

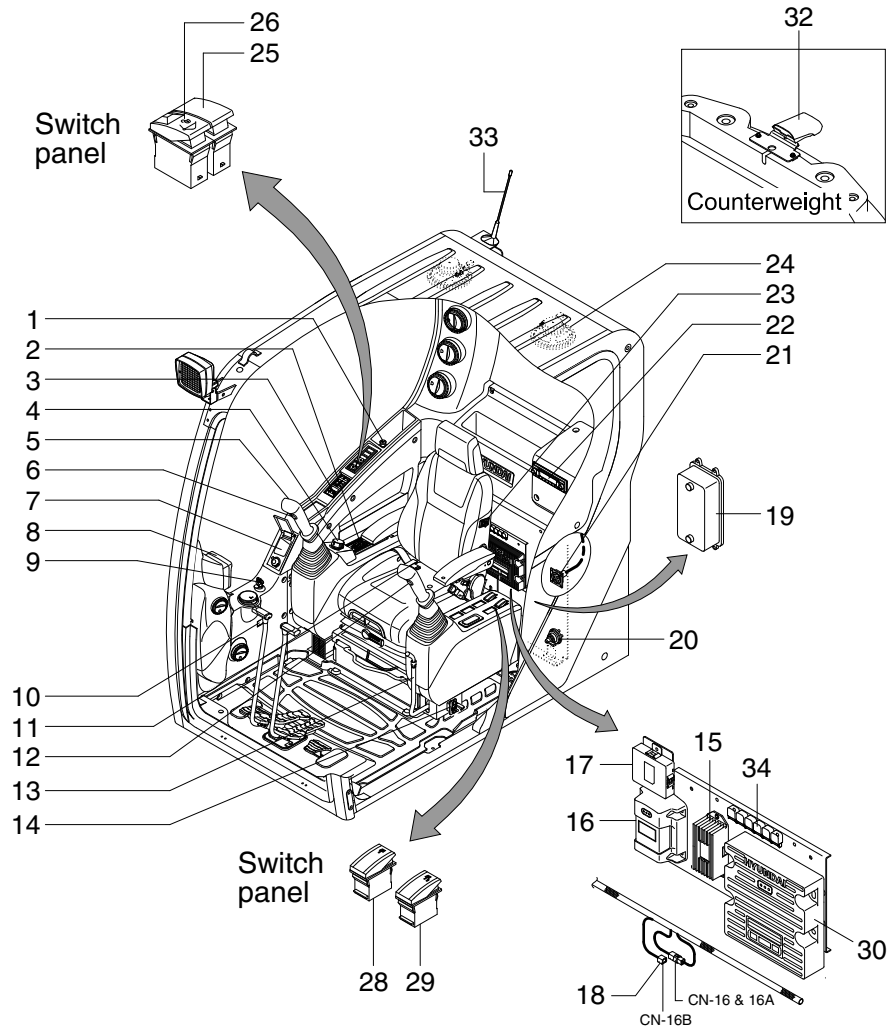
SECTION 4 ELECTRICAL SYSTEM

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SECTION 4 ELECTRICAL SYSTEM

GROUP 1 COMPONENT LOCATION

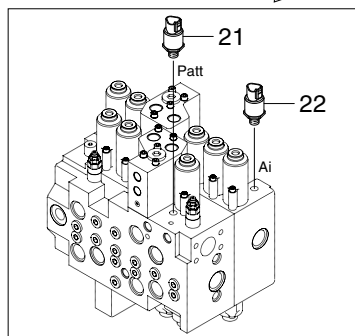
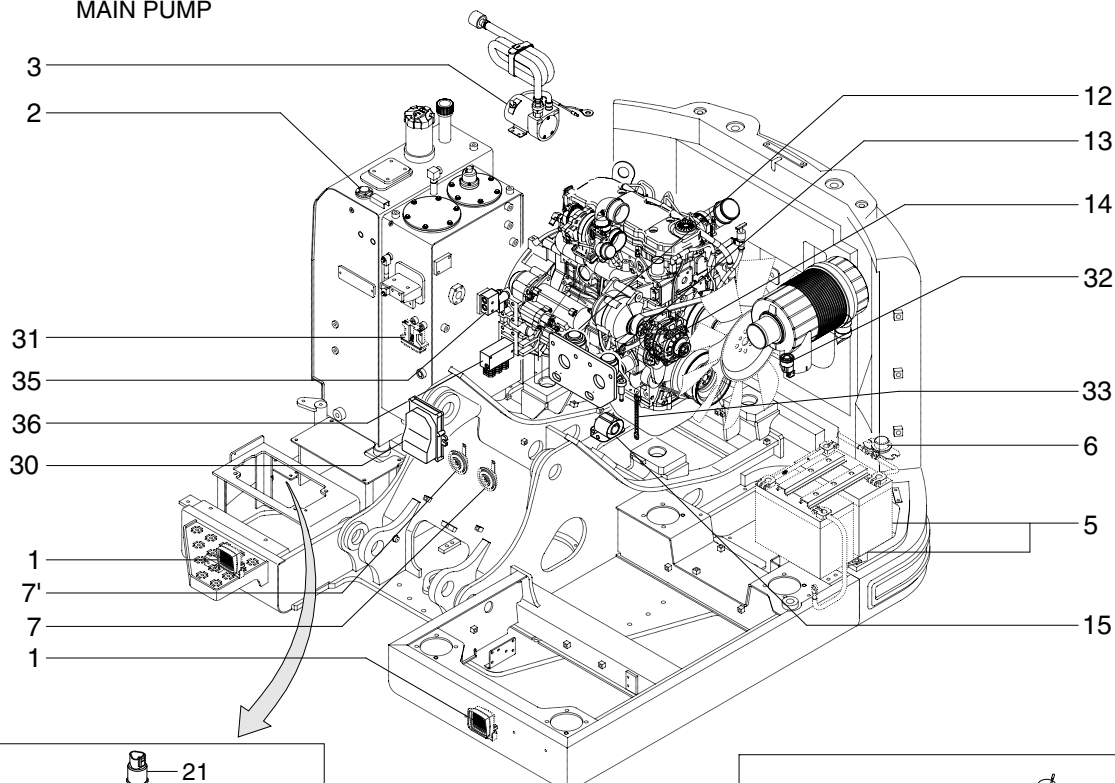
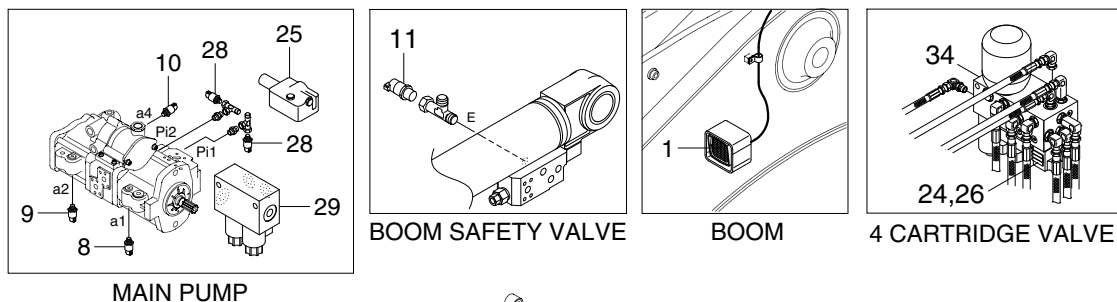
1. LOCATION 1



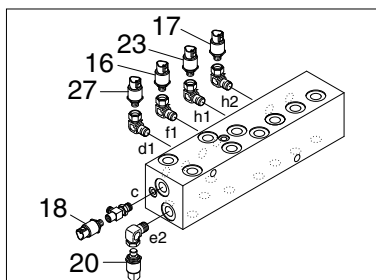
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1 Cigar lighter	12 Power max switch	23 Heated seat switch
2 Aircon and heater switch	13 Safety lever	24 Speaker
3 Remote controller	14 Emergency engine stop switch	25 Option attachment switch
4 Accel dial switch	15 DC/DC converter	26 Quick clamp switch
5 Horn switch	16 Remote controller unit	28 Fine swing switch
6 Breaker operation switch	17 Handsfree control unit	29 Swing lock switch
7 USB & socket assy	18 Emergency engine connector	30 Machine control unit
8 Cluster	19 Fuse & relay box	32 Rear view camera
9 Start switch	20 Master switch	33 Satellite antenna
10 Service meter	21 RS232 & J1939 service socket	34 Relay
11 One touch decel switch	22 Radio & USB player	

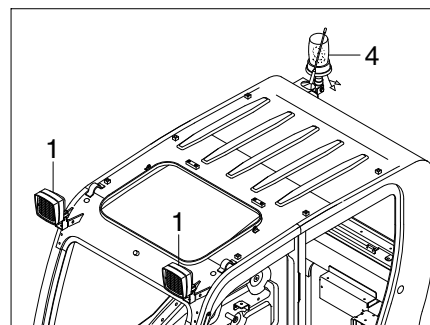
2. LOCATION 2



MAIN CONTROL VALVE



SHUTTLE BLOCK



CAB

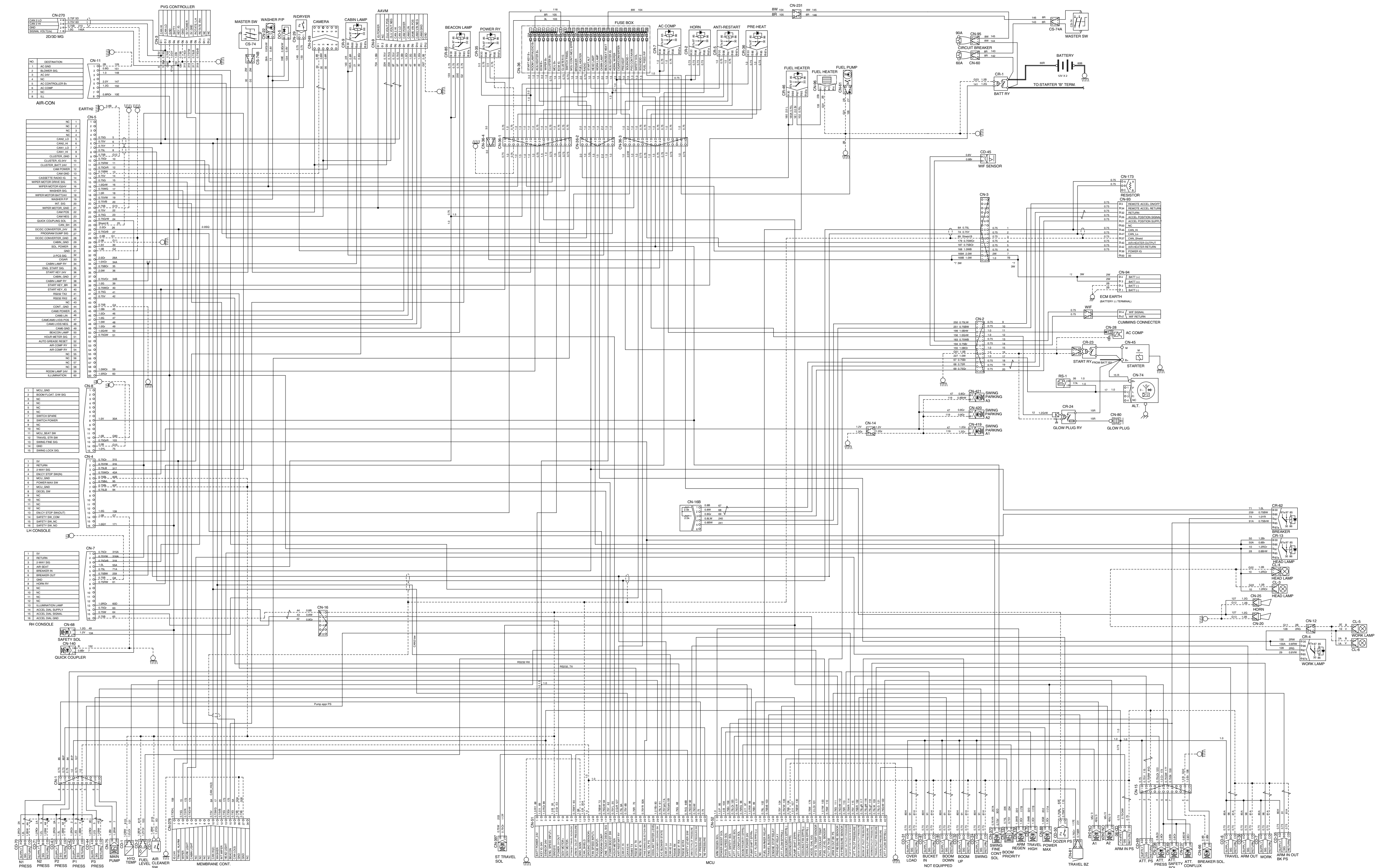
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- | | | |
|-----------------------------|------------------------------|---------------------------------|
| 1 Lamp | 12 Start relay | 25 Pump EPPR valve |
| 2 Fuel sender | 13 Heater relay | 26 Boom priority EPPR valve |
| 3 Fuel filler pump | 14 Alternator | 27 Arm out pressure sensor |
| 4 Beacon lamp | 15 Travel alarm buzzer | 28 Nega-control pressure sensor |
| 5 Battery | 16 Bucket in pressure sensor | 29 Flow control EPPR valve |
| 6 Battery relay | 17 Boom down pressure sensor | 30 Relay drive unit |
| 7 Horn - high | 18 Swing pressure sensor | 31 PVG 32 controller |
| 7' Horn - low | 20 Arm in pressure sensor | 32 Air cleaner indicator |
| 8 P1 pressure sensor | 21 Attach pressure sensor | 33 Earth strap |
| 9 P2 pressure sensor | 22 Travel pressure sensor | 34 Safety solenoid valve |
| 10 EPPR pressure sensor | 23 Boom up pressure sensor | 35 Swing fine solenoid valve |
| 11 Overload pressure sensor | 24 4 cartridge valve | 36 Swing lock solenoid valve |

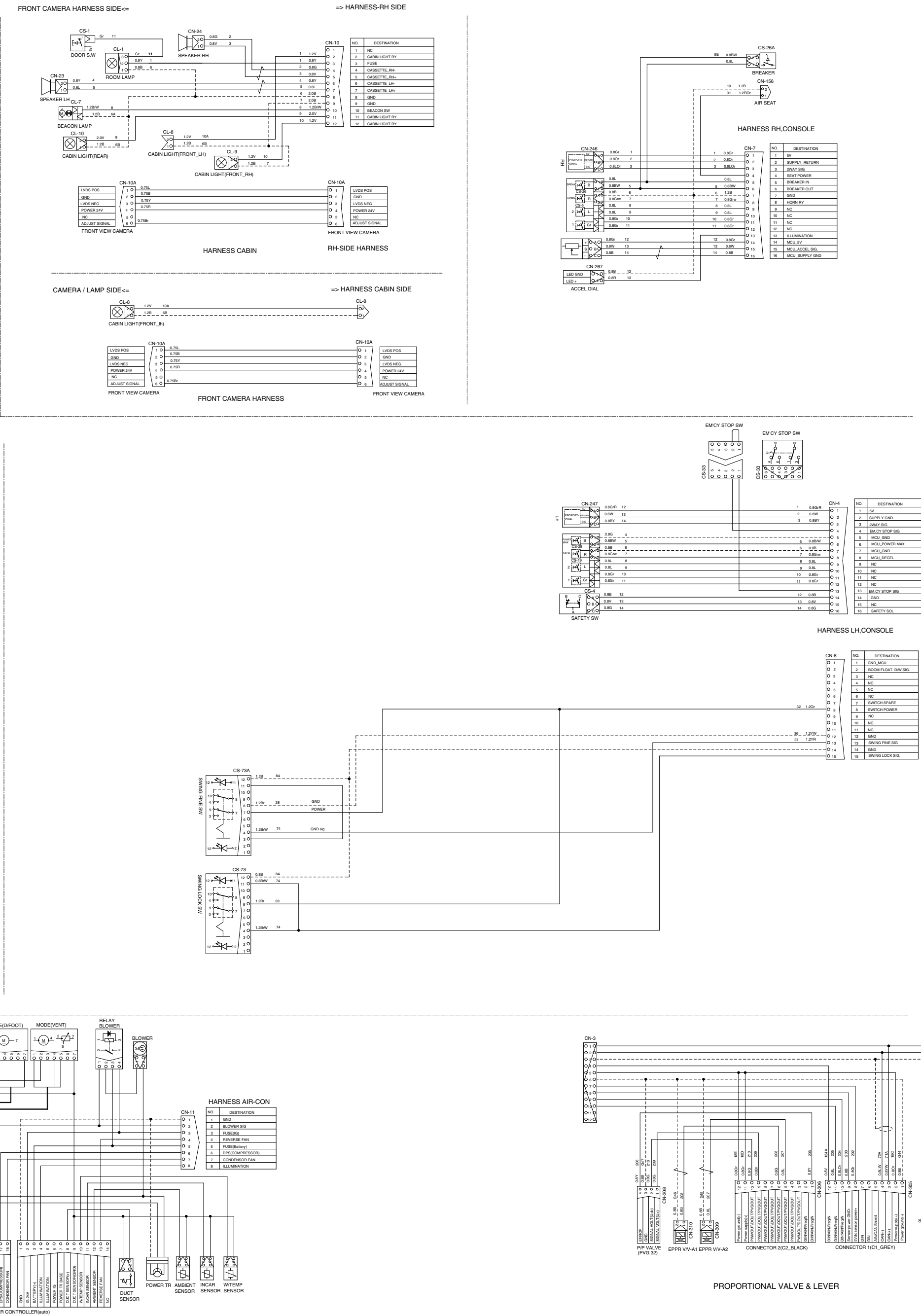
· ELECTRICAL CIRCUIT (1/2)



