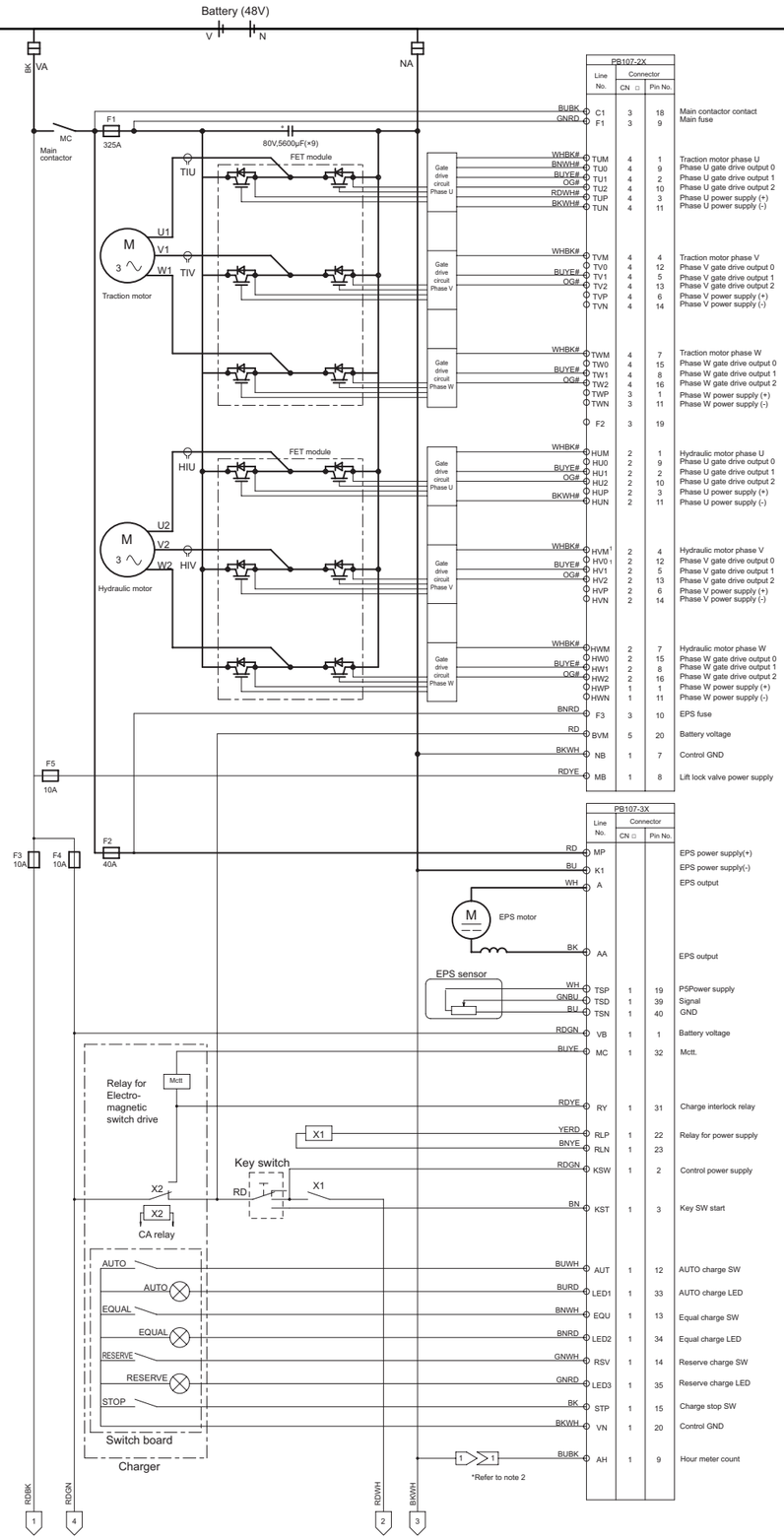
4. Wiring and main controller layout

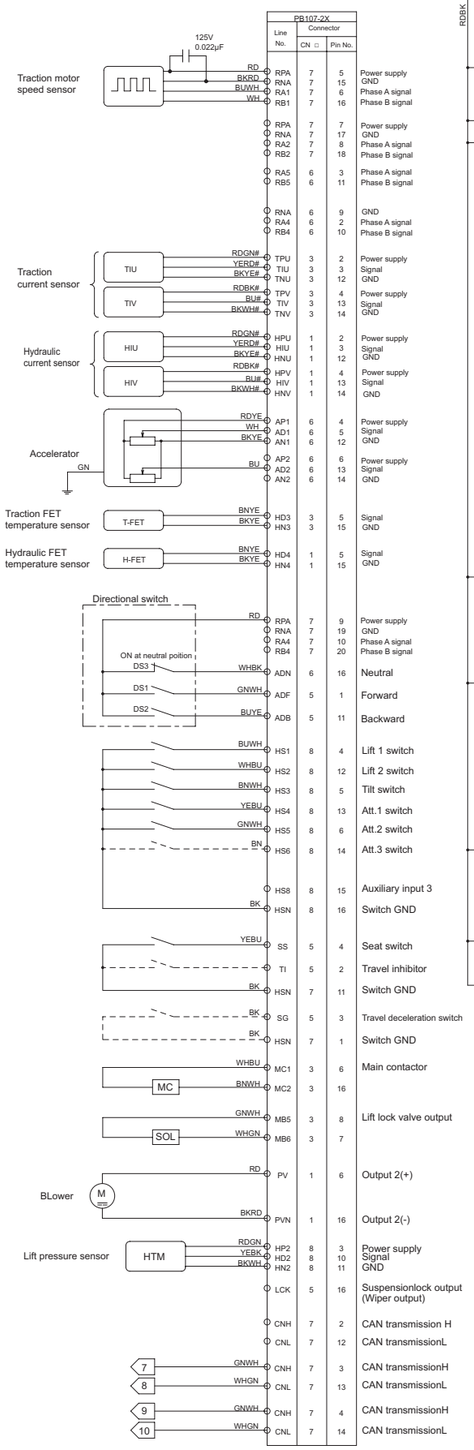
CONTENTS for Wiring and main controller layout

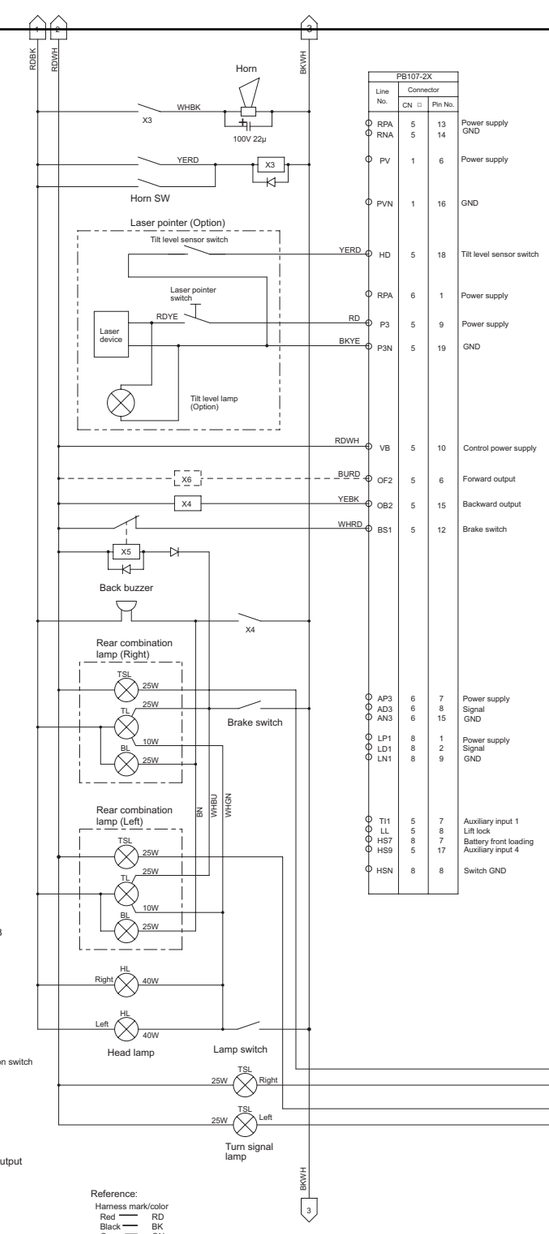
4-3. Built-in charger 119

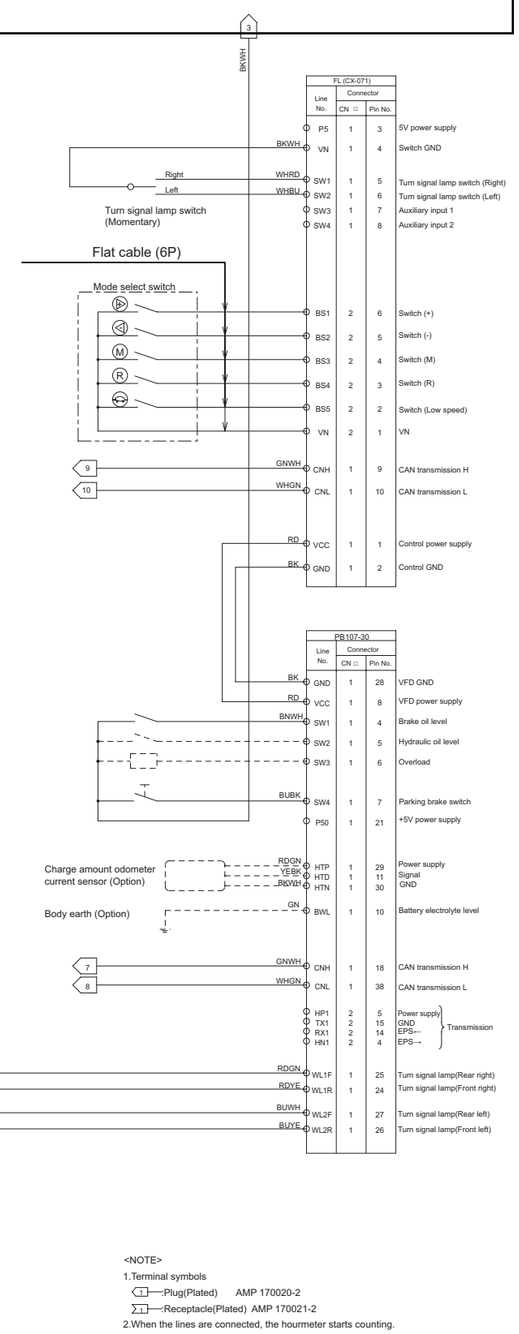
4-4. Accessories 125

MEMO







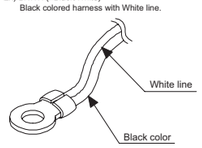


Reference:

Harness mark/color

Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

Ex) BKWH (=Black/White)
Black colored harness with White line.

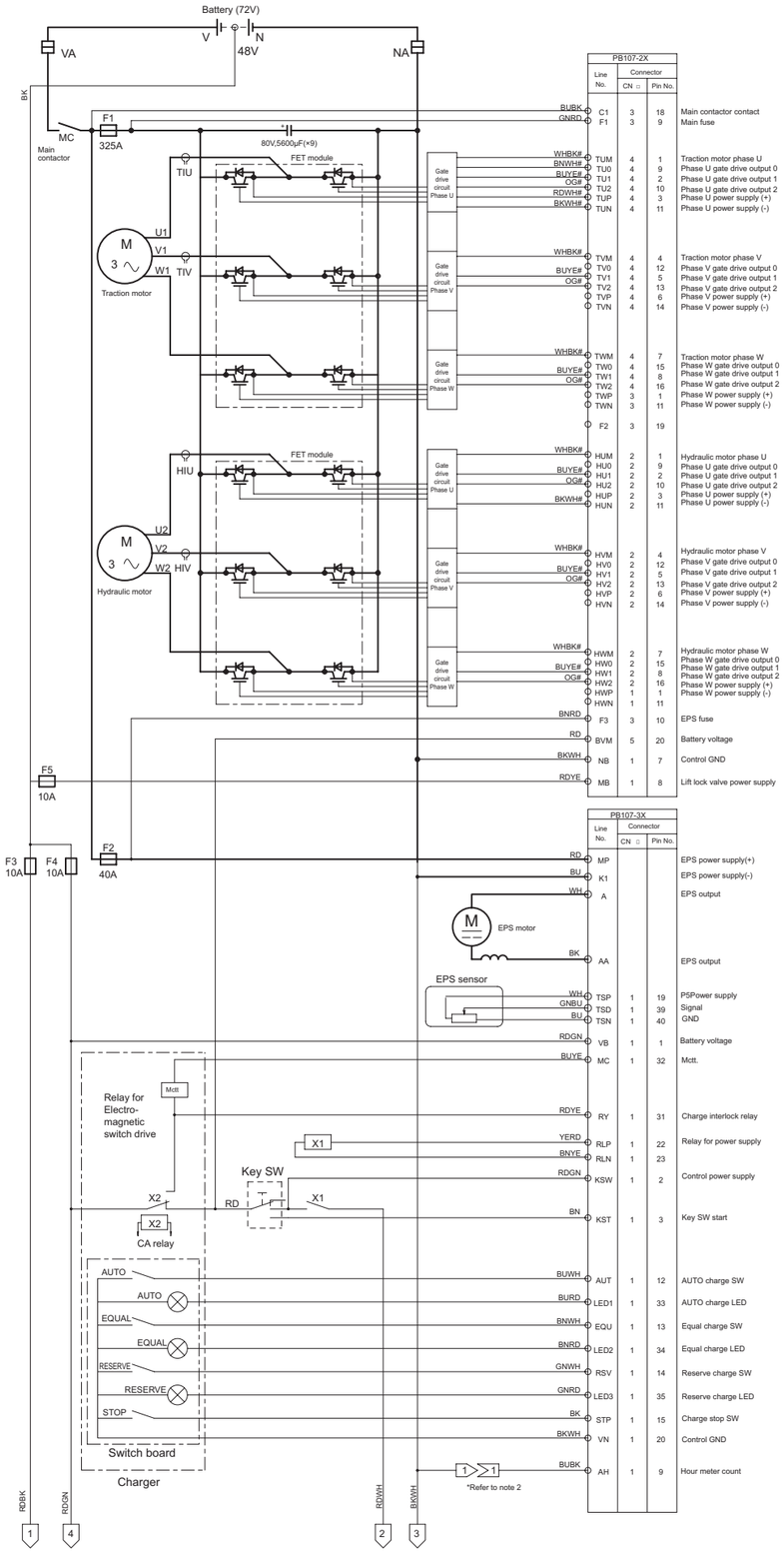


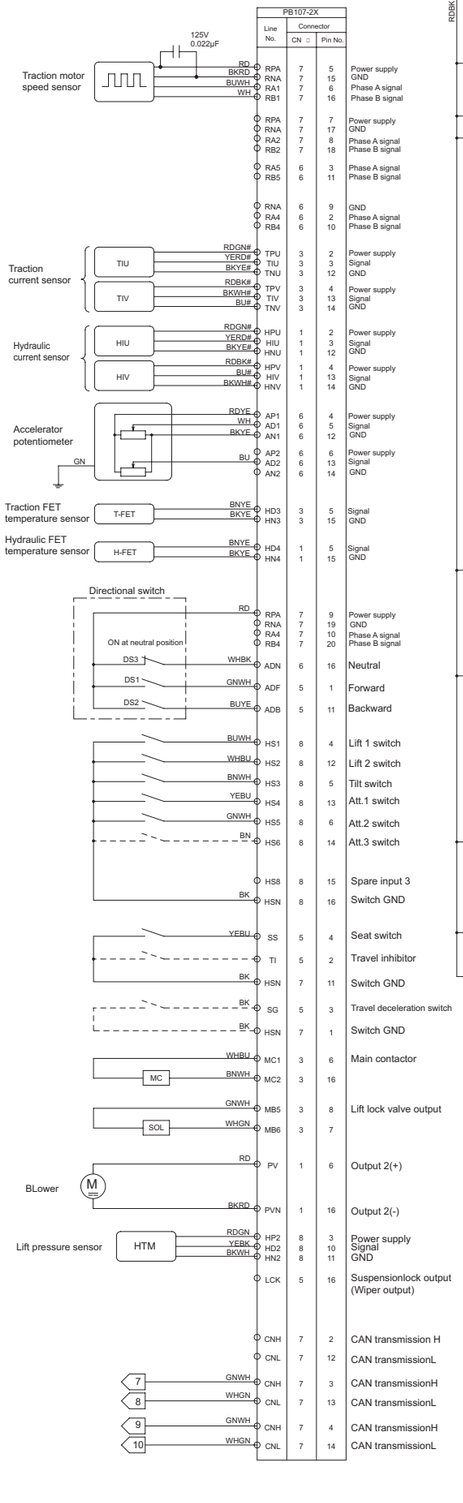
<NOTE>
1.Terminal symbols
1 :Plug(Plated) AMP 170020-2
1 :Receptacle(Plated) AMP 170021-2
2.When the lines are connected, the hourmeter starts counting.

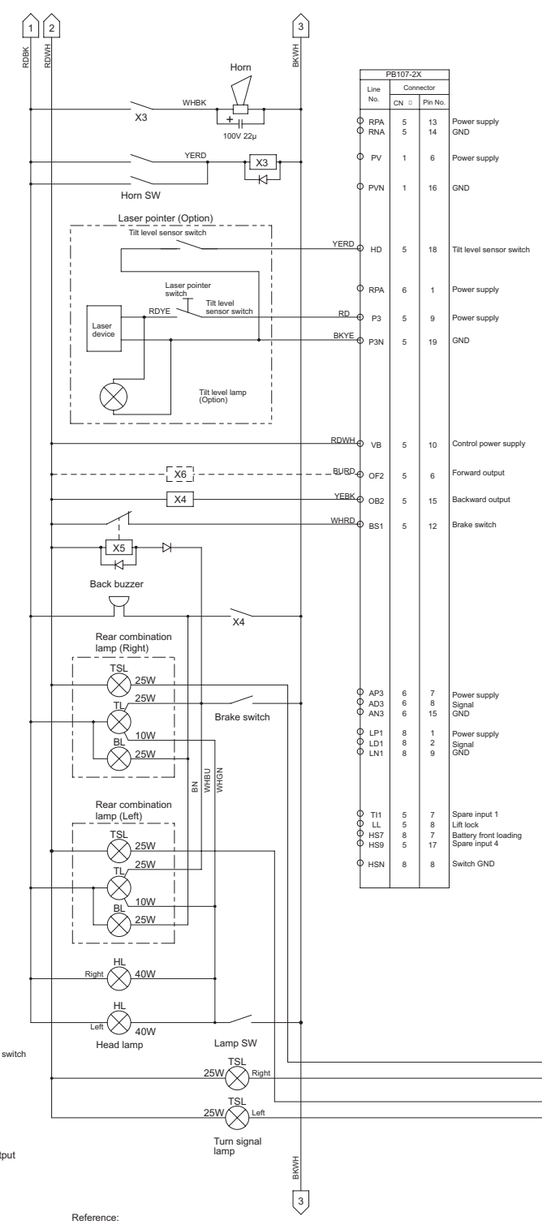
System wiring (CAN) 4- 1.

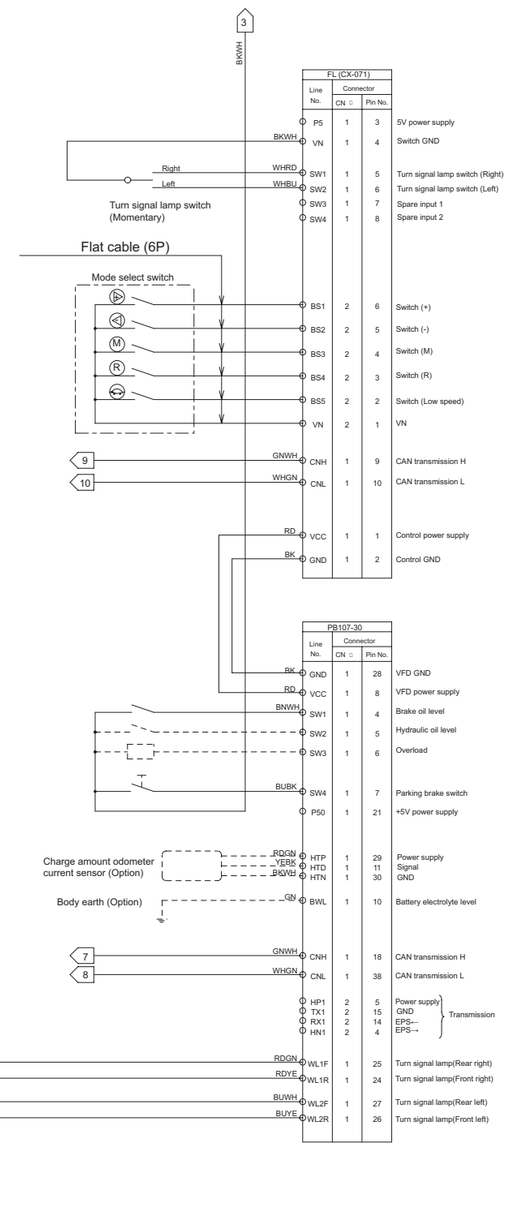
FB10CA-28CA/FB10HCA-25HCA 4-1-1.

54001-22345-0E



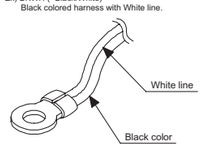






Reference:
Harness mark/color
Red — RD
Black — BK
Green — GN
Yellow — YE
White — WH
Brown — BN
Blue — BU
Gray — GY
Pink — PK
Orange — OG

Ex) BKWH (=Black/White)
Black colored harness with White line.



<NOTE>
1.Terminal symbols
1 :Plug(Plated) AMP 170020-2
1 :Receptacle(Plated) AMP 170021-2
2.When the lines are connected, the hourmeter starts counting.

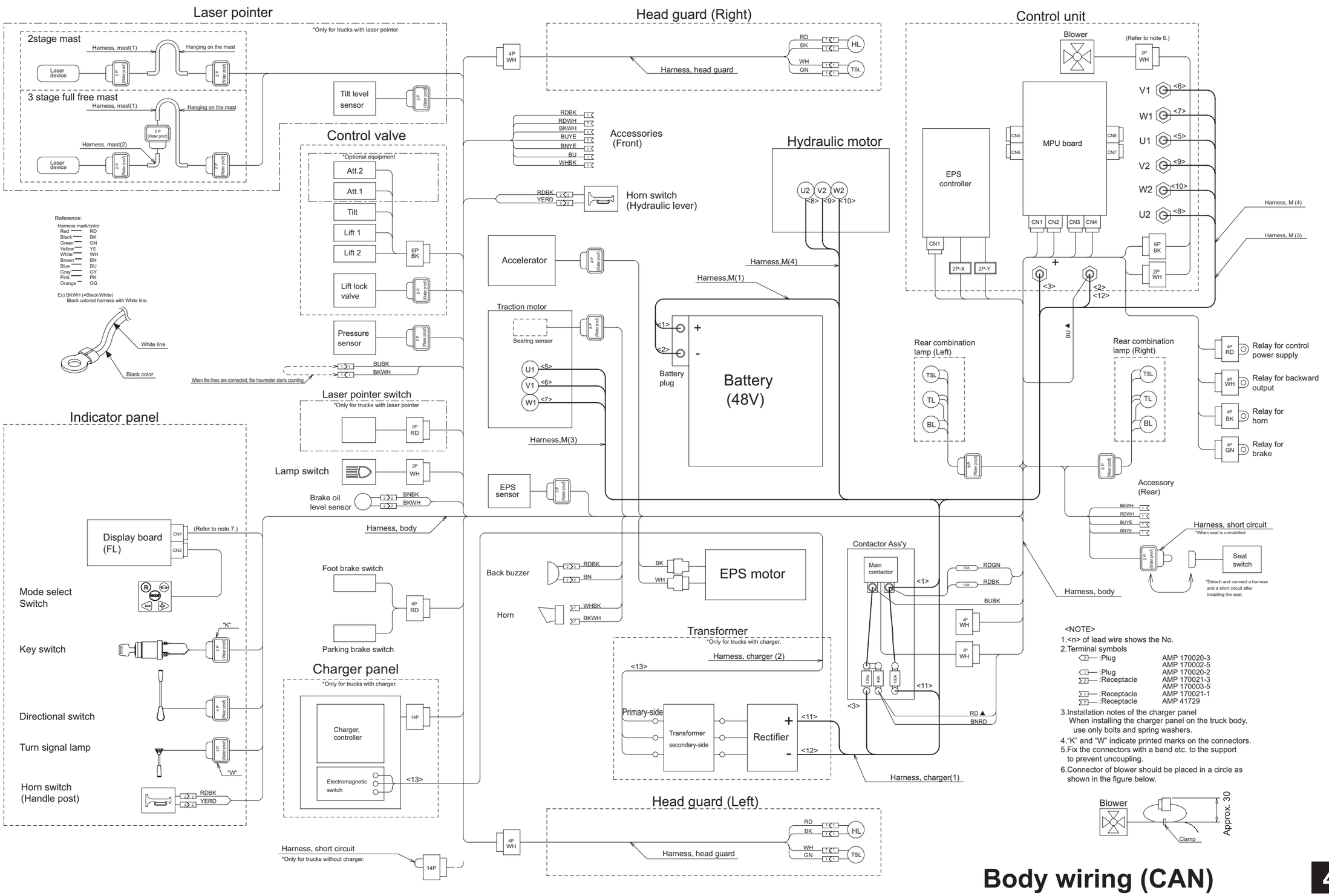
System wiring (CAN)

FB30CA

54001-26344-0E

4- 1.

4-1-2.



<NOTE>
1.<n> of lead wire shows the No.
2.Terminal symbols

:Plug	AMP 170020-3
	AMP 170002-5
:Plug	AMP 170020-2
:Receptacle	AMP 170021-3
	AMP 170003-5
:Receptacle	AMP 170021-1
:Receptacle	AMP 41729

3.Installation notes of the charger panel
When installing the charger panel on the truck body, use only bolts and spring washers.
4."K" and "W" indicate printed marks on the connectors.
5.Fix the connectors with a band etc. to the support to prevent uncoupling.
6.Connector of blower should be placed in a circle as shown in the figure below.

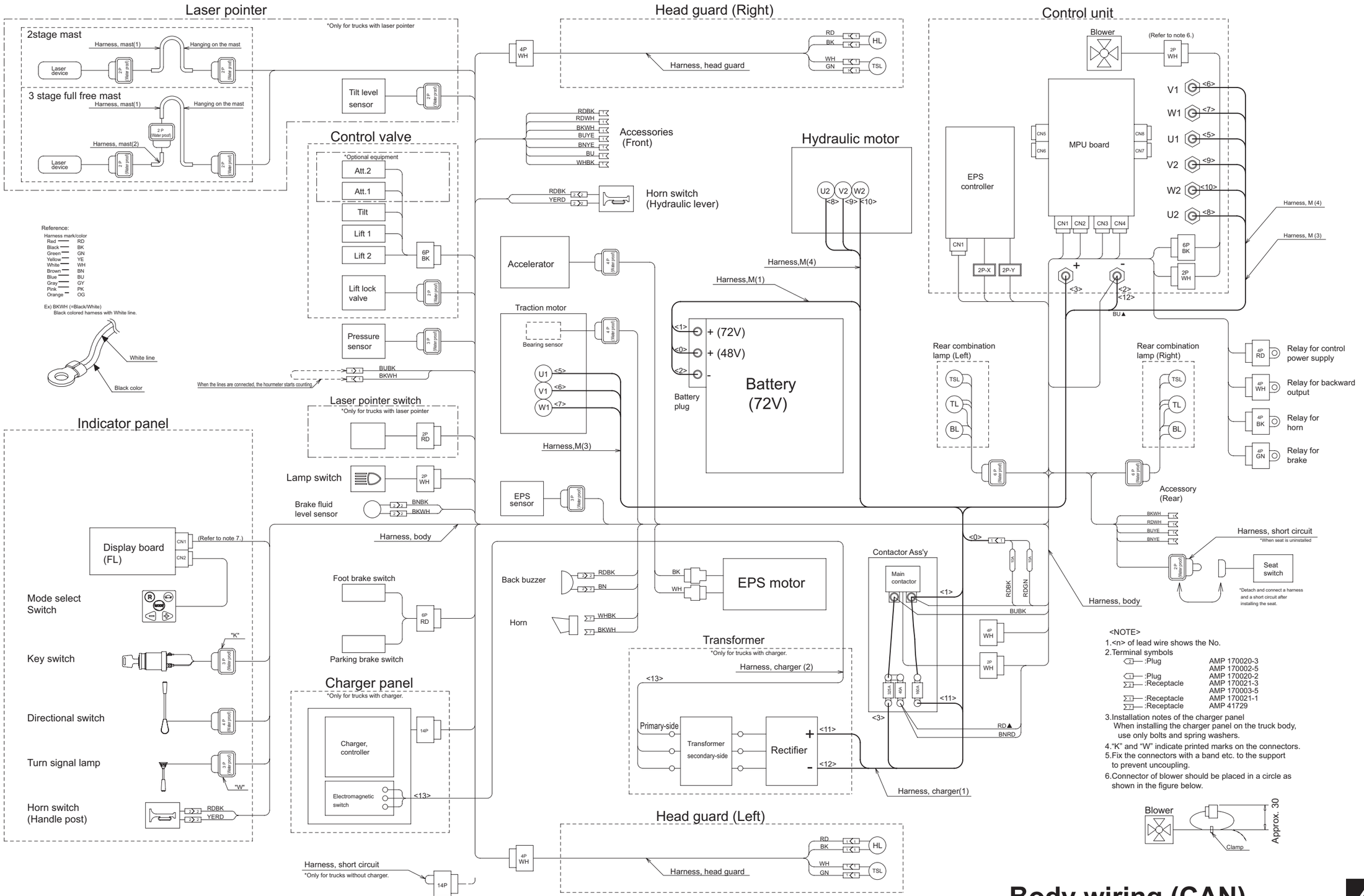
Body wiring (CAN)

4- 1.

FB10CA-28CA/FB10HCA-25HCA

4-1-3.

54001-26353-0E



<NOTE>
1.<n> of lead wire shows the No.
2.Terminal symbols
:Plug AMP 170020-3
:Plug AMP 170002-5
:Plug AMP 170020-2
:Receptacle AMP 170021-3
:Receptacle AMP 170003-5
:Receptacle AMP 170021-1
:Receptacle AMP 41729
3.Installation notes of the charger panel
When installing the charger panel on the truck body, use only bolts and spring washers.
4.“K” and “W” indicate printed marks on the connectors.
5.Fix the connectors with a band etc. to the support to prevent uncoupling.
6.Connector of blower should be placed in a circle as shown in the figure below.

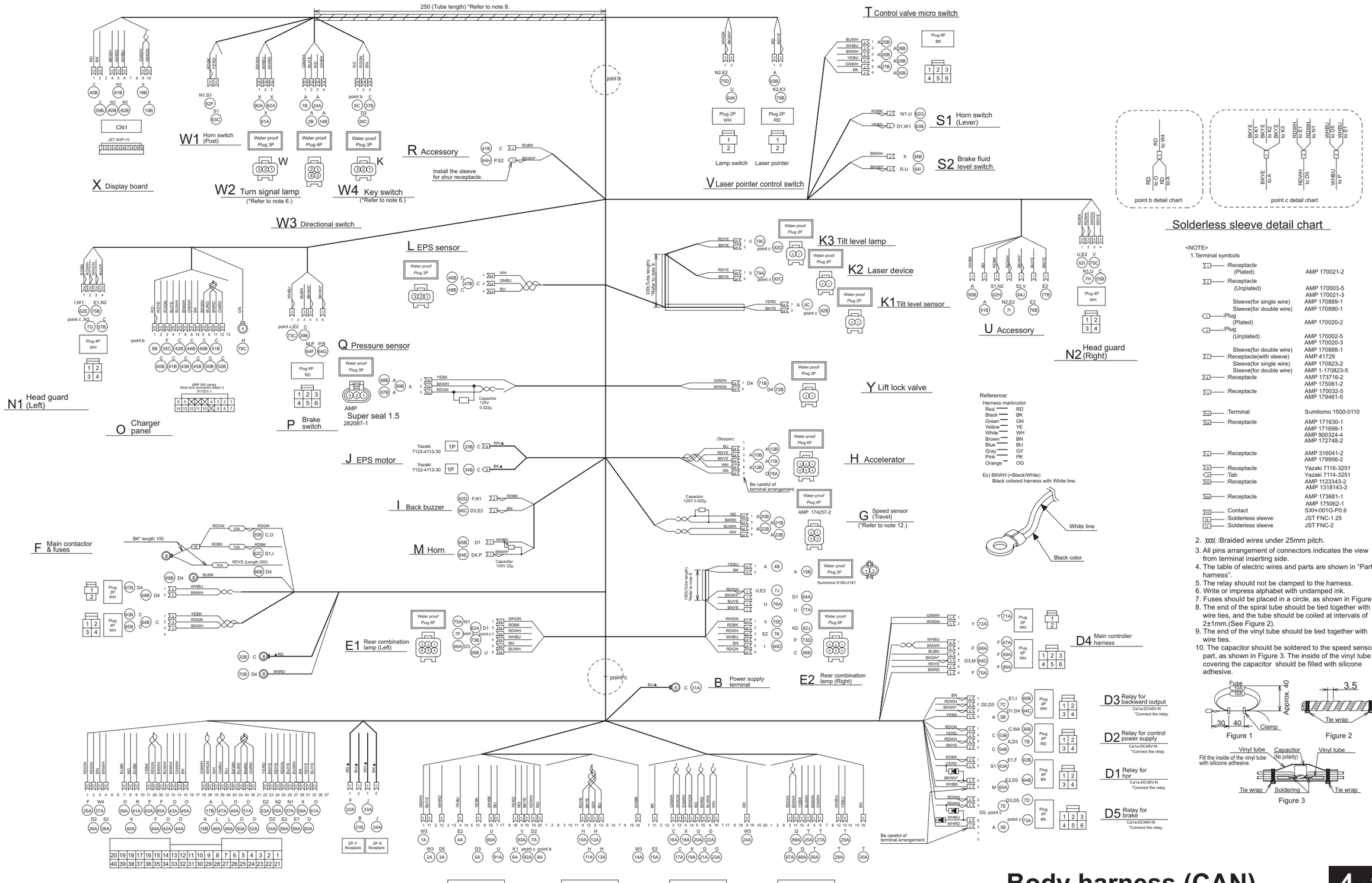
Body wiring (CAN)

FB30CA

54001-26363-0E

4- 1.

4-1-4.



<NOTE>

1.Terminal symbols

1	:Receptacle (Plated)	AMP 170021-2
2	:Receptacle (Unplated)	AMP 170003-5 AMP 170021-3
	Sleeve(for single wire)	AMP 170889-1
	Sleeve(for double wire)	AMP 170890-1
1	:Plug (Plated)	AMP 170020-2
2	:Plug (Unplated)	AMP 170002-5 AMP 170020-3
	Sleeve(for double wire)	AMP 170888-1
7	:Receptacle(with sleeve)	AMP 41729
	Sleeve(for single wire)	AMP 170823-2
	Sleeve(for double wire)	AMP 1-170823-5
3	:Receptacle	AMP 173716-2 AMP 175061-2
5	:Receptacle	AMP 170032-5 AMP 179461-5
24	:Terminal	Sumitomo 1500-0110
24	:Receptacle	AMP 171630-1 AMP 171699-1 AMP 900324-4 AMP 172748-2
6	:Receptacle	AMP 316041-2 AMP 179956-2
3	:Receptacle	Yazaki 7116-3251
3	:Tab	Yazaki 7114-3251
22	:Receptacle	AMP 1123343-2 AMP 1318143-2
28	:Receptacle	AMP 173681-1 AMP 175062-1
19	:Contact	SXH-001G-P0.6
18	:Solderless sleeve	JST FNC-1.25
12	:Solderless sleeve	JST FNC-2

2. xxx :Braided wires under 25mm pitch.
3. All pins arrangement of connectors indicates the view from terminal inserting side.
4. The table of electric wires and parts are shown in “Parts, harness”.
5. The relay should not be clamped to the harness.
6. Write or impress alphabet with undamped ink.
7. Fuses should be placed in a circle, as shown in Figure 1.
8. The end of the spiral tube should be tied together with wire ties, and the tube should be coiled at intervals of 2±1mm.(See Figure 2).
9. The end of the vinyl tube should be tied together with wire ties.
10. The capacitor should be soldered to the speed sensor part, as shown in Figure 3. The inside of the vinyl tube covering the capacitor should be filled with silicone adhesive.

