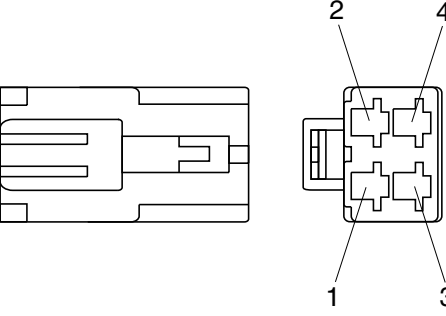
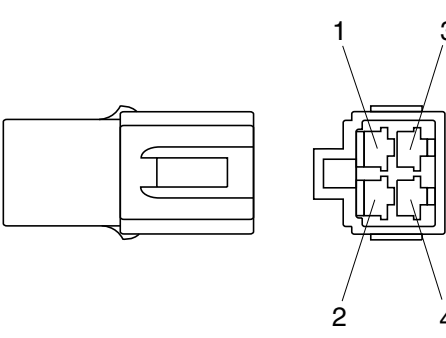
No. of pin	Receptacle connector (female)	Plug connector (male)
2	 S816-002001	 S816-102001
3	 S816-003001	 S816-103001
4	 S816-004001	 S816-104001
8	 S816-008001	 S816-108001

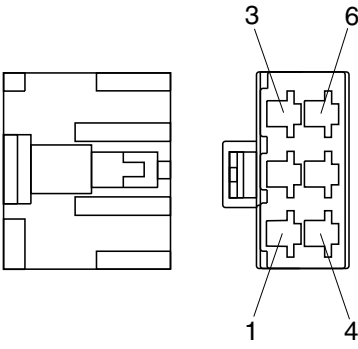
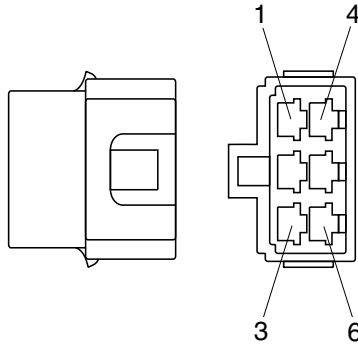
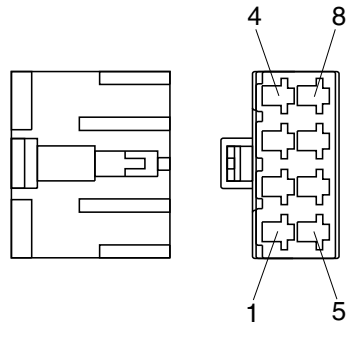
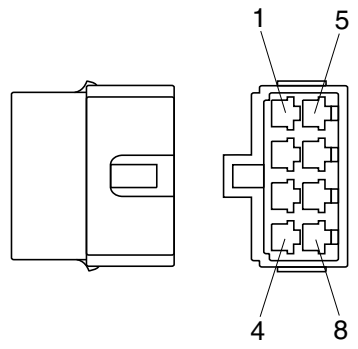
3) SWP TYPE CONNECTOR

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

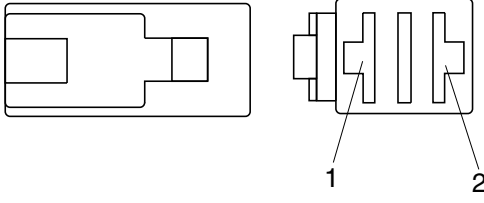
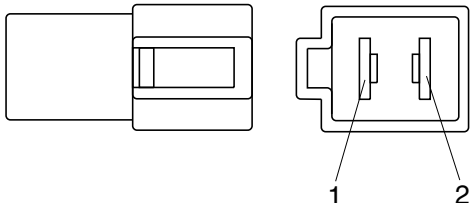
No. of pin	Receptacle connector (female)	Plug connector (male)
6	 S814-006000	 S814-106000
8	 S814-008000	 S814-108000
12	 S814-012000	 S814-112000
14	 S814-014000	 S814-114000