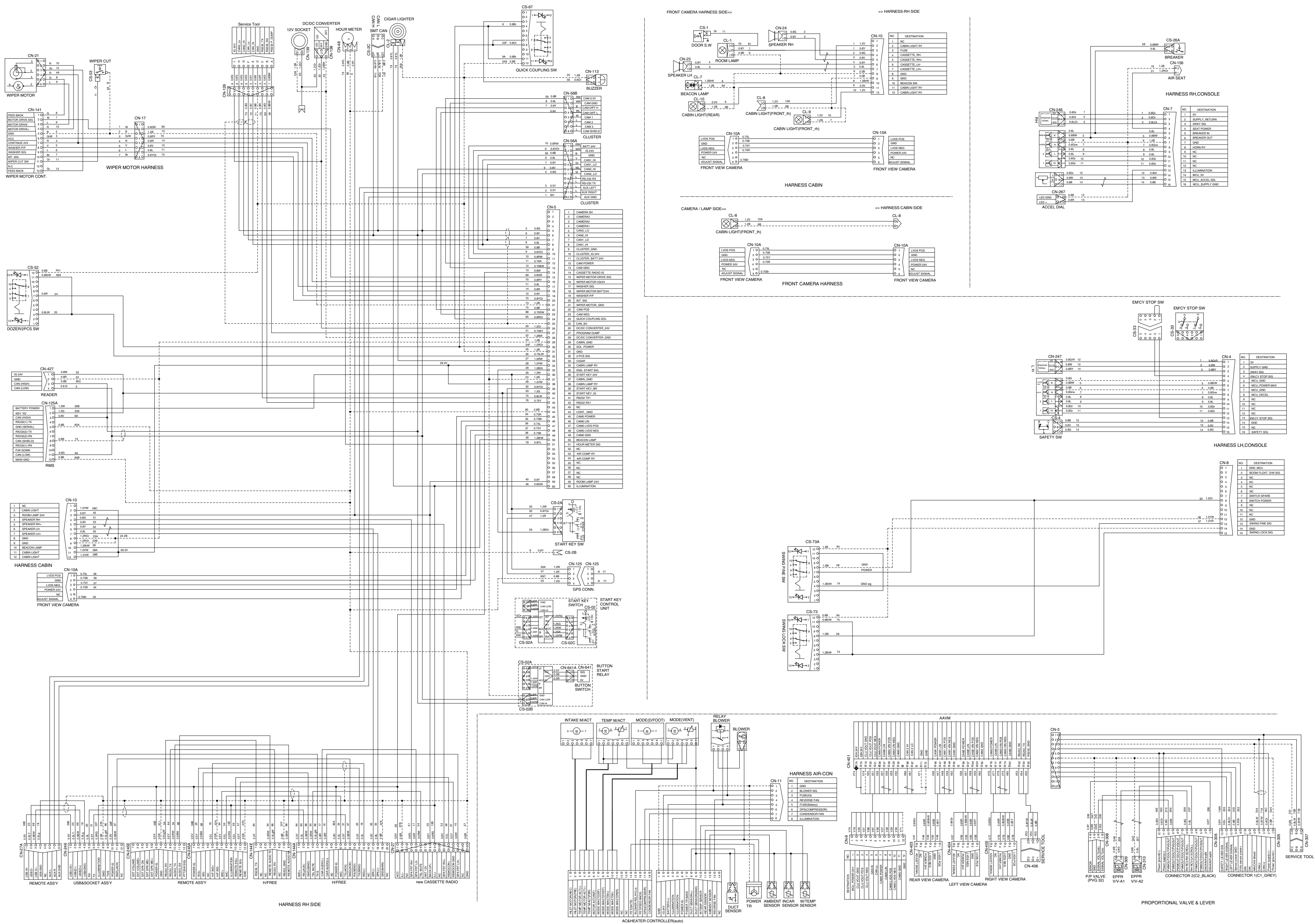
- MACHINE SERIAL NO. : #0005-



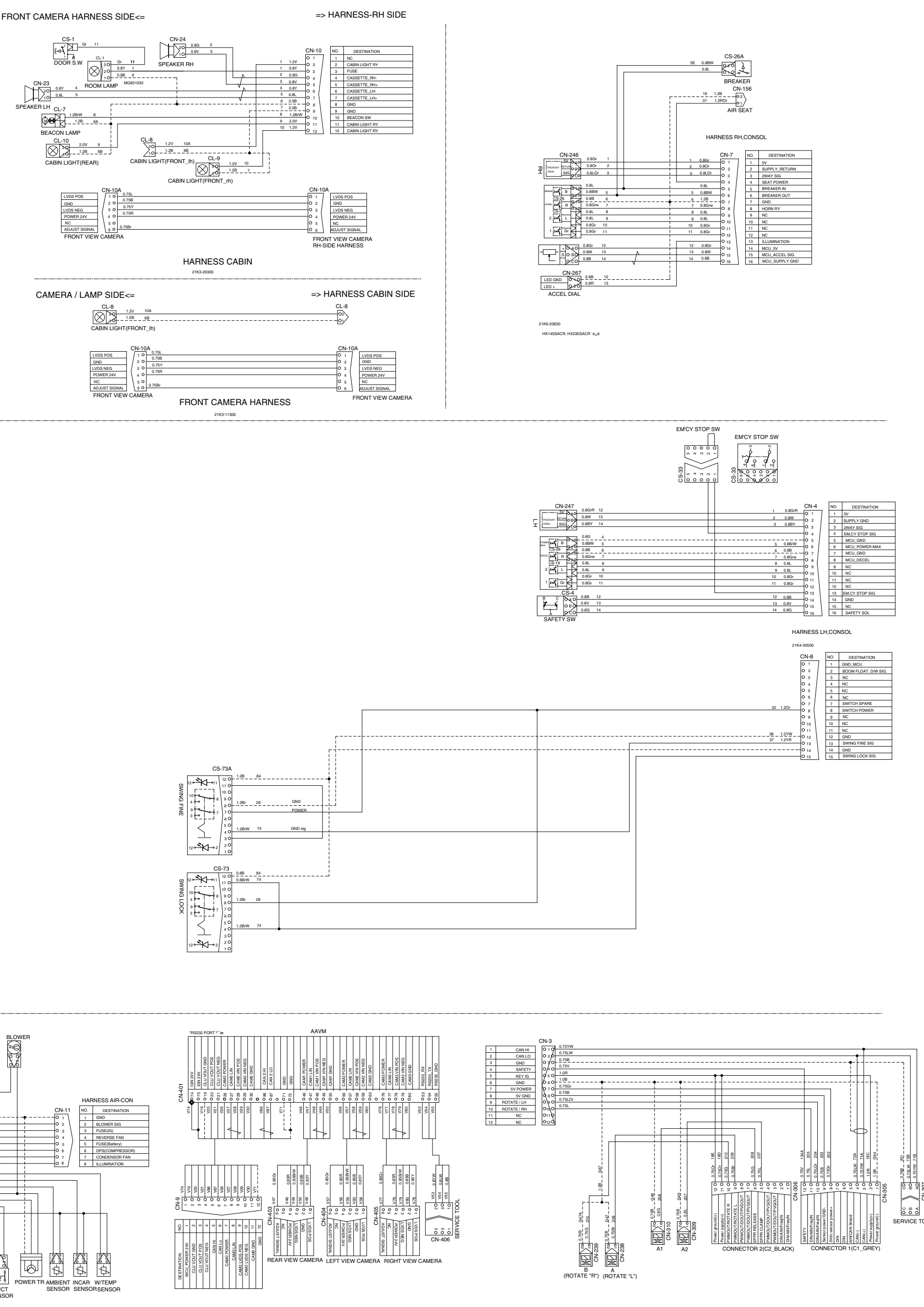
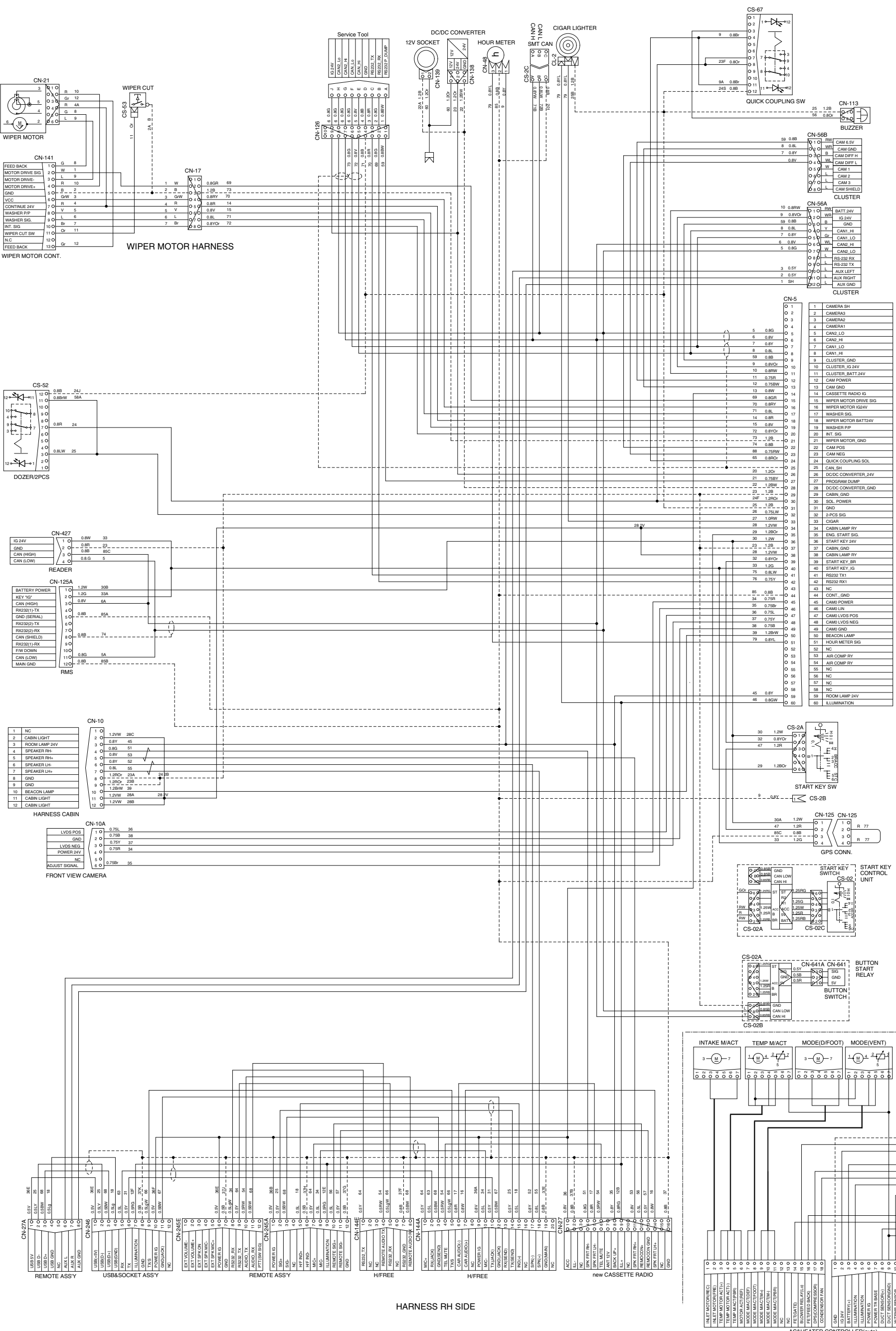
- MACHINE SERIAL NO. : -#0004



- MACHINE SERIAL NO. : #0005-#0131



- MACHINE SERIAL NO. : #0132-



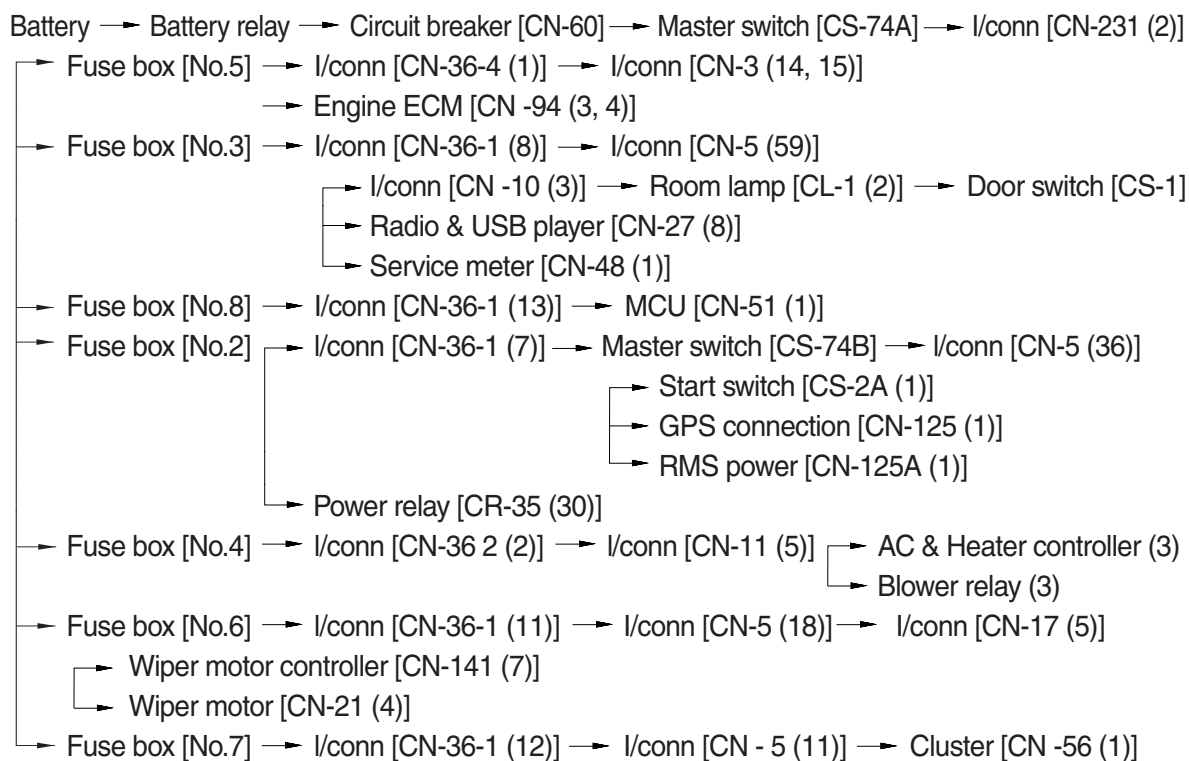
MEMORANDUM

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



※ I/conn : Intermediate connector

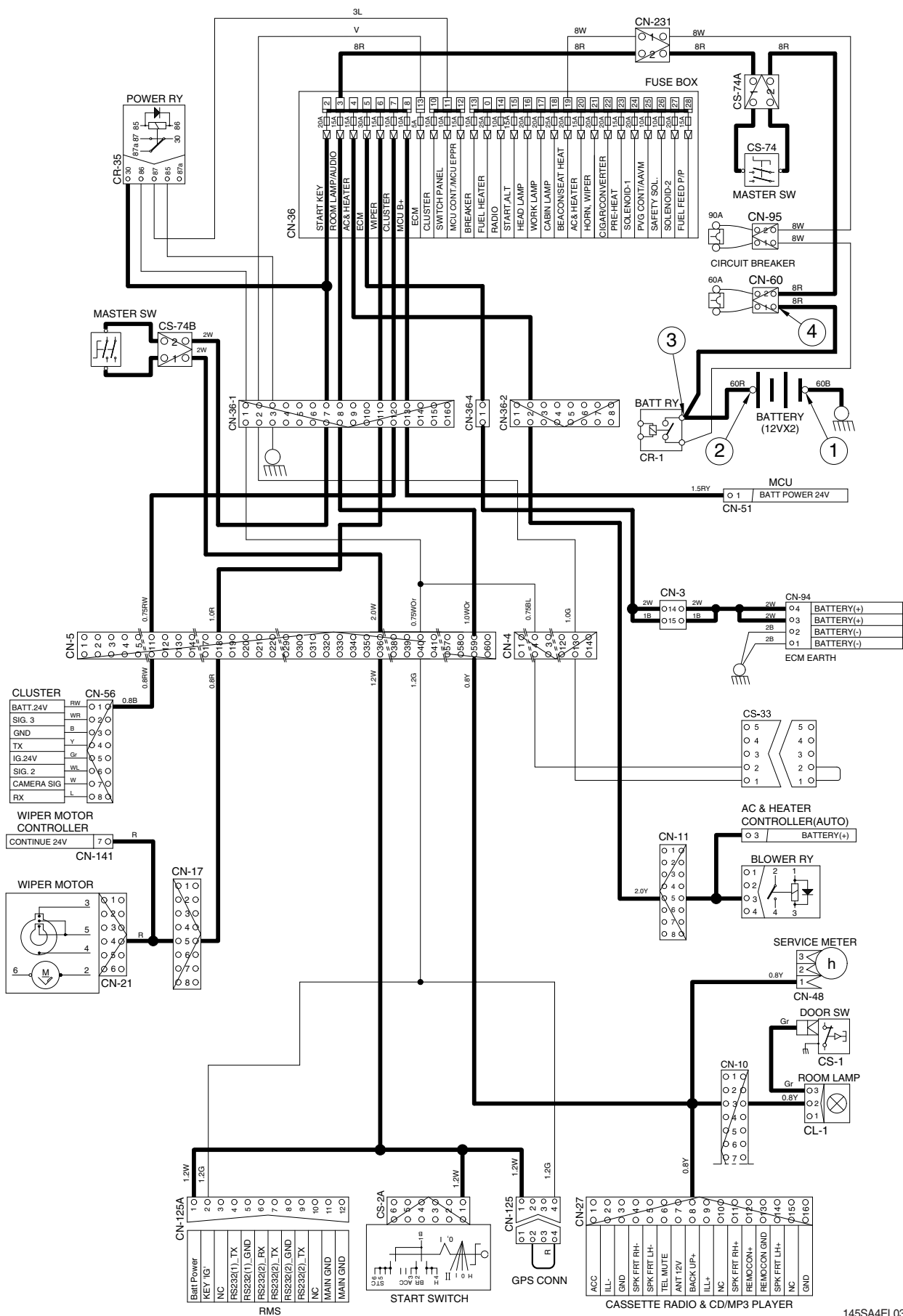
2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	OFF	① - GND (battery 1EA)	10~12.5V
		② - GND (battery 2EA)	20~25V
		③ - GND (battery relay)	20~25V
		④ - GND (circuit breaker)	20~25V