Figure 1

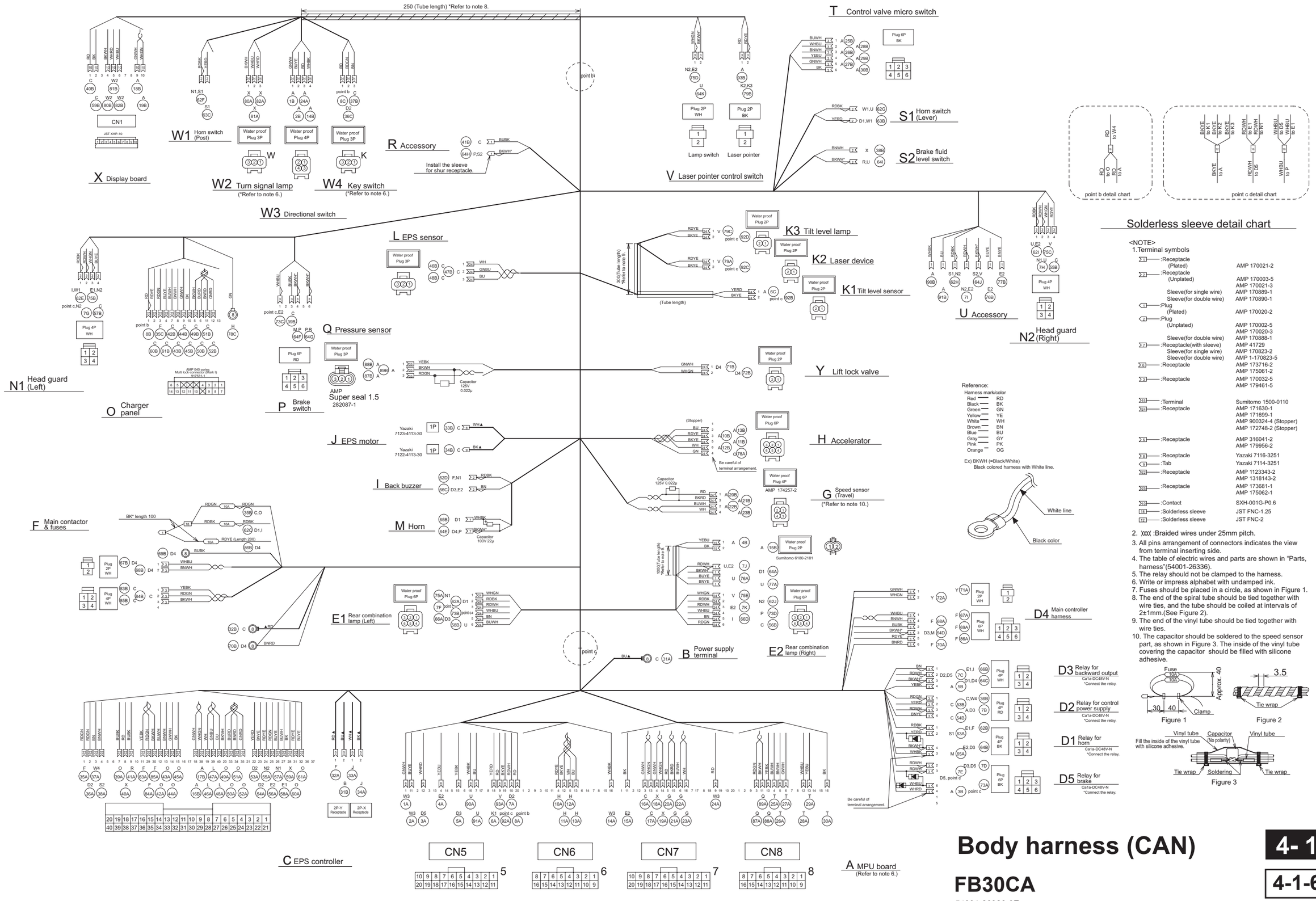
Figure 2

Figure 3

Body harness (CAN) 4- 1.

FB10CA-28CA/FB10HCA-25HCA 4-1-5.

54001-23397-0E



<NOTE>
1.Terminal symbols

1 :Receptacle (Plated)	AMP 170021-2
2 :Receptacle (Unplated)	AMP 170003-5
	AMP 170021-3
Sleeve(for single wire)	AMP 170889-1
Sleeve(for double wire)	AMP 170890-1
1 :Plug (Plated)	AMP 170020-2
2 :Plug (Unplated)	AMP 170002-5
	AMP 170020-3
Sleeve(for double wire)	AMP 170888-1
2.1 :Receptacle(with sleeve)	AMP 41729
Sleeve(for single wire)	AMP 170823-2
Sleeve(for double wire)	AMP 1-170823-5
2.8 :Receptacle	AMP 173716-2
	AMP 175061-2
3 :Receptacle	AMP 170032-5
	AMP 179461-5
110 :Terminal	Sumitomo 1500-0110
2.4 :Receptacle	AMP 171630-1
	AMP 171699-1
	AMP 900324-4 (Stopper)
	AMP 172748-2 (Stopper)
3 :Receptacle	AMP 316041-2
	AMP 179956-2
8 :Receptacle	Yazaki 7116-3251
4 :Tab	Yazaki 7114-3251
2.2 :Receptacle	AMP 1123343-2
	AMP 1318143-2
2.5 :Receptacle	AMP 173681-1
	AMP 175062-1
2.0 :Contact	SXH-001G-P0.6
1.8 :Solderless sleeve	JST FNC-1.25
1.2 :Solderless sleeve	JST FNC-2

2. xxx :Braided wires under 25mm pitch.
3. All pins arrangement of connectors indicates the view from terminal inserting side.
4. The table of electric wires and parts are shown in “Parts, harness”(54001-26336).
5. The relay should not be clamped to the harness.
6. Write or impress alphabet with undamped ink.
7. Fuses should be placed in a circle, as shown in Figure 1.
8. The end of the spiral tube should be tied together with wire ties, and the tube should be coiled at intervals of 2±1mm.(See Figure 2).
9. The end of the vinyl tube should be tied together with wire ties.
10. The capacitor should be soldered to the speed sensor part, as shown in Figure 3. The inside of the vinyl tube covering the capacitor should be filled with silicone adhesive.

Figure 1 Figure 2 Figure 3

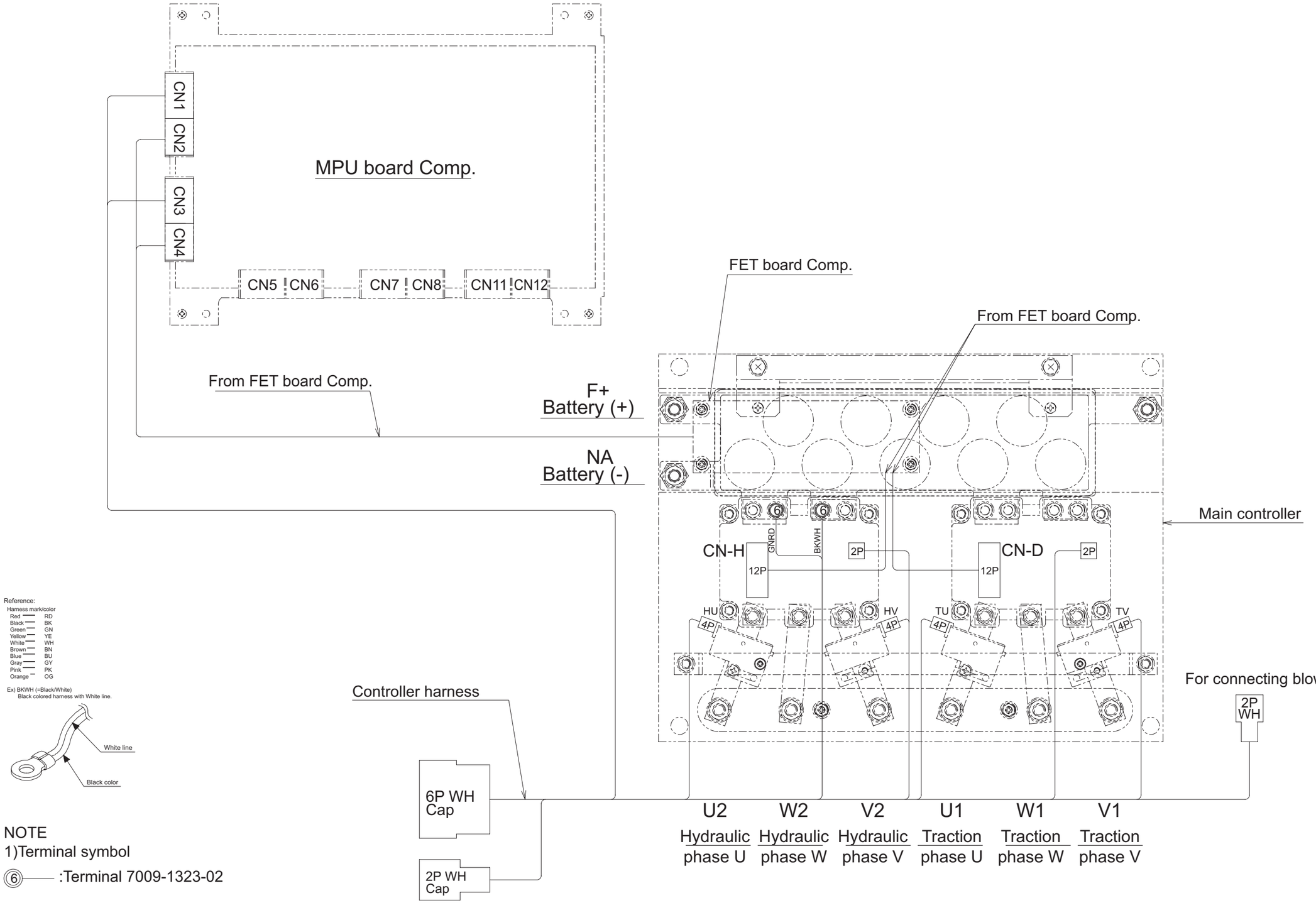
Body harness (CAN)

FB30CA

54001-26326-0E

4- 1.

4-1-6.



Reference:

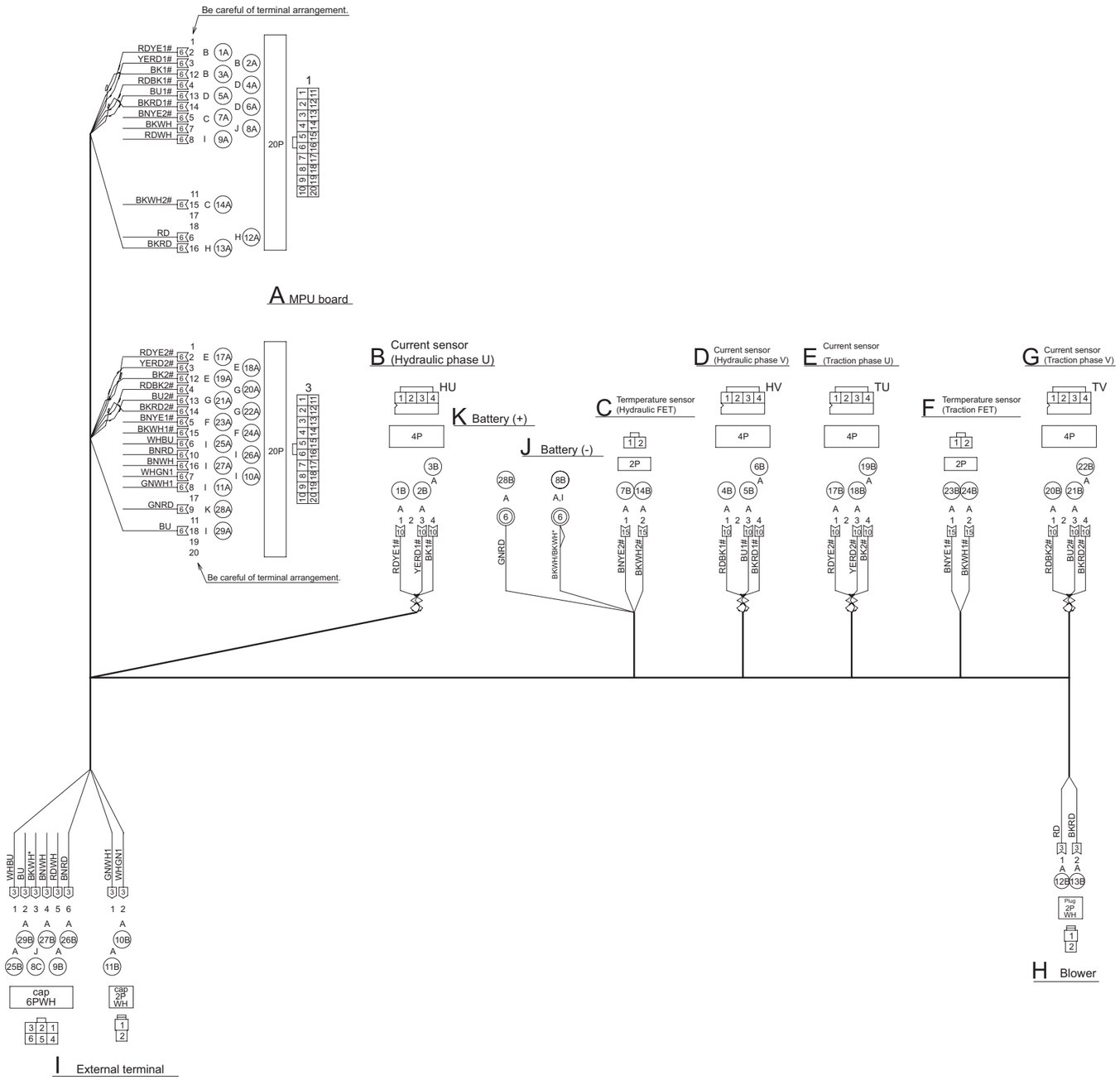
Harness mark/color	
Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

Ex) BKWH (=Black/White)
Black colored harness with White line.

NOTE
1)Terminal symbol
⑥ :Terminal 7009-1323-02

Controller wiring (CAN) 4- 1.

FB10CA-30CA/FB10HCA-25HCA 4-1-7.



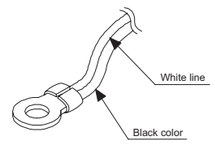
Line No.		From	To		Color	Length
1A — 1B	A			B	RDYE1#	380
2A — 2B	A			B	YERD1#	380
3A — 3B	A			B	BK1#	380
4A — 4B	A			D	RDBK1#	470
5A — 5B	A			D	BU1#	470
6A — 6B	A			D	BKRD1#	470
7A — 7B	A			C	BNYE2#	430
8A — 8B	A		Ⓑ	J	BKWH	430
8C	I				BKWH*	400
9A — 9B	A			I	RDWH	430
10A — 10B	A			I	WHGN1	370
11A — 11B	A			I	GNWH1	370
12A — 12B	A			H	RD	870
13A — 13B	A			H	BKRD	870
14A — 14B	A			C	BKWH2#	430
17A — 17B	A			E	RDYE#	440
18A — 18B	A			E	YERD#	440
19A — 19B	A			E	BK#	440
20A — 20B	A			G	RDBK#	560
21A — 21B	A			G	BU#	560
22A — 22B	A			G	BKRD#	560
23A — 23B	A			F	BNYE1#	520
24A — 24B	A			F	BKWH1#	520
25A — 25B	A			I	WHBU	370
26A — 26B	A			I	BNRD	370
27A — 27B	A			I	BNWH	370
28A — 28B	A		Ⓑ	K	GNRD	390
29A — 29B	A			I	BU	370

Reference:

Harness mark/color

Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

Ex) BKWH (=Black/White)
Black colored harness with White line.



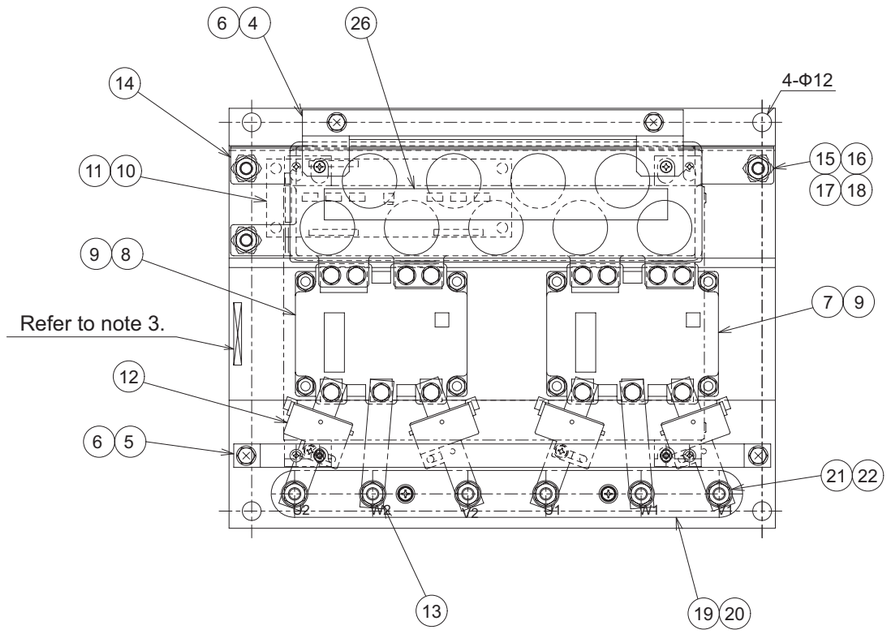
NOTE) 1.Lead wires
With # : AVS / AVSS 0.3 sq
With * :AVS 0.8 sq
Without indication: AVS 0.5 sq
2.All pin layout shows the view from terminal insert side.
3. 〉〉〉〉 Braided wires under 25mm pitch.
4.Impress or write marks on connectors with undamped ink as indicated in the pin cunfiguration.
5.All pins arrangement of connectors indicates the view from terminal inserting side.
6.All of the mark bands indicated in this diagram are not necessary.

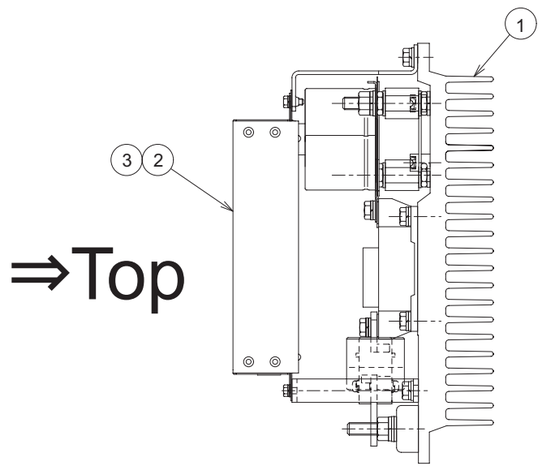
SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
16	Wire, lead	AVS/AVSS 0.3sq				
15	Wire, lead	AVS 0.5sq				
14	Wire, lead	AVS 0.85sq				
13	Terminal	7009-1323-02		2		Ⓑ AMP
12	Receptacle	179592-1 177914-1		4		AMP
11	Plate, double lock(2P)	177918-1		2		AMP
10	Plug, housing(2P)	177898-1		2		AMP
9	Contact	BXH-0016-P0.6 SXH-0016-P0.6		12		JST
8	Housing XHP-4		4P	4		JST
7	Tab	179462-3 170340-3		8		AMP
6	Housing, cap(2PWH)	172129-1		1		AMP
5	Housing, cap(6PWH)	171897-1		1		AMP
4	Receptacle	179461-5 170032-5		2		AMP
3	Housing, plug(2PWH)	172130-1		1		AMP
2	Receptacle	175061-2 173716-2		27		AMP
1	Housing, plug(20P)	175967-2		2		AMP

Controller harness (CAN) 4- 1.

FB10CA-30CA/FB10HCA-25HCA 4-1-8.

54001-23111-1E





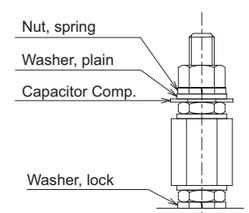


Figure A

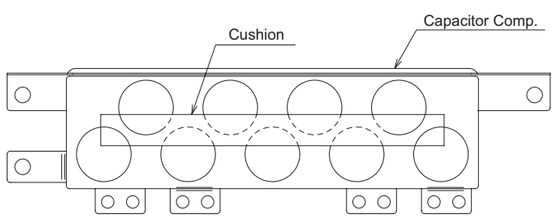


Figure B

Model	Usage	Type	Remarks	Maximum current (Element ratings)	
				Travel	Hydraulic
FB10CA-28CA	STD	CU108-20D	When installing, make sure the arrow points up.	600A (75V)	400A (75V)
FB10HCA-25HCA	STD	CU108-21D			600A (75V)
FB30CA	STD	CU108-22D		600A (100V)	600A (100V)
FB10CA-28CA	OPT	CU108-23D		600A (75V)	400A (75V)
FB10HCA-25HCA	OPT	CU108-24D			600A (75V)
FB30CA	OPT	CU108-25D		600A (100V)	600A (100V)
FB10CA-28CA	STD CS	CU108-30D		600A (75V)	400A (75V)
FB10HCA-25HCA	STD CS	CU108-31D			600A (75V)
FB30CA	STD CS	CU108-32D		600A (100V)	600A (100V)
FB10CA-28CA	OPT CS	CU108-33D		600A (75V)	400A (75V)
FB10HCA-25HCA	OPT CS	CU108-34D			600A (75V)
FB30CA	OPT CS	CU108-35D		600A (100V)	600A (100V)

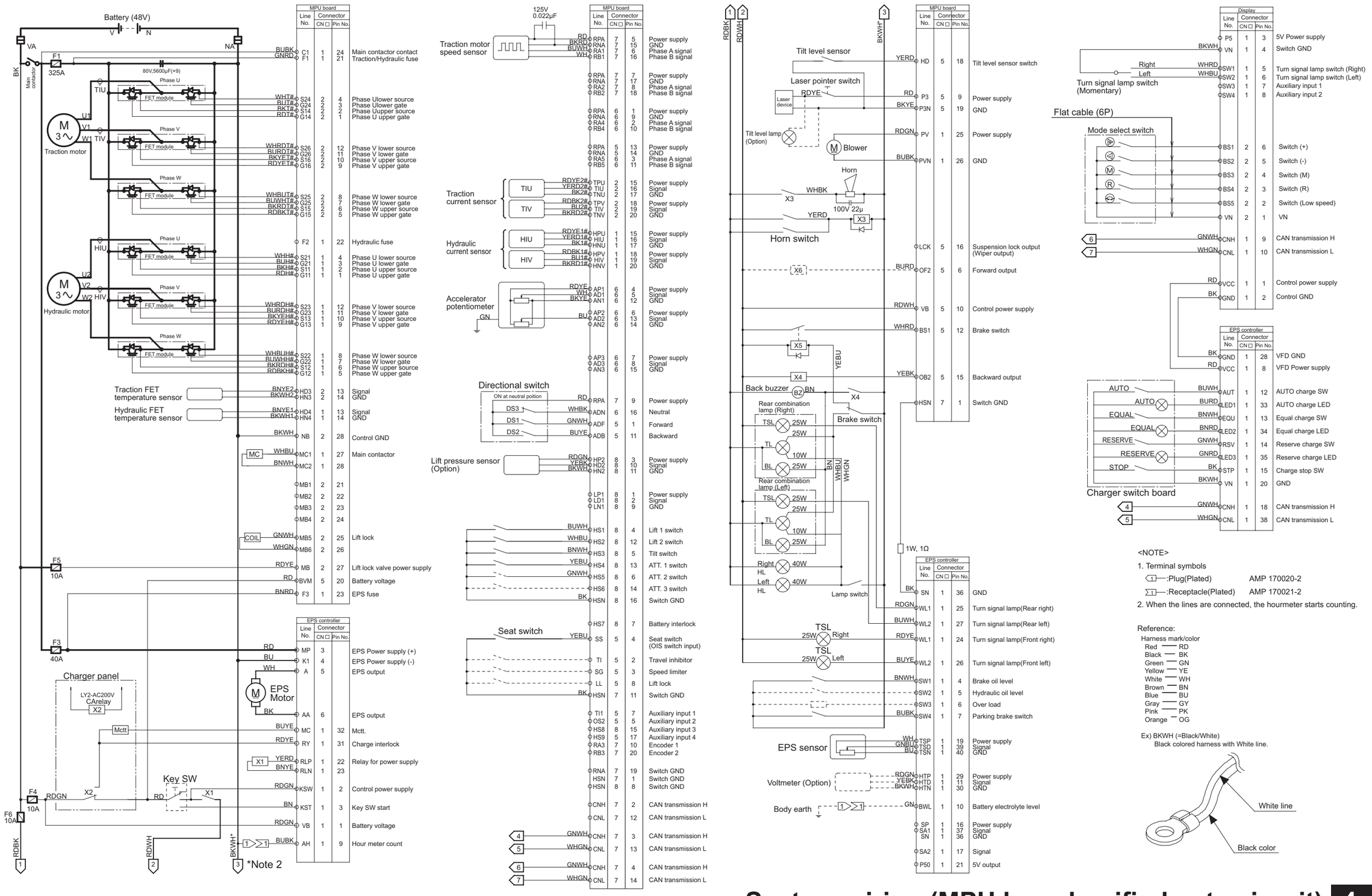
NOTE 1) When installing the (7) (8) Module, FET to the (1) Sink, heat, be sure to apply condition compound [G-747] (Shin-Etsu silicones) to the entire contact surface.
2) After installing the washer to (14) terminal as shown in the figure A, apply LOCTITE [242] or equivalent to the screws to prevent looseness.
3) Impress a unit type to the specified position with undamped ink. (Even the seal is available. A detailed position is left to your division.)
4) Put the (26) cushion on the side of the capacitor Comp. in the position of figure B.

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
26	Cushion		CRsponge	1		
25	Grease,silicone	G-747	(Unshown)	1		Shin-etsu (75g))
24	Wiring, controller		(Unshown)	1		
23	Harness, controller		(Unshown)	1		
22	Nut, spring	M8	for installing the bar	6		Sakamura
21	Washer, plain		for installing the bar	12		
20	Bolt, w/washers		for installing the terminal	2		
19	Terminal Comp.			1		
18	Nut, spring	M8	for installing the terminal	3		Sakamura
17	Washer, lock		for installing the terminal	3		
16	Washer, plain		for installing the terminal	3		
15	Terminal			3		
14	Capacitor Comp.			1		
13	Bar, lead (1)			2		
12	Sensor Comp., current			4		
11	Screw, w/washer		for installing the board	4		
10	Board Comp., FET		Selection arrangement No.	1		
9	Bolt, w/washers		for installing the FET/bar	22		
8	Module, FET			1		Mitsubishi
7	Module, FET			1		Mitsubishi
6	Bolt, w/washers		for installing the bracket	4		
5	Bracket, board (2)		SGCC	1		
4	Bracket, board (1)		SGCC	1		
3	Bolt, w/washers		for installing the board	4		
2	Board Comp., MPU			1		
1	Sink, heat		A6063SS-T5 A5052-H112	1		

Main controller (CAN) 4- 1.

FB10CA-30CA/FB10HCA-25HCA 4-1-9.

E0000-22967-1E



<NOTE>

1. Terminal symbols
   - 1 :Plug(Plated) AMP 170020-2
   - 1 :Receptacle(Plated) AMP 170021-2
2. When the lines are connected, the hourmeter starts counting.

Reference:

Harness mark/color

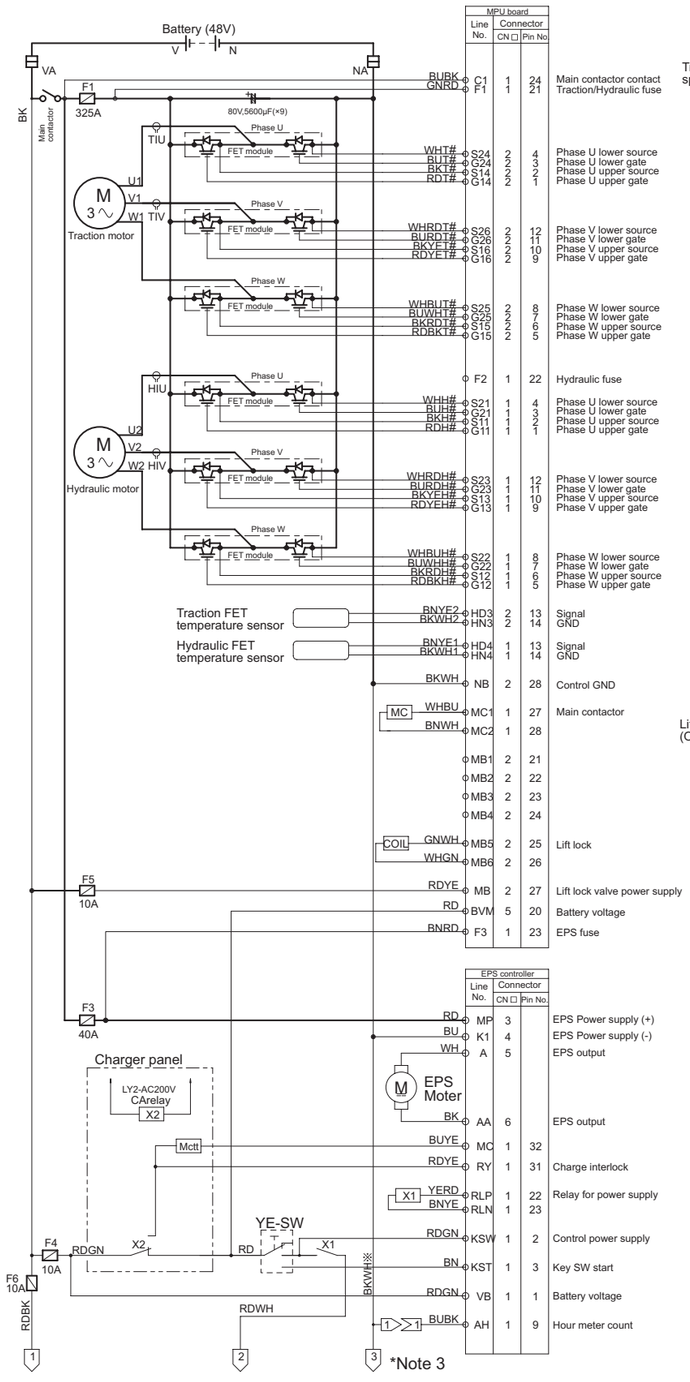
Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

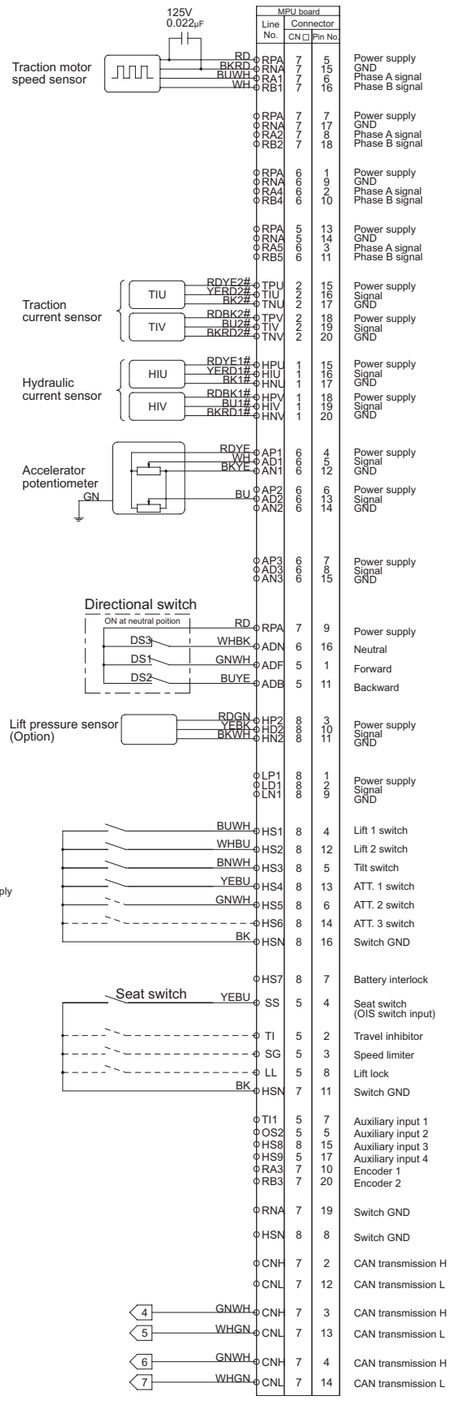
Ex) BKWH (=Black/White)
Black colored harness with White line.

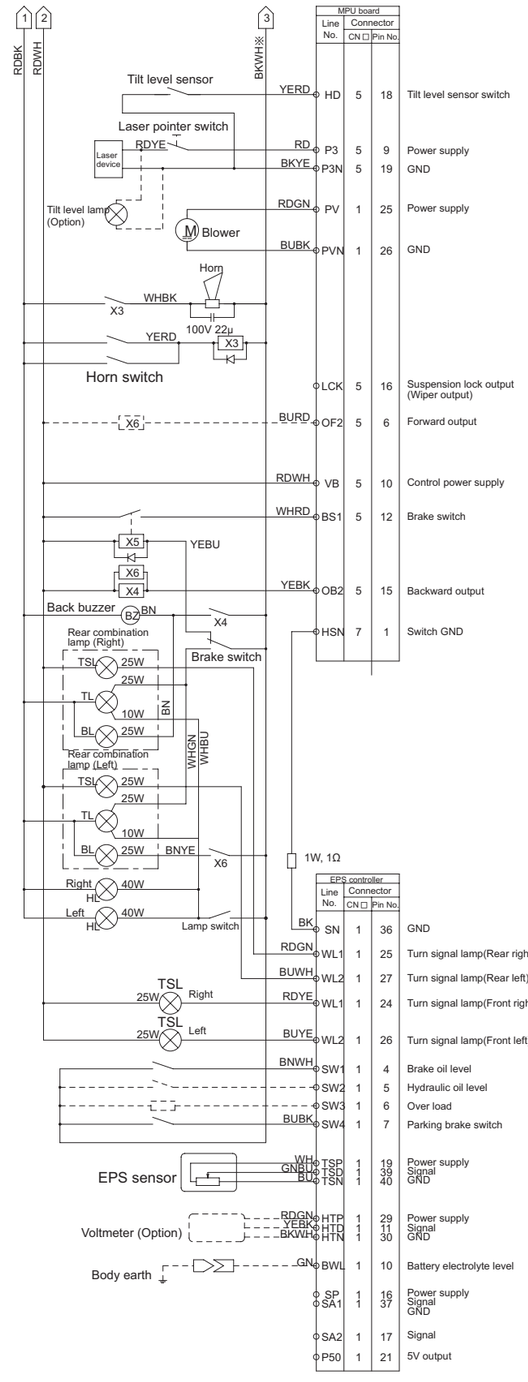
System wiring (MPU board unified gate circuit) 4- 2.

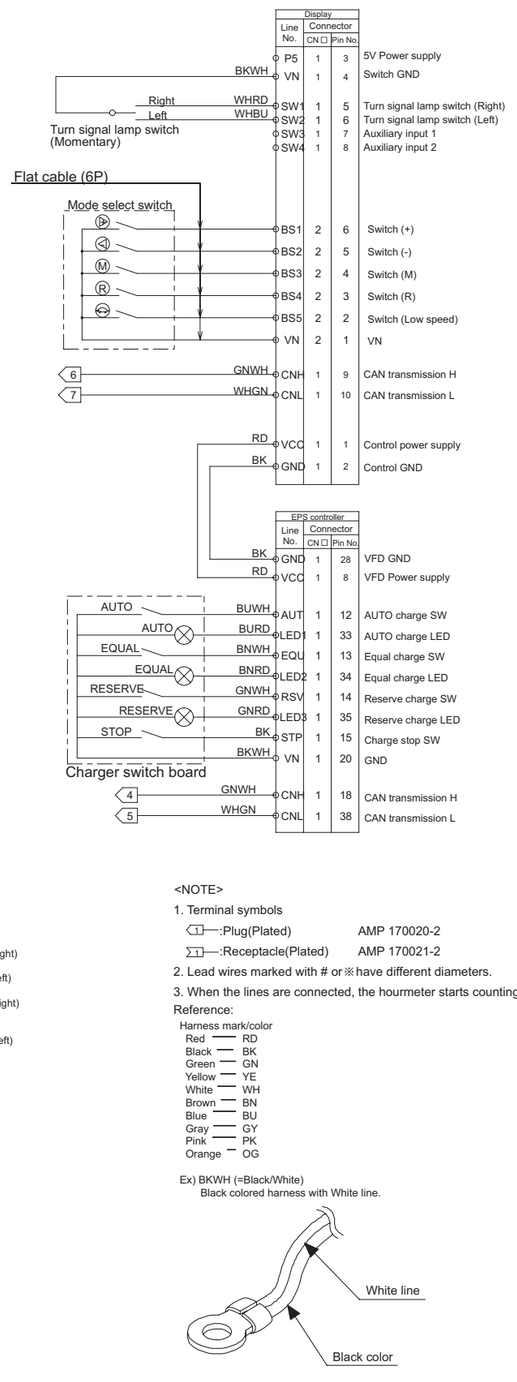
FB10CA-28CA/FB10HCA-25HCA (FB10CA~18CA: -221E06320 / FB20CA-28CA: -241C01025) 4-2-1.