4) CN TYPE CONNECTOR

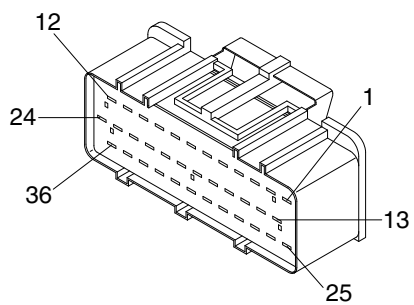
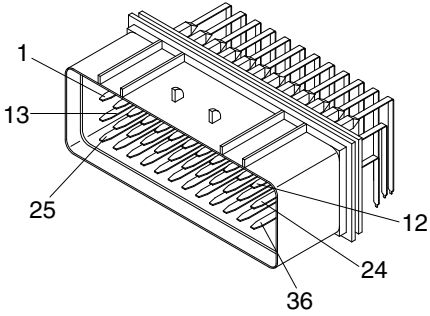
No. of pin	Receptacle connector (female)	Plug connector (male)
1	 S810-001202	 S810-101202
2	 S810-002202	 S810-102202
3	 S810-003202	 S810-103202
4	 S810-004202	 S810-104202

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

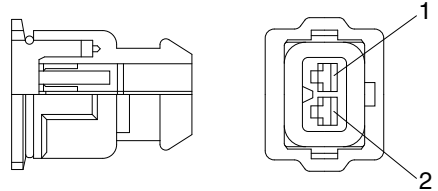
5) 375 FASTEN TYPE CONNECTOR

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

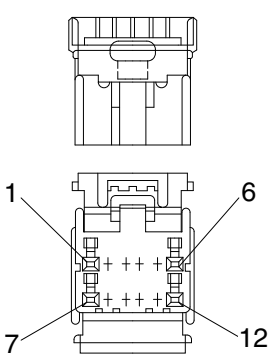
6) AMP ECONOSEAL CONNECTOR

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

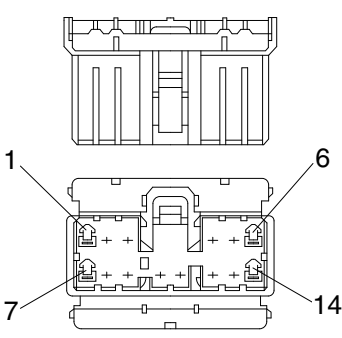
7) AMP TIMER CONNECTOR

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

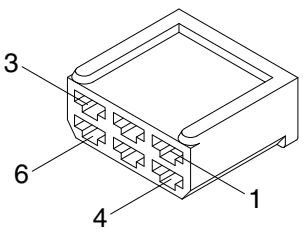
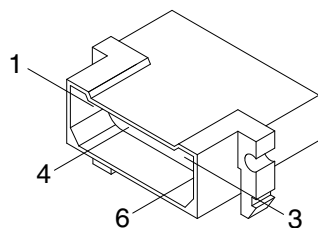
8) AMP 040 MULTILOCK CONNECTOR

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

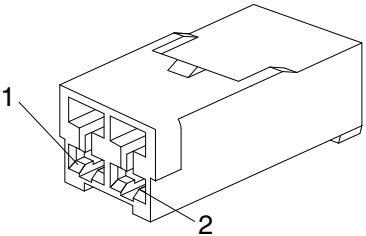
9) AMP 070 MULTILOCK CONNECTOR

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

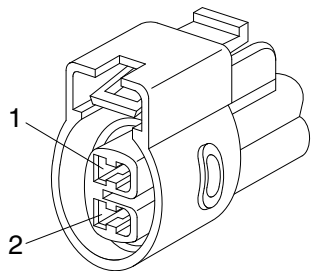
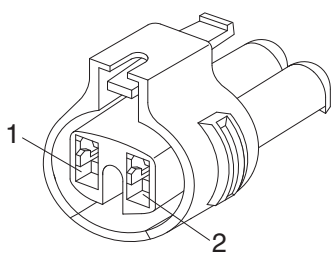
10) AMP FASTIN - FASTON CONNECTOR