※ GND : Ground

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

POWER CIRCUIT



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2. STARTING CIRCUIT

1) OPERATING FLOW

Battery (+) terminal → Battery relay [CR-1] → Circuit breaker [CN-60] → Master switch [CS-74A]
 → I/conn [CN-231 (2)] → Fuse box [No.2] → I/conn [CN-36-1 (7)] → Master switch [CS-74B]
 → I/conn [CN-5 (36)] → Start switch [CS-2A (1)]

(1) When start key switch is in ON position

→ Start switch ON [CS-2A (2)] → I/conn [CN-5 (39)] → Battery relay [CR-1]
 → Battery relay operating (all power is supplied with the electric component)
 → Start switch ON [CS-2 (3)] → GPS connector [CN-125 (2) → (4)] → I/conn [CN-5 (40)]
 → I/conn [CN-36-1 (1)] → Power relay [CR-35 (86) → (87)] → Fuse box [No.11]
 → I/conn [CN-4 (4)] → Emergency engine stop switch [CS-33 (2) → (1)]
 → I/conn [CN-4 (13)] → I/conn [CN-36-1 (2)] → Fuse box [No.13]
 → I/conn [CN-36-1 (6)] → I/conn [CN-3 (13)] → ECM [CN-93 (39)]

(2) When start key switch is in START position

Start switch START [CS-2A (6)] → I/conn [CN-5 (35)] → I/conn [CN-36-3 (9)] → Anti-restart relay [CR-5 (86) → (87)] → I/conn [CN-36-3 (1)] → I/conn [CN-2 (7)] → Start relay [CR-23]
 → Start motor operating

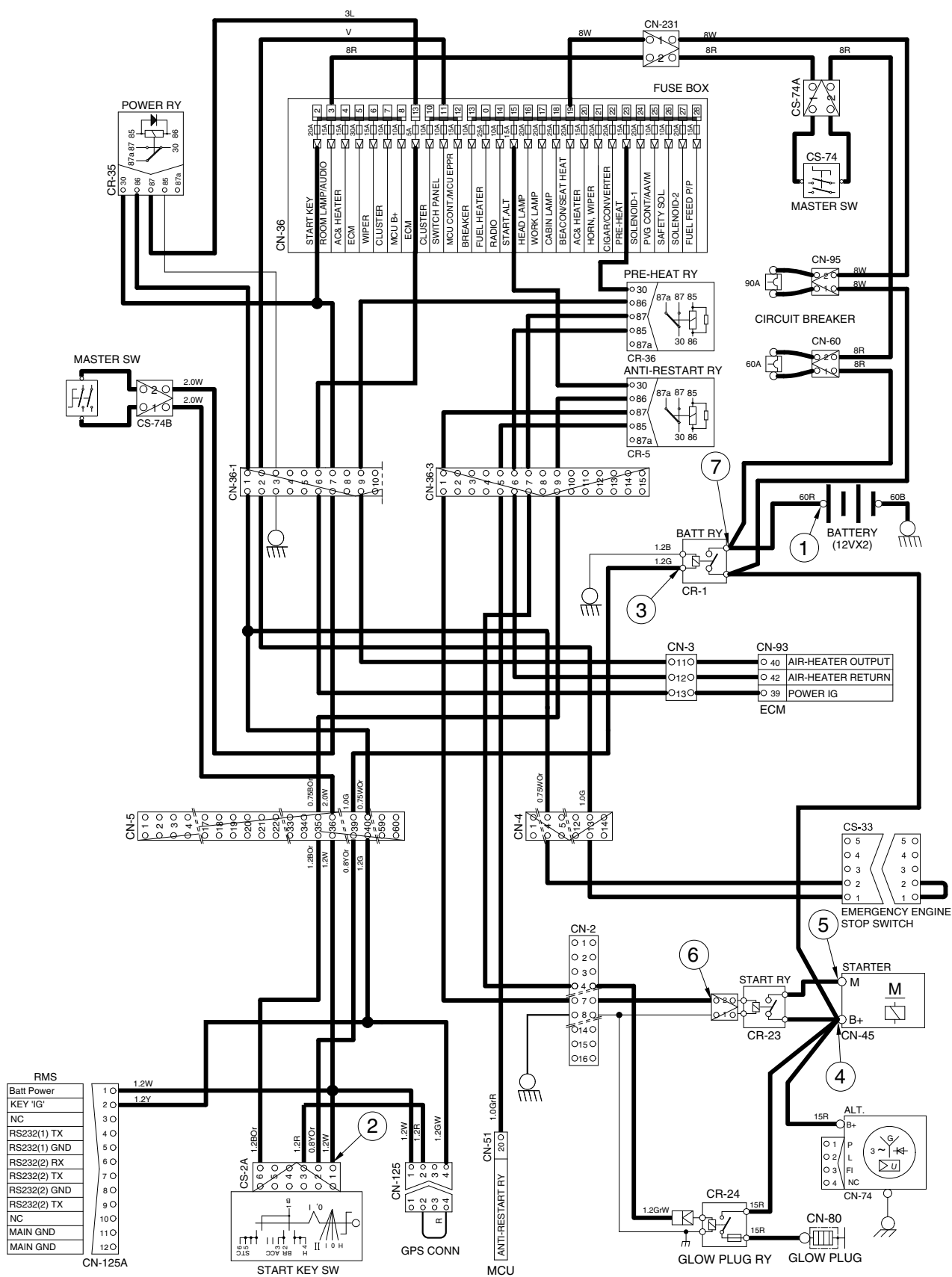
2) CHECK POINT

Engine	Start switch	Check point	Voltage
OPERATING	START	① - GND (battery) ② - GND (start switch) ③ - GND (battery relay) ④ - GND (starter B ⁺) ⑤ - GND (starter M) ⑥ - GND (start relay) ⑦ - GND (battery relay)	20~25V

※ GND : Ground

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

STARTING CIRCUIT



145SA4EL04

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3. CHARGING CIRCUIT

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

Charging current generated by operating alternator flows into the battery through the battery relay [CR-1].

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

1) OPERATING FLOW

(1) Warning flow

Alternator "L" terminal [CN-74 (2)] → I/conn [CN-2 (9)] → MCU alternator voltage level [CN-52 (27)]
→ Cluster charging warning lamp (via CAN interface)

(2) Charging flow

Alternator "B+" terminal → Start motor [B+] → Battery relay
 → Battery (+) terminal
 → Circuit breaker [CN-60] → Master switch [CS-74A]
 → I/conn [CN-231 (2)] → Fuse box [No.2~8]
 → Circuit breaker [CN-95] → I/conn [CN-231 (1)]
 → Fuse box [No. 13~28]

2) CHECK POINT

Engine	Start switch	Check point	Voltage
RUN	ON	① - GND (battery voltage) ② - GND (battery relay) ③ - GND (alternator B ⁺ terminal) ④ - GND (alternator L terminal) ⑤ - GND (MCU)	20~30V

※ GND : Ground

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4. HEAD AND WORK LIGHT CIRCUIT

1) OPERATING FLOW

Fuse box (No.16) → I/conn [CN-36-2 (4)] → Head light relay [CR-13 (30, 86)]

Fuse box (No.17) → I/conn [CN-36-2 (5)] → Work light relay [CR-4 (30, 86)]

Fuse box (No.11) → I/conn [CN-36-4 (16)] → Membrane controller [CN-376 (1)]

(1) Head light switch ON

Head light switch ON [CN-376 (13)] → Head light relay [CR-13 (85) → (87)]

→ Head light ON [CL-3 (2)] , [CL-4 (2)]

→ I/conn [CN-11 (8)] → AC & Heater controller illumination ON [4]

→ I/conn [CN-5 (60)] → Remote controller illumination ON [CN-245A (9)]

→ Cigar lighter [CL-2]

→ USB & Socket illumination ON [CN-246 (7)]

→ Radio & USB player illumination ON [CN-27 (9)]

→ I/conn [CN-7 (13)] → Accel dial LED [CN-267 (2)]

(2) Work light switch ON

Work light switch ON [CN-376 (4)] → Work light relay [CR-4 (85) → (87)] → I/conn [CN-12 (2)]

→ Work light ON [CL-5 (2), CL-6 (2)]

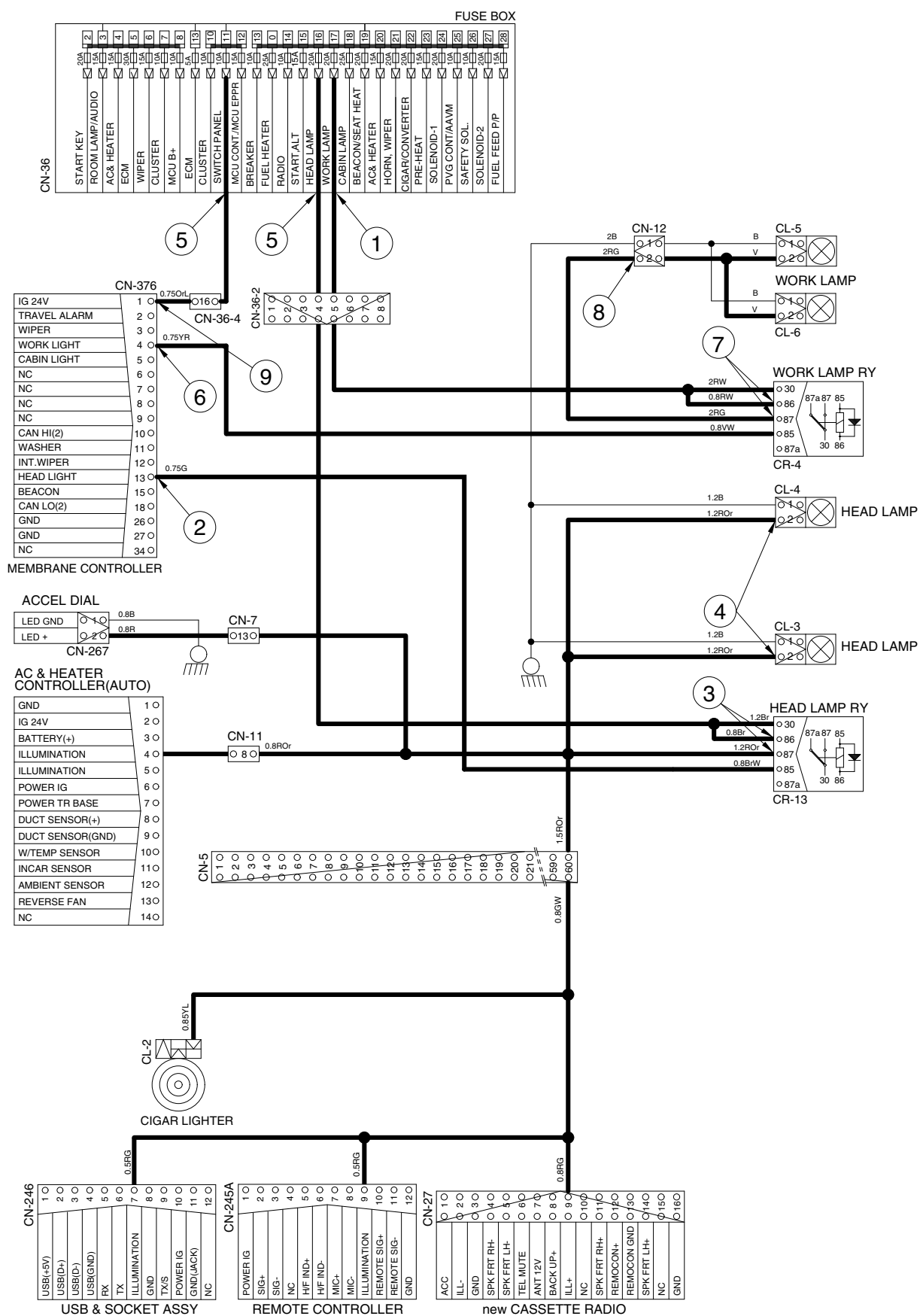
2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box) ② - GND (switch power output) ③ - GND (head light relay) ④ - GND (head light) ⑤ - GND (fuse box) ⑥ - GND (switch power output) ⑦ - GND (work light relay) ⑧ - GND (work light) ⑨ - GND (switch power input)	20~25V

※ GND : Ground

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

HEAD AND WORK LIGHT CIRCUIT



145SA4EL06

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5. BEACON LAMP AND CAB LIGHT CIRCUIT

1) OPERATING FLOW

Fuse box (No.19) → I/conn [CN-36-1 (5)] → Beacon lamp relay [CR-85 (30, 86)]

Fuse box (No.18) → I/conn [CN-36-2 (6)] → Cab light relay [CR-9 (30, 86)]

Fuse box (No.11) → I/conn [CN-36-4 (16)] → Membrane controller [CN-376 (1)]

(1) Beacon lamp switch ON

Beacon lamp switch ON [CN-376 (15)] → Beacon lamp relay [CR-85 (85) → (87)]
→ I/conn [CN-5 (50)] → I/conn [CN-10 (10)] → Beacon lamp ON [CL-7]

(2) Cab light switch ON

Cab light switch ON [CN-376 (5)] → Cabin lamp relay [CR-9 (85) → (87)]
→ I/conn [CN-5 (34, 38)]
 → I/conn [CN-10 (2)] → Front cab light ON [CL-8 (2)]
 → I/conn [CN-10 (12)] → Front cab light ON [CL-9 (2)]
 → I/conn [CN-10 (11)] → Rear cab light ON [CL-10 (2)]

2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box) ② - GND (beacon lamp relay) ③ - GND (switch power output) ④ - GND (beacon lamp) ⑤ - GND (fuse box) ⑥ - GND (cabin light relay) ⑦ - GND (switch power output) ⑧ - GND (cab light) ⑨ - GND (switch power input)	20~25V

※ GND : Ground

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

BEACON LAMP AND CAB LIGHT CIRCUIT

145SA4EL07

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

6. WIPER AND WASHER CIRCUIT

1) OPERATING FLOW

(1) Start switch ON

Fuse box (No.10) → I/conn [CN-36-4 (16)] → Membrane controller [CN-376 (1)]
 Fuse box (No.6) → I/conn [CN-36-1 (11)] → I/conn [CN-5 (18)] → I/conn [CN-17 (5)]
 └─ Wiper motor controller [CN-141(7)]
 └─ Wiper motor [CN-21(4)]
 Fuse box (No.21) → I/conn [CN-36-1 (4)] → I/conn [CN-5 (16)] → I/conn [CN-17 (4)] →
 └─ Wiper motor controller [CN-141 (6)]
 └─ Washer pump [CN-22 (2)]

(2) Intermittent wiper switch ON (intermittent)

Wiper switch ON [CN-376 (12)] → I/conn [CN-5 (20)] → I/conn [CN-17 (8)]
 → Wiper motor controller [CN-141 (10) → (3)] → Wiper motor intermittently operating [CN-21 (6)]

(3) Wiper switch ON (continual)

Wiper switch ON [CN-376 (3)] → I/conn [CN-5 (15)] → I/conn [CN-17 (2)]
 → Wiper motor controller [CN-141 (2) → (4)] → Wiper motor operating [CN-21 (2)]

(4) Washer switch ON

Washer switch ON [CN-376 (11)] → I/conn [CN-5 (17)] → I/conn [CN-17 (7)]
 → Wiper motor controller [CN-141 (9) → (8)] → I/conn [CN-17 (6)] → I/conn [CN-5 (19)]
 → Washer pump [CN-22 (1)] → Washer operating
 Wiper switch ON [CN-376 (3)] → I/conn [CN-5 (15)] → I/conn [CN-17 (2)]
 → Wiper motor controller [CN-141 (2) → (4)] → Wiper motor operating [CN-21 (2)]

(5) Auto parking (when switch OFF)