54001-88191-1E









<NOTE>

1. Terminal symbols
   - 1 :Plug(Plated) AMP 170020-2
   - 1 :Receptacle(Plated) AMP 170021-2
2. Lead wires marked with # or※have different diameters.
3. When the lines are connected, the hourmeter starts counting.

Reference:

Harness mark/color

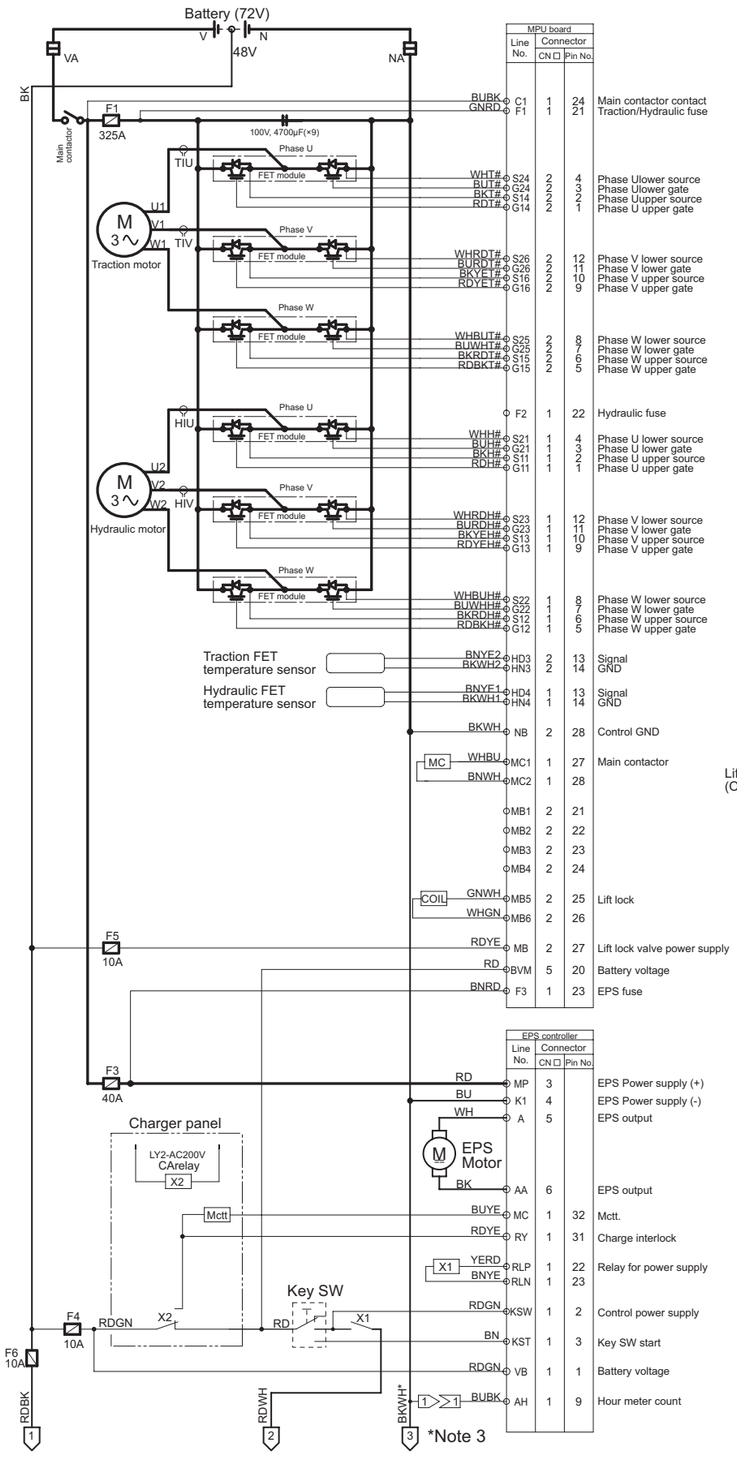
Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

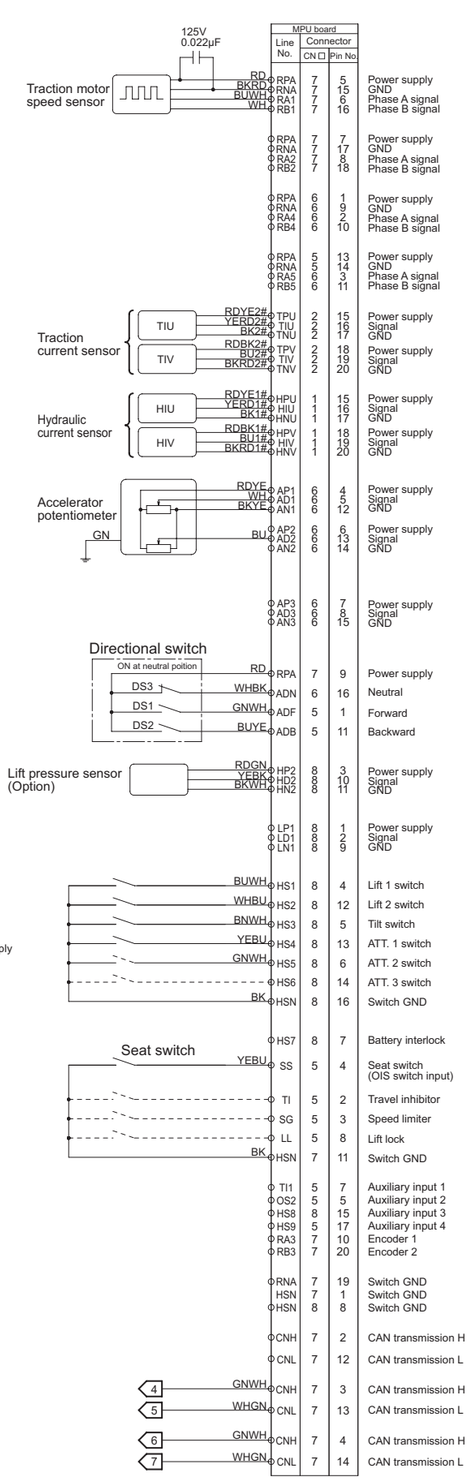
Ex) BKWH (=Black/White)
Black colored harness with White line.

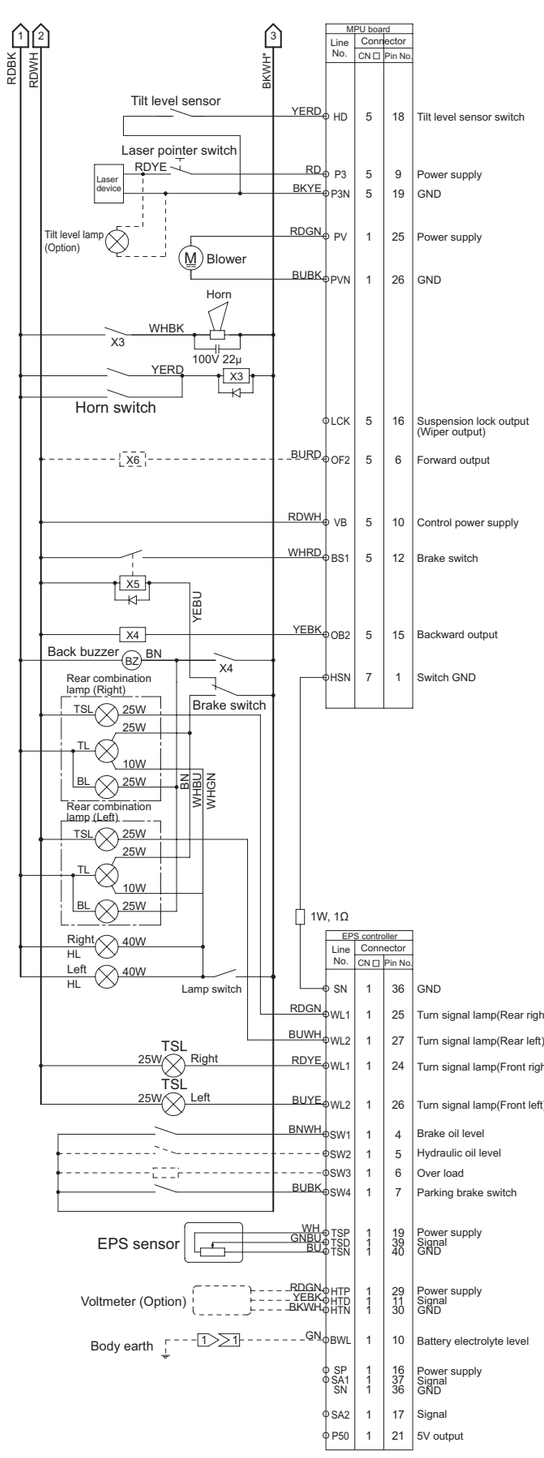
System wiring (MPU board unified gate circuit with two relays for backward) 4- 2.

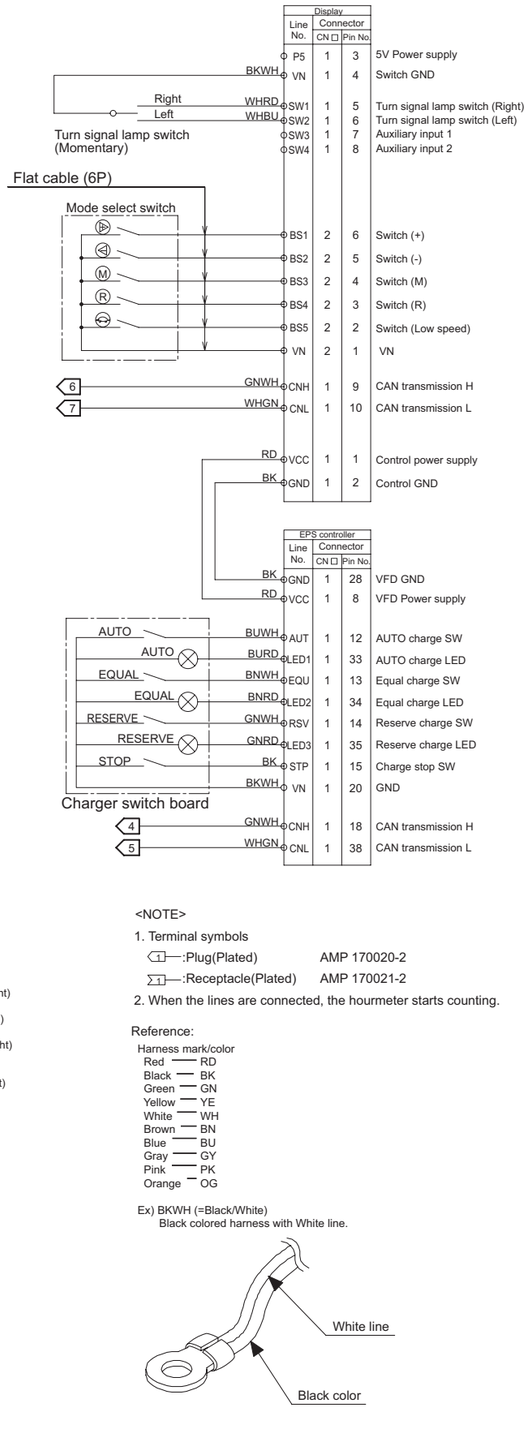
FB10CA-28CA/FB10HCA-25HCA (FB10CA-18CA: 221E06321- / FB20CA-28CA: 241C01026-) 4-2-2.

54001-88192-0E









<NOTE>

1. Terminal symbols
   - 1 :Plug(Plated) AMP 170020-2
   - 1 :Receptacle(Plated) AMP 170021-2
2. When the lines are connected, the hourmeter starts counting.

Reference:

Harness mark/color

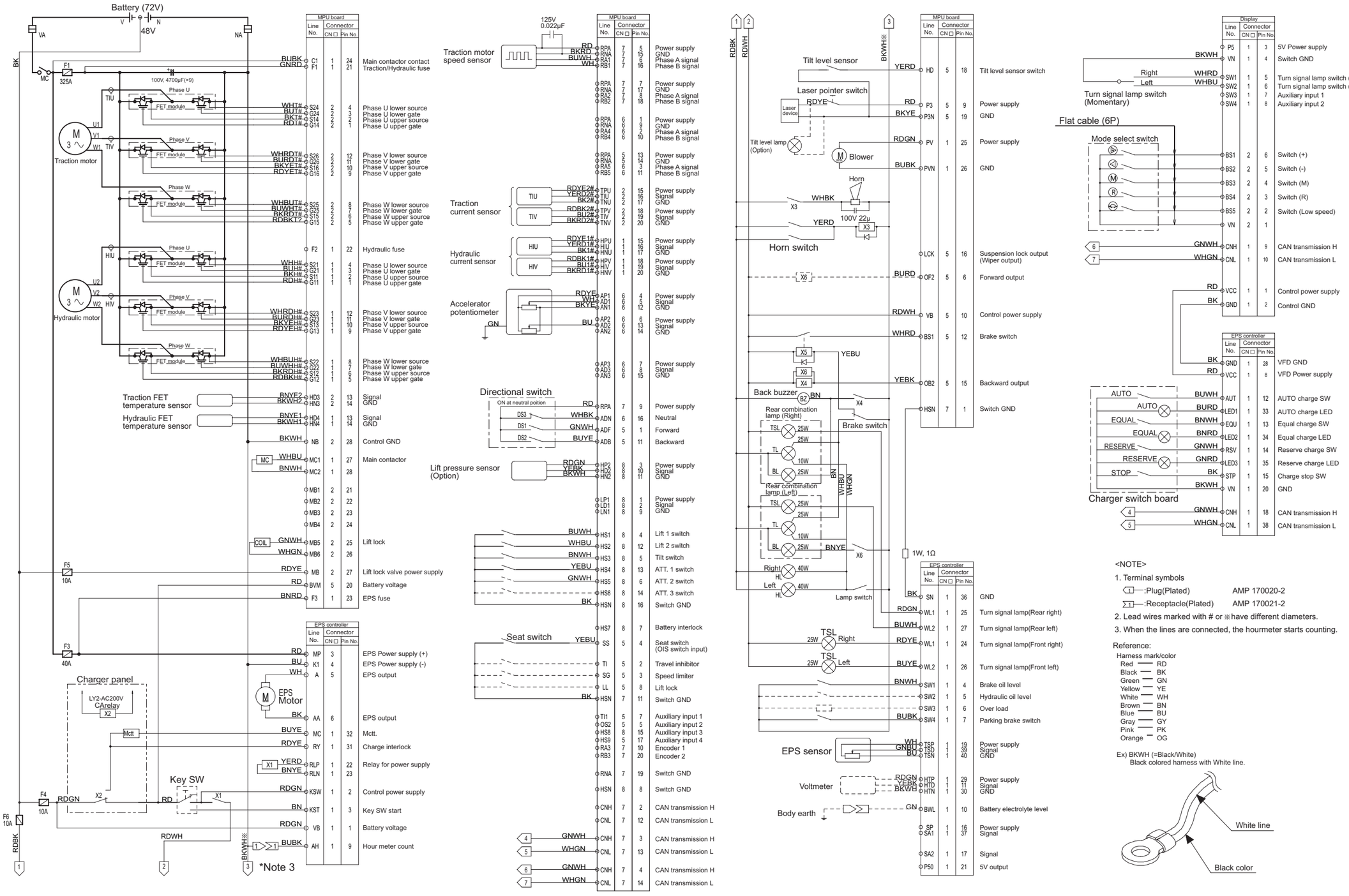
Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

Ex) BKWH (=Black/White)
Black colored harness with White line.

System wiring (MPU board unified gate circuit) 4- 2.

FB30CA (FB30CA: -251AC1530) 4-2-3.

54001-88201-1E



<NOTE>

1. Terminal symbols
   - :Plug(Plated) AMP 170020-2
   - :Receptacle(Plated) AMP 170021-2
2. Lead wires marked with # or ※ have different diameters.
3. When the lines are connected, the hourmeter starts counting.

Reference:

Harness mark/color

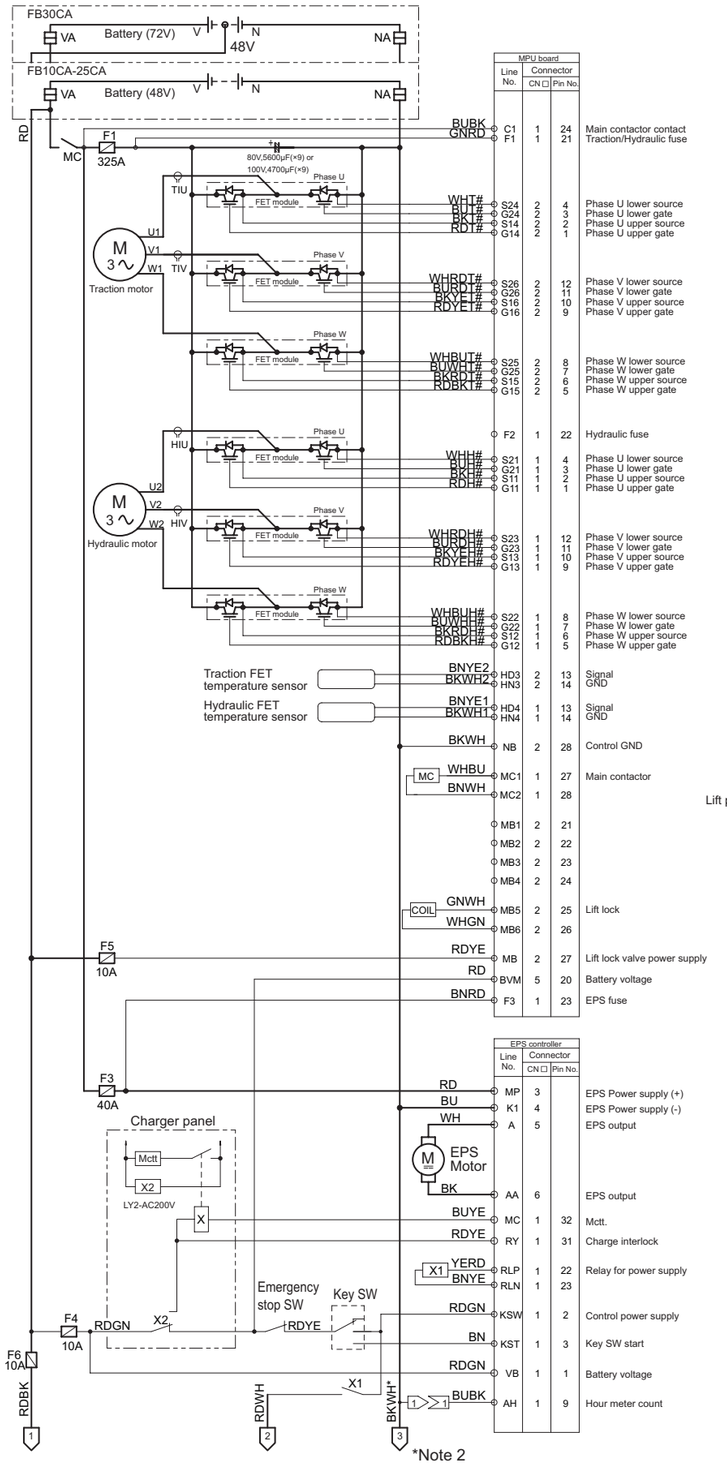
Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

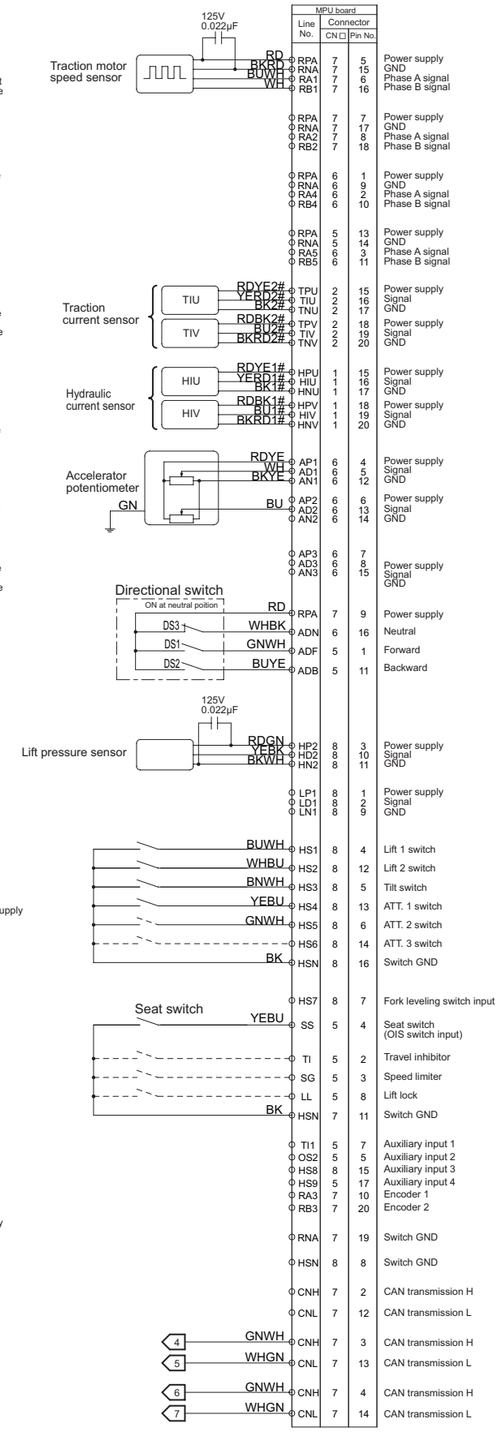
Ex) BKWH (=Black/White)
Black colored harness with White line.

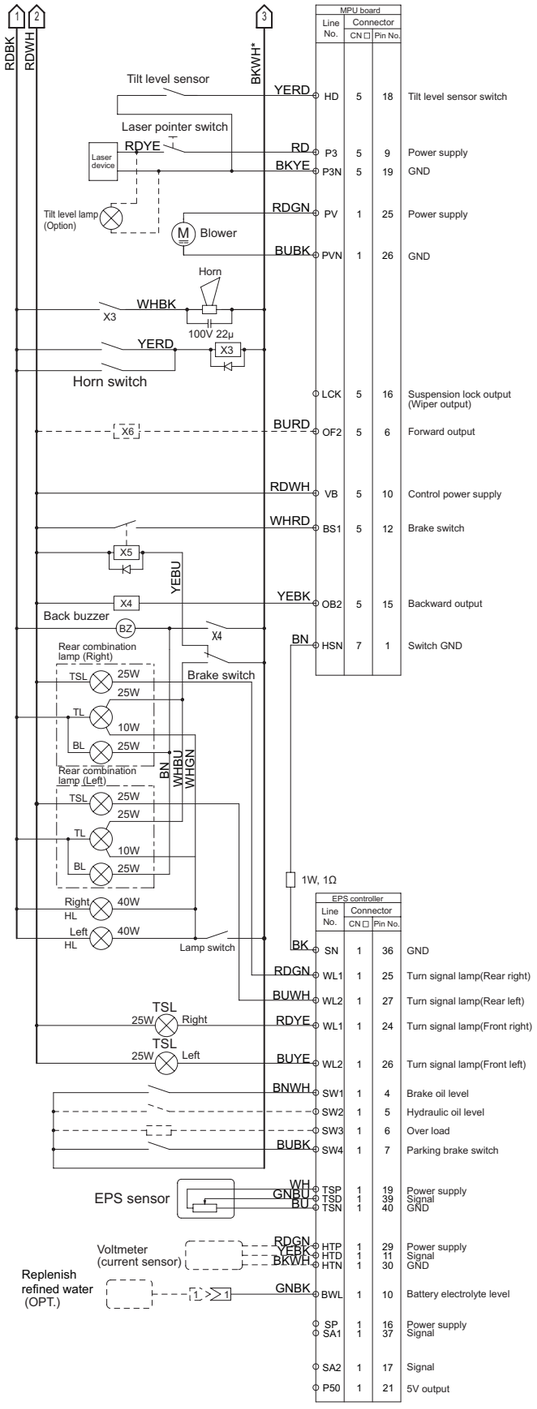
System wiring (MPU board unified gate circuit with two relays for backward) 4- 2.

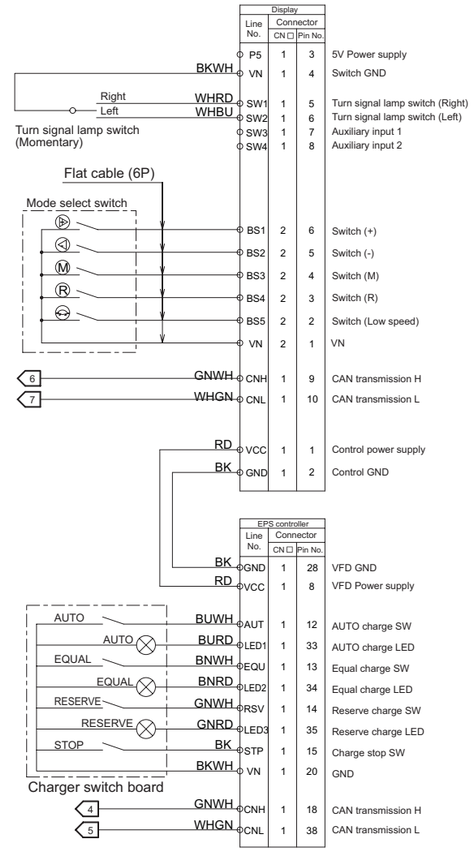
FB30CA (FBCA: 251AC1531-) 4-2-4.

54001-88202-0E









<NOTE>

1. Terminal symbols
   - :Plug(Plated) AMP 170020-2
   - :Receptacle(Plated) AMP 170021-2
2. Lead wires marked with # or * have different diameters.
3. When the lines are connected, the hourmeter starts counting.

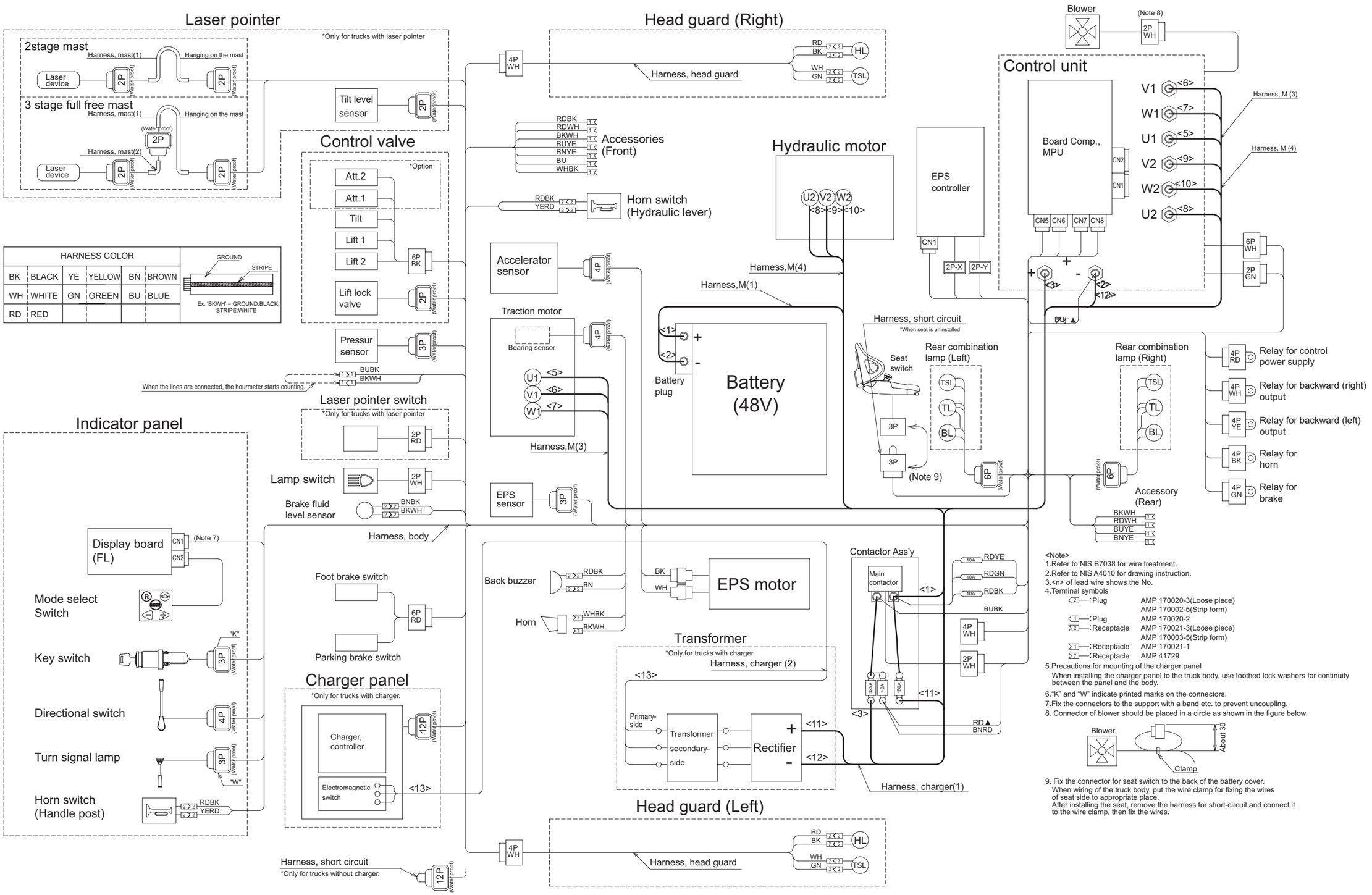
HARNESS COLOR						GROUND / STRIPE
BK	BLACK	YE	YELLOW	BN	BROWN	
WH	WHITE	GN	GREEN	BU	BLUE	
RD	RED					

Ex. 'BKWH' = GROUND:BLACK, STRIPE:WHITE

System wiring (MPU board unified gate circuit) 4- 2.

NFT production 4-2-5.

54002-17960-0E



<Note>
1.Refer to NIS B7038 for wire treatment.
2.Refer to NIS A4010 for drawing instruction.
3.<n> of lead wire shows the No.
4.Terminal symbols

◁2	:Plug	AMP 170020-3(Loose piece) AMP 170002-5(Strip form)
◁1	:Plug	AMP 170020-2
▷2	:Receptacle	AMP 170021-3(Loose piece) AMP 170003-5(Strip form)
▷1	:Receptacle	AMP 170021-1
▷7	:Receptacle	AMP 41729

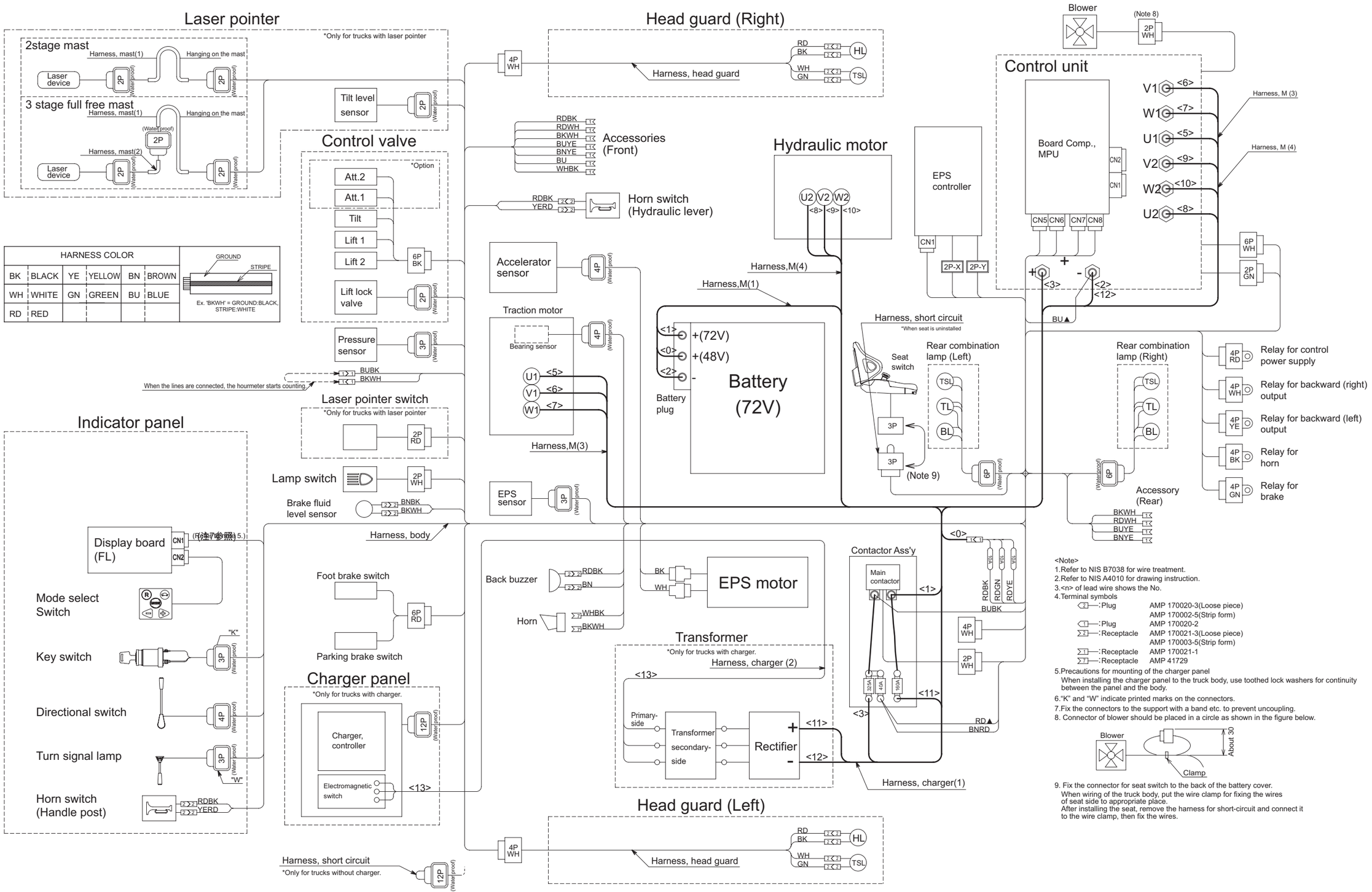
5.Precautions for mounting of the charger panel
When installing the charger panel to the truck body, use toothed lock washers for continuity between the panel and the body.
6."K" and "W" indicate printed marks on the connectors.
7.Fix the connectors to the support with a band etc. to prevent uncoupling.
8. Connector of blower should be placed in a circle as shown in the figure below.

9. Fix the connector for seat switch to the back of the battery cover.
When wiring of the truck body, put the wire clamp for fixing the wires of seat side to appropriate place.
After installing the seat, remove the harness for short-circuit and connect it to the wire clamp, then fix the wires.

Body wiring (MPU board unified gate circuit) 4- 2.

FB10CA-28CA/FB10HCA-25HCA 4-2-6.

54001-96303-0E



HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				

GROUND
STRIPE
Ex. 'BKWH' = GROUND:BLACK, STRIPE:WHITE

<Note>
1.Refer to NIS B7038 for wire treatment.
2.Refer to NIS A4010 for drawing instruction.
3.<n> of lead wire shows the No.
4.Terminal symbols
- ◇2—: Plug — AMP 170020-3(Loose piece), AMP 170002-5(Strip form)
- ◁1—: Plug — AMP 170020-2
- ▷2—: Receptacle — AMP 170021-3(Loose piece), AMP 170003-5(Strip form)
- ▷1—: Receptacle — AMP 170021-1
- ▷7—: Receptacle — AMP 41729

5.Precautions for mounting of the charger panel
When installing the charger panel to the truck body, use toothed lock washers for continuity between the panel and the body.
6.“K” and “W” indicate printed marks on the connectors.
7.Fix the connectors to the support with a band etc. to prevent uncoupling.
8. Connector of blower should be placed in a circle as shown in the figure below.