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

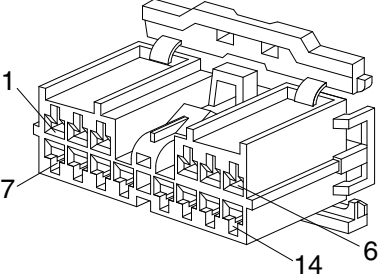
11) KET 090 CONNECTOR

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

12) KET 090 WP CONNECTORS

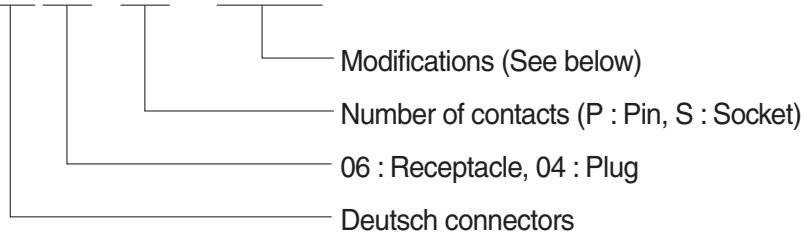
No. of pin	Receptacle connector (female)	Plug connector (male)
2	 MG640605	
2	 MG640795	

13) KET SDL CONNECTOR

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

14) DEUTSCH DT CONNECTORS

DT 06 - 3S - ★★★★★



※ Modification

E003 : Standard end cap - gray

E004 : Color of connector to be black

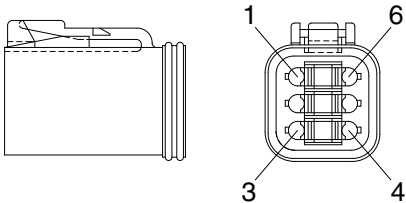
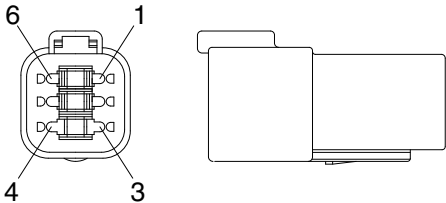
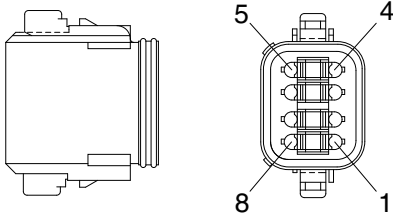
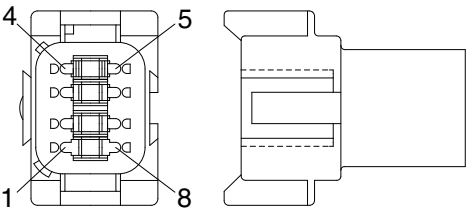
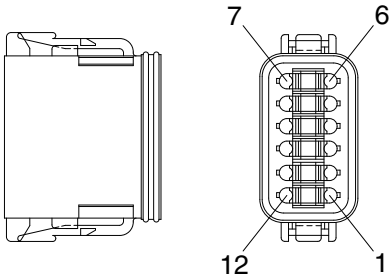
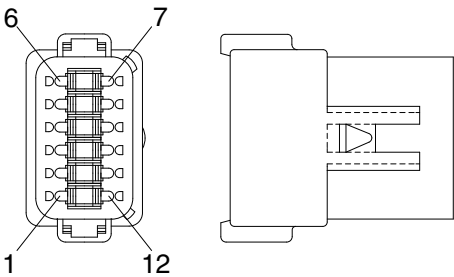
E005 : Combination - E004 & E003

EP04 : End cap

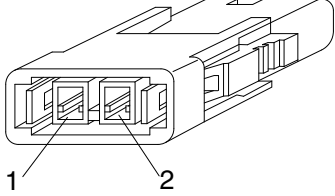
EP06 : Combination P012 & EP04

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

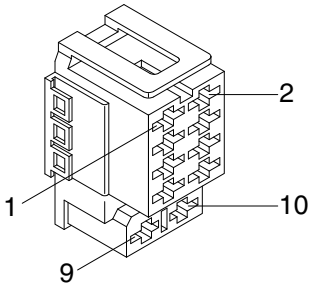
No. of pin	Receptacle connector (female)	Plug connector (male)
2	DT06-2S	DT04-2P
3	DT06-3S	DT04-3P
4	DT06-4S	DT04-4P

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

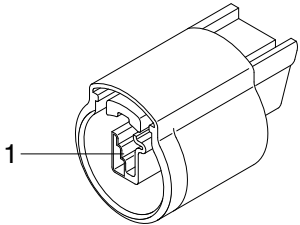
15) MOLEX 2CKTS CONNECTOR

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	