Switch OFF [CN-376 (3)] → Wiper motor parking position by wiper motor controller

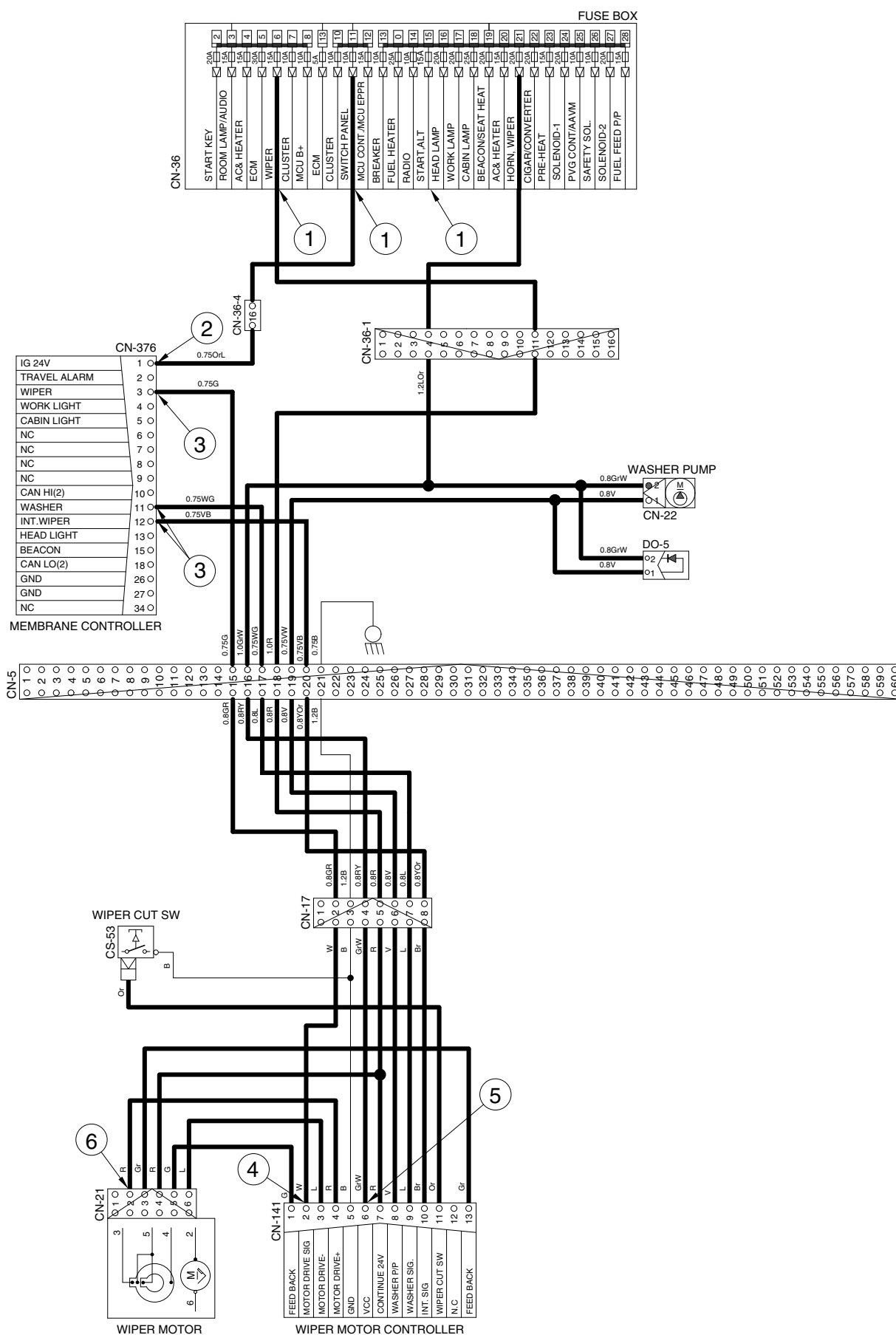
2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box)	24V
		② - GND (switch power input)	
		③ - GND (switch power output)	0 ~ 5V
		④ - GND (wiper power input)	
		⑤ - GND (wiper power output)	24V
		⑥ - GND (wiper motor)	0 or 24V

※ GND : Ground

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

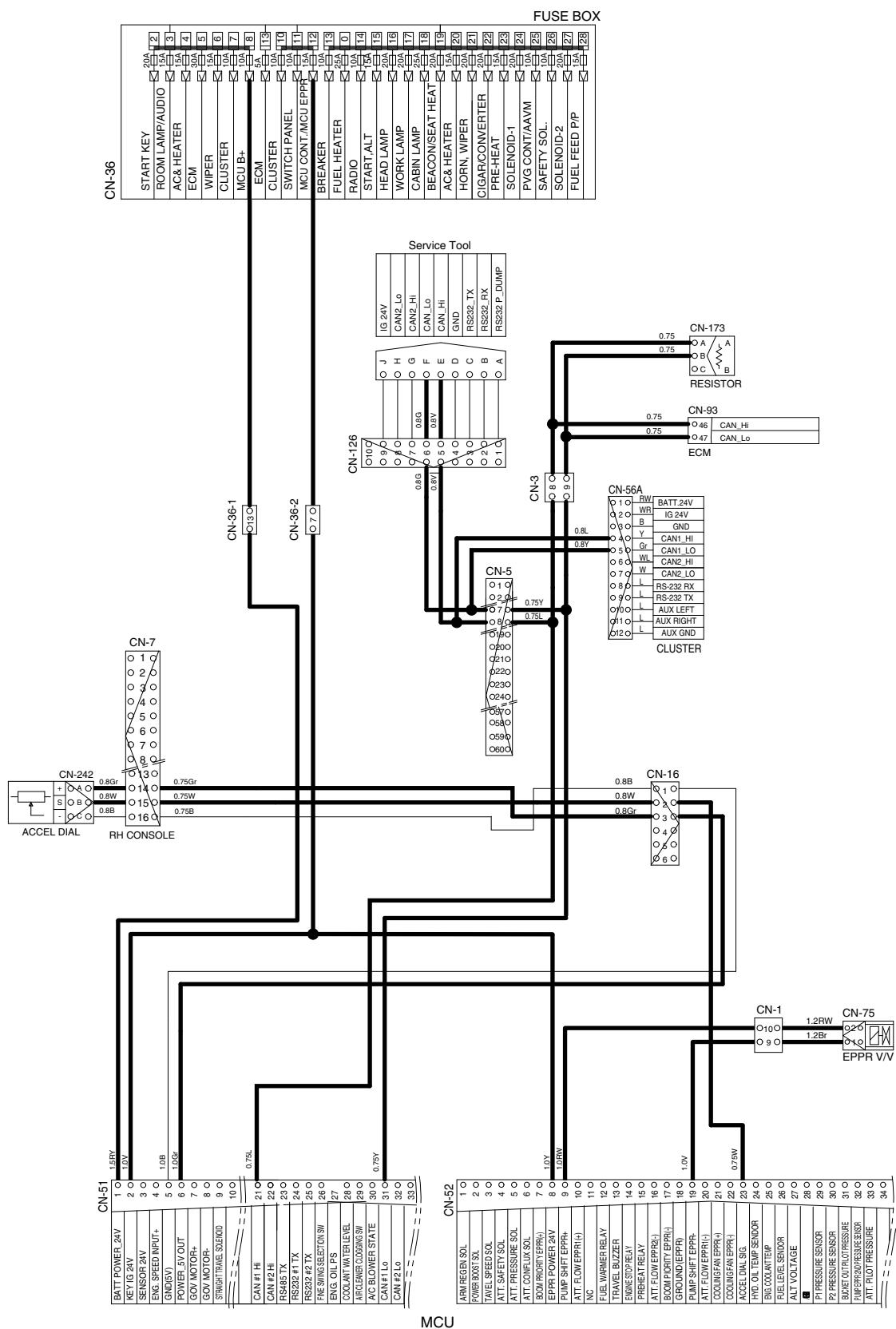
WIPER AND WASHER CIRCUIT



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CONTROLLER CIRCUIT

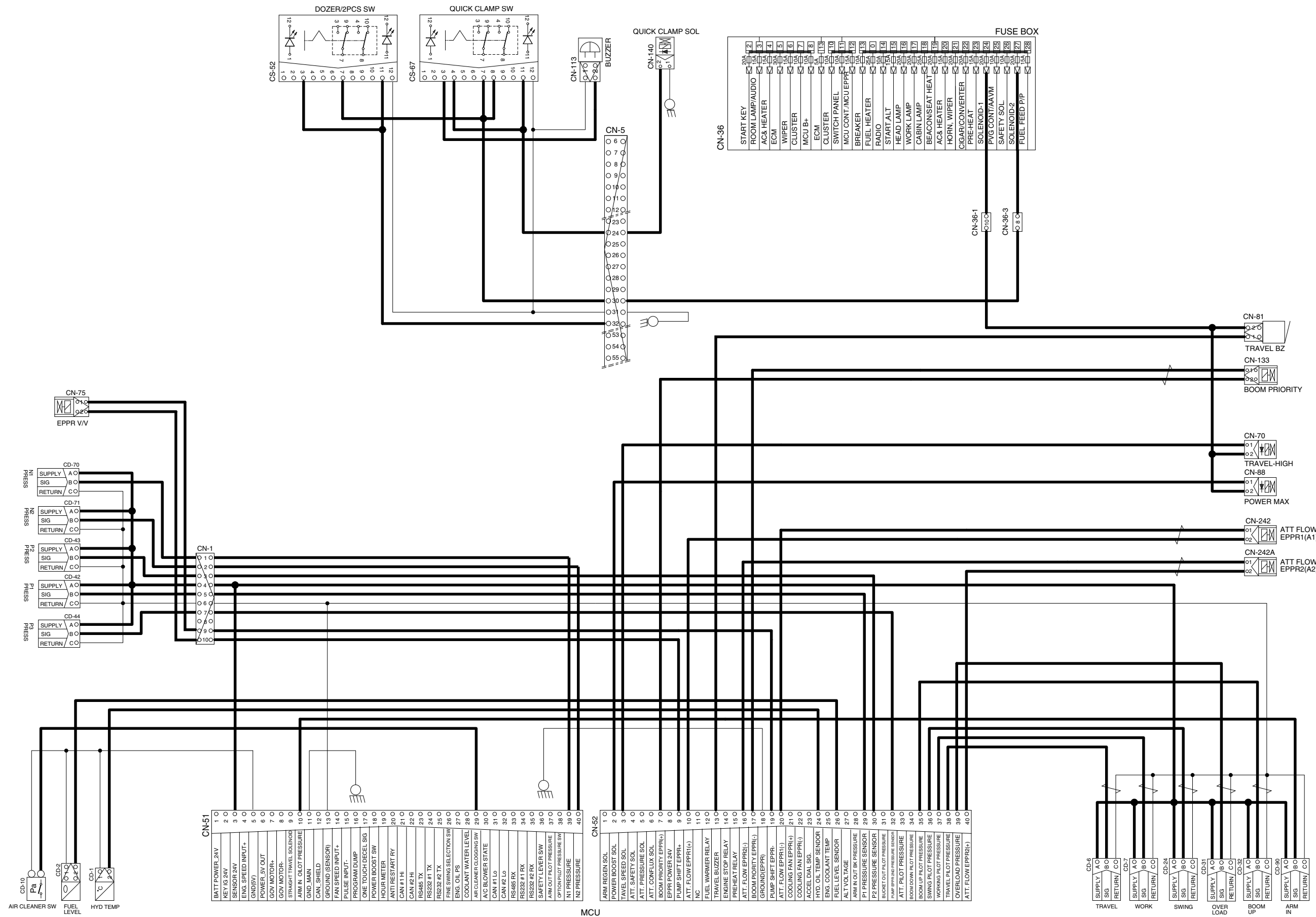


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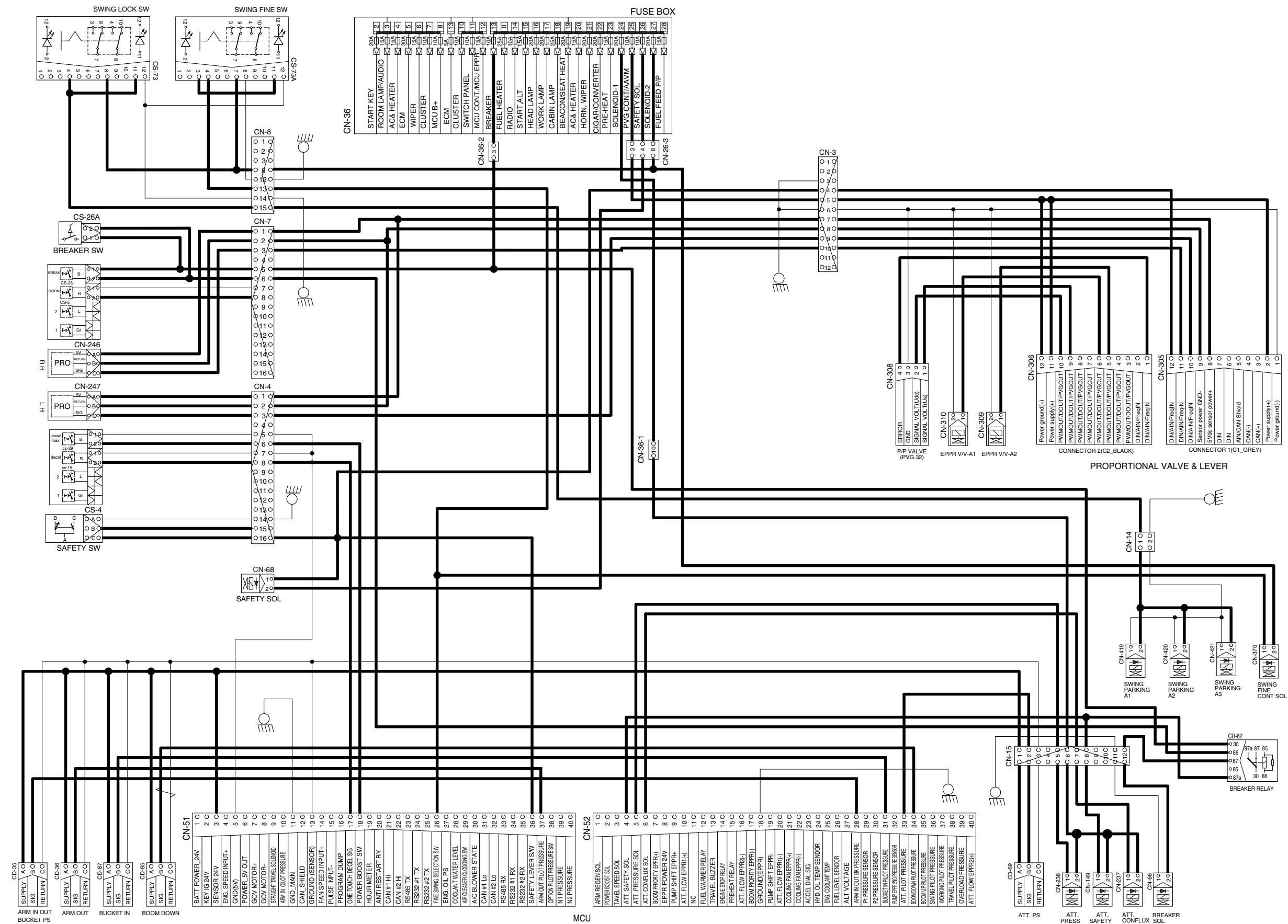
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ELECTRIC CIRCUIT FOR HYDRAULIC (1/2)



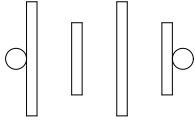
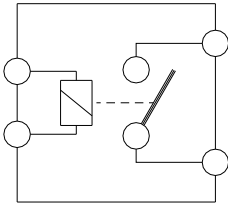
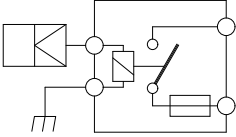
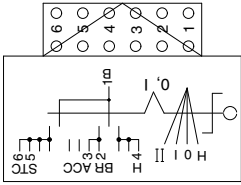
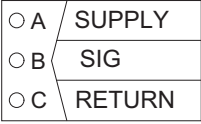
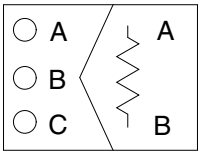
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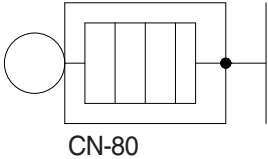
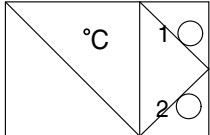
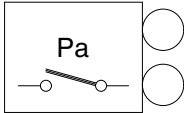
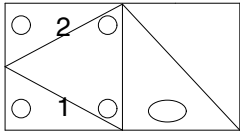
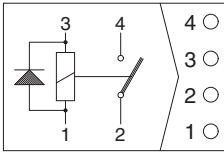
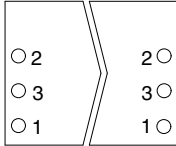
ELECTRIC CIRCUIT FOR HYDRAULIC (2/2)

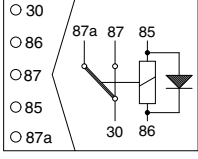
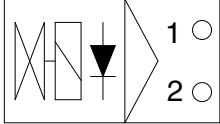
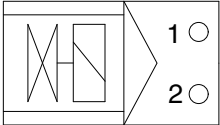
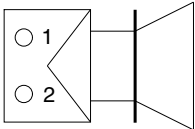
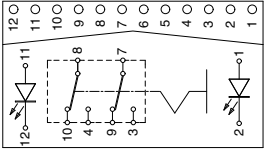
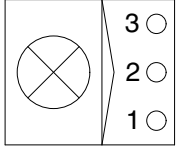


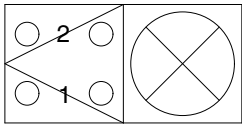
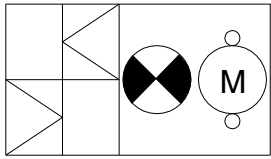
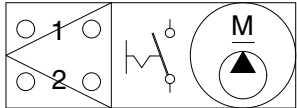
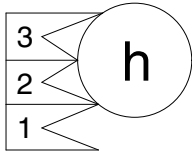
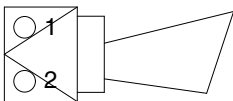
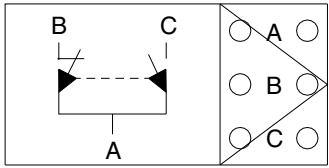
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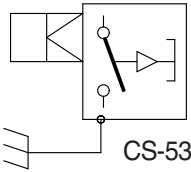
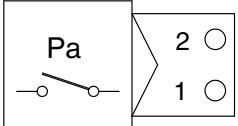
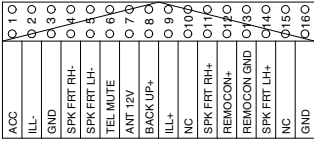
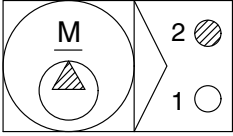
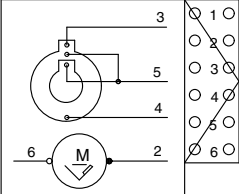
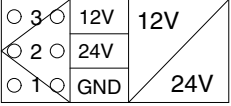
GROUP 3 ELECTRICAL COMPONENT SPECIFICATION