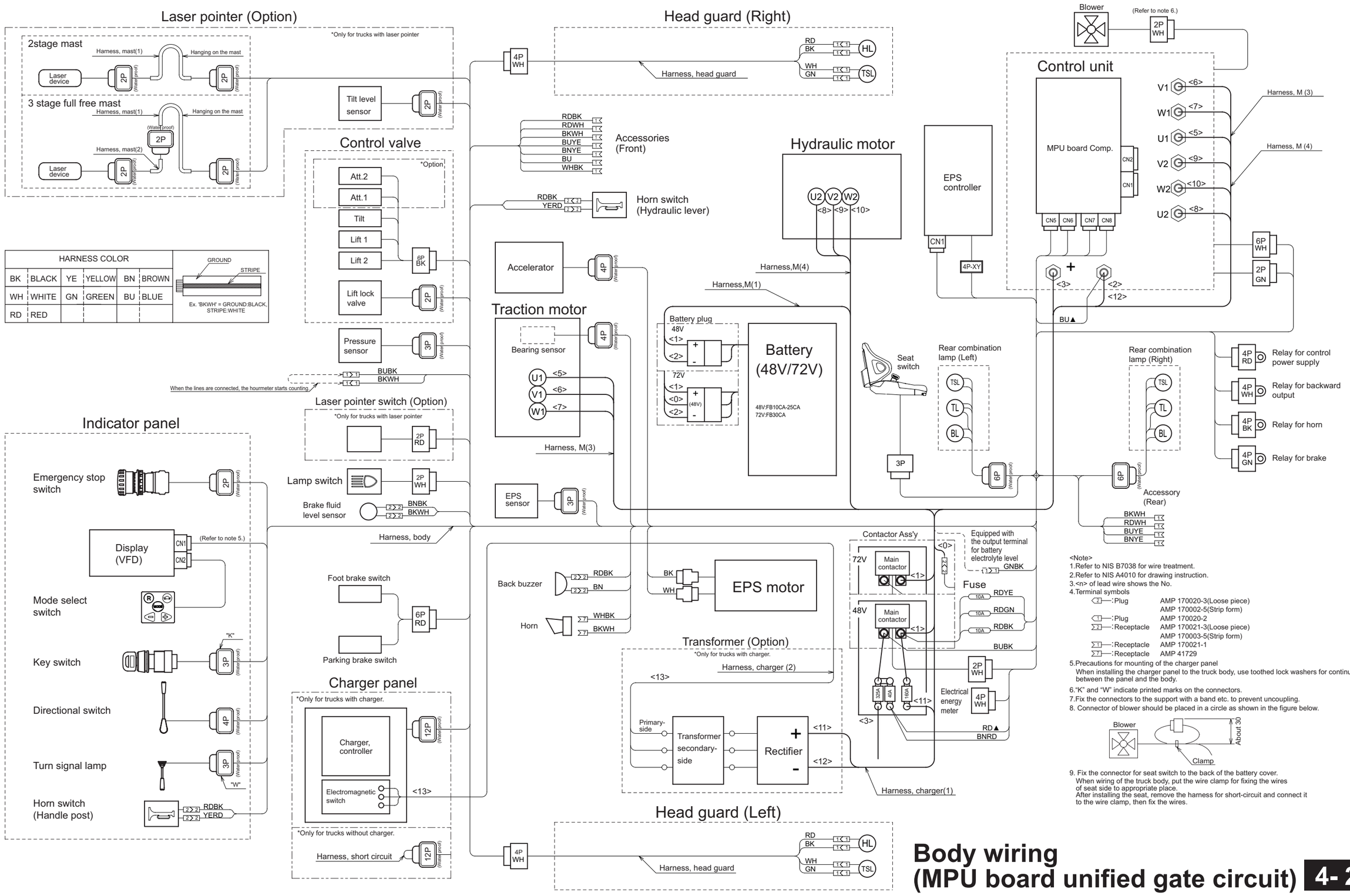
9. Fix the connector for seat switch to the back of the battery cover.
When wiring of the truck body, put the wire clamp for fixing the wires of seat side to appropriate place.
After installing the seat, remove the harness for short-circuit and connect it to the wire clamp, then fix the wires.

Body wiring (MPU board unified gate circuit) 4- 2.

FB30CA

4-2-7.

54001-96313-0E



<Note>
1.Refer to NIS B7038 for wire treatment.
2.Refer to NIS A4010 for drawing instruction.
3.<n> of lead wire shows the No.
4.Terminal symbols

2	:Plug	AMP 170020-3(Loose piece)
		AMP 170002-5(Strip form)
1	:Plug	AMP 170020-2
2	:Receptacle	AMP 170021-3(Loose piece)
		AMP 170003-5(Strip form)
1	:Receptacle	AMP 170021-1
7	:Receptacle	AMP 41729

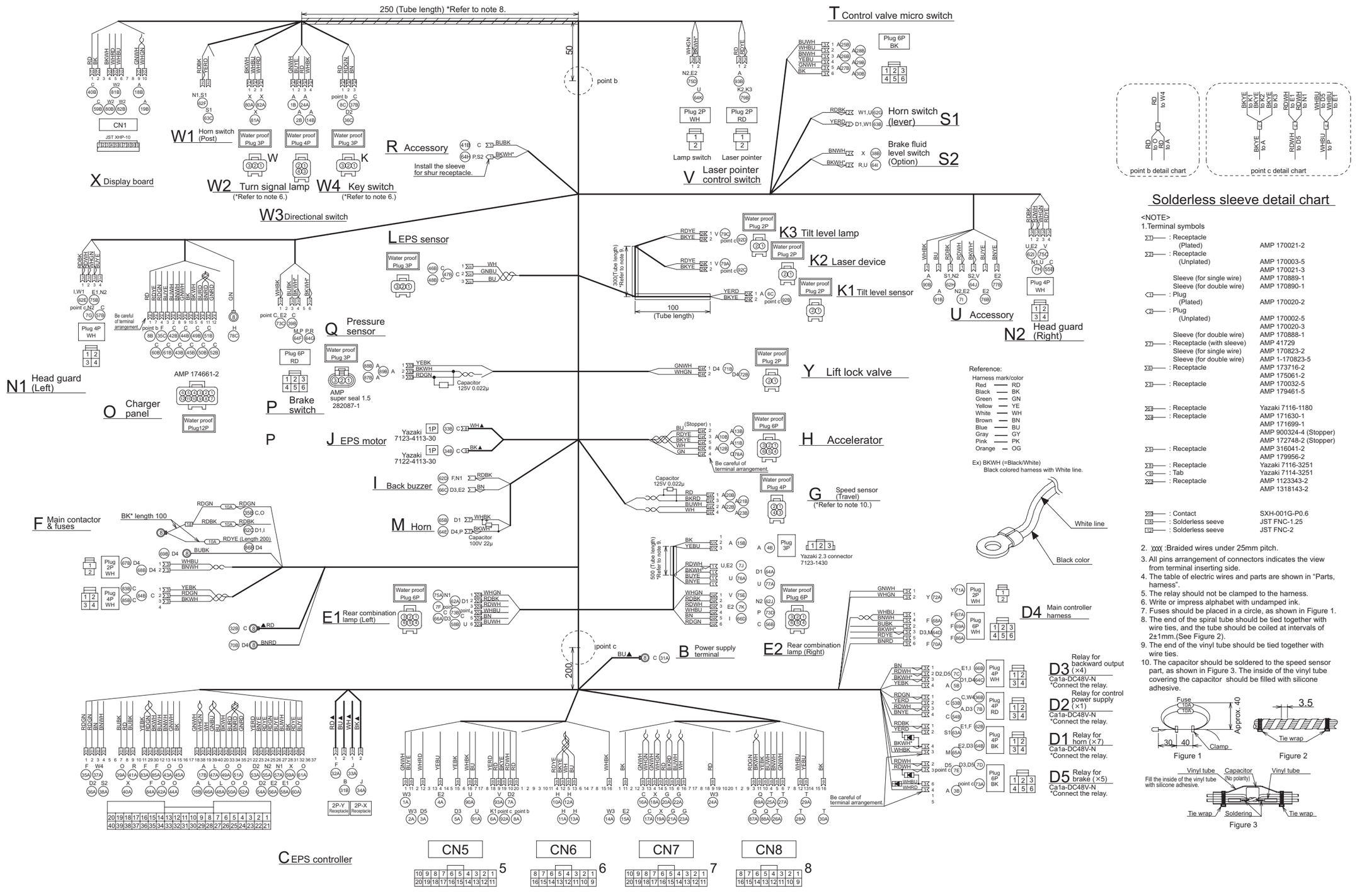
5.Precautions for mounting of the charger panel
When installing the charger panel to the truck body, use toothed lock washers for continuity between the panel and the body.
6."K" and "W" indicate printed marks on the connectors.
7.Fix the connectors to the support with a band etc. to prevent uncoupling.
8. Connector of blower should be placed in a circle as shown in the figure below.

9. Fix the connector for seat switch to the back of the battery cover.
When wiring of the truck body, put the wire clamp for fixing the wires of seat side to appropriate place.
After installing the seat, remove the harness for short-circuit and connect it to the wire clamp, then fix the wires.

Body wiring (MPU board unified gate circuit) 4- 2.

NFT production 4-2-8.

54002-17970-0E



Solderless sleeve detail chart

<NOTE>
1.Terminal symbols

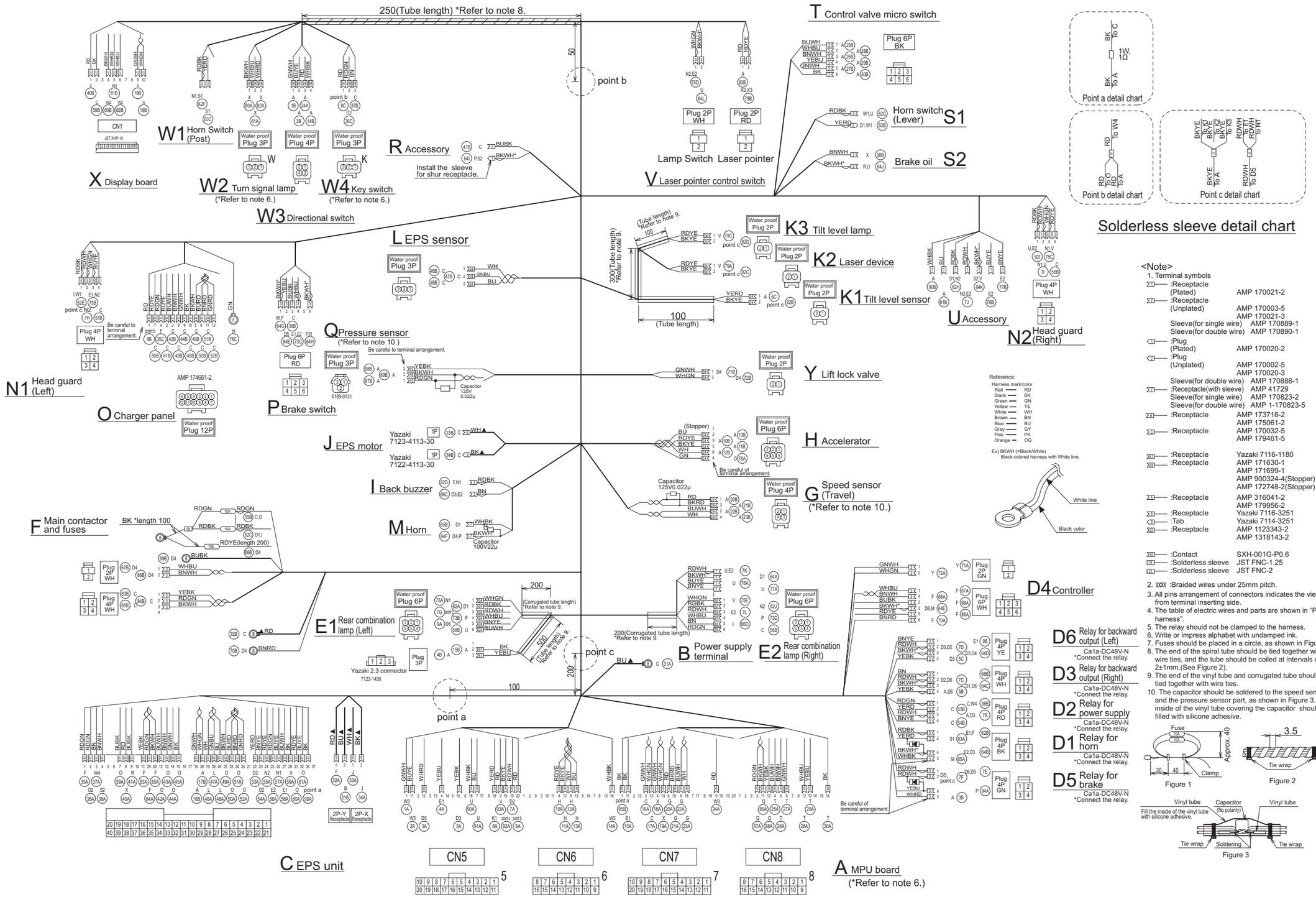
1 : Receptacle (Plated)	AMP 170021-2
2 : Receptacle (Unplated)	AMP 170003-5
	AMP 170021-3
Sleeve (for single wire)	AMP 170889-1
Sleeve (for double wire)	AMP 170890-1
1 : Plug (Plated)	AMP 170020-2
2 : Plug (Unplated)	AMP 170002-5
	AMP 170020-3
Sleeve (for double wire)	AMP 170888-1
7 : Receptacle (with sleeve)	AMP 41729
Sleeve (for single wire)	AMP 170823-2
Sleeve (for double wire)	AMP 1-170823-5
8 : Receptacle	AMP 173716-2
	AMP 175061-2
3 : Receptacle	AMP 170032-5
	AMP 179461-5
25 : Receptacle	Yazaki 7116-1180
22 : Receptacle	AMP 171630-1
	AMP 171699-1
	AMP 900324-4 (Stopper)
	AMP 172748-2 (Stopper)
5 : Receptacle	AMP 316041-2
	AMP 179956-2
33 : Receptacle	Yazaki 7116-3251
39 : Tab	Yazaki 7114-3251
22 : Receptacle	AMP 1123343-2
	AMP 1318143-2
20 : Contact	SXH-001G-P0.6
18 : Solderless seeve	JST FNC-1.25
12 : Solderless seeve	JST FNC-2

2. xxxx :Braided wires under 25mm pitch.
3. All pins arrangement of connectors indicates the view from terminal inserting side.
4. The table of electric wires and parts are shown in “Parts, harness”.
5. The relay should not be clamped to the harness.
6. Write or impress alphabet with undamped ink.
7. Fuses should be placed in a circle, as shown in Figure 1.
8. The end of the spiral tube should be tied together with wire ties, and the tube should be coiled at intervals of 2±1mm.(See Figure 2).
9. The end of the vinyl tube should be tied together with wire ties.
10. The capacitor should be soldered to the speed sensor part, as shown in Figure 3. The inside of the vinyl tube covering the capacitor should be filled with silicone adhesive.

Body harness (MPU board unified gate circuit) 4- 2.

FB10CA-28CA/FB10HCA-25HCA (FB10CA-18CA: -221E05489 / FB20CA-28CA: -241C00518) 4-2-9.

54001-95061-0E



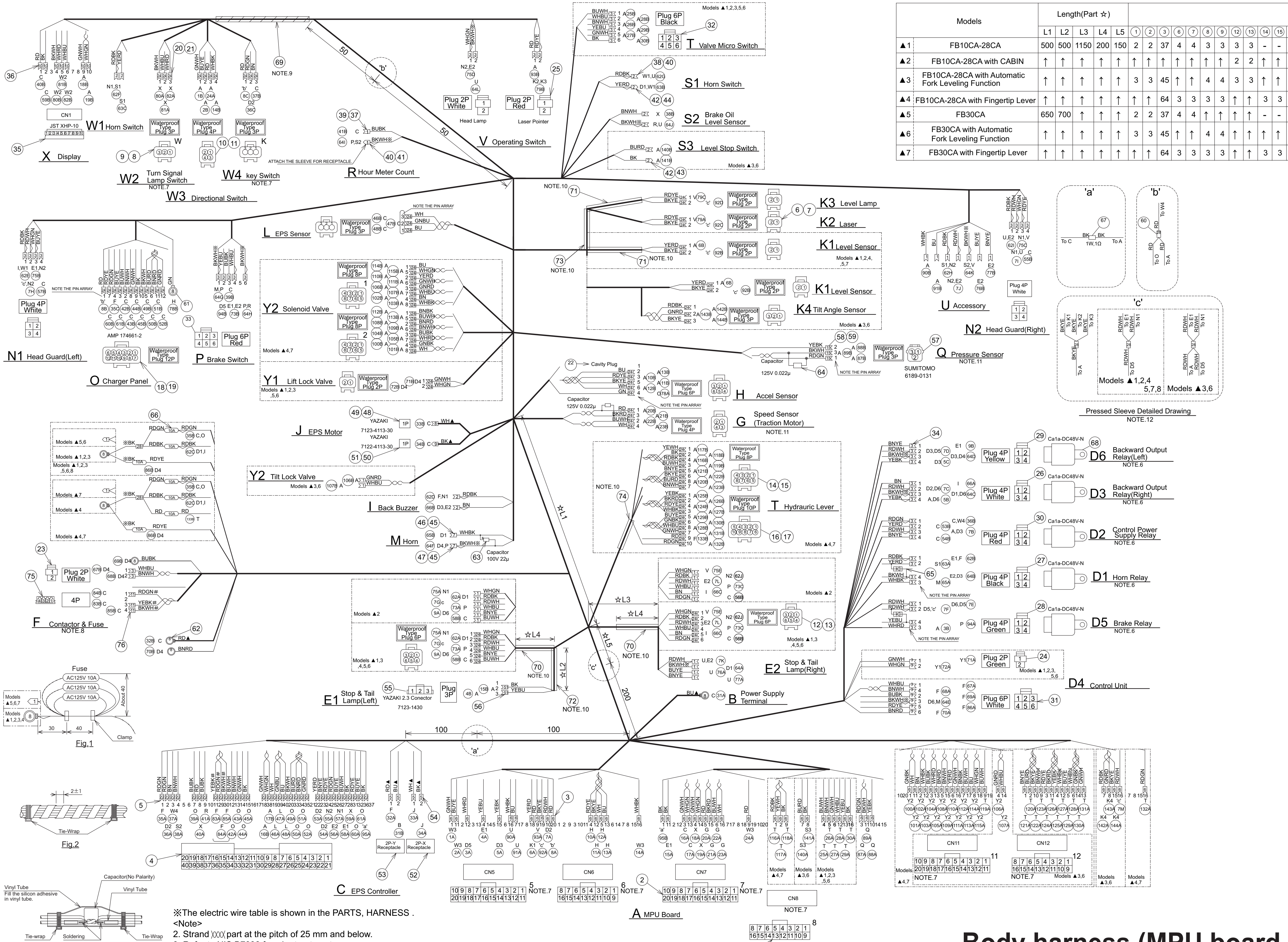
Body harness (MPU board unified gate circuit with two relays for backward)

4- 2.

FB10CA-28CA/FB10HCA-25HCA (FB10CA-18CA: 221E05490-08894/ FB20CA-28CA: 241C00519-02670)

4-2-10.

54002-22471-0E



※Permissible substitutes can be used.

Models		Length(Part ☆)					Quantity:N																										
		L1	L2	L3	L4	L5	1	2	3	6	7	8	9	12	13	14	15	16	17	20	21	24	37	38	39	41	42	43	44	61	66	71	74
▲1	FB10CA-28CA	500	500	1150	200	150	2	2	37	4	4	3	3	3	3	-	-	-	-	54	54	1	12	7	7	1	1	-	2	3	3	1	—
▲2	FB10CA-28CA with CABIN	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	2	2	↑	↑	↑	↑	42	42	↑	24	↑	19	↑	↑	↑	↑	↑	↑	↑	↑
▲3	FB10CA-28CA with Automatic Fork Leveling Function	↑	↑	↑	↑	↑	3	3	45	↑	↑	4	4	3	3	↑	↑	↑	↑	57	57	↑	14	8	10	↑	2	1	↑	↑	↑	2	↑
▲4	FB10CA-28CA with Fingertip Lever	↑	↑	↑	↑	↑	↑	↑	64	3	3	3	3	↑	↑	3	3	1	1	86	86	—	12	7	7	↑	1	-	↑	↑	4	1	1
▲5	FB30CA	650	700	↑	↑	↑	2	2	37	4	4	↑	↑	↑	↑	-	-	-	-	54	54	1	↑	↑	↑	2	↑	↑	3	2	3	↑	—
▲6	FB30CA with Automatic Fork Leveling Function	↑	↑	↑	↑	↑	3	3	45	↑	↑	4	4	↑	↑	↑	↑	↑	↑	57	57	↑	14	8	10	↑	2	1	↑	↑	↑	2	↑
▲7	FB30CA with Fingertip Lever	↑	↑	↑	↑	↑	↑	↑	64	3	3	3	3	↑	↑	3	3	1	1	86	86	—	12	7	7	↑	1	-	↑	↑	4	1	1

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
76	Contact	SEH-001G-PU-P0.6	Gilding	3		JST [11]
75	Housing	EHR-4		1		JST EH
74	Vinyl Tube(Inside Diameter:10mm,Length:1400mm,Black)			N		
73	Vinyl Tube(Inside Diameter:10mm,Length:300mm,Black)			1		
72	Vinyl Tube(Inside Diameter:6mm,Length:☆L2,Black)			1		
71	Vinyl Tube(Inside Diameter:6mm,Length:100mm,Black)			N		
70	Corrugate Tube(φ7)	CDP-B907-1		2	※	Shinagawa Shoko
69	Spiral Tube	SPP-13L		1	※	KITAGAWA INDUSTRIES
68	Relay	Ca1a-DC48V-N	ACA1223 AO1	5		Panasonic
67	Register	MOSX1C010J(1W,1Ω)		1	※	KOA
66	Fuse Comp.	10A		N	※	[10A]
65	Diode	1G6		2	※	NihonInter
64	Capacitor(125V 0.022uF)	QXL2B223KTPT		2		NICHICON
63	Capacitor(100V 22uF)	TVX2A220MAD		1		NICHICON
62	Termial,LA	7009-1334	No plating	N	※	YAZAKI [8]
61	Termial,LA	7009-1324	No plating	3	※	YAZAKI [8]
60	Terminal	P1.25		4		JST [28]
59	Seal,Wire	7165-0385		3		Sumitomo Wiring Systems
58	Terminal(F)	1500-0110	Tinning	3		Sumitomo Wiring Systems [15]
57	Housing(3P-F)	6189-0131		1		Sumitomo Wiring Systems
56	Receptacle	7116-1180	Tinning	2		YAZAKI [51]
55	Housing(3P-F)	7123-1430		1		YAZAKI
54	Receptacle 179956-2(Loose Piece)316041-2(Strip Form)		Gilding	4		AMP [5]
53	Housing,Receptacle(2P-Y)	2-179958-2		1		AMP D05200
52	Housing,Receptacle(2P-X)	1-179958-2		1		AMP D05200
51	Tab	7114-3251	Tinning	1		YAZAKI [9]
50	Conector,Receptacle(1P)	7123-4113-30		1		YAZAKI 58L
49	Receptacle	7116-3251	Tinning	1		YAZAKI [8]
48	Conector,Receptacle(1P)	7123-4113-30		1		YAZAKI 58L
47	Sleeve(For two)	1-170823-5		1		AMP 250
46	Sleeve(For one)	170823-2		1		AMP 250
45	Receptacle	41729	With Sleeve	2		AMP [7]
44	Sleeve(For two)	170888-1		N		AMP
43	Sleeve(For One)	170887-1		N		AMP
42	Plug 170020-3(Loose Piece)170002-5(Strip Form)		No plating	N		AMP [2]
41	Plug	170020-2	Tinning	N		AMP [1]
40	Sleeve(For two)	170890-1		11		AMP
39	Sleeve(For one)	170889-1		N		AMP
38	Receptacle 170021-3(Loose Piece)170003-5(Strip Form)		No plating	N		AMP [2]
37	Receptacle	170021-2	Tinning	N		AMP [1]
36	Contact	SXH-001G-P0.6	Gilding	7		JST [10]
35	Housing	XHP-10		1		JST XH
34	Receptacle 179461-5(Loose Piece)170032-5(Strip Form)		Tinning	55		AMP [3]
33	Housing,Plug(6P Red)	171898-9		1		AMP 250
32	Housing,Plug(6P Black)	171898-2		1		AMP 250
31	Housing,Plug(6P White)	171898-1		1		AMP 250
30	Housing,Plug(4P Red)	172134-9		1		AMP 250
29	Housing,Plug(4P Yellow)	172134-7		1		AMP 250
28	Housing,Plug(4P Green)	172134-4		1		AMP 250
27	Housing,Plug(4P Black)	172134-2		1		AMP 250
26	Housing,Plug(4P White)	172134-1		3		AMP 250
25	Housing,Plug(2P Red)	172130-9		1		AMP 250
24	Housing,Plug(2P Green)	172130-4		N		AMP 250
23	Housing,Plug(2P White)	172130-1		2		AMP 250
22	Seal(Cavity Plug)	172748-2		1		AMP
21	Seal(Rubber Plug)	900324-4		N		AMP
20	Receptacle 171699-1(Loose Piece)171630-1(Strip Form)		Tinning	N		AMP [24]
19	Plate,Double Lock(12P)	174662-7		1		AMP
18	Housing,Plug(12P)	174661-2		1		AMP
17	Plate,Double Lock(10P)	174656-7		N		AMP
16	Housing,Plug(10P)	174655-2		N		AMP
15	Plate,Double Lock(8P)	174983-7		N		AMP
14	Housing,Plug(8P)	174982-2		N		AMP
13	Plate,Double Lock(6P)	174263-7		N		AMP
12	Housing,Plug(6P)	174262-2		N		AMP
11	Plate,Double Lock(4P)	174258-7		2		AMP
10	Housing,Plug(4P)	174257-2		2		AMP
9	Plate,Double Lock(3P)	174358-7		N		AMP
8	Housing,Plug(3P)	174357-2		N		AMP
7	Plate,Double Lock(2P)	174353-7		N		AMP
6	Housing,Plug(2P)	174352-2		N		AMP
5	Receptacle 1318143-2(Loose Piece)1123343-2(Strip Form)		Tinning	33		AMP [22]
4	Housing,Plug(40P)	1318389-1		1		AMP 025
3	Receptacle 175061-2(Loose Piece)173716-2(Strip Form)		Gilding	N		AMP [6]
2	Housing,Plug(20P)	175967-2		N		AMP 040
1	Housing,Plug(16P)	175966-2		N		AMP 040

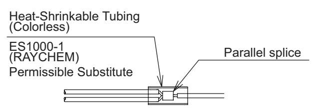


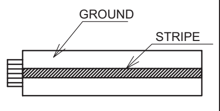
Fig.4

※The electric wire table is shown in the PARTS, HARNESS .

<Note>

2. Strand part at the pitch of 25 mm and below.
3. Refer to NIS B7038 for wire treatment.
4. Refer to NIS A4010 for drawing instruction.
5. All pin layout shows of connector the view terminal insert side.
6. Relay shall not be tied to the main harness.
7. Display the alphabet or number with description or stamping in immortal ink.
8. Fuse should be tied together in the form of concentric circle like Fig.1.
9. Winded by spiral tube at 2±1mm-intervals as shown in Fig. 2.
10. Covered by corrugate tube / vinyl tube. Both ends should be tied up by tie-wrap.
11. Solder the installation of the capacitor of the speed sensor and the pressure sensor as shown in Fig.3. And fill this the silicon adhesive in the vinyl tube.
12. Harness branches treatment should be like Fig.4.
13. Lead wire
   - ※ : AVS 0.85mm^2
   - ▲ : UL1015 AWG12
   - # : AVSS 0.3mm^2
   - other : AVSS 0.5mm^2

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



Ex. 'BKWH' = GROUND:BLACK, STRIPE:WHITE

Body harness (MPU board unified gate circuit with two relays for backward)

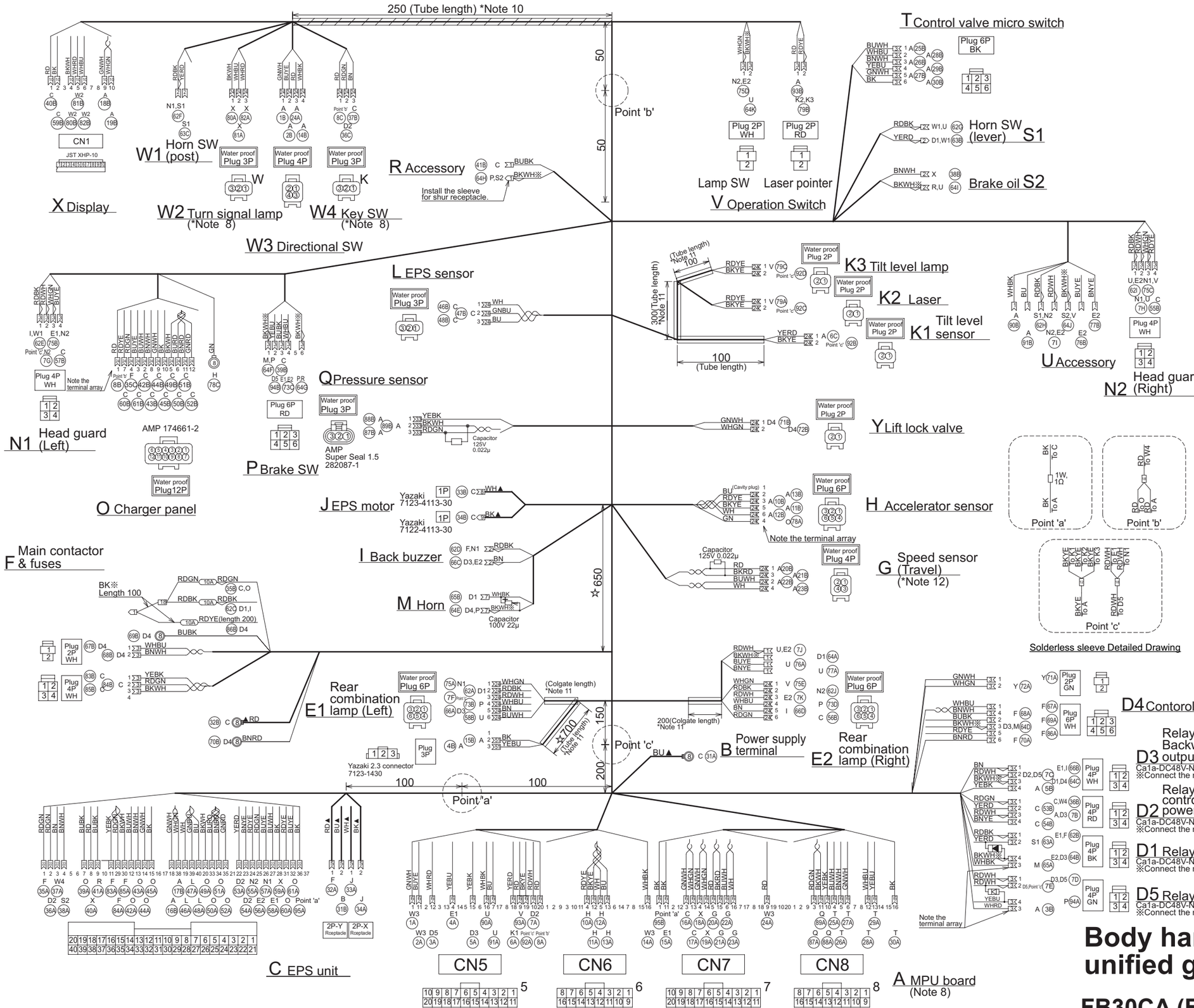
4- 2.

FB10CA-28CA/FB10HCA-25HCA

4-2-11.

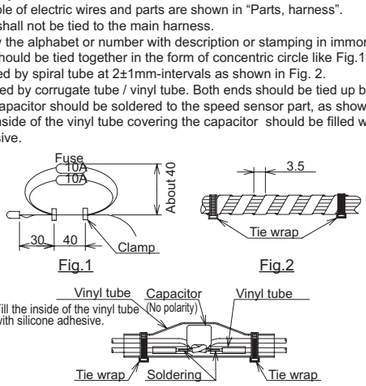
(FB10CA-18CA: 221E08895- / FB20CA-28CA: 241C02671-)

54002-44670-0 (E0000-42431-0E)



<Note>

1. Terminal symbols
   - ∑1 :Receptacle (Plated) AMP 170021-2
   - ∑2 :Receptacle (Unplated) AMP 170003-5(Strip form), AMP 170021-3(Loose piece)
     Sleeve(for single wire) AMP 170889-1
     Sleeve(for double wire) AMP 170890-1
   - ◁1 :Plug (Plated) AMP 170020-2
   - ◁2 :Plug (Unplated) AMP 170002-5(Strip form), AMP 170020-3(Loose piece)
     Sleeve(for double wire) AMP 170888-1
   - ∑7 :Receptacle(with sleeve) AMP 41729
     Sleeve(for single wire) AMP 170823-2
     Sleeve(for double wire) AMP 1-170823-5
   - ∑6 :Receptacle AMP 173716-2(Strip form), AMP 175061-2(Loose piece)
   - ∑3 :Receptacle AMP 170032-5(Strip form), AMP 179461-5(Loose piece)
   - ∑5 :Receptacle Yazaki 7116-1180
   - ∑4 :Receptacle AMP 171630-1(Strip form), AMP 171699-1(Loose piece), AMP 900324-4(Cavity plug), AMP 172748-2(Cavity plug)
   - ∑5 :Receptacle AMP 316041-2(Strip form), AMP 179956-2(Loose piece)
   - ∑8 :Receptacle Yazaki 7116-3251
   - ∑9 :Tab Yazaki 7114-3251
   - ∑2 :Receptacle AMP 1123343-2(Strip form), AMP 1318143-2(Loose piece)
   - ∑10 :Contact SXH-001G-P0.6
   - ∑8 :Solderless sleeve JST FNC-1.25
   - ∑12 :Solderless sleeve JST FNC-2
2. Strand ⅩⅩⅩ part at the pitch of 25 mm and below.
3. Refer to NIS B7038 for wire treatment.
4. Refer to NIS A4010 for drawing instruction.
5. All pin layout shows of connector the view terminal insert side.
6. The table of electric wires and parts are shown in “Parts, harness”.
7. Relay shall not be tied to the main harness.
8. Display the alphabet or number with description or stamping in immortal ink.
9. Fuse should be tied together in the form of concentric circle like Fig.1.
10. Winded by spiral tube at 2±1mm-intervals as shown in Fig. 2.
11. Covered by corrugate tube / vinyl tube. Both ends should be tied up by tie-wrap.
12. The capacitor should be soldered to the speed sensor part, as shown in Fig. 3.
    The inside of the vinyl tube covering the capacitor should be filled with silicone adhesive.



HARNESS COLOR						GROUND / STRIPE
BK	BLACK	YE	YELLOW	BN	BROWN	
WH	WHITE	GN	GREEN	BU	BLUE	
RD	RED					

Ex. 'BKWH' = GROUND:BLACK, STRIPE:WHITE

※ This harness is different from FB10CA-28CA in the☆ marked length (2 locations) only.

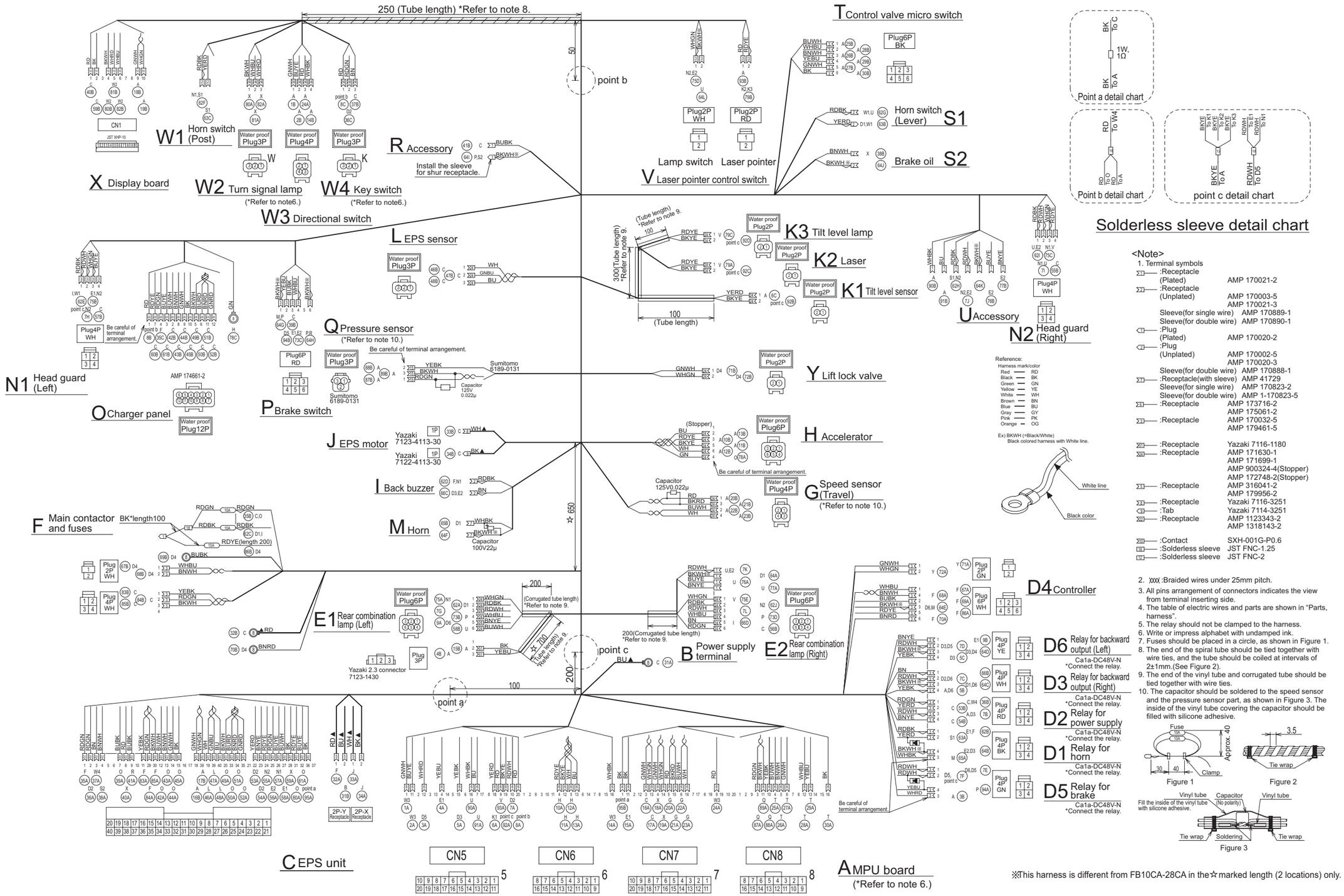
Body harness (MPU board unified gate circuit)

4- 2.