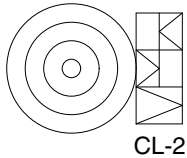
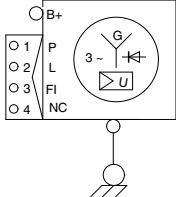
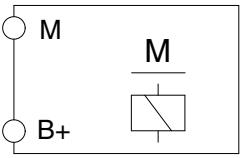
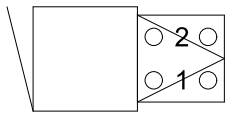
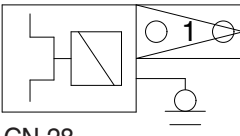
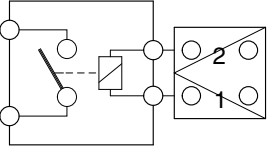
Part name	Symbol	Specifications	Check
Battery		12V × 100Ah (2EA)	※ Check specific gravity 1.280 over : Over charged 1.280 ~ 1.250 : Normal 1.250 below : Recharging
Battery relay	 CR-1	Rated load : 24V 100A (continuity) 1000A (30seconds)	※ Check coil resistance(M4 to M4) Normal : About 50Ω ※ Check contact Normal : ∞Ω
Glow plug relay	 CR-24	24V 200A	※ Check contact Normal : 0.942Ω (For terminal 1-GND)
Start key	 CS-2A	B-BR : 24V 1A B-ACC : 24V 10A B-ST : 24V 40A	※ Check contact OFF : ∞Ω (for each terminal) ON : 0Ω (for terminal 1-3 and 1-2) START : 0Ω (for terminal 1-6)
Pressure sensor	 CD-6 CD-7 CD-24 CD-31 CD-32 CD-35 CD-36 CD-42 CD-43 CD-44 CD-69 CD-70 CD-71 CD-85 CD-87 CD-90	8~30V	※ Check contact Normal : 0.1Ω
Resistor	 CN-173	4W	※ Check resistance A-B : 120Ω

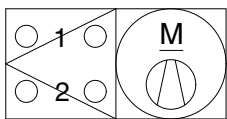
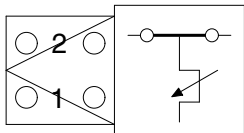
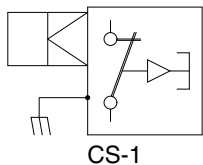
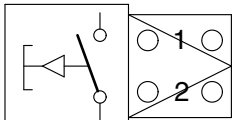
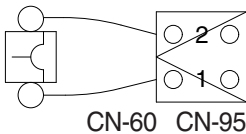
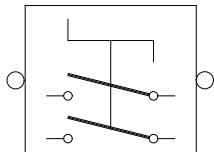
Part name	Symbol	Specifications	Check
Glow plug	 CN-80	24V 200A	※ Check resistance 0.25~0.12Ω
Temperature sensor (hydraulic)	 CD-1	-	※ Check resistance 50°C : 804Ω 80°C : 310Ω 100°C : 180Ω
Air cleaner pressure switch	 CD-10	N.O TYPE	※ Check contact High level : ∞Ω Low level : 0Ω
Fuel level sender	 CD-2	-	※ Check resistance Full : 50Ω 6/12 : 350Ω 11/12 : 100Ω 5/12 : 400Ω 10/12 : 150Ω 4/12 : 450Ω 9/12 : 200Ω 3/12 : 500Ω 8/12 : 250Ω 2/12 : 550Ω 7/12 : 300Ω 1/12 : 600Ω Empty warning : 700Ω
Relay (air con blower)	 CR-46	24V 20A	※ Check resistance Normal : About 200Ω (for terminal 1-3) ∞Ω (for terminal 2-4)
Service tool	 CR-406	-	-

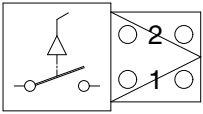
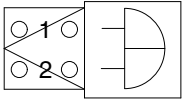
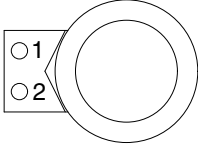
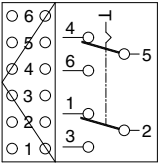
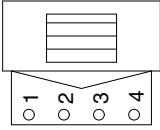
Part name	Symbol	Specifications	Check
Relay	 CR-2 CR-4 CR-5 CR-7 CR-9 CR-13 CR-35 CR-46 CR-62 CR-85	24V 16A	※ Check resistance Normal : About 160 Ω (for terminal 85-86) 0 Ω (for terminal 30-87a) ∞ Ω (for terminal 30-87)
Solenoid valve	 CN-66 CN-68 CN-70 CN-88 CN-135 CN-140 CN-149 CN-236 CN-237 CN-242 CN-242A CN-370 CN-397 CN-419 CN-420 CN-421	24V 1A	※ Check resistance Normal : 15~25 Ω (for terminal 1-2)
EPPR valve	 CN-75 CN-133 CN-309 CN-310	700mA	※ Check resistance Normal : 15~25 Ω (for terminal 1-2)
Speaker	 CN-23(LH) CN-24(RH)	20W	※ Check resistance Normal : A few Ω
Switch (locking type)	 CS-52 CS-67 CS-73 CS-73A	24V 1.5A	※ Check contact Normal ON : 0 Ω (for terminal 7-3, 8-4) ∞ Ω (for terminal 7-9, 8-10) OFF : ∞ Ω (for terminal 7-9, 8-10) 0 Ω (for terminal 7-3, 8-4)
Room lamp	 CL-1	24V 10W	※ Check disconnection Normal : 1.0 Ω ON : 0 Ω (For terminal 1-2) ∞ Ω (For terminal 1-3) OFF : ∞ Ω (For terminal 1-2) 0 Ω (For terminal 1-3)

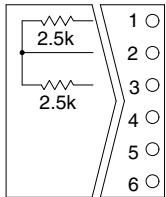
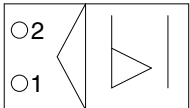
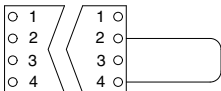
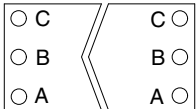
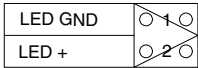
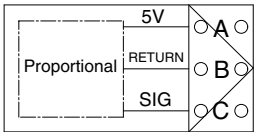
Part name	Symbol	Specifications	Check
Head lamp, Work lamp, Cab lamp	 CL-3 CL-4 CL-5 CL-6 CL-8 CL-9 CL-10	24V 65W (H3 Type)	※ Check disconnection Normal : 1.2Ω
Beacon lamp	 CL-7	21V 70W (H1 Type)	※ Check disconnection Normal : A few Ω
Fuel filler pump	 CN-61	24V 10A 35 ℓ /min	※ Check resistance Normal : 1.0Ω
Hour meter	 CN-48	16~32V	※ Check operation Supply power(24V) to terminal No.2 and connect terminal No.1 and ground
Horn	 CN-20 CN-25	DC22~28V 2A	※ Check operation Supply power(24V) to each terminal and connect ground.
Safety switch	 CS-4	24V 15A (N.C TYPE)	※ Check contact Normal : 0Ω (for terminal A-B) ∞Ω (for terminal A-C) Operating : ∞Ω (for terminal A-B) 0Ω (for terminal A-C)

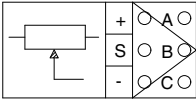
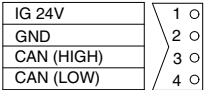
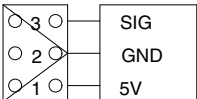
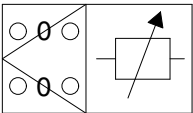
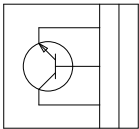
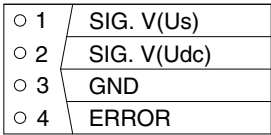
Part name	Symbol	Specifications	Check
Wiper cut switch	 CS-53	24V (N.O TYPE)	※ Check contact Normal : 0Ω (one pin to ground)
Receiver dryer	 CN-29	24V 2.5A	※ Check contact Normal : ∞Ω
Radio & USB player	 CN-27	24V 2A	※ Check voltage 20~25V (for terminal 1-3, 3-8)
Washer pump	 CN-22	24V 3.8A	※ Check contact Normal : 10.7Ω (for terminal 1-2)
Wiper motor	 CN-21	24V 2A	※ Check disconnection Normal : 7Ω (for terminal 2-6)
DC/DC converter	 CN-138	12V 3A	※ Check voltage 24V (for terminal 1-2) 12V (for terminal 1-3)

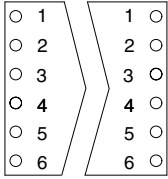
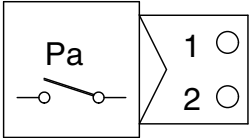
Part name	Symbol	Specifications	Check
Cigar lighter	 CL-2	24V 5A 1.4W	※ Check coil resistance Normal : About 1M Ω ※ Check contact Normal : $\infty \Omega$ Operating time : 5~15sec
Alternator	 CN-74	24V 70A	※ Check contact Normal : 0 Ω (for terminal B ⁺ -2) Normal : 24~27.5V
Starter	 CN-45	24V 4.8kW	※ Check contact Normal : 0.1 Ω
Travel alarm	 CN-81	24V 0.5A	※ Check contact Normal : 5.2 Ω
Air conditioner compressor	 CN-28	24V 79W	※ Check contact Normal : 13.4 Ω
Start relay	 CR-23	24V 300A	※ Check contact Normal : 0.94 Ω (for terminal 1-2)

Part name	Symbol	Specifications	Check
Air conditioner blower motor		24V 9.5A	※ Check resistance Normal : 2.5Ω (for terminal 1-2)
Air conditioner duct sensor (switch)		1°C OFF 4°C ON	※ Check resistance Normal : 0Ω (for terminal 1-2), the atmosphere temp : Over 4°C
Door switch		24V 2W	※ Check resistance Normal : About 5MΩ
Switch (power max, one touch decel, horn, breaker)	 CS-5 CS-19 CS-26 CS-29	24V 6A	※ Check resistance Normal : ∞Ω
Circuit breaker	 CN-60 CN-95	60A (CN-60) 90A (CN-95)	※ Check disconnection Normal : 0Ω (connect ring terminal and check resist between terminal 1 and 2)
Master switch	 CS-74	6-36V	※ Check disconnection Normal : 0.1Ω

Part name	Symbol	Specifications	Check
Breaker switch	 CS-26A	-	-
Quick clamp buzzer	 CN-113	24V 200mA 107±4dB	-
Socket	 CN-139	12V 10A	-
Emergency stop switch	 CS-33	-	※ Check contact Normal 0Ω (for terminal 1-2)
Resistor	 RS-1	5W 300Ω	※ Check resistance 1-2 : 300Ω
Fuel heater	 CN-96	-	-

Part name	Symbol	Specifications	Check
Emergency eng control connector	 CN-16B	-	-
WIF sensor	 CD-45	-	-
GPS connector	 CN-125	-	-
Service tool	 CN-307	-	-
Accel dial lamp	 CN-267	-	-
Proportional valve sensor	 CN-246 CN-247	-	-

Part name	Symbol	Specifications	Check
Accel dial	 CN-242	-	-
Reader	 CN-427	-	-
Button switch	 CN-641	-	-
Air conditioner temperature sensor (incar, ambient, water)		-	-
Air conditioner power TR		-	-
Proportional valve sensor	 CN-308	-	-

Part name	Symbol	Specifications	Check
Camera	 CN-249	-	-
Dozer pressure sw	 CD-50	-	-

GROUP 4 CONNECTORS

1. CONNECTOR DESTINATION

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	TYCO/AMP	10	I/conn (Frame harness-Pump ps harness)	174982-2	S816-110002
CN-2	AMP	12	I/conn (Frame harness-Engine harness)	S816-012002	S816-112002
CN-3	TYCO	12	I/conn (Frame harness-Pro vlv harness)	174661-2	368537-1
CN-3	AMP	15	I/conn (Frame harness-Engine harness)	1897009-2	368301-1
CN-4	AMP/TYCO	16	I/conn (Console harness LH-Frame harness)	368047-1	368050-1
CN-5	DEUTSCH	60	I/conn (Side harness RH-Frame harness)	DRB16-60SAE-L018	DRB14-60PAE-L018
CN-7	AMP/TYCO	16	I/conn (Console harness RH-Frame harness)	368047-1	368050-1
CN-8	AMP/TYCO	15	I/conn (Console harness LH-Frame harness)	2-85262-1	368301-1
CN-9	DEUTSCH	12	I/conn (Frame harness-AAVM harness)	DT06-12SA-EP06	DT04-12PA-BE02
CN-10	TYCO	12	I/conn (Cab harness-Side harness RH)	368542-1	368507-1
CN-10A	DEUTSCH	6	Front camera	DT06-6S	DT04-6P
CN-11	DEUTSCH	8	I/conn (Frame harness-Aircon harness)	DT06-8S	-
CN-12	DEUTSCH	2	I/conn (Frame harness-Boom wire harness)	DT06-2S-EP06	DT04-2P-E005
CN-14	DEUTSCH	2	I/conn (Frame harness-Swing parking harness)	DT06-2S-EP06	DT04-2P-E005
CN-15	AMP	12	I/conn (Frame harness-2 Way harness)	174661-2	368537-1
CN-16	AMP	6	Emergency engine start & speed control	-	S816-106002
CN-16A	AMP	6	Emergency engine start & speed control	S816-006002	-
CN-16B	AMP	6	Emergency engine start & speed control	S816-006002	-
CN-17	DEUTSCH	8	I/conn (Side harness RH-Wiper harness)	DT06-8S-EP06	DT04-8P
CN-20	MOLEX	2	Horn	36812-0211	-
CN-21	AMP	6	Wiper motor	925276-0	-
CN-21A	AMP	6	Wiper motor	S816-006202	-
CN-22	KET	2	Washer tank	MG640605	-
CN-23	KET	2	Speaker-LH	MG610070	-
CN-24	KET	2	Speaker-RH	MG610070	-
CN-25	MOLEX	2	Horn	36812-0211	-
CN-27	KUM	16	Radio & USB player	PK145-16017	-
CN-27A	AMP	8	Remote assy	-	S816-108002
CN-28	KUM	1	Aircon compressor	NMWP01F-B	-
CN-29	KET	2	Receiver dryer	MG640795	-
CN-36-1	-	16	Fuse box	368047-1	-
CN-36-2	KET	8	I/conn (Frame harness-Fuse box)	MG610051	-
CN-36-3	-	26	I/conn (Frame harness-Fuse box)	1897009-2	-
CN-36-4	KET	2	I/conn (Frame harness-Fuse box)	MG610557-5	-
CN-45	RING-TERM	-	Starter motor B ⁺	S820-108000	-
CN-48	-	3	Hour meter	-	-

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-51	DEUTSCH	40	MCU	DRC26-40SA	-
CN-52	DEUTSCH	40	MCU	DRC26-40SB	-
CN-56A	AMP	12	Cluster	-	174663-2
CN-56B	AMP	8	Cluster	-	174984-2
CN-60	YAZAKI	2	Circuit breaker	-	7122-4125-50
CN-61	DEUTSCH	2	Fuel filler pump	DT06-2S-EP06	DT04-2P-E005
CN-66	DEUTSCH	2	Breaker solenoid	DT06-2S-EP06	-
CN-68	DEUTSCH	2	Safety solenoid	DT06-2S-EP06	-
CN-70	DEUTSCH	2	Travel high solenoid	DT06-2S-EP06	-
CN-74	RING-TERM	1	Alternator "B" terminal	-	S820-108000
CN-74	-	4	Alternator terminal	1218-6568	-
CN-75	AMP	2	Pump EPPR	S816-002002	-
CN-80	RING-TERM	-	Glow plug	S820-306000	-
CN-81	DEUTSCH	2	Travel buzzer solenoid	DT06-2S-EP06	DT04-2P-E005
CN-88	DEUTSCH	2	Power max solenoid	DT06-2S-EP06	-
CN-93	DEUTSCH	50	ECM	DRC26-50S-04	-
CN-94	DEUTSCH	4	ECM	DTP06-4S-EP06	-
CN-95	YAZAKI	2	Circuit breaker	-	S813-130201
CN-96	BUCHON/AMP	4	I/conn (Frame harness-fuel warmer harness)	2-967325-3	2-967402-2
CN-96A	AMP	3	Fuel warmer	368523-1	-
CN-96B	AMP	4	Fuel warmer	2-967325-2	-
CN-113	KET	2	Buzzer	MG651205-5	-
CN-125	Econoseal J	4	GPS connector	S816-004002	S816-104002
CN-125A	DEUTSCH	12	RMS	DT06-12S-EP06	DT04-12P
CN-126	AMP	10	I/conn (Frame harness-Sevice tool harness)	S816-010002	S816-110002
CN-133	DEUTSCH	2	Boom priority solenoid	DT06-2S-EP06	-
CN-135	DEUTSCH	2	Arm regeneration solenoid	DT06-2S-EP06	-
CN-138	FASTEN	3	DC/DC converter	S810-003202	-
CN-139	FASTEN	2	12V socket	172434-2	-
CN-140	DEUTSCH	2	Quick clamp solenoid	DT06-2S-EP06	DT04-2P-E005
CN-141	AMP	13	Wiper motor controller	172498-1	-
CN-142	DEUTSCH	3	Accel dial switch	DT06-3S-EP06	-
CN-144A	KET	20	Handsfree	MG610240	-
CN-144E	-	8	Handsfree	175964-2	-
CN-149	DEUTSCH	2	Attach safety solenoid (A1)	DT06-2S-EP06	-
CN-156	TE	2	Air seat heat	187907-0	-
CN-173	DEUTSCH	3	Resistor	DT06-3S-EP06	-
CN-231	DEUTSCH	3	I/conn (Frame harness-fuse box)	S813-030201	-
CN-236	DEUTSCH	3	Attach pressure solenoid	DT06-2S-EP06	-