FB30CA (FB30CA: -251AC1446)

4-2-12.

54001-95073-0E



<Note>

1. Terminal symbols
   - :Receptacle (Plated) AMP 170021-2
   - :Receptacle (Unplated) AMP 170003-5, AMP 170021-3
   - Sleeve(for single wire) AMP 170889-1
   - Sleeve(for double wire) AMP 170890-1
   - :Plug (Plated) AMP 170020-2
   - :Plug (Unplated) AMP 170002-5, AMP 170020-3
   - Sleeve(for double wire) AMP 170888-1
   - :Receptacle(with sleeve) AMP 41729
   - Sleeve(for single wire) AMP 170823-2
   - Sleeve(for double wire) AMP 1-170823-5
   - :Receptacle AMP 173716-2, AMP 175061-2
   - :Receptacle AMP 170032-5, AMP 179461-5
   - :Receptacle Yazaki 7116-1180
   - :Receptacle AMP 171630-1, AMP 171699-1, AMP 900324-4(Stopper), AMP 172748-2(Stopper)
   - :Receptacle AMP 316041-2, AMP 179956-2
   - :Receptacle Yazaki 7116-3251
   - :Tab Yazaki 7114-3251
   - :Receptacle AMP 1123343-2, AMP 1318143-2
   - :Contact SXH-001G-P0.6
   - :Solderless sleeve JST FNC-1.25
   - :Solderless sleeve JST FNC-2
2. XXX :Braided wires under 25mm pitch.
3. All pins arrangement of connectors indicates the view from terminal inserting side.
4. The table of electric wires and parts are shown in “Parts, harness”.
5. The relay should not be clamped to the harness.
6. Write or impress alphabet with undamped ink.
7. Fuses should be placed in a circle, as shown in Figure 1.
8. The end of the spiral tube should be tied together with wire ties, and the tube should be coiled at intervals of 2±1mm.(See Figure 2).
9. The end of the vinyl tube and corrugated tube should be tied together with wire ties.
10. The capacitor should be soldered to the speed sensor and the pressure sensor part, as shown in Figure 3. The inside of the vinyl tube covering the capacitor should be filled with silicone adhesive.

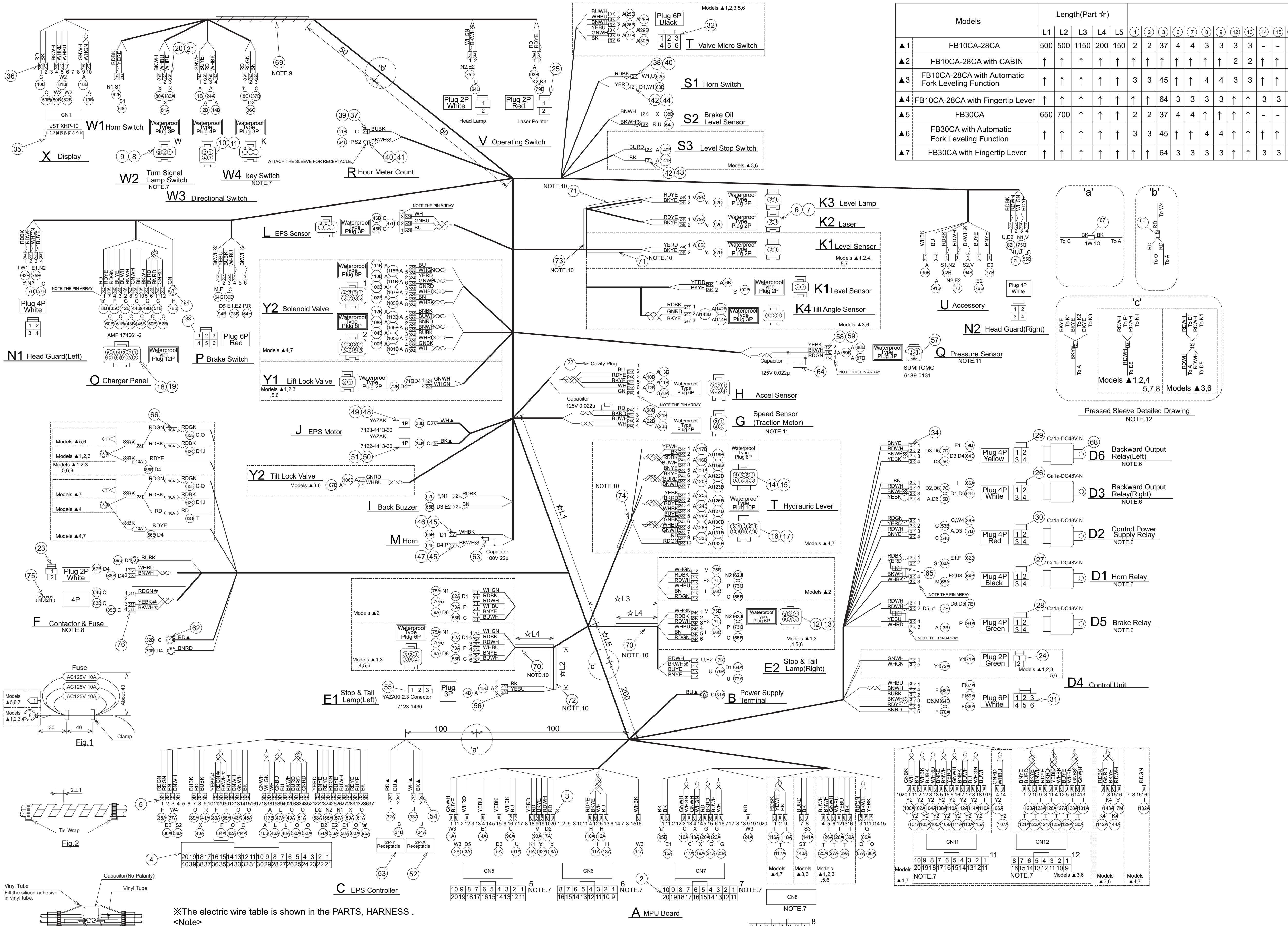
Reference:
Harness mark/color
Red — RD
Black — BK
Green — GN
Yellow — YE
White — WH
Brown — BN
Blue — BU
Gray — GY
Pink — PK
Orange — OG
Ex) BKWH (=Black/White) Black colored harness with White line.

※This harness is different from FB10CA-28CA in the☆marked length (2 locations) only.

Body harness (MPU board unified gate circuit with two relays for backward) 4- 2.

FB30CA (FB30CA: 251AC1447-1755) 4-2-13.

54002-22481-0E



Models		Length(Part ☆)					Quantity:N																									
		L1	L2	L3	L4	L5	1	2	3	6	7	8	9	12	13	14	15	16	17	20	21	24	37	38	39	41	42	43	44	61	66	71	74
▲1	FB10CA-28CA	500	500	1150	200	150	2	2	37	4	4	3	3	3	3	-	-	-	-	54	54	1	12	7	7	1	1	-	2	3	3	1	—
▲2	FB10CA-28CA with CABIN	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	2	2	↑	↑	↑	↑	42	42	↑	24	↑	19	↑	↑	↑	↑	↑	↑	↑	↑
▲3	FB10CA-28CA with Automatic Fork Leveling Function	↑	↑	↑	↑	↑	3	3	45	↑	↑	4	4	3	3	↑	↑	↑	↑	57	57	↑	14	8	10	↑	2	1	↑	↑	↑	2	↑
▲4	FB10CA-28CA with Fingertip Lever	↑	↑	↑	↑	↑	↑	↑	64	3	3	3	3	↑	↑	3	3	1	1	86	86	—	12	7	7	↑	1	-	↑	↑	4	1	1
▲5	FB30CA	650	700	↑	↑	↑	2	2	37	4	4	↑	↑	↑	↑	-	-	-	-	54	54	1	↑	↑	↑	2	↑	↑	3	2	3	↑	—
▲6	FB30CA with Automatic Fork Leveling Function	↑	↑	↑	↑	↑	3	3	45	↑	↑	4	4	↑	↑	↑	↑	↑	↑	57	57	↑	14	8	10	↑	2	1	↑	↑	↑	2	↑
▲7	FB30CA with Fingertip Lever	↑	↑	↑	↑	↑	↑	↑	64	3	3	3	3	↑	↑	3	3	1	1	86	86	—	12	7	7	↑	1	-	↑	↑	4	1	1

※Permissible substitutes can be used.

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
76	Contact	SEH-001G-PU-P0.6	Gilding	3		JST 11
75	Housing	EHR-4		1		JST EH
74	Vinyl Tube(Inside Diameter:10mm,Length:1400mm,Black)			N		
73	Vinyl Tube(Inside Diameter:10mm,Length:300mm,Black)			1		
72	Vinyl Tube(Inside Diameter:6mm,Length:☆L2,Black)			1		
71	Vinyl Tube(Inside Diameter:6mm,Length:100mm,Black)			N		
70	Corrugate Tube(φ7)	CDP-B907-1		2	※	Shinagawa Shoko
69	Spiral Tube	SPP-13L		1	※	KITAGAWA INDUSTRIES
68	Relay	Ca1a-DC48V-N	ACA1223 AO1	5		Panasonic
67	Register	MOSX1C010J(1W,1Ω)		1	※	KOA
66	Fuse Comp.	10A		N	※	10A
65	Diode	1G6		2	※	NihonInter
64	Capacitor(125V 0.022uF)QXL2B223KTPT			2		NICHICON
63	Capacitor(100V 22uF)	TVX2A220MAD		1		NICHICON
62	Termial,LA	7009-1334	No plating	N	※	YAZAKI 8
61	Termial,LA	7009-1324	No plating	3	※	YAZAKI 8
60	Terminal	P1.25		4		JST 28
59	Seal,Wire	7165-0385		3		Sumitomo Wiring Systems
58	Terminal(F)	1500-0110	Tinning	3		Sumitomo Wiring Systems 15
57	Housing(3P-F)	6189-0131		1		Sumitomo Wiring Systems
56	Receptacle	7116-1180	Tinning	2		YAZAKI 51
55	Housing(3P-F)	7123-1430		1		YAZAKI
54	Receptacle 179956-2(Loose Piece)316041-2(Strip Form)		Gilding	4		AMP 5
53	Housing,Receptacle(2P-Y)	2-179958-2		1		AMP D05200
52	Housing,Receptacle(2P-X)	1-179958-2		1		AMP D05200
51	Tab	7114-3251	Tinning	1		YAZAKI 9
50	Conector,Receptacle(1P)	7123-4113-30		1		YAZAKI 58L
49	Receptacle	7116-3251	Tinning	1		YAZAKI 8
48	Conector,Receptacle(1P)	7123-4113-30		1		YAZAKI 58L
47	Sleeve(For two)	1-170823-5		1		AMP 250
46	Sleeve(For one)	170823-2		1		AMP 250
45	Receptacle	41729	With Sleeve	2		AMP 7
44	Sleeve(For two)	170888-1		N		AMP
43	Sleeve(For One)	170887-1		N		AMP
42	Plug 170020-3(Loose Piece)170002-5(Strip Form)		No plating	N		AMP 2
41	Plug	170020-2	Tinning	N		AMP 1
40	Sleeve(For two)	170890-1		11		AMP
39	Sleeve(For one)	170889-1		N		AMP
38	Receptacle 170021-3(Loose Piece)170003-5(Strip Form)		No plating	N		AMP 2
37	Receptacle	170021-2	Tinning	N		AMP 1
36	Contact	SXH-001G-P0.6	Gilding	7		JST 10
35	Housing	XHP-10		1		JST XH
34	Receptacle 179461-5(Loose Piece)170032-5(Strip Form)		Tinning	55		AMP 3
33	Housing,Plug(6P Red)	171898-9		1		AMP 250
32	Housing,Plug(6P Black)	171898-2		1		AMP 250
31	Housing,Plug(6P White)	171898-1		1		AMP 250
30	Housing,Plug(4P Red)	172134-9		1		AMP 250
29	Housing,Plug(4P Yellow)	172134-7		1		AMP 250
28	Housing,Plug(4P Green)	172134-4		1		AMP 250
27	Housing,Plug(4P Black)	172134-2		1		AMP 250
26	Housing,Plug(4P White)	172134-1		3		AMP 250
25	Housing,Plug(2P Red)	172130-9		1		AMP 250
24	Housing,Plug(2P Green)	172130-4		N		AMP 250
23	Housing,Plug(2P White)	172130-1		2		AMP 250
22	Seal(Cavity Plug)	172748-2		1		AMP
21	Seal(Rubber Plug)	900324-4		N		AMP
20	Receptacle 171699-1(Loose Piece)171630-1(Strip Form)		Tinning	N		AMP 24
19	Plate,Double Lock(12P)	174662-7		1		AMP
18	Housing,Plug(12P)	174661-2		1		AMP
17	Plate,Double Lock(10P)	174656-7		N		AMP
16	Housing,Plug(10P)	174655-2		N		AMP
15	Plate,Double Lock(8P)	174983-7		N		AMP
14	Housing,Plug(8P)	174982-2		N		AMP
13	Plate,Double Lock(6P)	174263-7		N		AMP
12	Housing,Plug(6P)	174262-2		N		AMP
11	Plate,Double Lock(4P)	174258-7		2		AMP
10	Housing,Plug(4P)	174257-2		2		AMP
9	Plate,Double Lock(3P)	174358-7		N		AMP
8	Housing,Plug(3P)	174357-2		N		AMP
7	Plate,Double Lock(2P)	174353-7		N		AMP
6	Housing,Plug(2P)	174352-2		N		AMP
5	Receptacle 1318143-2(Loose Piece)1123343-2(Strip Form)		Tinning	33		AMP 22
4	Housing,Plug(40P)	1318389-1		1		AMP 025
3	Receptacle 175061-2(Loose Piece)173716-2(Strip Form)		Gilding	N		AMP 6
2	Housing,Plug(20P)	175967-2		N		AMP 040
1	Housing,Plug(16P)	175966-2		N		AMP 040

※The electric wire table is shown in the PARTS, HARNESS .

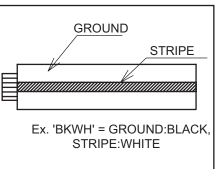
<Note>

2. Strand XXX part at the pitch of 25 mm and below.
3. Refer to NIS B7038 for wire treatment.
4. Refer to NIS A4010 for drawing instruction.
5. All pin layout shows of connector the view terminal insert side.
6. Relay shall not be tied to the main harness.
7. Display the alphabet or number with description or stamping in immortal ink.
8. Fuse should be tied together in the form of concentric circle like Fig.1.
9. Winded by spiral tube at 2±1mm-intervals as shown in Fig. 2.
10. Covered by corrugate tube / vinyl tube. Both ends should be tied up by tie-wrap.
11. Solder the installation of the capacitor of the speed sensor and the pressure sensor as shown in Fig.3. And fill this the silicon adhesive in the vinyl tube.
12. Harness branches treatment should be like Fig.4.

13. Lead wire

※	: AVS 0.85mm²
▲	: UL1015 AWG12
#	: AVSS 0.3mm²
other	: AVSS 0.5mm²

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				

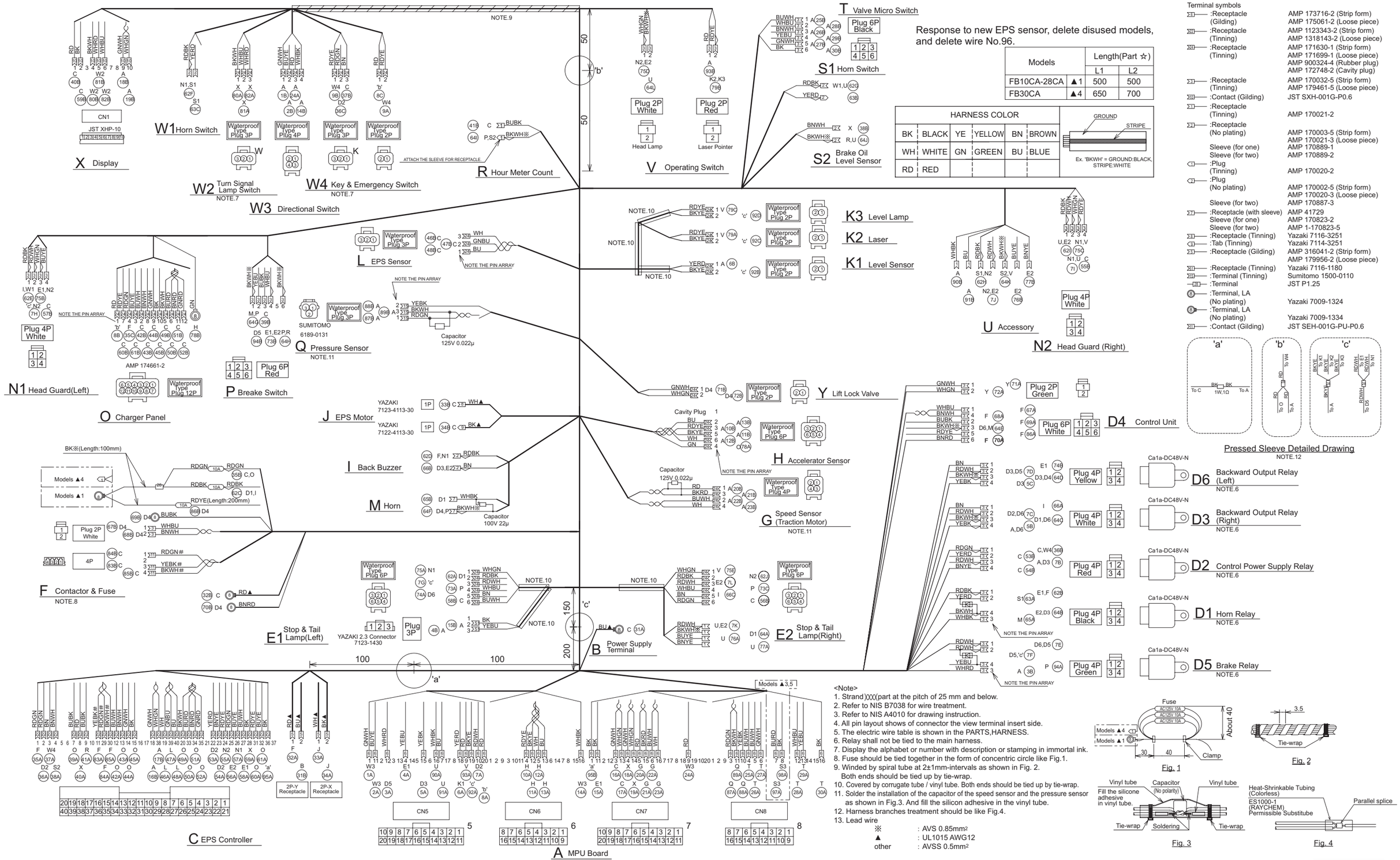


Body harness (MPU board unified gate circuit with two relays for backward)

4- 2.

FB30CA (FB30CA: 251AC1756-)

4-2-14.



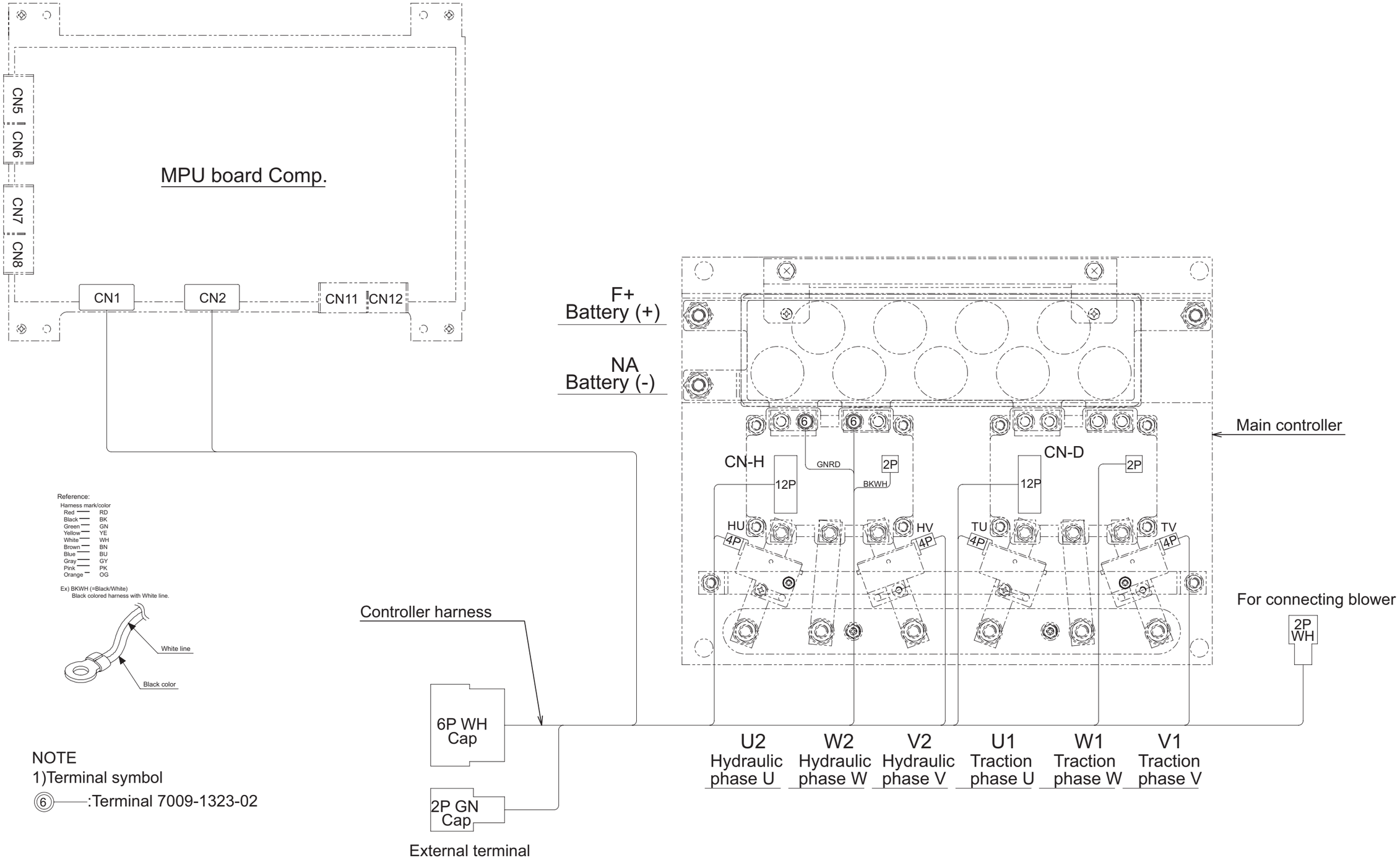
<Note>
1. Strand)))(((part at the pitch of 25 mm and below.
2. Refer to NIS B7038 for wire treatment.
3. Refer to NIS A4010 for drawing instruction.
4. All pin layout shows of connector the view terminal insert side.
5. The electric wire table is shown in the PARTS,HARNESS.
6. Relay shall not be tied to the main harness.
7. Display the alphabet or number with description or stamping in immortal ink.
8. Fuse should be tied together in the form of concentric circle like Fig.1.
9. Winded by spiral tube at 2±1mm-intervals as shown in Fig. 2.
   Both ends should be tied up by tie-wrap.
10. Covered by corrugate tube / vinyl tube. Both ends should be tied up by tie-wrap.
11. Solder the installation of the capacitor of the speed sensor and the pressure sensor as shown in Fig.3. And fill the silicon adhesive in the vinyl tube.
12. Harness branches treatment should be like Fig.4.
13. Lead wire
    ※ : AVS 0.85mm²
    ▲ : UL1015 AWG12
    other : AVSS 0.5mm²

Body harness (MPU board unified gate circuit) 4- 2.

NFT production

4-2-15.

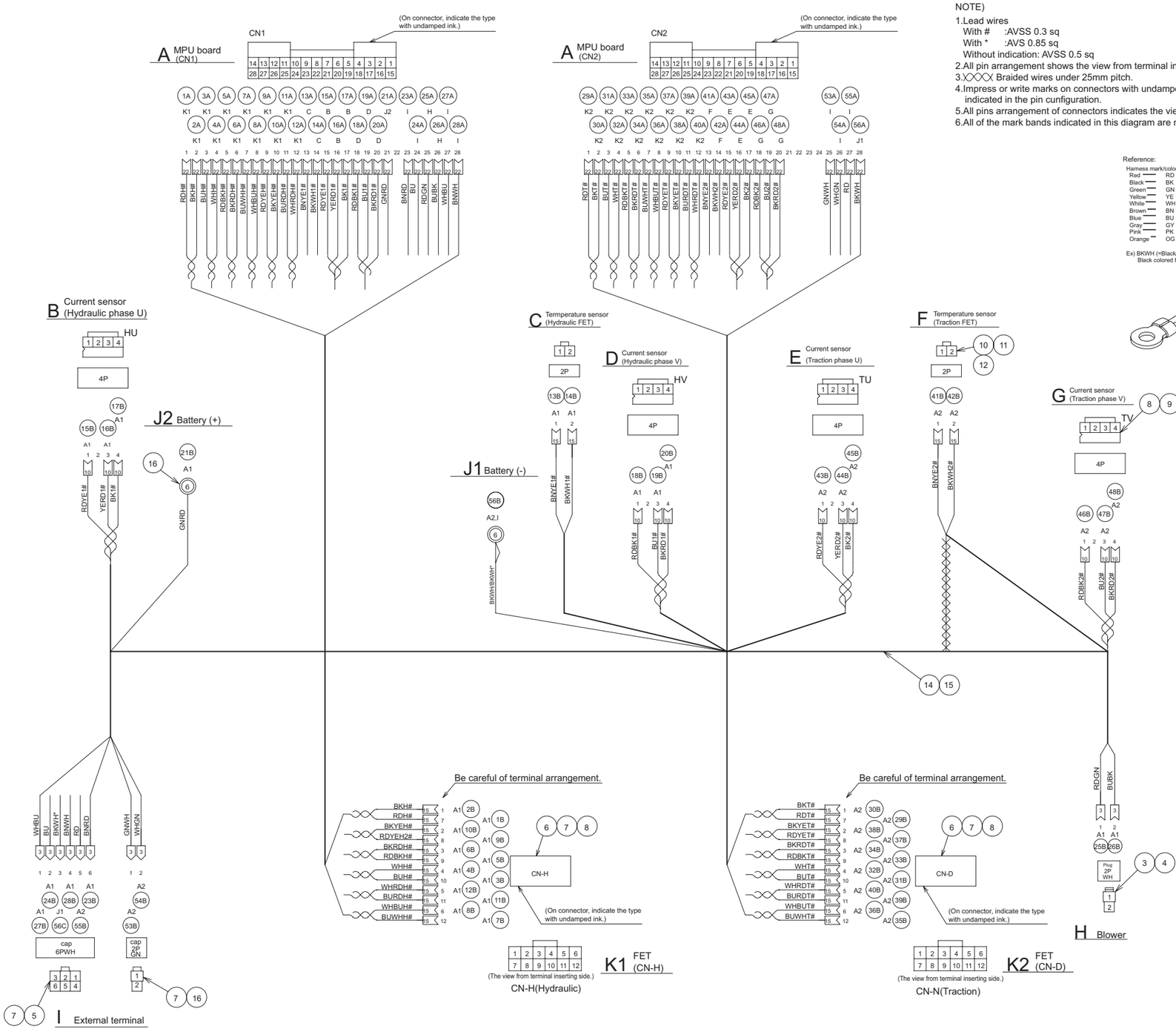
E0000-42461-0E



NOTE
1)Terminal symbol
⑥ :Terminal 7009-1323-02

Controller wiring (MPU board unified gate circuit) 4- 2.

FB10CA-30CA / FB10HCA-25HCA 4-2-16.



NOTE)

1.Lead wires
With # :AVSS 0.3 sq
With * :AVS 0.85 sq
Without indication: AVSS 0.5 sq

2.All pin arrangement shows the view from terminal inserting side.

3.Braided wires under 25mm pitch.

4.Impress or write marks on connectors with undamped ink as indicated in the pin cunfiguration.

5.All pins arrangement of connectors indicates the view from terminal inserting side.

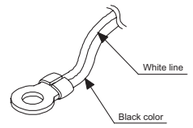
6.All of the mark bands indicated in this diagram are not necessary.

Reference:

Harness mark/color

Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

Ex) BKWH (=Black/White)
Black colored harness with White line.



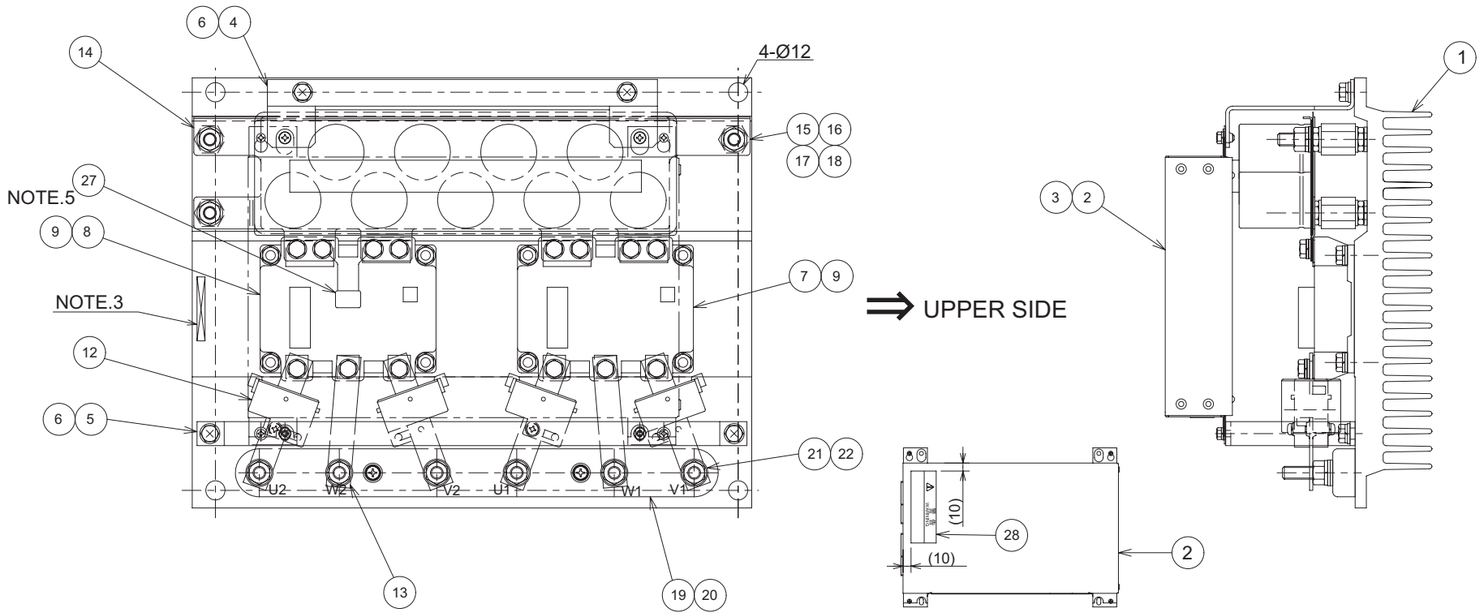
Line No.	From		To		Color	Length
1A — 1B	A1	22	11K	K1	RDH#	280
2A — 2B	A1	22	11K	K1	BKH#	280
3A — 3B	A1	22	11K	K1	BUH#	280
4A — 4B	A1	22	11K	K1	WHH#	280
5A — 5B	A1	22	11K	K1	RDBKH#	280
6A — 6B	A1	22	11K	K1	BKRDH#	280
7A — 7B	A1	22	11K	K1	BUWHH#	280
8A — 8B	A1	22	11K	K1	WHBUH#	280
9A — 9B	A1	22	11K	K1	RDYEH#	280
10A — 10B	A1	22	11K	K1	BKYEH#	280
11A — 11B	A1	22	11K	K1	BURDH#	280
12A — 12B	A1	22	11K	K1	WHRDH#	280
13A — 13B	A1	22	11K	C	BNYE1#	340
14A — 14B	A1	22	11K	C	BKWH1#	340
15A — 15B	A1	22	11K	B	RDYE1#	280
16A — 16B	A1	22	11K	B	YERD1#	280
17A — 17B	A1	22	11K	B	BK1#	280
18A — 18B	A1	22	11K	D	RDBK1#	300
19A — 19B	A1	22	11K	D	BU1#	300
20A — 20B	A1	22	11K	D	BKRD1#	300
21A — 21B	A1	22	6	J2	GNRD	310
23A — 23B	A1	22	3	I	GNRD	380
24A — 24B	A1	22	3	I	BU	380
25A — 25B	A1	22	3	H	RDGN	820
26A — 26B	A1	22	3	H	BUBK	820
27A — 27B	A1	22	3	I	WHBU	380
28A — 28B	A1	22	3	I	BNWH	380
29A — 29B	A2	22	11K	K2	RDT#	280
30A — 30B	A2	22	11K	K2	BKT#	280
31A — 31B	A2	22	11K	K2	BUT#	280
32A — 32B	A2	22	11K	K2	WHT#	280
33A — 33B	A2	22	11K	K2	RDBKT#	280
34A — 34B	A2	22	11K	K2	BKRDT#	280
35A — 35B	A2	22	11K	K2	BUWHT#	280
36A — 36B	A2	22	11K	K2	WHBUT#	280
37A — 37B	A2	22	11K	K2	RDYET#	280
38A — 38B	A2	22	11K	K2	BKYET#	280
39A — 39B	A2	22	11K	K2	BURDT#	280
40A — 40B	A2	22	11K	K2	WHRDT#	280
41A — 41B	A2	22	11K	F	BNYE2#	390
42A — 42B	A2	22	11K	F	BKWH2#	390
43A — 43B	A2	22	11K	E	RDYE2#	200
44A — 44B	A2	22	11K	E	YERD2#	200
45A — 45B	A2	22	11K	E	BK2#	200
46A — 46B	A2	22	11K	G	RDBK2#	320
47A — 47B	A2	22	11K	G	BU2#	320
48A — 48B	A2	22	11K	G	BKRD2#	320
53A — 53B	A2	22	3	I	GNWH	480
54A — 54B	A2	22	3	I	WHGN	480
55A — 55B	A2	22	3	I	RD	480
56A — 56B	A2	22	6	J1	BKWH	260
56C	I	3			BKWH*	500

19	Wire, lead	AVS 0.85sq				
18	Wire, lead	AVSS 0.3sq				
17	Wire, lead	AVSS 0.5sq				
16	Terminal, LA	LA106 7009-1323-02	E0000-23990	2	YAZAKI	6
15	Receptacle	179592-2 177914-2	High contact pressure type	28	AMP	15
14	Plate, double lock (6P)	353891-1		4	AMP	
13	Plug, housing (12P)	917354-1		2	AMP	
12	Plate, double lock (2P)	177918-1		2	AMP	
11	Plug, housing (2P)	177898-1		2	AMP	
10	Contact		BXH-001G-P0.6 BXH-001G-P0.6	12	JST	10
9	Housing XHP-4			4	JST	
8	Tab	170349-2		8	AMP	3
7	Housing, cap (2PGN)	172129-4		1	AMP	
6						
5	Housing, cap (6PWH)	172129-4		1	AMP	
4	Receptacle	170384-2		2	AMP	3
3	Housing, plug (2PWH)	172130-1		1	AMP	
2	Receptacle	1318143-2 1123343-2	G25 with plating	51	AMP	22
1	Housing, plug (28P)	1565380-1		2	AMP	
SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS

Controller harness (MPU board unified gate circuit) 4- 2.

FB10CA-30CA / FB10HCA-25HCA 4-4-17.

54001-79141-2E



LABEL STICKING POSITION(1:2)
※ONLY FB30CA

SPECIFICATION	LOW TEMPERTURE SPECIFICATION	TYPE	㉗ CAPACITOR COMP., [2]	㉘ LABEL, WARNING	REMARKS	MAXIMAM CURRENT [MODULE RATING] TRV	HYD
FB10CA-28CA	STD	CU110-00A	0	0		600A (75V)	400A (75V)
FB10HCA-25HCA	STD	CU110-01A	↑	↑			600A (75V)
FB30CA	STD	CU110-02A	↑	1		600A (100V)	600A (100V)
FB10CA-28CA	OPT	CU110-03A	↑	0		600A (75V)	400A (75V)
FB10HCA-25HCA	OPT	CU110-04A	↑	↑			600A (75V)
FB30CA	OPT	CU110-05A	↑	1		600A (100V)	600A (100V)
FB10CA-28CA	STD CS	CU110-10A	↑	0		600A (75V)	400A (75V)
FB10HCA-25HCA	STD CS	CU110-11A	↑	↑			600A (75V)
FB30CA	STD CS	CU110-12A	↑	1		600A (100V)	600A (100V)
FB10CA-28CA	OPT CS	CU110-13A	↑	0		600A (75V)	400A (75V)
FB10HCA-25HCA	OPT CS	CU110-14A	↑	↑			600A (75V)
FB30CA	OPT CS	CU110-15A	↑	1		600A (100V)	600A (100V)
FB10CA-28CA	EEC	CU110-16A	1	0		600A (75V)	400A (75V)
FB10HCA-25HCA	EEC	CU110-17A	↑	↑			600A (75V)
FB30CA	EEC	CU110-18A	↑	1		600A (100V)	600A (100V)
FB10CZ1-25CZ1	POP	CU114-90A	0	0		600A (75V)	400A (75V)
FB30CZ1	POP	CU114-91A	↑	1		600A (100V)	600A (100V)
FB10CZ1-25CZ1	POP CS	CU114-92A	↑	0		600A (75V)	400A (75V)
FB30CZ1	POP CS	CU114-93A	↑	1		600A (100V)	600A (100V)

INSTALL SO THAT THE DIRECTION SAME AS THE FIGURE BECOMES TOP.

※POP:(Prevention of Using of Non Genuine Parts)

NOTE.
1.When installing the ⑦ and ⑧ FET module to the ① Heat sink, be sure to apply thermal conduction compoud [G-747] [Shin-Etsu silicones] to the entire contact surface.
2.After installing the washer to ⑭ Terminal as shown in the Figure A, apply LOCTITE[242] or equivalent to the screws to prevent looseness. And install as Tightening torque shuld be 8±1N・m.
3.Impress a unit type to the specified position with undamped ink. [Even the seal is available. A detailed positon is left to your devision.]
5.Fix ㉗ CAPACITOR COMP., [2] to FET module only for HYD with the silicon adhesive. (Refer to Figure C.)

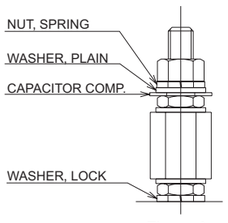


Figure A

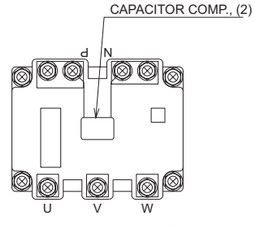


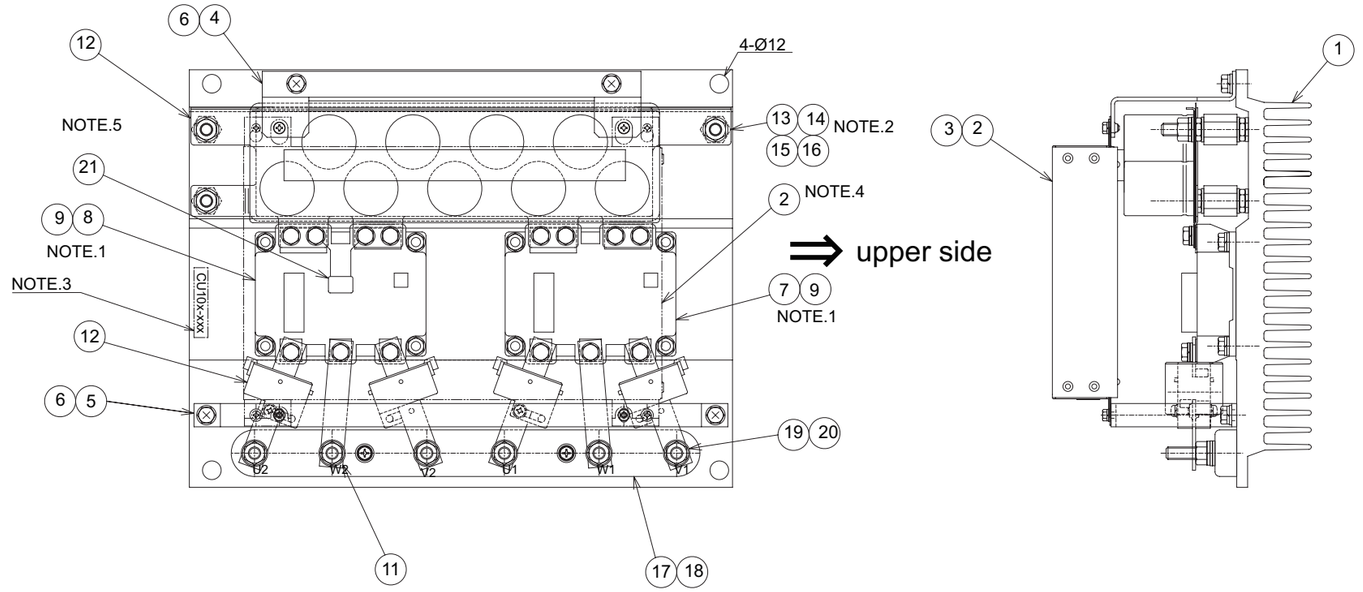
Figure C

HARNESS COLOR						GROUND / STRIPE
BK	BLACK	YE	YELLOW	BN	BROWN	
WH	WHITE	GN	GREEN	BU	BLUE	
RD	RED					Ex. 'BKWH' = GROUND:BLACK, STRIPE:WHITE

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
28	LABEL, WARNING			↔		[Capacitor discharge]
27	CAPACITOR COMP., [2]			↔		
26						
25	GREASE, SILICON	G-747	(unillustrated)	1		SHIN-ETSU CHEMICAL (75g)
24	WIRING, CONTROLLER		(unillustrated)	1		
23	HARNESS, CONTROLLER		(unillustrated)	1		
22	NUT, SPRING	M8	for installing the bar	6		SAKAMURA
21	WASHER, PLAIN		for installing the bar	12		
20	BOLT, W/WASHERS		for installing the terminal	2		
19	TERMINAL COMP.			1		
18	NUT, SPRING	M8	for installing the terminal	3		SAKAMURA
17	WASHER, LOCK		for installing the terminal	3		
16	WASHER, PLAIN		for installing the terminal	3		
15	TERMINAL			3		
14	CAPACITOR COMP.			1		
13	BAR, LEAD(1)			2		
12	SENSOR COMP., CURRENT			4		
11						
10						
9	BOLT, W/WASHERS		for installing the FET/bar	22		
8	MODULE, FET		TRV	1		MITSUBISHI ELECTRIC
7	MODULE, FET		HYD	1		MITSUBISHI ELECTRIC
6	BOLT, W/WASHERS		for installing the bracket	4		
5	BRACKET, BOARD(2)		SGCC	1		
4	BRACKET, BOARD(1)		SGCC	1		
3	BOLT, W/WASHERS		for installing the board	4		
2	BOARD COMP., MPU			1		
1	SINK, HEAT		A6063SS-T5 A5052-H112	1		

Main controller (MPU board unified gate circuit) 4- 2.

FB10CA-30CA / FB10HCA-25HCA 4-2-18



Truck Models	Specification	Part Model	Quantity:N		Maximum Current	
			㉑ CAPACITOR COMP.(2)	㉒ LABEL, WARNING	Travel	Hydrauric
FB10CA-25CA (NFT)	STD	CU112-10A	0	0	600A (75V)	400A (75V)
FB10HCA-25HCA (NFT)	STD	CU112-11A	↑	↑		600A (75V)
FB30CA (NFT)	STD	CU112-12A	↑	1	600A (100V)	600A (100V)
FB10CA-25CA (NFT)	OPT	CU112-13A	↑	0	600A (75V)	400A (75V)
FB10HCA-25HCA (NFT)	OPT	CU112-14A	↑	↑		600A (75V)
FB30CA (NFT)	OPT	CU112-15A	↑	1	600A (100V)	600A (100V)
FB10CA-25CA (NFT)	CS	CU112-20A	↑	0	600A (75V)	400A (75V)
FB10HCA-25HCA (NFT)	CS	CU112-21A	↑	↑		600A (75V)
FB30CA (NFT)	CS	CU112-22A	↑	1	600A (100V)	600A (100V)
FB10CA-25CA (NFT)	CS/OPT	CU112-23A	↑	0	600A (75V)	400A (75V)
FB10HCA-25HCA (NFT)	CS/OPT	CU112-24A	↑	↑		600A (75V)
FB30CA (NFT)	CS/OPT	CU112-25A	↑	1	600A (100V)	600A (100V)
FB10CA-25CA (NFT)	EEC	CU112-26A	1	0	600A (75V)	400A (75V)
FB10HCA-25HCA (NFT)	EEC	CU112-27A	↑	↑		600A (75V)
FB30CA (NFT)	EEC	CU112-28A	↑	1	600A (100V)	600A (100V)

<NOTES>
1.Paint the contact surface with ㉕ GREASE, SILICON when ⑦ ⑧ MODULE, FET are installed to ① SINK, HEAT.
2.Insert washers to ⑬ Terminal as shown in Fig.1. And apply 'Loctite 242(Henkel)' or permissible substitute to the screw part for locking.
Tightening torque of the Terminal should be 8±1N・m.
3.Display the unit model at the specified position by the immortal ink or the seal.
4.※only Truck Models:FB30CA
Attach ㉒ LABEL, CAUTION to ② BOARD COMP., MPU as shown in Fig.2.
5.※only Specification:EEC
Attach ㉑ CAPACITA COMP., (2) to only ⑧ MUDULE, FET.
When attaching, the capacita and its leads fix to the MODULE, FET by the silicon adhesive for vibration proof and insulation properties improvement as shown in Fig.3.

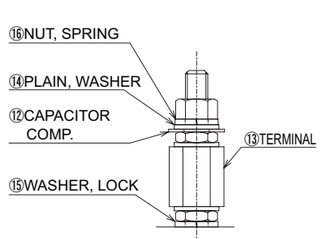


Fig.1

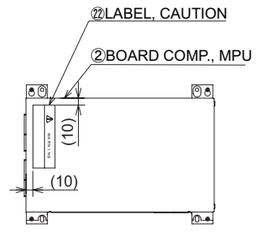


Fig.2

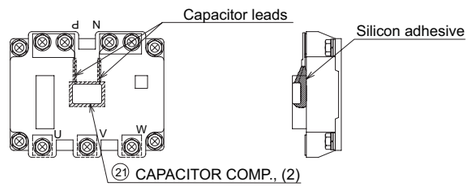
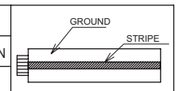


Fig.3

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



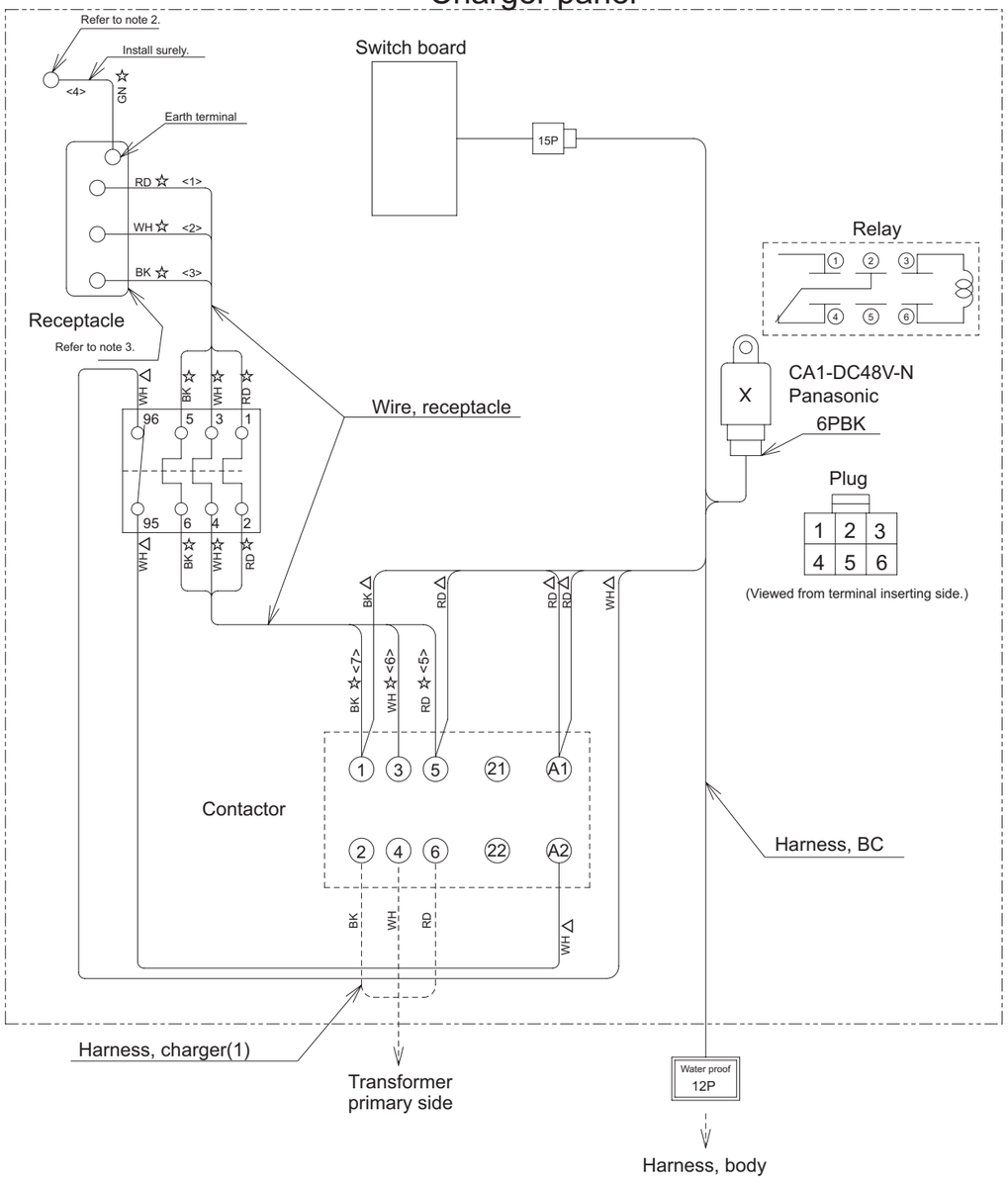
SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
25	GREASE, SILICONE	G-747	(unillustrated)	1		Shin-Etsu Chemical
24	WIRING, CONTROLLER		(unillustrated)	1		
23	HARNESS, CONTROLLER		(unillustrated)	1		
22	LABEL, WARNING			N		
21	CAPACITOR COMP., (2)			N		
20	NUT, SPRING	M8		6		Sakamura Industries
19	PLAIN, WASHER			12		
18	BOLT, W/WASHERS			2		
17	TERMINAL COMP.			1		
16	NUT, SPRING	M8		3		Sakamura Industries
15	WASHER, LOCK			3		
14	PLAIN, WASHER					
13	TERMINAL			3		
12	CAPACITOR COMP.			1		
11	BAR, LEAD(1)			2		
10	SENSOR COMP., CURRENT			4		
9	BOLT, W/WASHERS			22		
8	MODULE, FET			1		Mitsubishi Electric
7	MODULE, FET			1		Mitsubishi Electric
6	BOLT, W/WASHERS			4		
5	BRACKET, BOARD(2)		SGCC	1		
4	BRACKET, BOARD(1)		SGCC	1		
3	BOLT, W/WASHERS			4		
2	BOARD COMP., MPU			1		
1	SINK, HEAT		A6063SS-T5 A5052-H112	1		

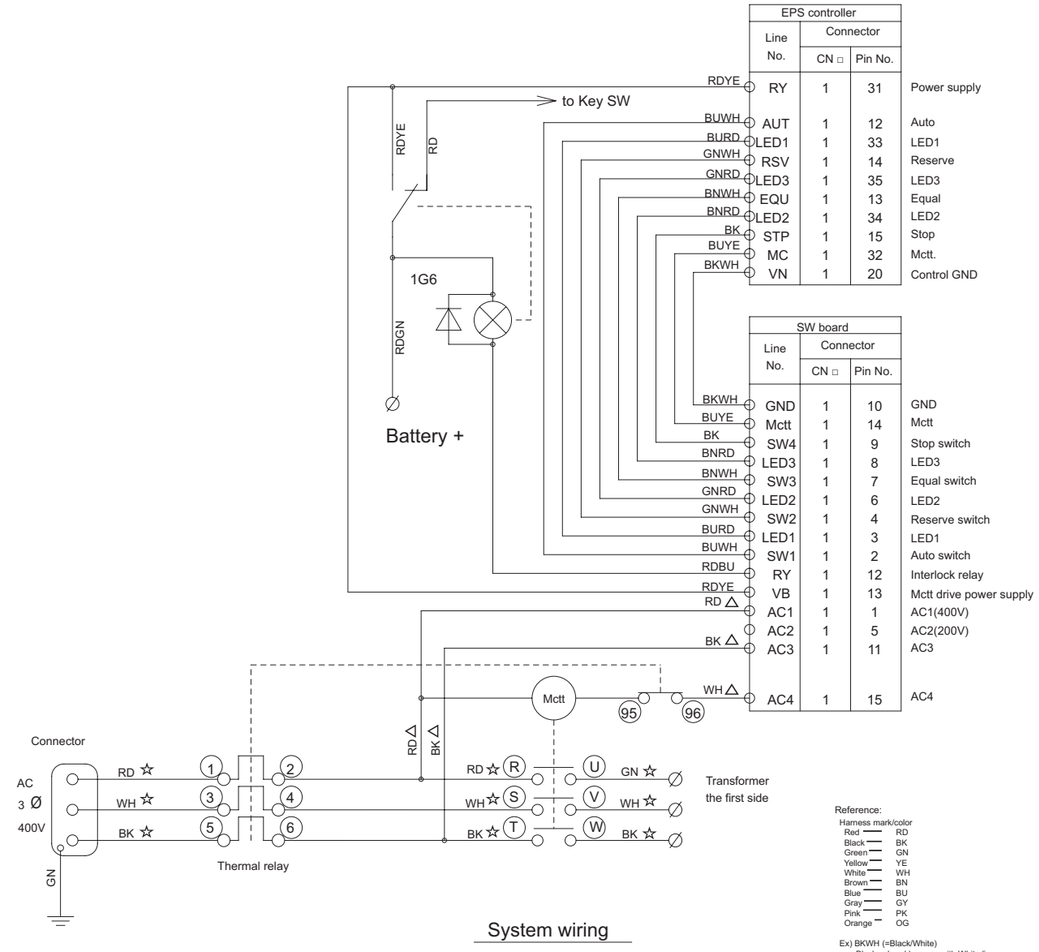
Main controller (MPU board unified gate circuit) 4- 2.

NFT production

4-2-19.

E0000-41282-0E





System wiring

NOTE)

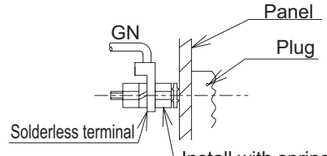
1.Electric wires (without indication)

△ :AVSS0.5mm²

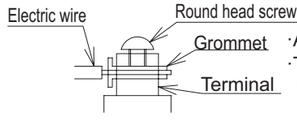
△ :KIV0.75mm²

☆ :KIV5.5mm²

2.Install in the panel and set up earth terminal (GN) of the receptacle as shown in the figure below. Make sure that there is continuity between the earth terminal and the charger panel after assembling.



3.Connect the electric wire with the receptacle as follows.



·A naked electric wire is 10±1mm.

·Tightening torque of round head screw is 0.98-1.18N·m.

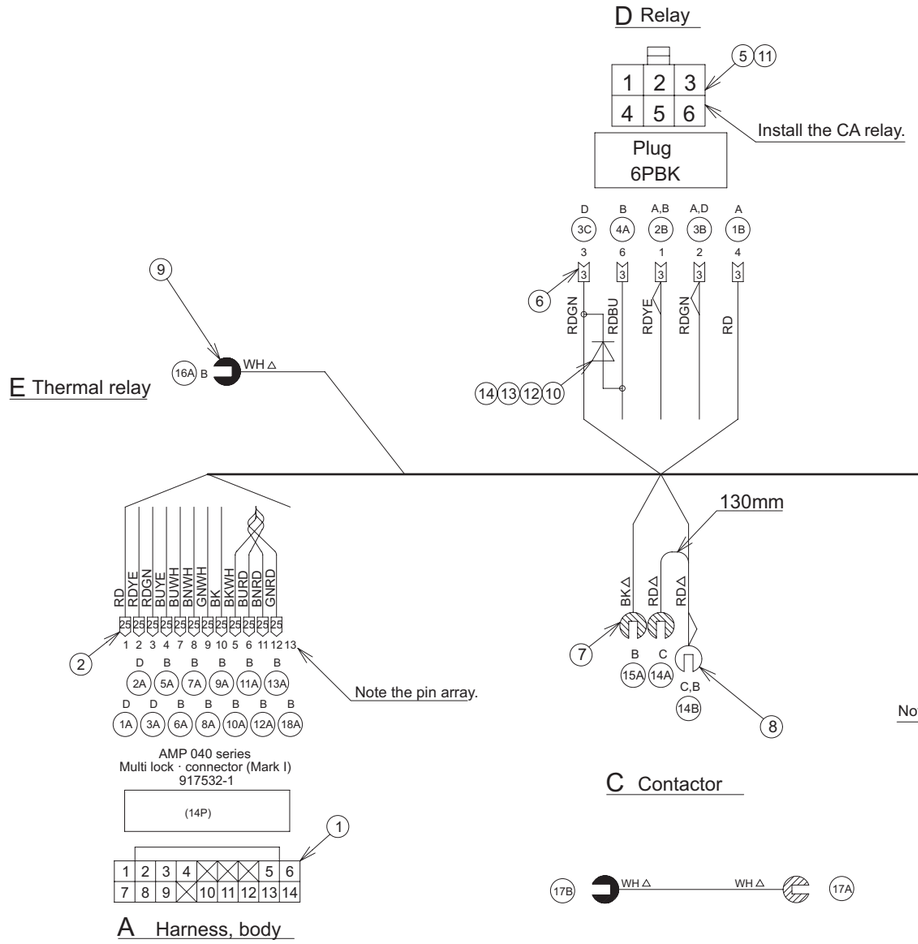
BC wiring (400V)

CAN-BUS control

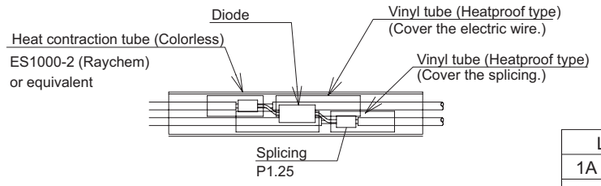
54001-33521-0E

4- 3.

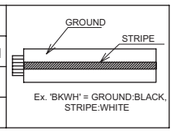
4-3-1.



NOTE)
1.Electric wires
:AVSS 0.5 mm²
:KIV 0.75 mm²
2.All pin layout shows of connector the view terminal insert side.
3.Refer to NIS B7038 for wire treatment.
4.Refer to NIS A4010 for drawing instruction.
5.Strand ⟩⟨ part at the pitch of 25 mm and below.
6.The figure below shows the method of connecting the diode.
(As for the joint, soldering is also possible.)



HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				

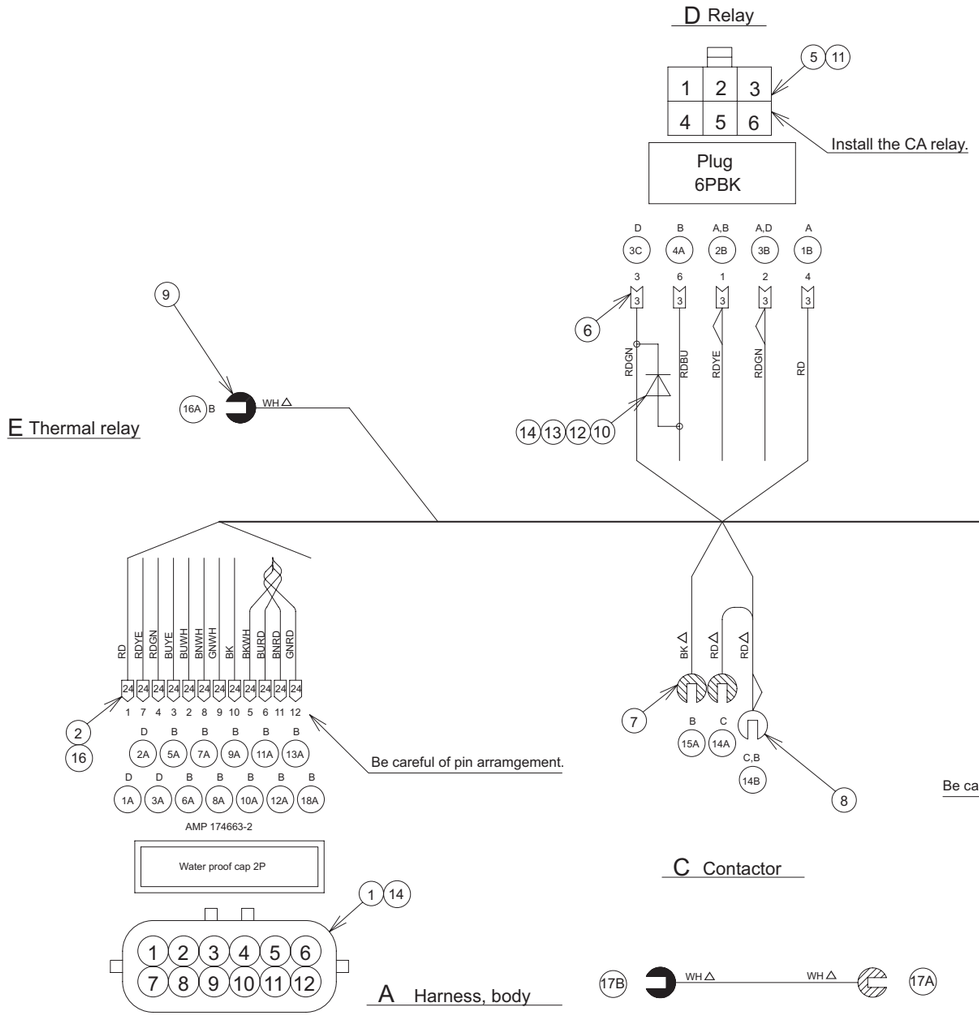


Line No.		From		To		Color	Length
1A	1B	A	25	3	D	RD	250
2A	2B	A	25	3	D	RDYE	250
							200
2C		B	13				
3A	3B	A	25	3	D	RDGN	250
							200
3C		D	3				
4A	4B	D	3	13	B	RDBU	200
5A	5B	A	25	13	B	BUYE	250
6A	6B	A	25	13	B	BUWH	250
7A	7B	A	25	13	B	BNWH	250
8A	8B	A	25	13	B	GNWH	250
9A	9B	A	25	13	B	BK	250
10A	10B	A	25	13	B	BKWH	250
11A	11B	A	25	13	B	BURD	250
12A	12B	A	25	13	B	BNRD	250
13A	13B	A	25	13	B	GNRD	250
14A	14B	C			C	RD △	130
							320
14C		B	13				
15A	15B	C		13	B	BK △	240
16A	16B	E		13	B	WH△	350
17A	17B					WH△	200

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
14	Heat contraction tube					
13	Vinyl tube					
12	Sleeve	P1.25		2		JST
11	Relay	CA1-DC48V-N		1		Panasonic
10	Diode	1G6		1		Nihon inter (or equivalent)
9	Terminal	1.25-M3X		2		JST
8	Terminal	2-M4X		1		JST
7	Terminal	1.25-M4X		5		JST
6	Receptacle	179461-5 (Loose piece) 170032-5 (Strip form)		5		AMP
5	Housing, plug 6PBK	171898-2		1		AMP
4	Contact, socket	SLF-41T-P1.3		14		JST
3	Housing, plug	ELP-15V		1		JST
2	Tab	175063-1 (Loose piece) 173682-1 (Strip form)		13		AMP
1	Housing, cap 14P	917532-1		1		AMP 040 mark 1

BC harness (400V) 4- 3.

CAN-BUS control (FB10CA-18CA: -221E03113 / FB20CA-28CA: -241AC9051 / FB30CA: -251AC1294) 4-3-2.



NOTE)
1.Electric wires

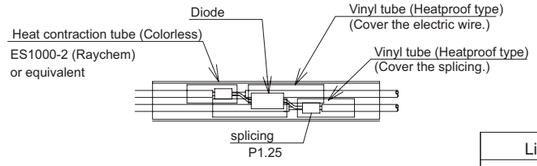
:AVSS 0.5 mm²

:KIV 0.75 mm²

2.All pins arrangement show the view from electric wire inserting side.

3. :Braided wires under 25mm pitch.

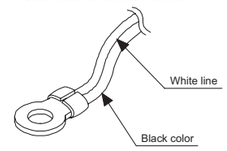
4.The figure below shows the method of connecting the diode.
(As for the joint, soldering is also possible.)



Reference:

Harness mark/color	
Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

Ex) BKWH (=Black/White)
Black colored harness with White line.



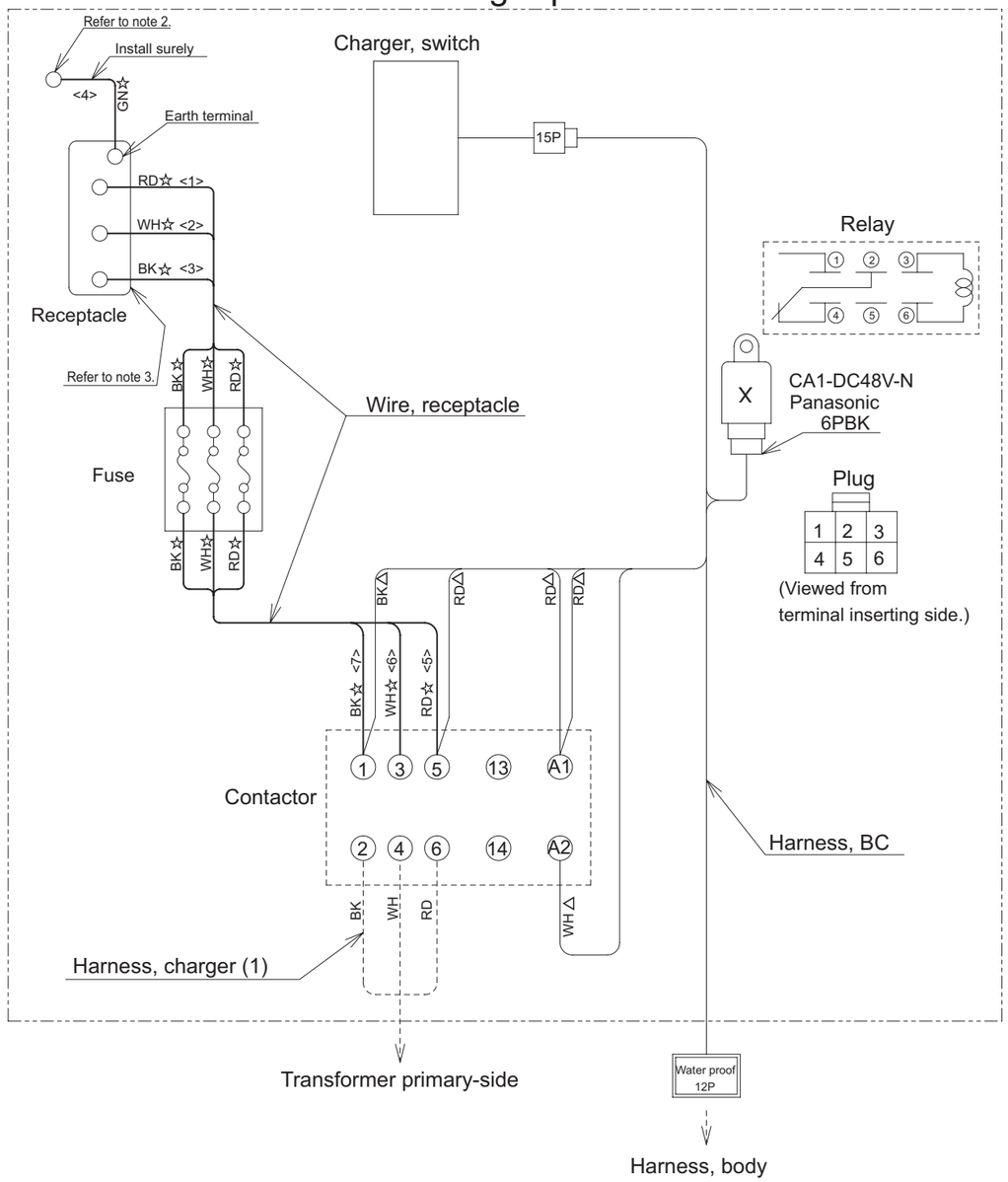
Line No.		From		To		Color	Length
1A	1B	A	24	3	D	RD	250
2A	2B	A	24	3	D	RDYE	250
							200
2C		B	13				
3A	3B	A	24	3	D	RDGN	250
							200
3C		D	3				
4A	4B	D	3	13	B	RDBU	200
5A	5B	A	24	13	B	BUYE	250
6A	6B	A	24	13	B	BUWH	250
7A	7B	A	24	13	B	BNWH	250
8A	8B	A	24	13	B	GNWH	250
9A	9B	A	24	13	B	BK	250
10A	10B	A	24	13	B	BKWH	250
11A	11B	A	24	13	B	BURD	250
12A	12B	A	24	13	B	BNRD	250
13A	13B	A	24	13	B	GNRD	250
14A	14B	C			C	RD △	130
							320
14C		B	13				
15A	15B	C		13	B	BK △	240
16A	16B	E		13	B	WH △	350
17A	17B					WH △	200

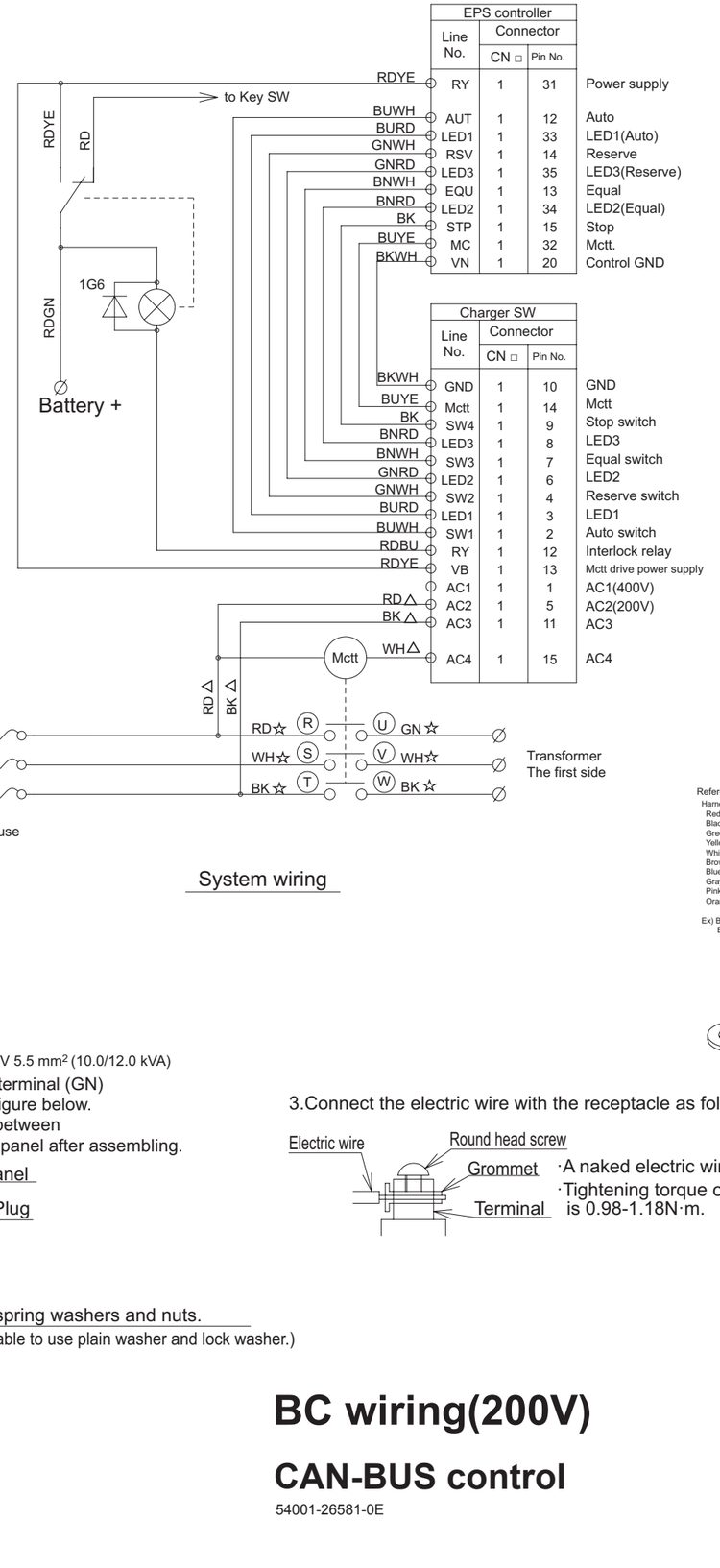
SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
16	Seal (stopper)	900324-4		12		AMP
15	Tab	173600-1 171631-1		12		AMP 24
14	Heat contraction tube					
13	Vinyl tube					
12	Sleeve	P1.25		2		JST
11	Relay	CA1-DC48V-N		1		Panasonic
10	Diode	1G6		1		Nihon inter (or equivalent)
9	Terminal	1.25-M3X		2		JST
8	Terminal	2-M4X		1		JST
7	Terminal	1.25-M4X		5		JST
6	Receptacle	179461-5 170032-5		5		AMP 3
5	Housing, plug 6PBK	171898-2		1		AMP
4	Contact, socket	SLF-41T-P1.3		14		JST 13
3	Housing, plug	ELP-15V		1		JST
2	Plate, double lock (12P)	174664-7		1		AMP
1	Housing, cap 12P	174663-2		1		AMP

BC harness (400V) 4- 3.