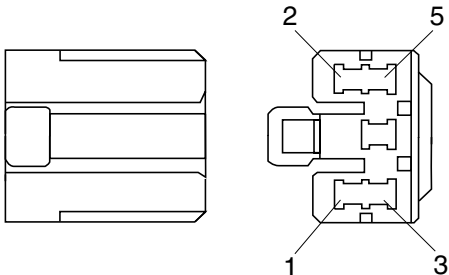
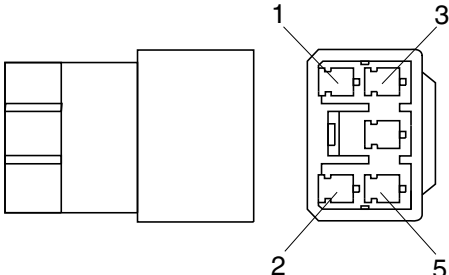
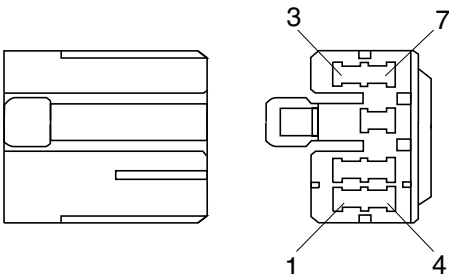
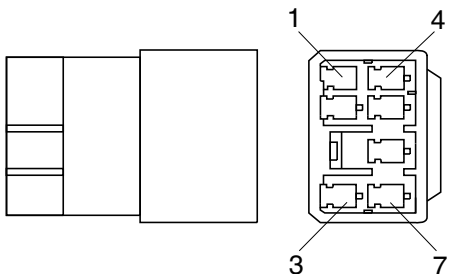
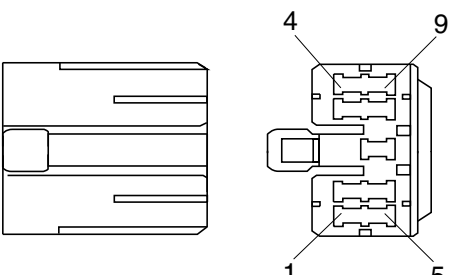
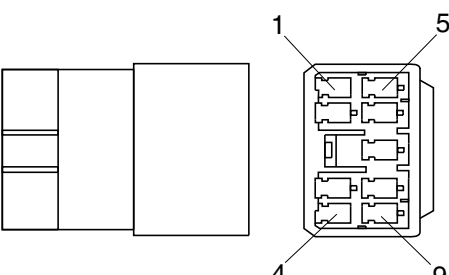
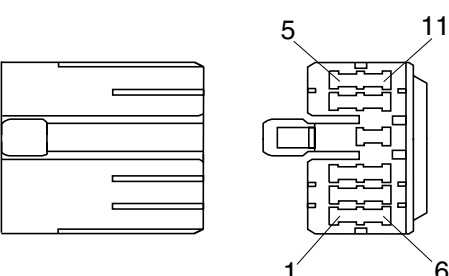
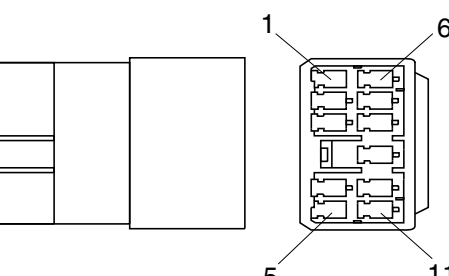
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-237	DEUTSCH	2	Attach conflux solenoid (A3)	DT06-2S-EP06	-
CN-242	DEUTSCH	2	Attach flow EPPR 1	DT06-2S-EP06	-
CN-242A	DEUTSCH	2	Attach flow EPPR 2	DT06-2S-EP06	-
CN-245A	AMP	12	Remote controller assy	368542-1	-
CN-245E	AMP	12	Remote controller assy	174045-2	-
CN-246	DEUTSCH	3	Proportional valve-RH	DT06-3S-EP06	DT04-3P-E005
CN-247	DEUTSCH	3	Proportional valve-LH	DT06-3S	DT04-3P
CN-249	DEUTSCH	6	Rear view camera	DT06-6S-P012	DT04-6P
CN-267	AMP	2	Accel dial LED	S816-002002	-
CN-305	DEUTSCH	12	Proportional-connector 1	DTM06-12SA	-
CN-306	DEUTSCH	12	Proportional-connector 2	DTM06-12SB	-
CN-307	DEUTSCH	3	Service tool	DT06-3S-EP06	DT06-3P-E005
CN-308	AMP	4	Proportional-PVG32	2-967059-1	-
CN-309	DEUTSCH	2	Proportional-EPPR valve-A1	DT06-2S-EP06	-
CN-310	DEUTSCH	2	Proportional-EPPR valve-A2	DT06-2S-EP06	-
CN-366	DEUTSCH	2	Swing fine harness	DT06-2S-EP06	DT04-2P-E005
CN-370	DEUTSCH	2	Swing fine harness	DT06-2S-EP06	DT04-2P-E005
CN-376	AMP	34	Relay drive unit	4-1437290-1	-
CN-397	DEUTSCH	2	Straight travel solenoid	DT06-2S-EP06	DT04-2P-E005
CN-401	TE	35	AAVM controller	776164-1	-
CN-403	DEUTSCH	6	Rear view camera	-	DT04-6P-E005
CN-404	DEUTSCH	6	LH view camera	-	DT04-6P-E005
CN-405	DEUTSCH	6	RH view camera	-	DT04-6P-E005
CN-406	DEUTSCH	4	RS 232	DT06-4S-EP06	DT04-4P-E005
CN-419	DEUTSCH	2	Swing parking-A1	DT06-2S-EP06	-
CN-420	DEUTSCH	2	Swing parking-A2	DT06-2S-EP06	-
CN-421	DEUTSCH	2	Swing parking-A3	DT06-2S-EP06	-
CN-427	MOLEX	4	Reader-RMS	039012040	026013096
WIF	DEUTSCH	2	Wif	-	DT04-2P-E005
· Relay					
CR-1	RING-TERM	-	Battery relay coll	ST710289-2	-
CR-2	-	5	Horn relay	-	-
CR-4	-	5	Working lamp relay	8JA 003 526-001	-
CR-5	-	5	Anti restart relay	-	-
CR-7	-	5	Aircon compressor relay	-	-
CR-9	-	5	Cabin lamp relay	8JA 003 526-001	-
CR-13	-	5	Head lamp relay	8JA 003 526-001	-
CR-23	KET	2	Start relay	S814-002001	S814-102001
CR-24	RING TERM	1	Preheat relay	S822-014000	-

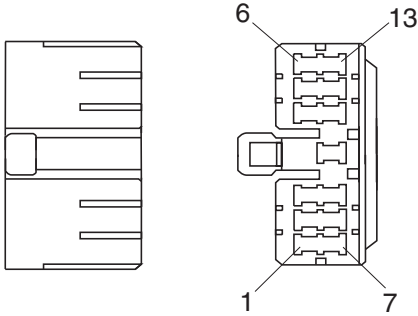
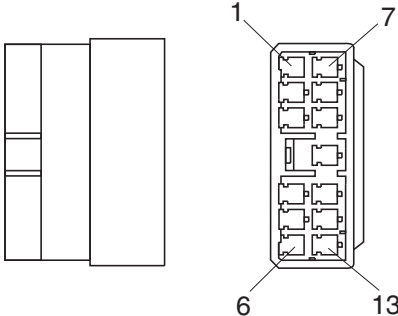
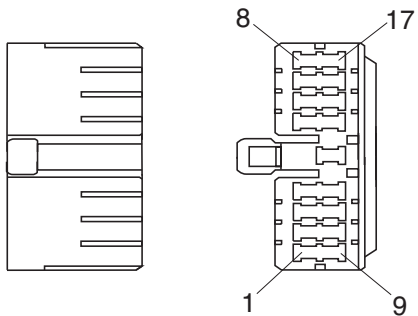
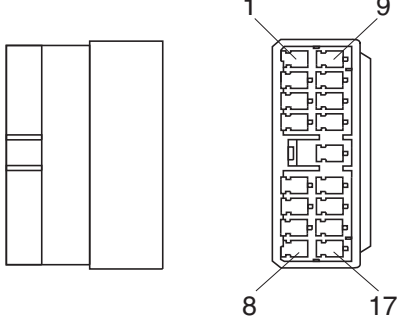
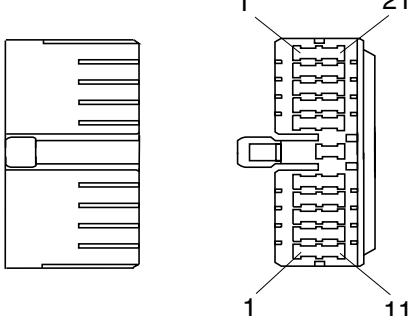
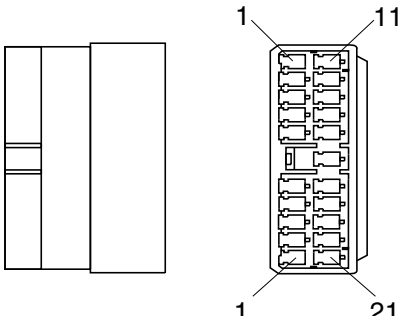
Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CR-35	-	5	Power relay	-	-
CR-36	-	5	Air preheat relay	-	-
CR-46	-	5	Fuel warmer relay	8JA 003 526-001	-
CR-62	-	5	Breaker relay	8JA 003 526-001	-
CR-85	-	5	Beacon lamp relay	8JA 003 526-001	-
· Switch					
CS-1	SHUR	1	Door switch	S822-014002	-
CS-2A	WP	6	Start switch	S814-006100	-
CS-02B	DEUTSCH	3	Start button	DT06-3S-EP06	DT04-3P-E005
CS-4	AMP	3	Safety switch	S816-003002	-
CS-5	DEUTSCH	2	Horn switch	-	DT04-2P-E005
CS-19	DEUTSCH	2	One touch decel switch	-	DT04-2P-E005
CS-26	DEUTSCH	2	Breaker switch	DT06-2S-EP06	-
CS-26A	AMP	2	Breaker pedal switch	S816-002002	S816-102002
CS-29	DEUTSCH	2	Power max switch	DT06-2S-EP06	-
CS-33	AMP	6	Emergency engine stop switch	S816-006002	S816-106002
CS-52	SWF	12	Dozer & 2 pcs switch	SWF589790	-
CS-53	AMP	1	Wiper cut switch	S822-014002	-
CS-67	SWF	12	Quick clamp switch	SWF589790	-
CS-73	SWF	12	Swing lock & fine switch	SWF589790	-
CS-73A	SWF	12	Swing fine switch	SWF589790	-
CS-74A	AMP	2	Master switch	S813-030201	S813-130201
CS-74B	AMP	2	Master switch	S813-030201	S813-130201
· Light					
CL-1	KET	3	Room lamp	MG651032	-
CL-2	AMP	1	Cigar lighter	S822-014002	S822-114002
CL-3	DEUTSCH	2	Head lamp-LH	DT06-2S-EP06	-
CL-4	DEUTSCH	2	Head lamp-RH	DT06-2S-EP06	-
CL-5	DEUTSCH	2	Work lamp-LH	DT06-2S-EP06	-
CL-6	DEUTSCH	2	Work lamp-RH	DT06-2S-EP06	-
CL-7	SHUR	1	Beacon lamp	S822-014002	S822-114002
CL-8	DEUTSCH	2	Cab light-LH	DT06-2S	DT04-2P
CL-9	DEUTSCH	2	Cab light-RH	DT06-2S-EP06	DT04-2P
CL-10	DEUTSCH	2	Cab light- rear	DT06-2S-EP06	DT04-2P
· Sensor, sendor					
CD-1	AMP	2	Hydraulic oil temp sender	85202-1	-
CD-2	DEUTSCH	2	Fuel level sender	DT06-2S-EP06	-
CD-6	DEUTSCH	3	Travel pressure switch	DT06-3S-EP06	-
CD-7	DEUTSCH	3	Working pressure switch	DT06-3S-EP06	-

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CD-10	TYCO	2	Air cleaner switch	85202-1	-
CD-24	DEUTSCH	3	Swing pressure sensor	DT06-3S-EP06	-
CD-31	DEUTSCH	3	Overload pressure sensor	DT06-3S-EP06	DT04-3P-E004
CD-32	DEUTSCH	3	Boom up pressure sensor	DT06-3S-EP06	-
CD-35	DEUTSCH	3	Arm in/out, bucket in pressure sensor	DT06-3S-EP06	-
CD-36	DEUTSCH	3	Arm out pressure sensor	DT06-3S-EP06	-
CD-42	DEUTSCH	3	Pump pressure sensor P1	DT06-3S-EP06	-
CD-43	DEUTSCH	3	Pump pressure sensor P2	DT06-3S-EP06	-
CD-44	DEUTSCH	3	Pump pressure sensor P3	DT06-3S-EP06	-
CD-45	DEUTSCH	2	WIF sensor	DT06-2S-EP06	-
CD-50	KET/BUCHHEON	2	Dozer pressure sensor	MG640795	BS 2.36
CD-69	DEUTSCH	3	Attach pressure sensor	DT06-3S-EP06	-
CD-70	DEUTSCH	3	N1 pressure sensor	DT06-3S-EP06	-
CD-71	DEUTSCH	3	N2 pressure sensor	DT06-3S-EP06	-
CD-85	DEUTSCH	3	Boom down pressure sensor	DT06-3S-EP06	-
CD-87	DEUTSCH	3	Bucket in pressure sensor	DT06-3S-EP06	-
CD-90	DEUTSCH	3	Arm in pressure sensor	DT06-3S-EP06	-

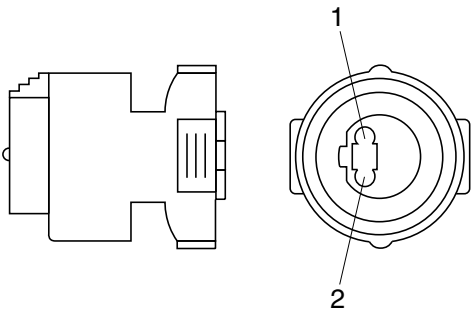
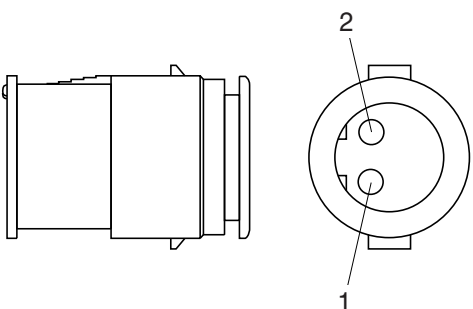
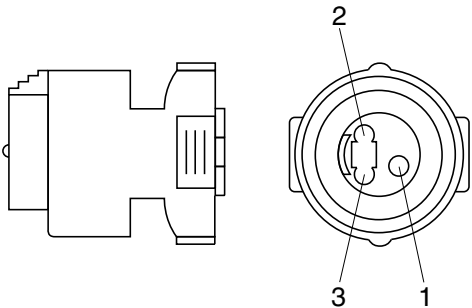
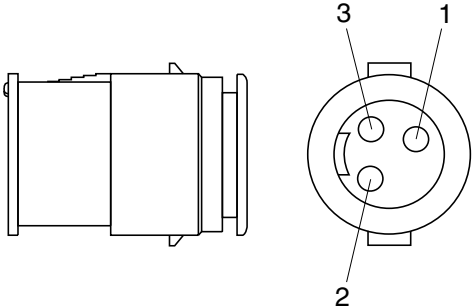
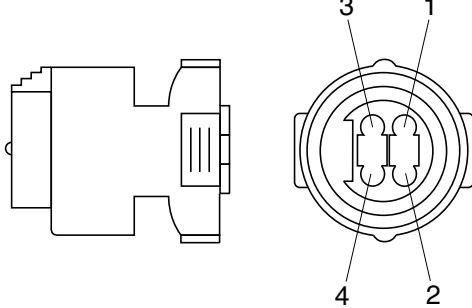
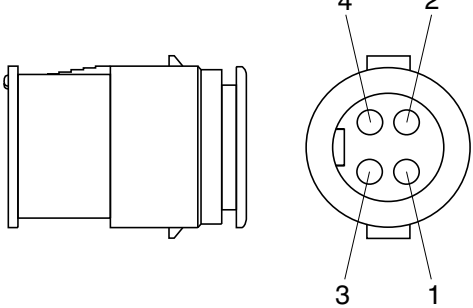
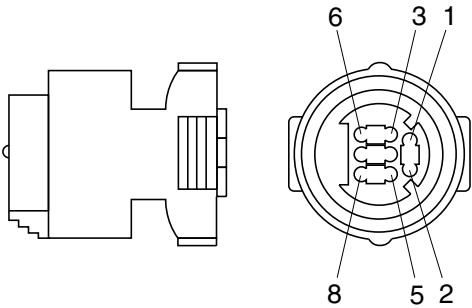
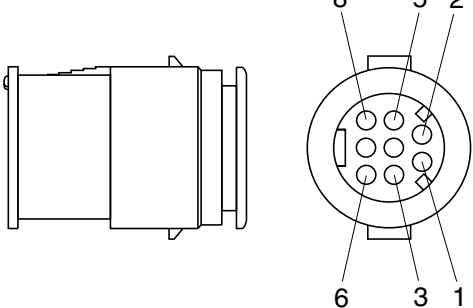
2. CONNECTION TABLE FOR CONNECTORS