CAN-BUS control (FB10CA-18CA: 221E03114- / FB20CA-28CA: 241AC9052- / FB30CA: 251AC1295-) 4-3-3.

Charger panel



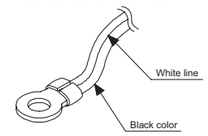


System wiring

Reference:

Harness mark/color	
Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

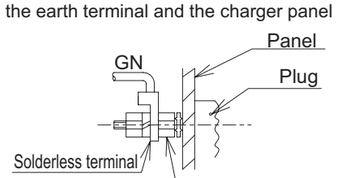
Ex) BKWH (=Black/White)
Black colored harness with White line.



NOTE)

1.Electric wires (without indication)
- ——— :AVS/AVSS 0.5 mm²
- —△— :KIV 0.75 mm²
- —☆— :KIV 3.5 mm² (5.2-7.0 kVA) / KIV 5.5 mm² (10.0/12.0 kVA)

2.Install in the panel and set up earth terminal (GN) of the receptacle as shown in the figure below. Make sure that there is continuity between the earth terminal and the charger panel after assembling.



3.Connect the electric wire with the receptacle as follows.

- A naked electric wire is 10±1mm.
- Tightening torque of round head screw is 0.98-1.18N·m.

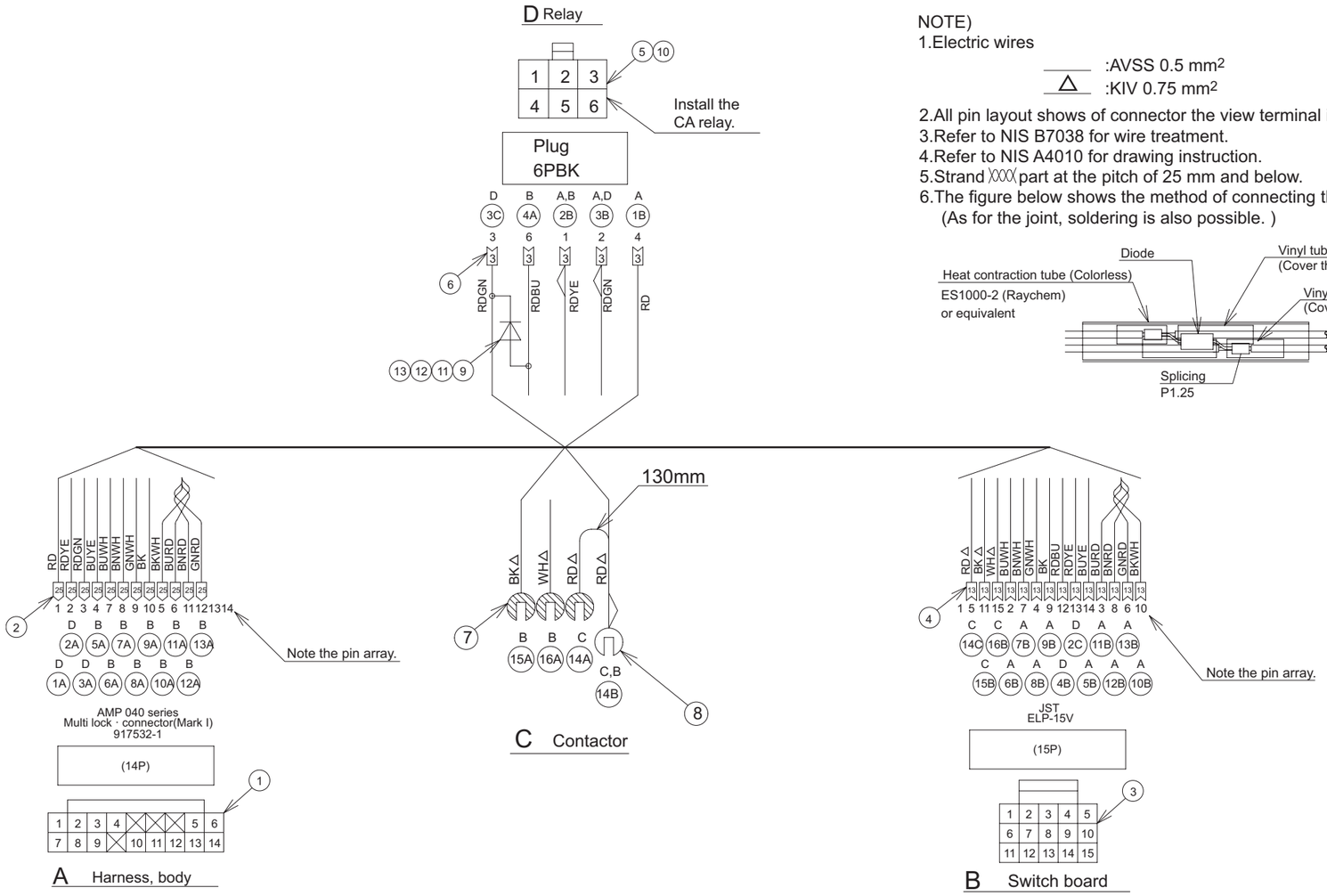
BC wiring(200V)

CAN-BUS control

54001-26581-0E

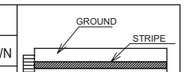
4- 3.

4-3-4.



NOTE)
1.Electric wires
:AVSS 0.5 mm²
:KIV 0.75 mm²
2.All pin layout shows of connector the view terminal insert side.
3.Refer to NIS B7038 for wire treatment.
4.Refer to NIS A4010 for drawing instruction.
5.Strand ⟩⟩⟩⟩ part at the pitch of 25 mm and below.
6.The figure below shows the method of connecting the diode.
(As for the joint, soldering is also possible.)

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



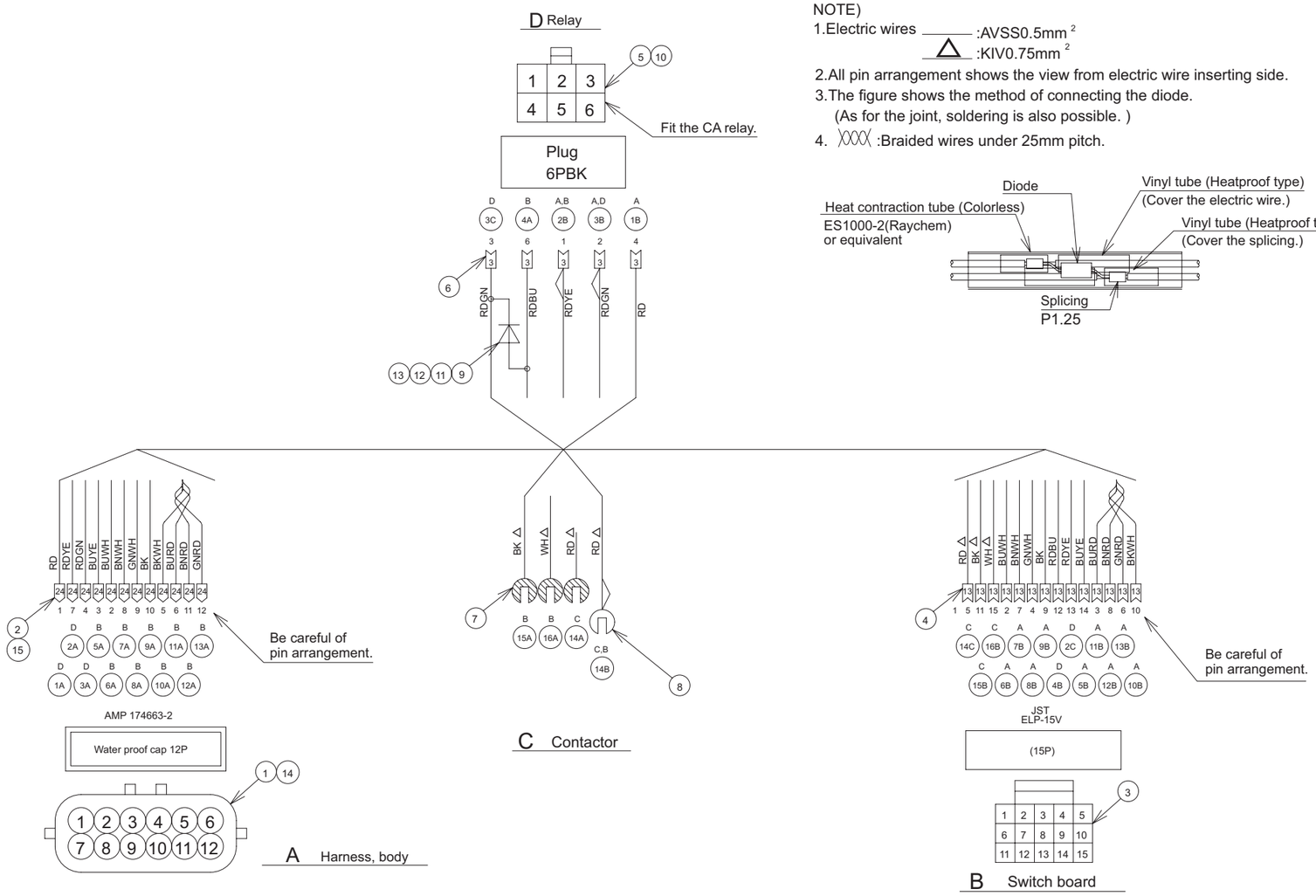
Ex. 'BKWH' = GROUND:BLACK, STRIPE:WHITE

Line No.		From		To		Color	Length
1A	1B	A	25	3	D	RD	250
2A	2B	A	25	3	D	RDYE	250
							200
2C		B	13				
3A	3B	A	25	3	D	RDGN	250
							200
3C		D	3				
4A	4B	D	3	13	B	RDBU	200
5A	5B	A	25	13	B	BUYE	250
6A	6B	A	25	13	B	BUWH	250
7A	7B	A	25	13	B	BNWH	250
8A	8B	A	25	13	B	GNWH	250
9A	9B	A	25	13	B	BK	250
10A	10B	A	25	13	B	BKWH	250
11A	11B	A	25	13	B	BURD	250
12A	12B	A	25	13	B	BNRD	250
13A	13B	A	25	13	B	GNRD	250
14A	14B	C			C	RD △	130
							320
14C		B	13				
15A	15B	C		13	B	BK △	240
16A	16B	C		13	B	WH△	240

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
13	Heat contraction tube					
12	Vinyl tube					
11	Sleeve	P1.25		2		JST
10	Relay	CA1-DC48V-N		1		Panasonic
9	Diode	1G6		1		Nihon inter (or equivalent)
8	Terminal	2-M4X		1		JST
7	Terminal	1.25-M4X		3		JST
6	Receptacle	179461-5 (Loose piece) 170032-5 (Strip form)		5		AMP 3
5	Housing, plug 6PBK	171898-2		1		AMP
4	Contact, socket	SLF-41T-P1.3		14		JST 13
3	Housing, plug	ELP-15V		1		JST
2	Tab	175063-1 (Loose piece) 173682-1 (Strip form)		12		AMP 25
1	Housing, cap 14P	917532-1		1		AMP 040 Mark 1

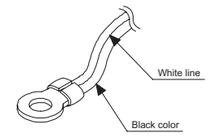
BC harness(200V) 4- 3.

CAN-BUS control (FB10CA-18CA: -221E03113 / FB20CA-28CA: -241AC9051 / FB30CA: -251AC1294) 4-3-5.



NOTE)
1.Electric wires ——— :AVSS0.5mm²
△ :KIV0.75mm²
2.All pin arrangement shows the view from electric wire inserting side.
3.The figure shows the method of connecting the diode.
(As for the joint, soldering is also possible.)
4. ⟋⟋⟋ :Braided wires under 25mm pitch.

Reference:
Harness mark/color
Red — RD
Black — BK
Green — GN
Yellow — YE
White — WH
Brown — BN
Blue — BU
Gray — GY
Pink — PK
Orange — OG
Ex) BKWH (=Black/White)
Black colored harness with White line.

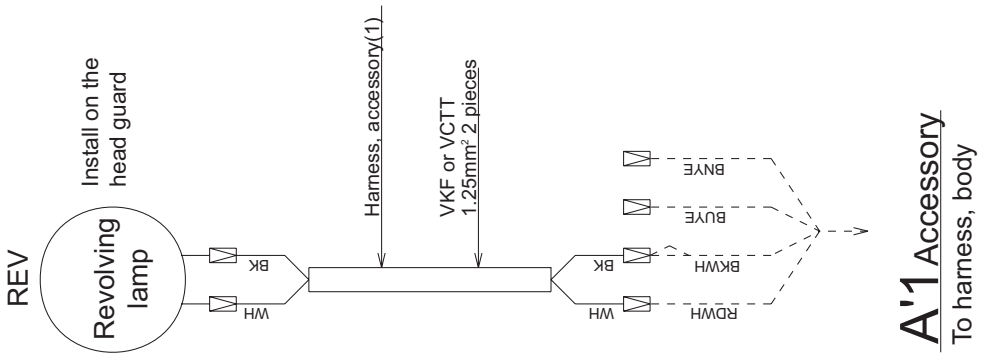


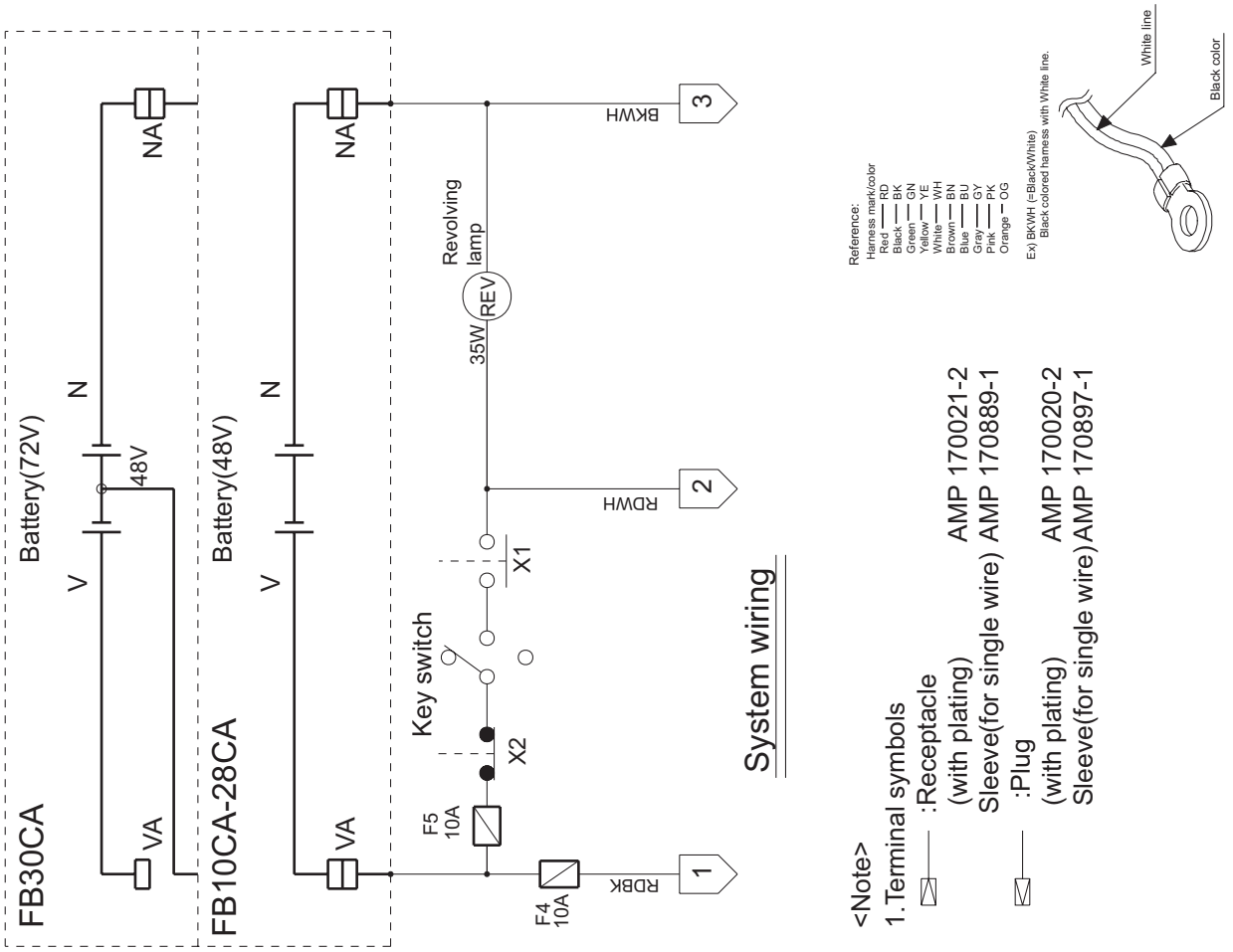
Line No.		From		To		Color	Length
1A	1B	A	24	3	D	RD	250
2A	2B	A	24	3	D	RDYE	250
							200
2C		B	13				
3A	3B	A	24	3	D	RDGN	250
							200
3C		D	3				
4A	4B	D	3	13	B	RDBU	200
5A	5B	A	24	13	B	BUYE	250
6A	6B	A	24	13	B	BUWH	250
7A	7B	A	24	13	B	BNWH	250
8A	8B	A	24	13	B	GNWH	250
9A	9B	A	24	13	B	BK	250
10A	10B	A	24	13	B	BKWH	250
11A	11B	A	24	13	B	BURD	250
12A	12B	A	24	13	B	BNRD	250
13A	13B	A	24	13	B	GNRD	250
14A	14B	C			C	RD △	130
							320
14C		B	13				
15A	15B	C		13	B	BK △	240
16A	16B	C		13	B	WH △	240

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
15	Seal (stopper)	900324-4		12		AMP
14	Tab	173600-1 171631-1		12		AMP 24
13	Heat contraction tube					
12	Vinyl tube					
11	Sleeve	P1.25		2		JST
10	Relay	CA1-DC48V-N		1		Panasonic
9	Diode	1G6		1		Nihon inter (or equivalent)
8	Terminal	2-M4X		1		JST
7	Terminal	1.25-M4X		3		JST
6	Receptacle	179461-5 170032-5		5		AMP 3
5	Housing, plug 6PBK	171898-2		1		AMP
4	Contact, socket	SLF-41T-P1.3		14		JST 13
3	Housing, plug	ELP-15V		1		JST
2	Plate,double lock (12P)	174664-7		1		AMP
1	Housing, cap 12P	174663-2		1		AMP

BC harness(200V) 4- 3.

CAN-BUS control (FB10CA-18CA: 221E03114- / FB20CA-28CA: 241AC9052- / FB30CA: 251AC1295-) 4-3-6.

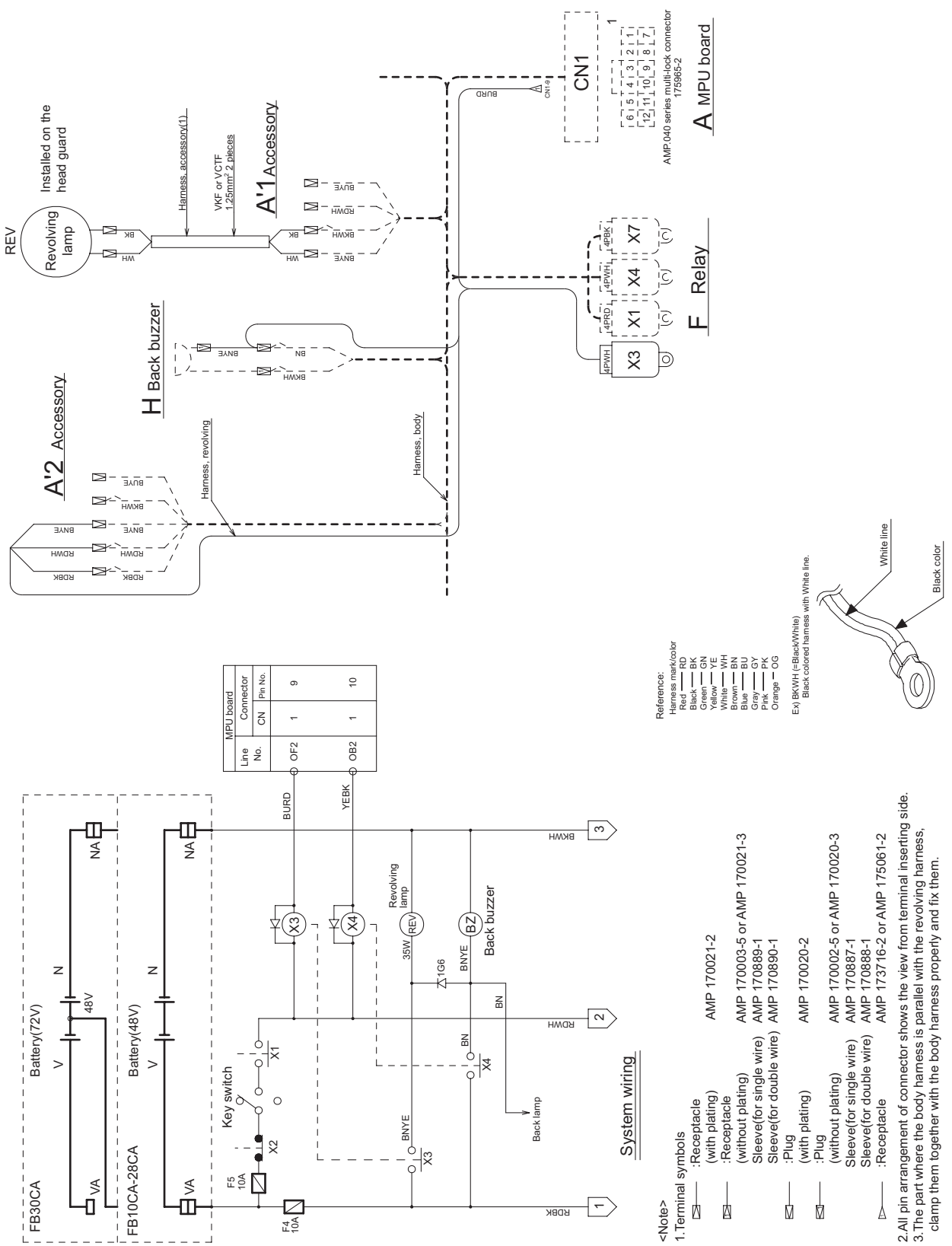




Wiring, revolving 4- 4.

Revolvong lamp / by key switch 4-4-1.

24801-10760-1E



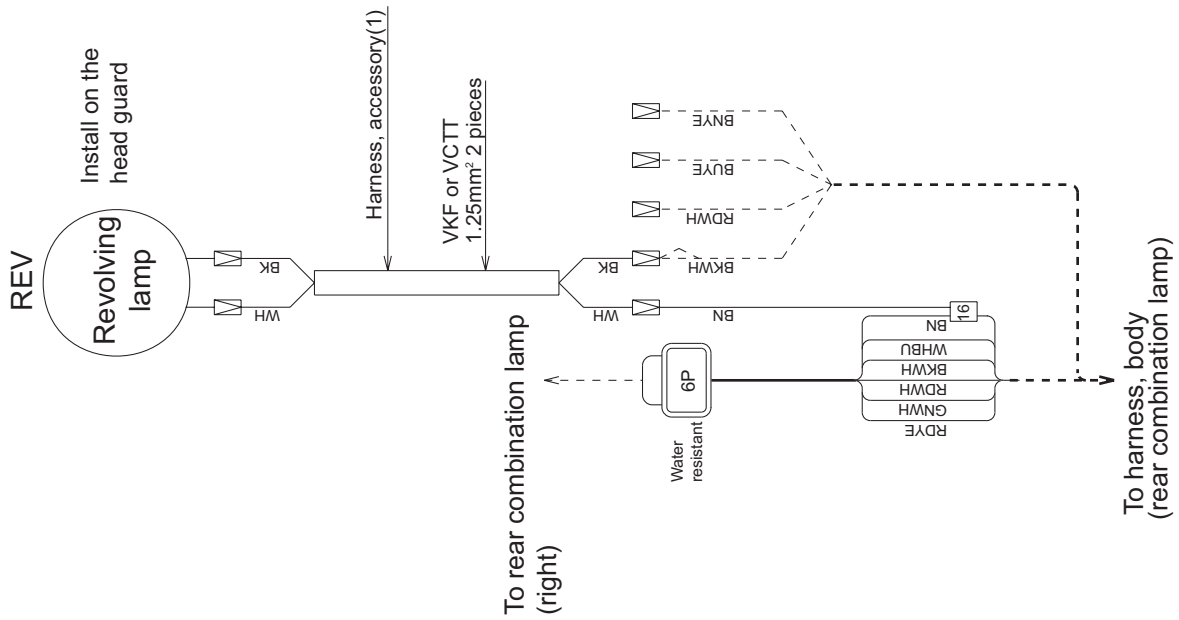
Wiring, revolving

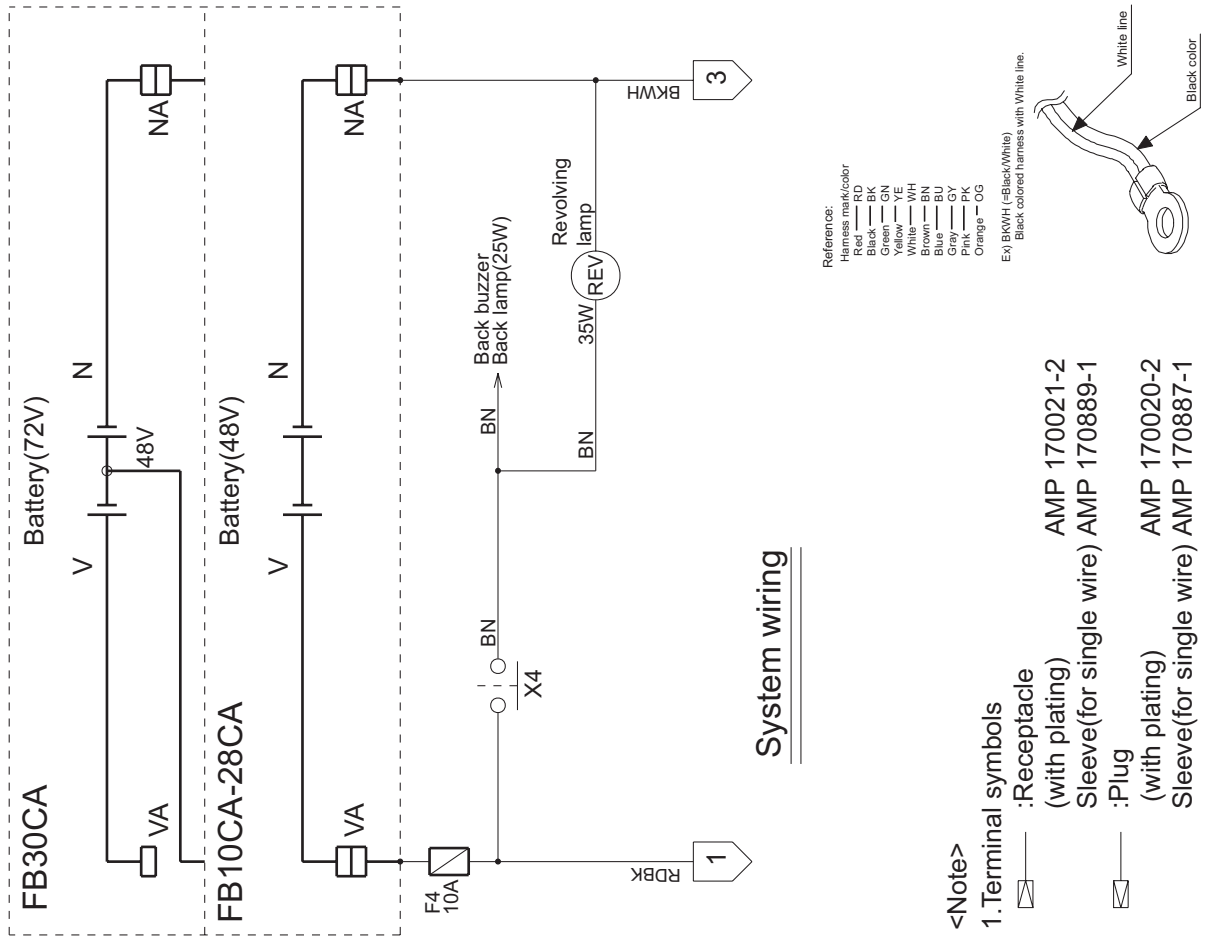
4- 4.

Revolvong lamp / Fwd & Bwd

4-4-2.

24801-10770-1E





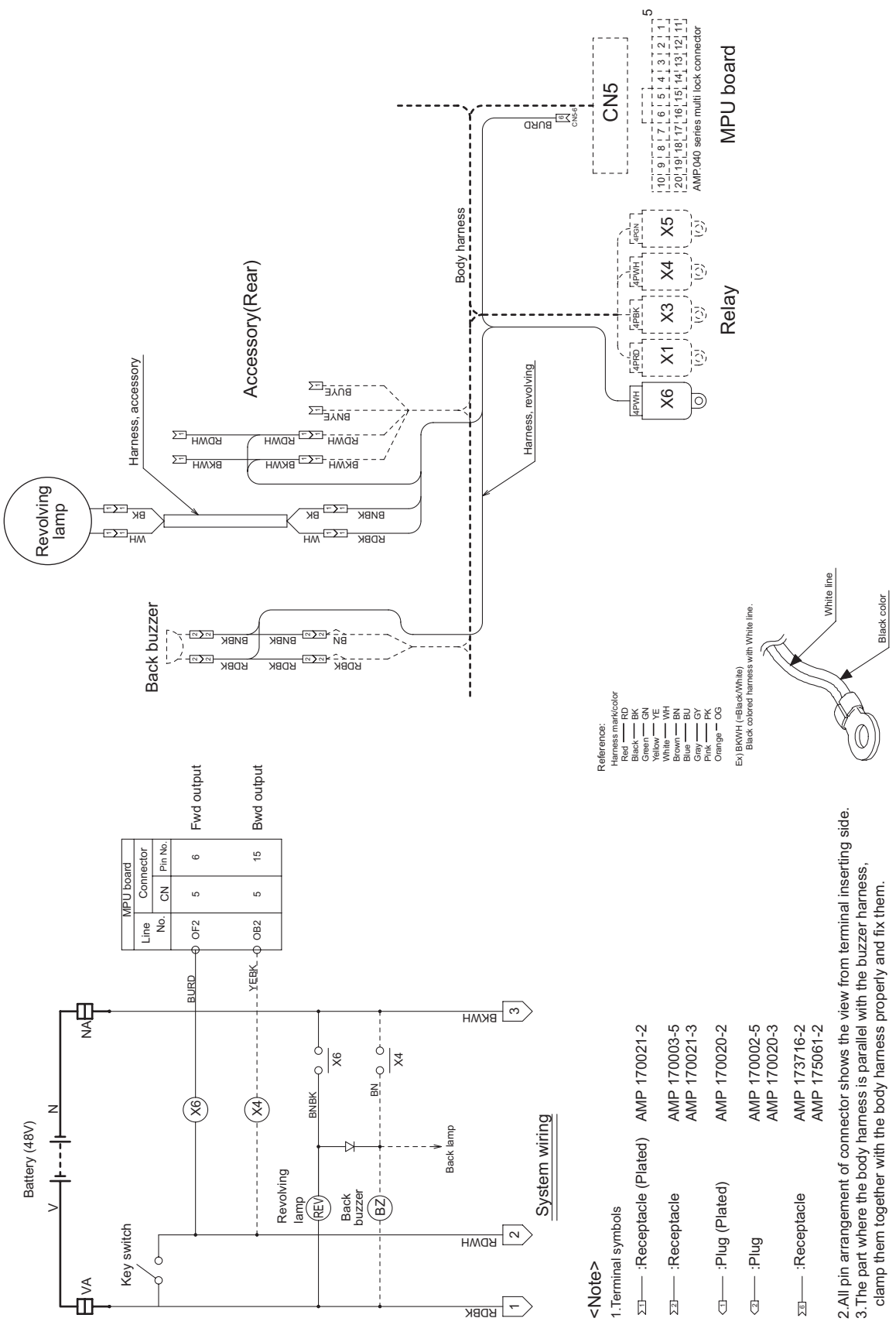
Wiring, revolving

Revolvong lamp / Bwd

24801-10781-0E

4- 4.

4-4-3.