1) PA TYPE CONNECTOR

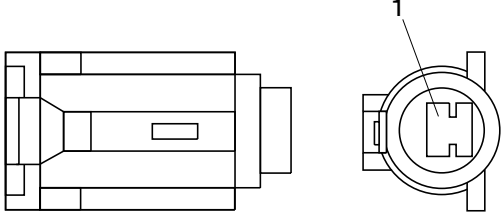
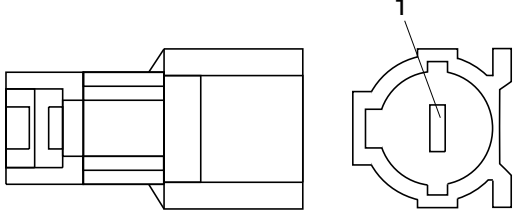
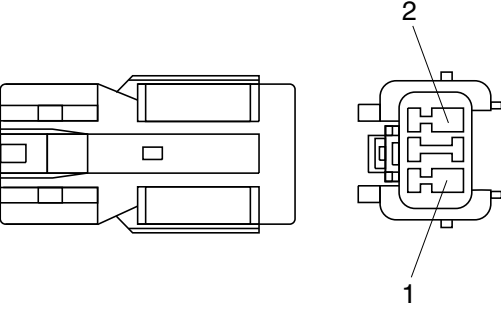
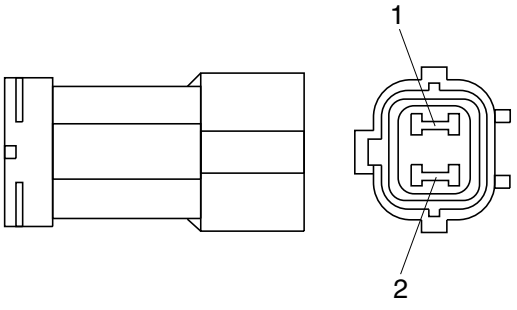
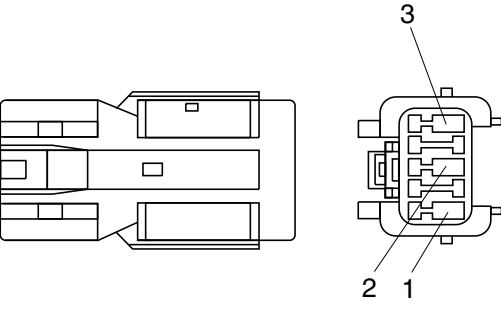
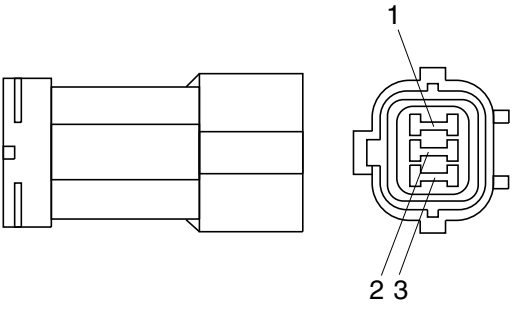
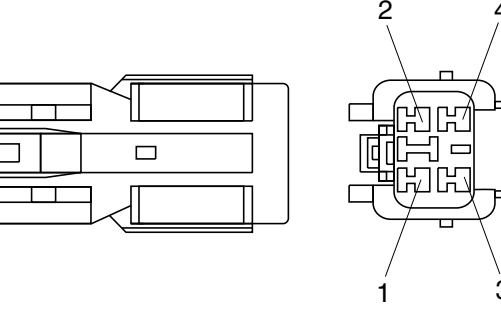
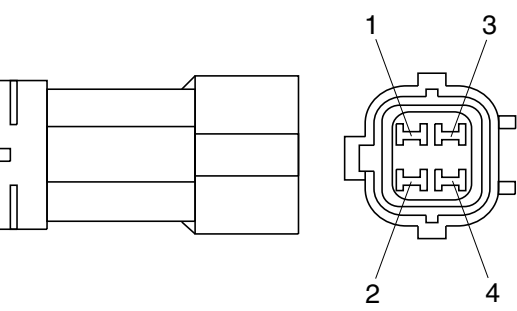
No. of pin	Receptacle connector (female)	Plug connector (male)
5	 S811-005002	 S811-105002
7	 S811-007002	 S811-107002
9	 S811-009002	 3S811-109002
11	 S811-011002	 S811-111002

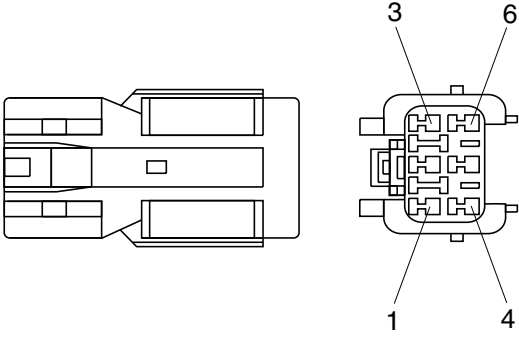
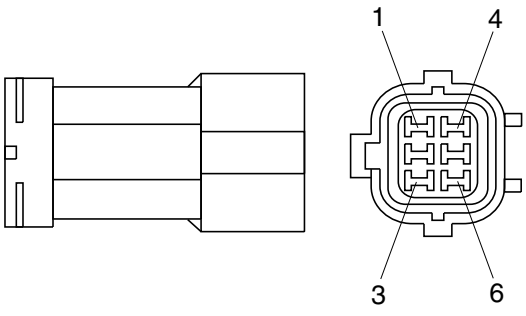
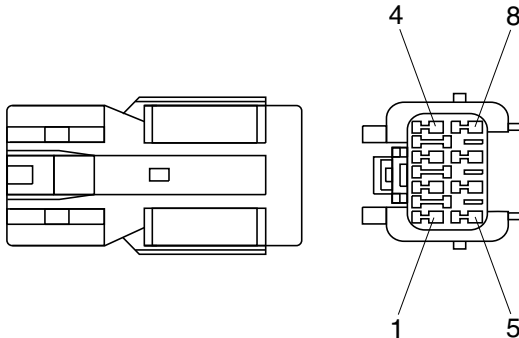
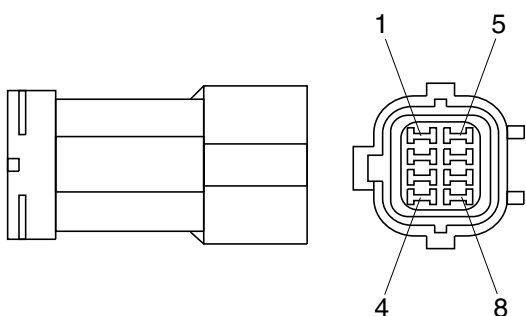
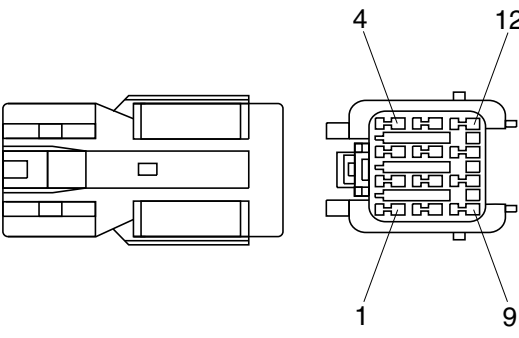
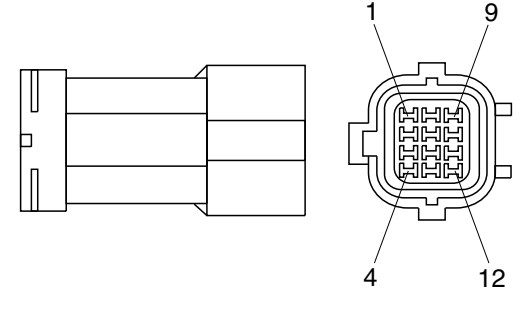
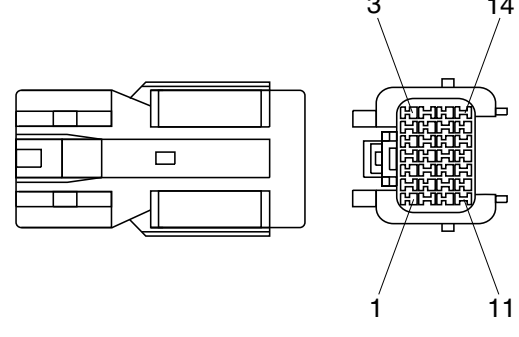
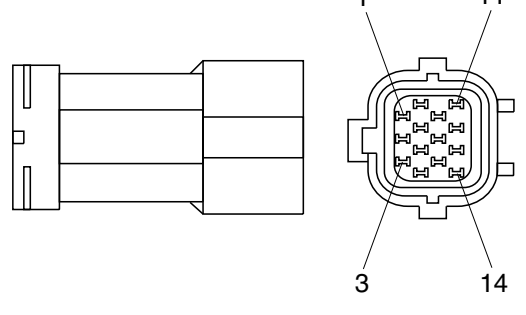
No. of pin	Receptacle connector (female)	Plug connector (male)
13	 S811-013002	 S811-113002
17	 S811-017002	 S811-117002
21	 S811-021002	 S811-121002

2) J TYPE CONNECTOR

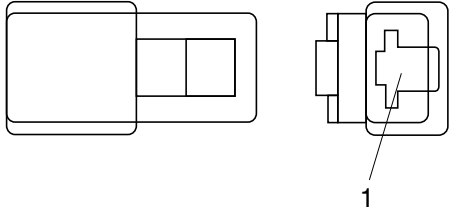
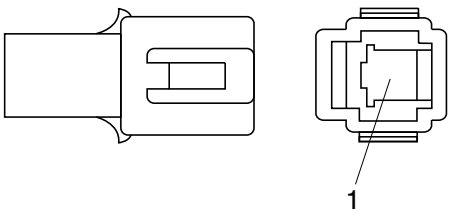
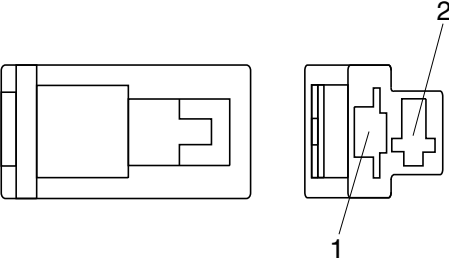
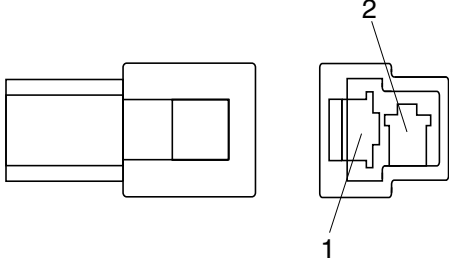
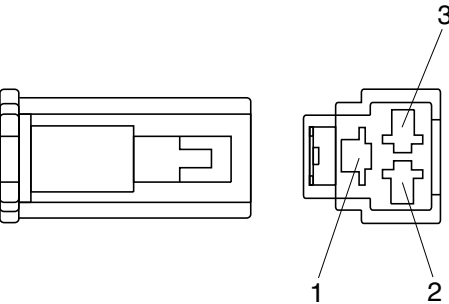
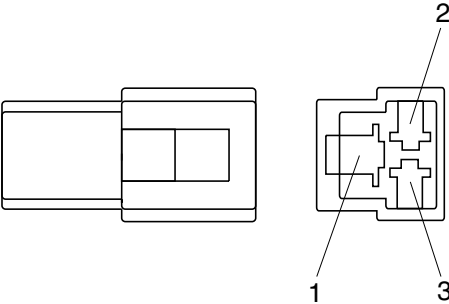
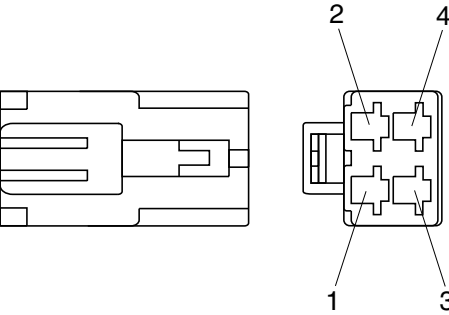
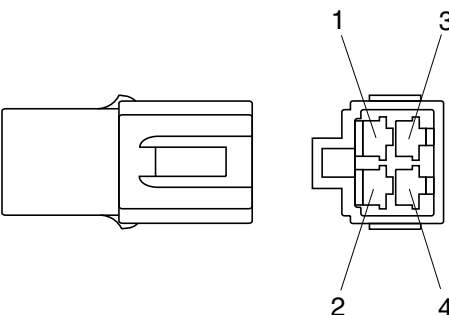
No. of pin	Receptacle connector (female)	Plug connector (male)
2	 S816-002001	 S816-102001
3	 S816-003001	 S816-103001
4	 S816-004001	 S816-104001
8	 S816-008001	 S816-108001

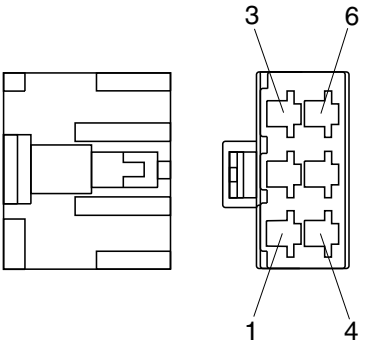
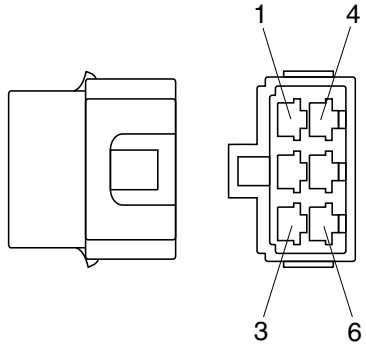
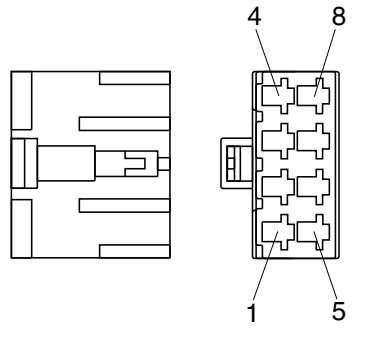
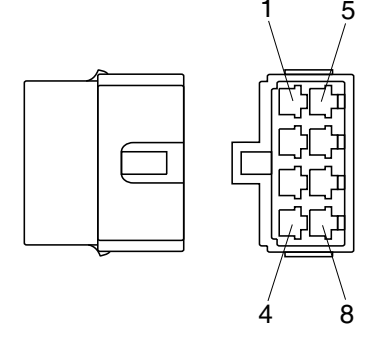
3) SWP TYPE CONNECTOR

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

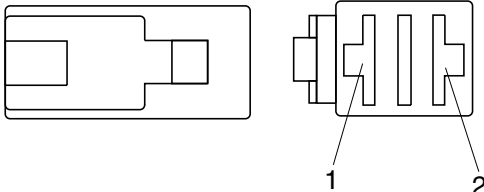
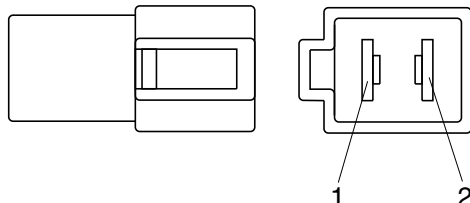
No. of pin	Receptacle connector (female)	Plug connector (male)
6	 S814-006000	 S814-106000
8	 S814-008000	 S814-108000
12	 S814-012000	 S814-112000
14	 S814-014000	 S814-114000

4) CN TYPE CONNECTOR

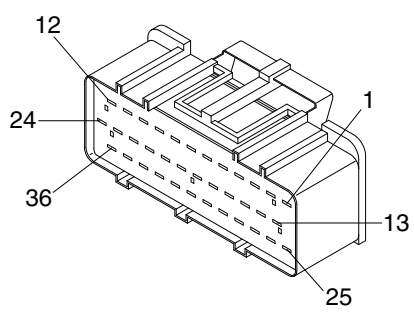
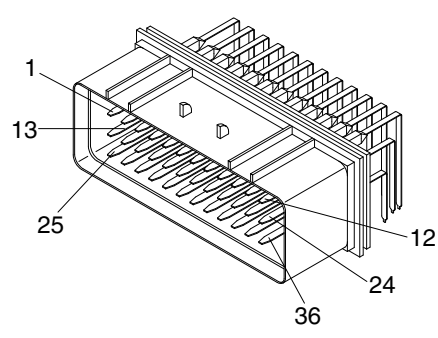
No. of pin	Receptacle connector (female)	Plug connector (male)
1	 S810-001202	 S810-101202
2	 S810-002202	 S810-102202
3	 S810-003202	 S810-103202
4	 S810-004202	 S810-104202

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

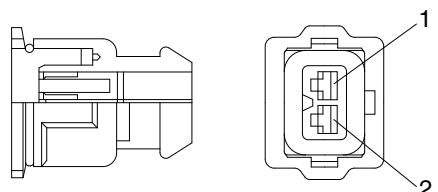
5) 375 FASTEN TYPE CONNECTOR

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

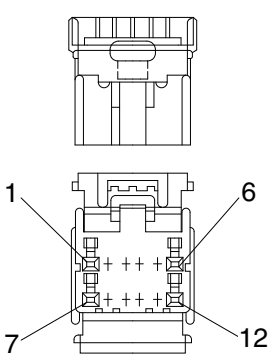
6) AMP ECONOSEAL CONNECTOR

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

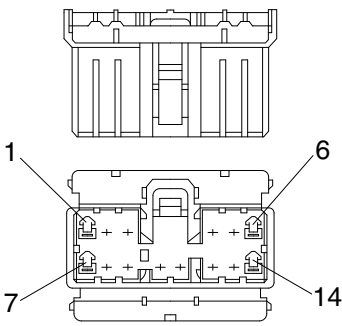
7) AMP TIMER CONNECTOR

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

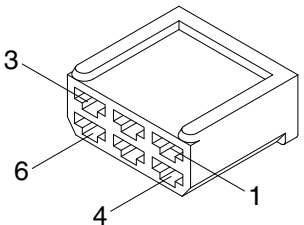
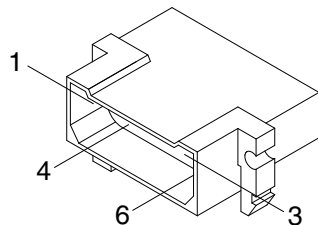
8) AMP 040 MULTILOCK CONNECTOR

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

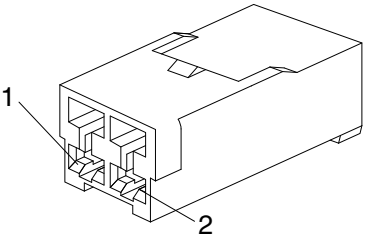
9) AMP 070 MULTILOCK CONNECTOR

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

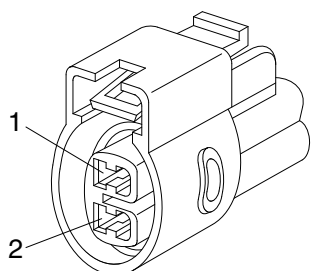
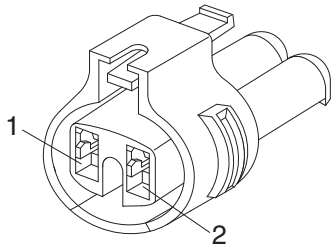
10) AMP FASTIN - FASTON CONNECTOR

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

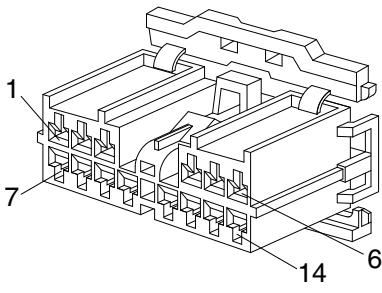
11) KET 090 CONNECTOR

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

12) KET 090 WP CONNECTORS

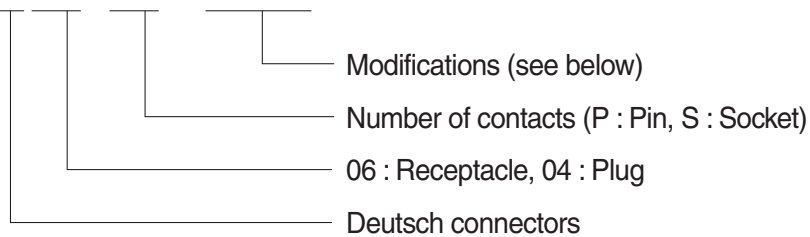
No. of pin	Receptacle connector (female)	Plug connector (male)
2	 MG640605	
2	 MG640795	

13) KET SDL CONNECTOR

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

14) DEUTSCH DT CONNECTORS

DT 06 - 3S - ★★☆☆



※ Modification

E003 : Standard end cap - gray

E004 : Color of connector to be black

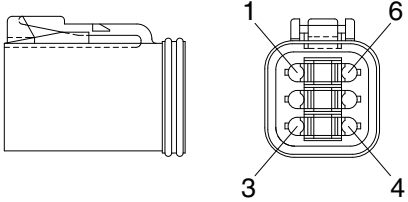
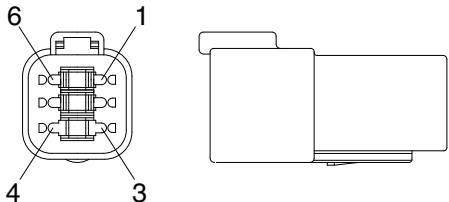
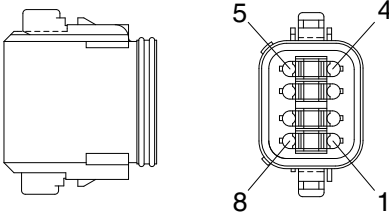
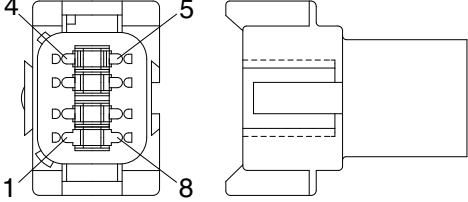
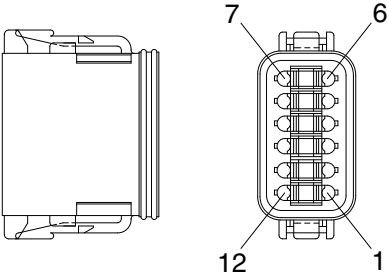
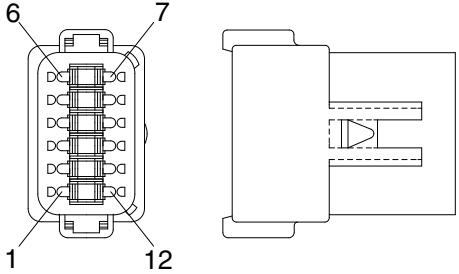
E005 : Combination - E004 & E003

EP04 : End cap

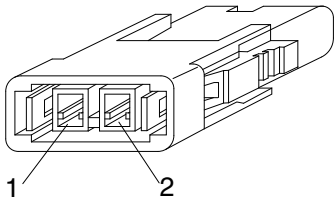
EP06 : Combination P012 & EP04

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

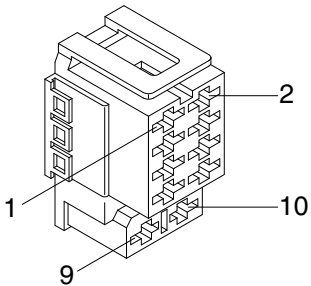
No. of pin	Receptacle connector (female)	Plug connector (male)
2	DT06-2S	DT04-2P
3	DT06-3S	DT04-3P
4	DT06-4S	DT04-4P

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

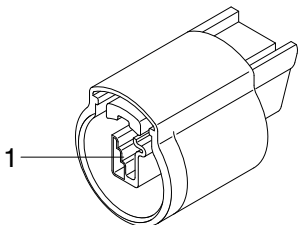
15) MOLEX 2CKTS CONNECTOR

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

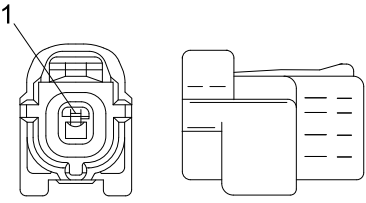
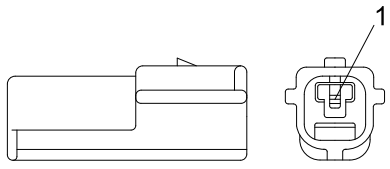
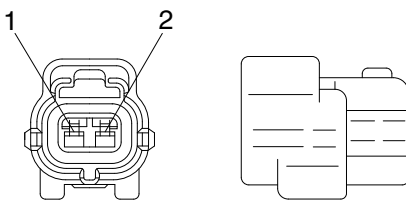
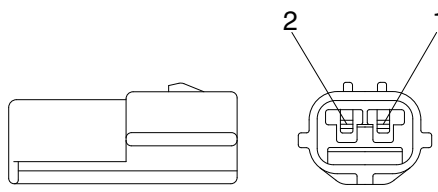
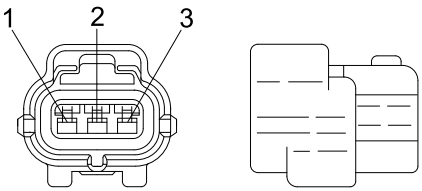
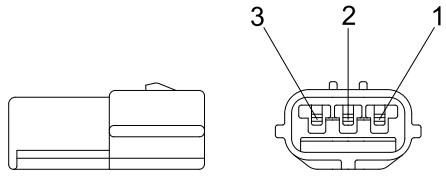
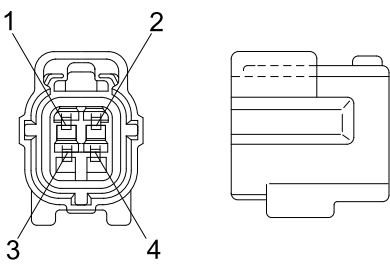
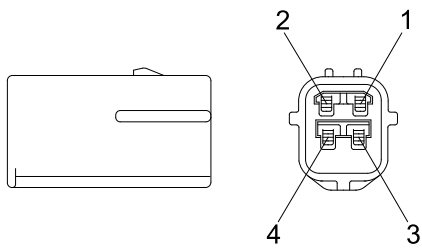
16) ITT SWF CONNECTOR

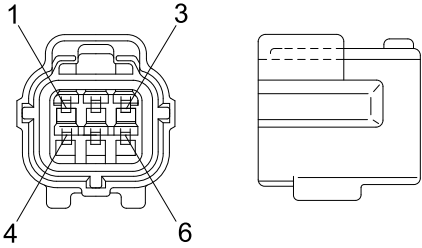
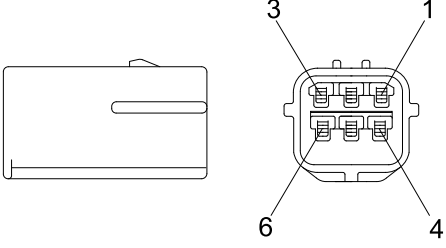
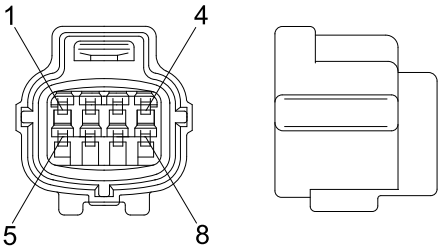
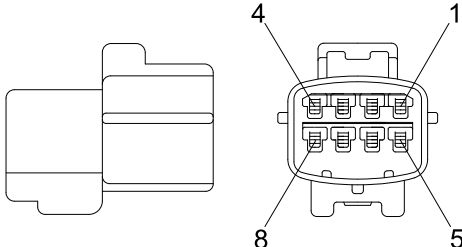
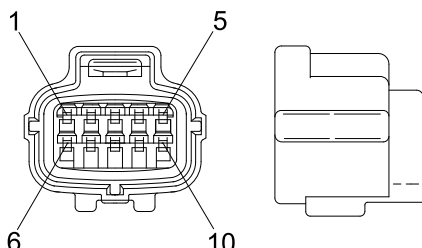
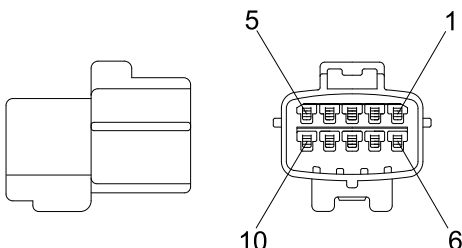
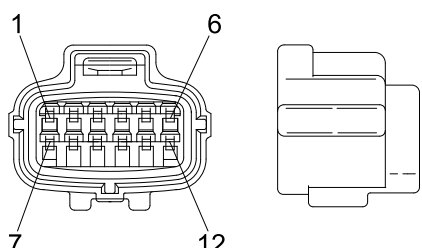
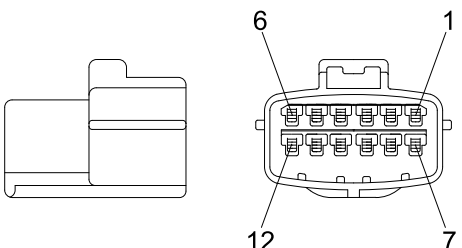
No. of pin	Receptacle connector (female)	Plug connector (male)
10	 SWF593757	

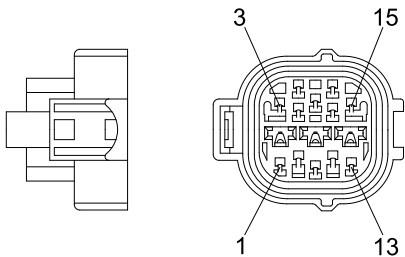
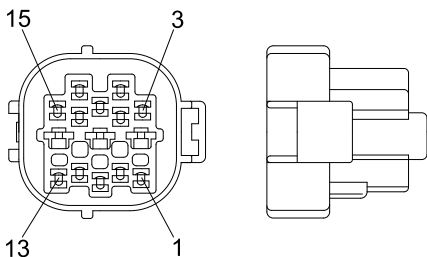
17) MWP NMWP CONNECTOR

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

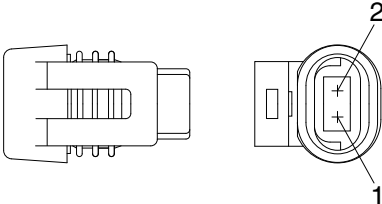
18) ECONOSEAL J TYPE CONNECTORS

No. of pin	Receptacle connector (female)	Plug connector (male)
1	 S816-001002	 S816-101002
2	 S816-002002	 S816-102002
3	 S816-003002	 S816-103002
4	 S816-004002	 S816-104002

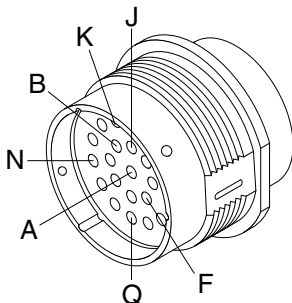
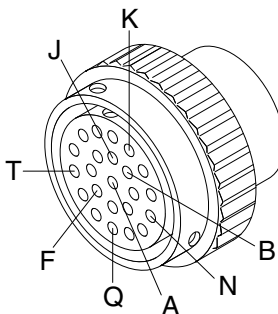
No. of pin	Receptacle connector (female)	Plug connector (male)
6	 S816-006002	 S816-106002
8	 S816-008002	 S816-108002
10	 S816-010002	 S816-110002
12	 S816-012002	 S816-112002

No. of pin	Receptacle connector (female)	Plug connector (male)
15	 368301-1	 2-85262-1

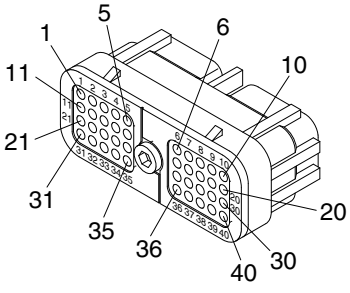
19) METRI-PACK TYPE CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
2	 12040753	

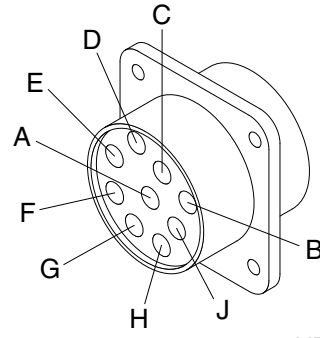
20) DEUTSCH HD30 CONNECTOR

No. of pin	Receptacle connector (female)	Plug connector (male)
23	 HD36-24-23SN	 HD34-24-23PN

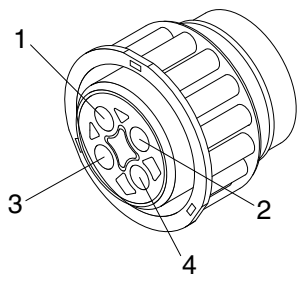
21) DEUTSCH MCU CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
40	 DRC26-40SA/B	

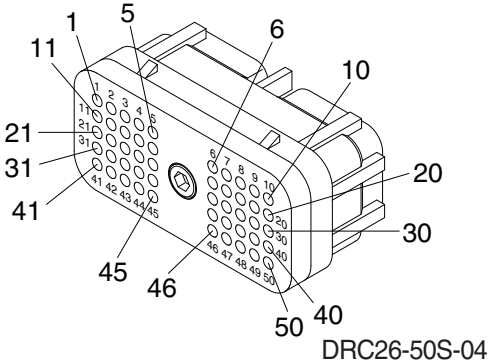
22) DEUTSCH SERVICE TOOL CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
9	 HD10-9-96P	

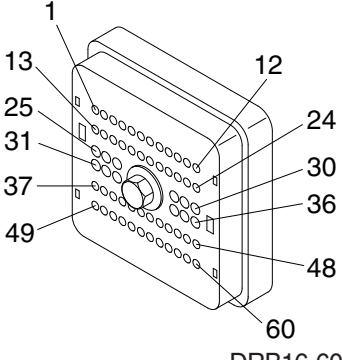
23) AMP FUEL WARMER CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
4	 2-967325-3	

24) DEUTSCH ENGINE ECM CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
50	 DRC26-50S-04	

25) DEUTSCH INTERMEDIATE CONNECTOR

No. of pin	Receptacle connector (Female)	Plug connector (Male)
60	 DRB16-60SAE-L018	