<Note>

1.Terminal symbols

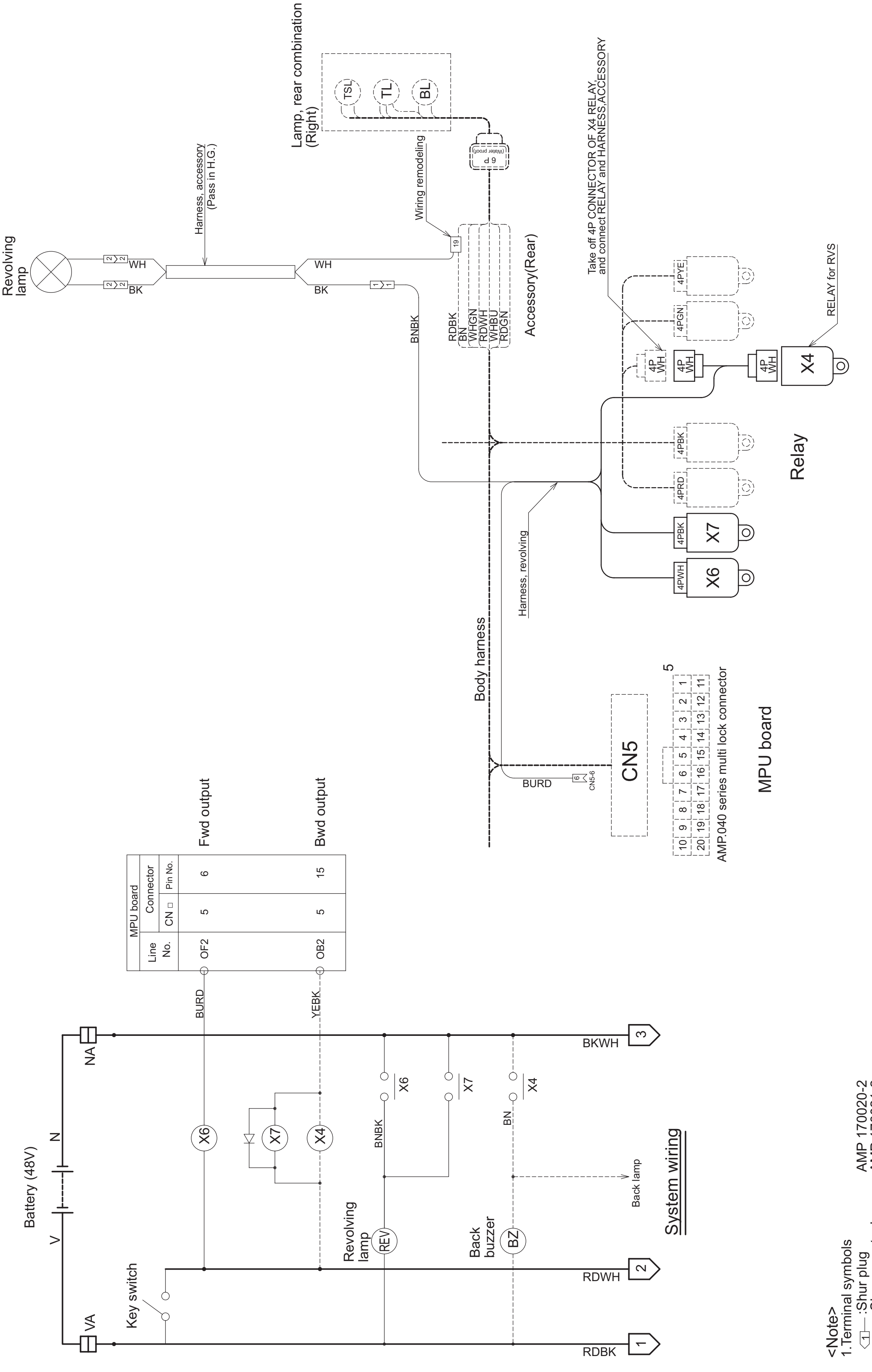
Σ1	:Receptacle (Plated)	AMP 170021-2
Σ2	:Receptacle	AMP 170003-5 AMP 170021-3
◁1	:Plug (Plated)	AMP 170020-2
◁2	:Plug	AMP 170002-5 AMP 170020-3
Σ3	:Receptacle	AMP 173716-2 AMP 175061-2

2.All pin arrangement of connector shows the view from terminal inserting side.

3.The part where the body harness is parallel with the buzzer harness, clamp them together with the body harness properly and fix them.

Wiring, revolving (CAN) 4- 4.

Revolvong lamp / Fwd & Bwd (FB10CA-18CA:-221E07276 / FB20CA-28CA:-241C01640 / FB30CA:-251AC1626) 4-4-4.



HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				

GROUND
STRIPE
Ex. 'BKWH' = GROUND:BLACK, STRIPE:WHITE

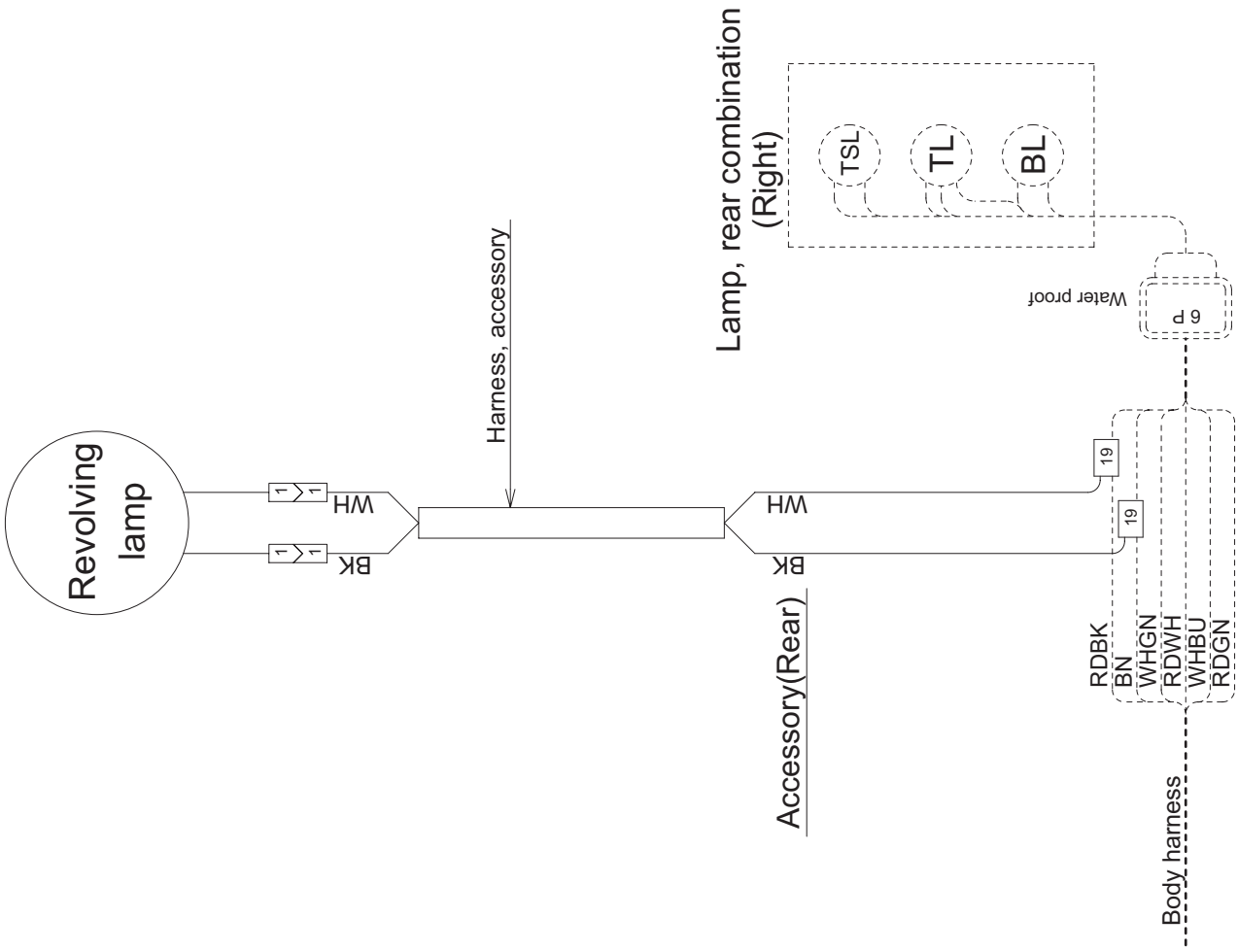
<Note>

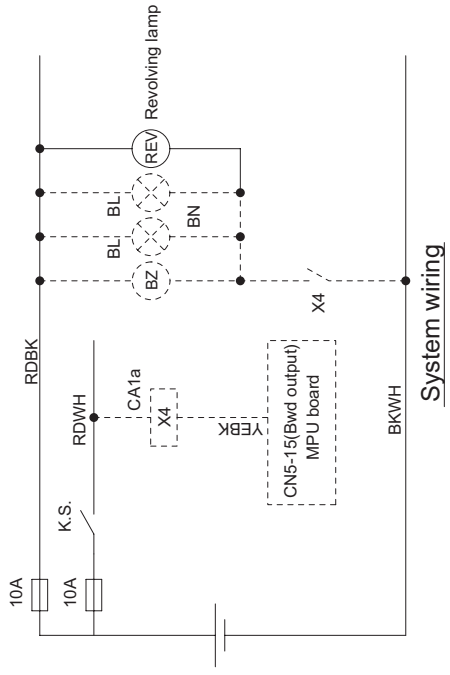
1. Terminal symbols
   - :Shur plug AMP 170020-2
   - :Shur receptacle AMP 170021-2
   - :Shur plug AMP 170020-3 (Loose piece) 170002-5 (Strip form)
   - :Shur receptacle AMP 170021-3 (Loose piece) 170003-5 (Strip form)
   - 19 :Terminal, splice AMP 171425-1
2. Refer to NIS B7038 for wire treatment.
3. Refer to NIS A4010 for drawing instruction.
4. The part where the body harness is parallel with the buzzer harness, clamp them together with the body harness properly and fix them.

Wiring, revolving (CAN) 4- 4.

Revolvong lamp / Fwd & Bwd (FB10CA-18CA:221E07277- / FB20CA-28CA:241C01641- / FB30CA:251AC1627-) 4-4-5.

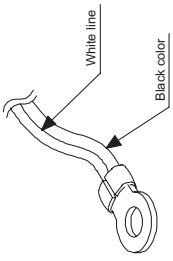
54002-41770-0E





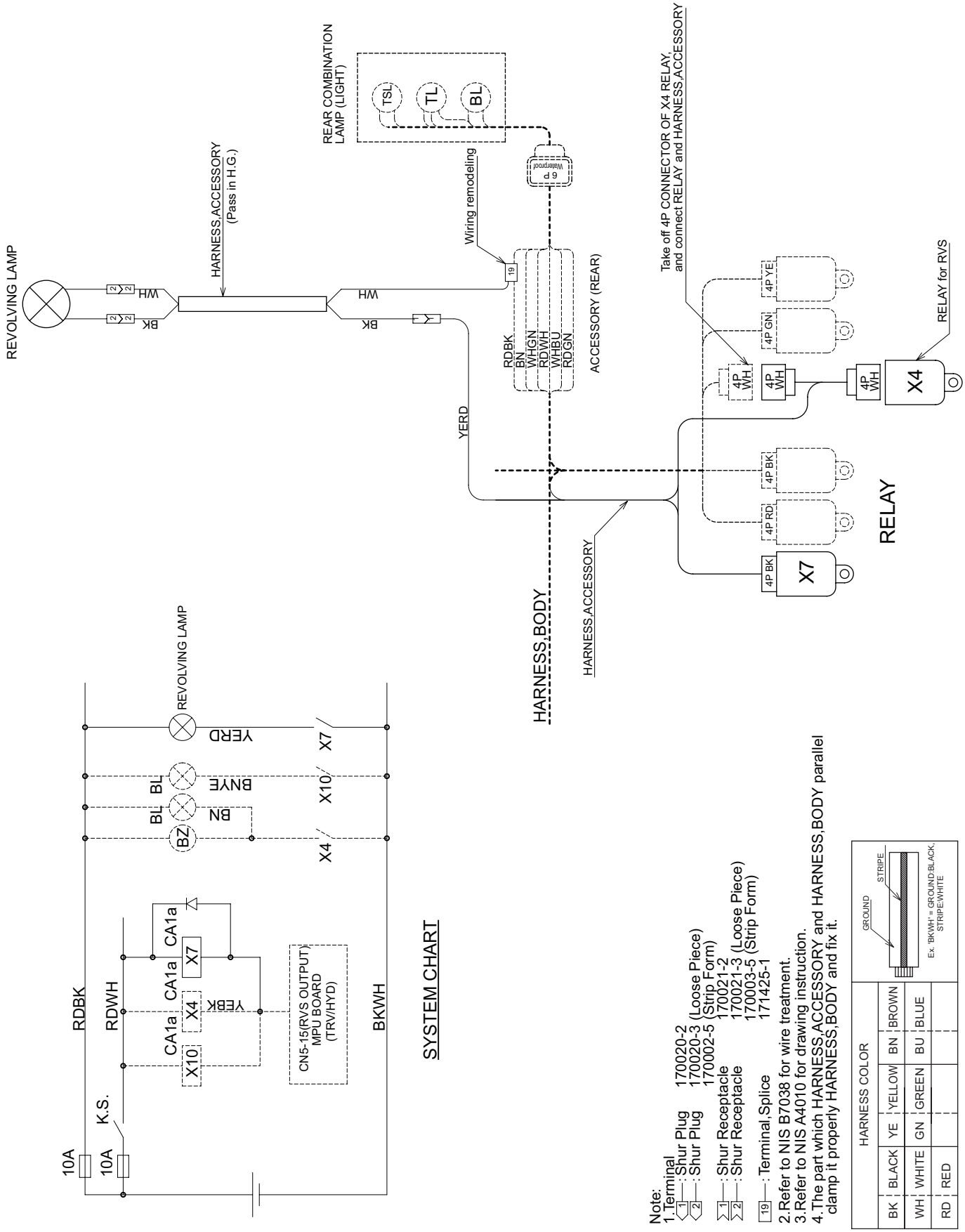
<Note>
1.Terminal symbols
:Shur plug AMP 170020-3 170002-5
:Shur receptacle AMP 170021-3 170003-5
:Terminal, splice AMP 171425-1

Reference:
Harness mark/color
Red — RD
Black — BK
Green — GN
Yellow — YE
White — WH
Brown — BN
Blue — BU
Gray — GY
Pink — PK
Orange — OG
Ex) BK/WH (=Black/White)
Black colored harness with White line.



Wiring, revolving (CAN) 4- 4.

Revolvong lamp / Bwd (FB10CA-18CA:-221E07276 / FB20CA-28CA:-241C01640 / FB30CA:-251AC1626) 4-4-6.

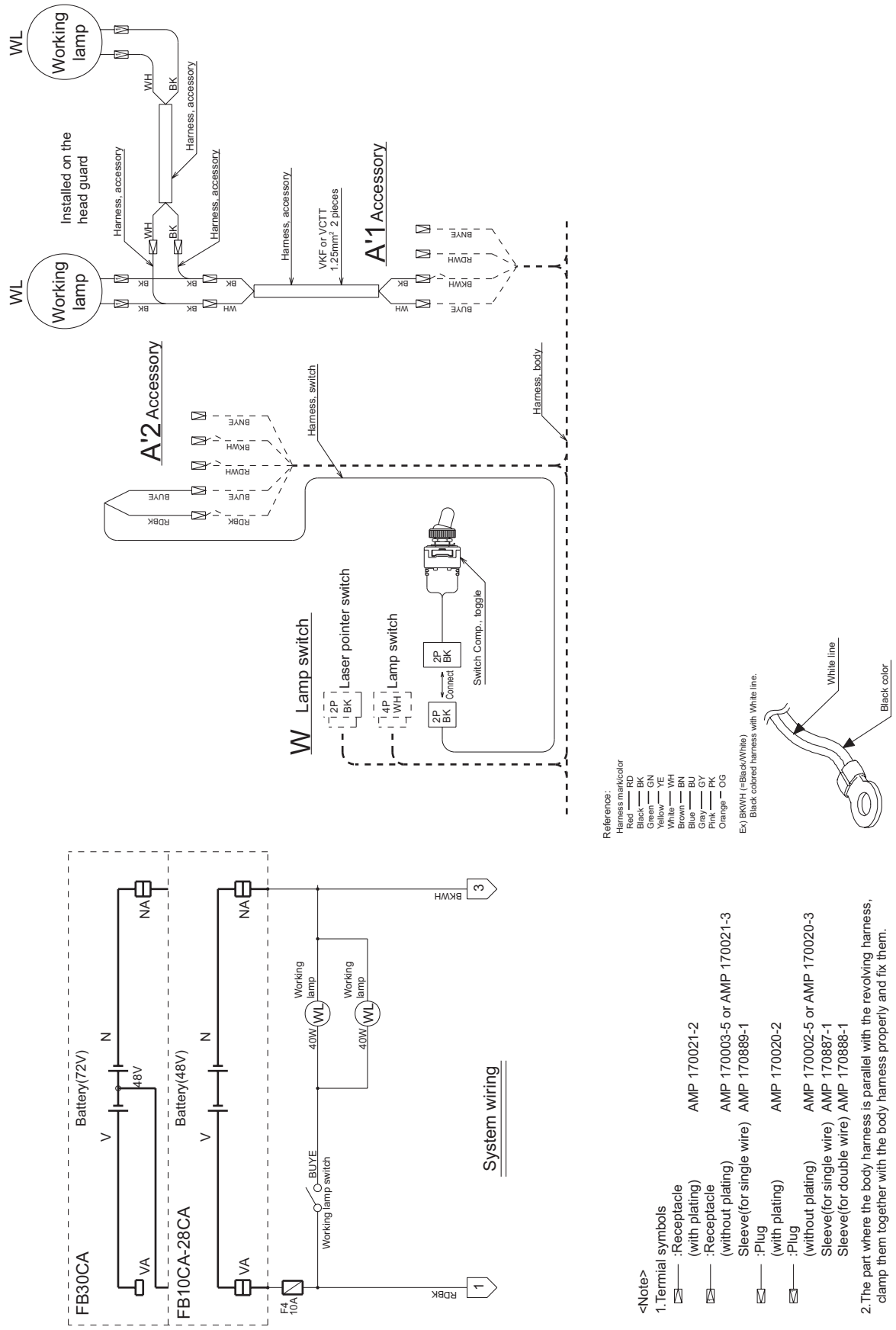


Note:
1.Terminal
1 : Shur Plug 170020-2
2 : Shur Plug 170020-3 (Loose Piece)
170002-5 (Strip Form)
1 : Shur Receptacle 170021-2
2 : Shur Receptacle 170021-3 (Loose Piece)
170003-5 (Strip Form)
19 : Terminal,Splice 171425-1
2.Refer to NIS B7038 for wire treatment.
3.Refer to NIS A4010 for drawing instruction.
4.The part which HARNESS,ACCESSORY and HARNESS,BODY parallel clamp it properly HARNESS,BODY and fix it.

HARNESS COLOR						
BK	BLACK	YE	YELLOW	BN	BROWN	
WH	WHITE	GN	GREEN	BU	BLUE	
RD	RED					

Wiring, revolving (CAN) 4- 4.

Revolvong lamp / Bwd (FB10CA-18CA:221E07277- / FB20CA-28CA:241C01641- / FB30CA:251AC1627-) 4-4-7.



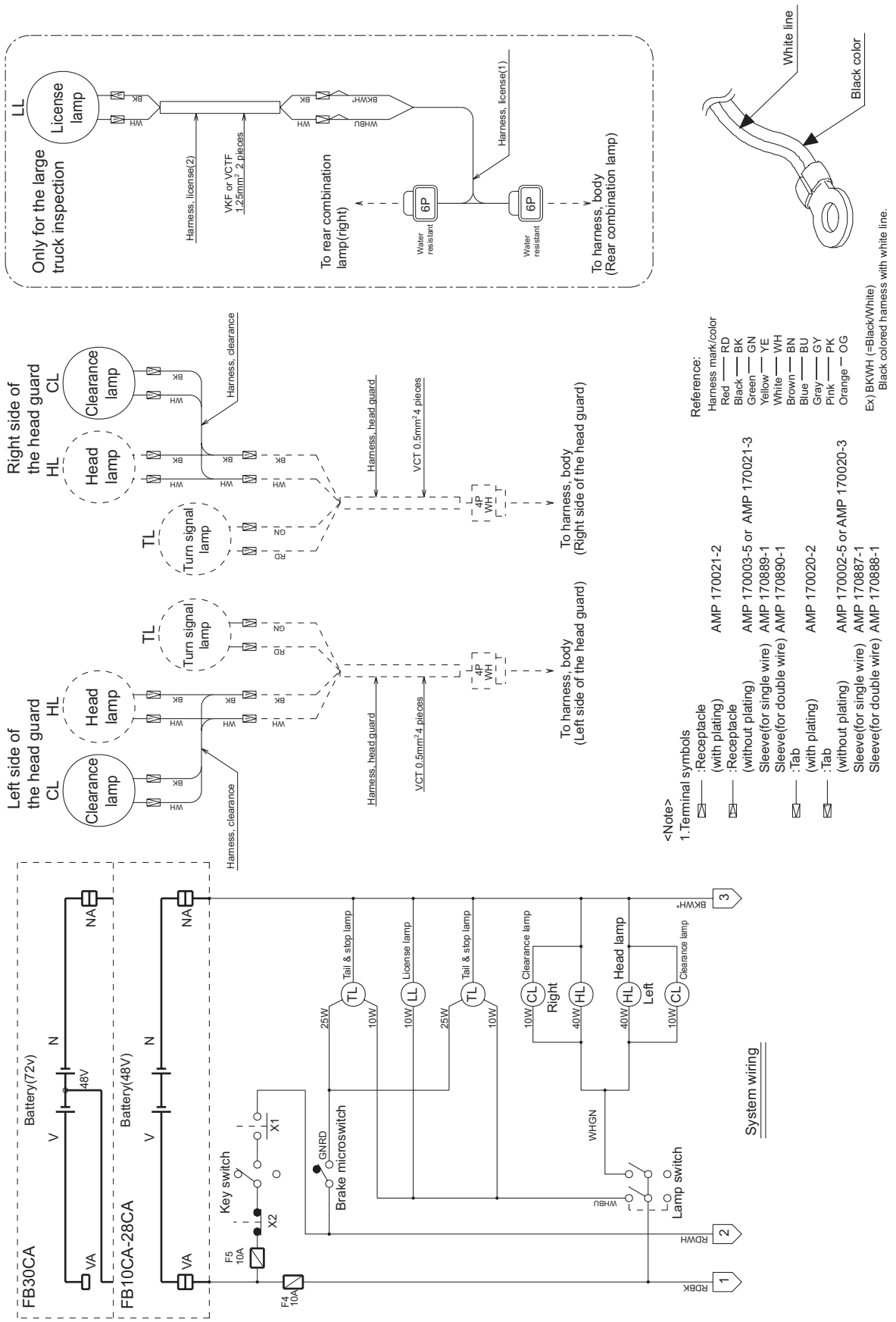
Wiring, working

4- 4.

Working lamp

4-4-8.

24801-10910-1E



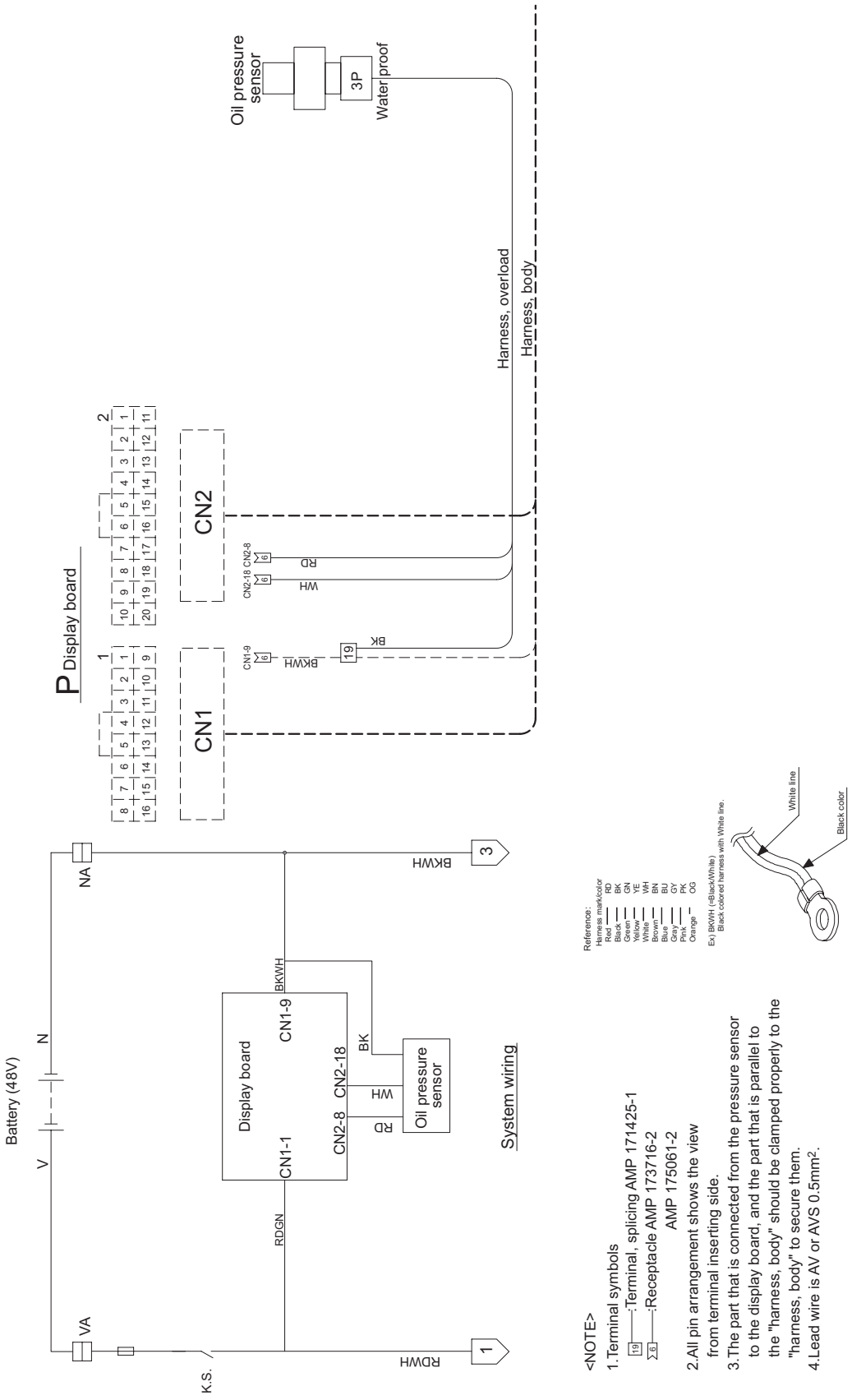
Wiring, license

4- 4.

License plate lamp for car inspection

4-4-9.

24801-11060-0E



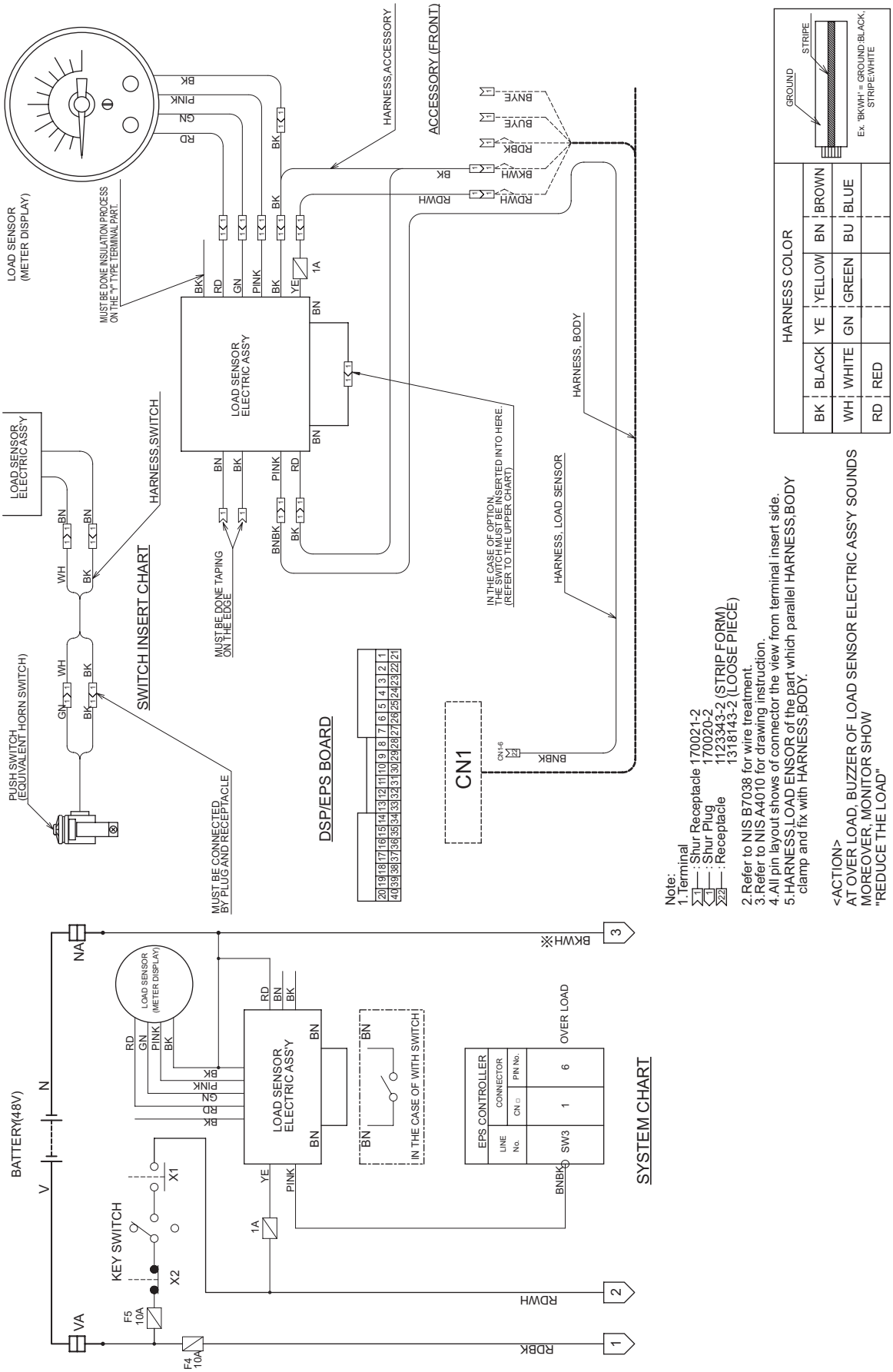
Wiring, overload

4- 4.

Overload sensor / display indication

4-4-10.

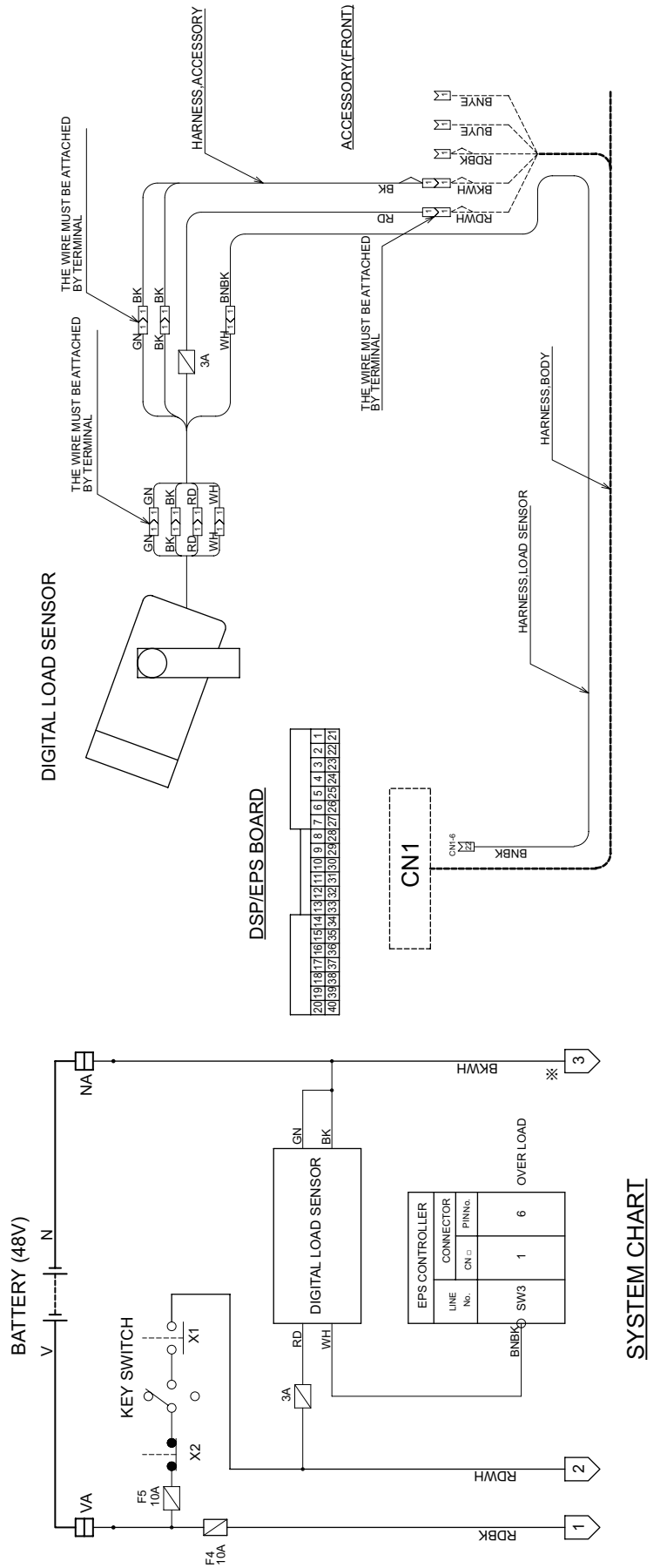
54000-75040-0E



Wiring, load sensor (CAN) 4- 4.

Load sensor / Analog type 4-4-11.

54001-38501-1E



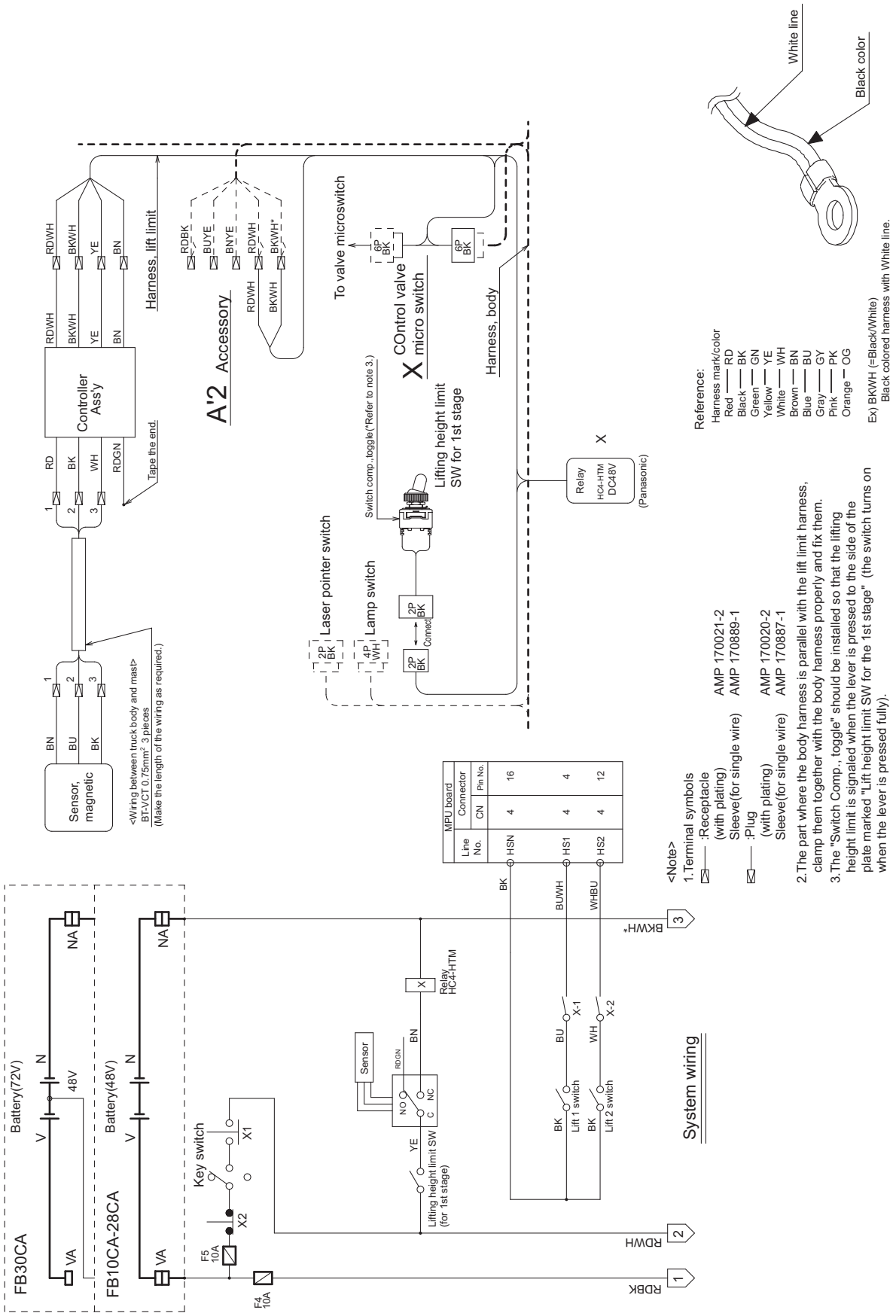
Note:
1.Terminal
: Shur Receptacle 170021-2
: Shur Plug 170020-2
: Receptacle 1123343-2(STRIP FORM)
1318143-2(LOOSE PIECE)
2.Refer to NIS B7038 for wire treatment.
3.Refer to NIS A4010 for drawing instruction.
4.All pin layout shows of connector the view from terminal insert side.
5.HARNESS,LOAD ENSOR of the part which parallel HARNESS,BODY clamp and fix with HARNESS,BODY.

<ACTION>
AT OVER LOAD, BUZZER OF DIGITAL LOAD SENSOR SOUNDS
MOREOVER, MONITOR SHOW
"REDUCE THE LOAD"

Wiring, load sensor (CAN) 4- 4.

Load sensor / Digital type 4-4-12.

54001-38511-0E



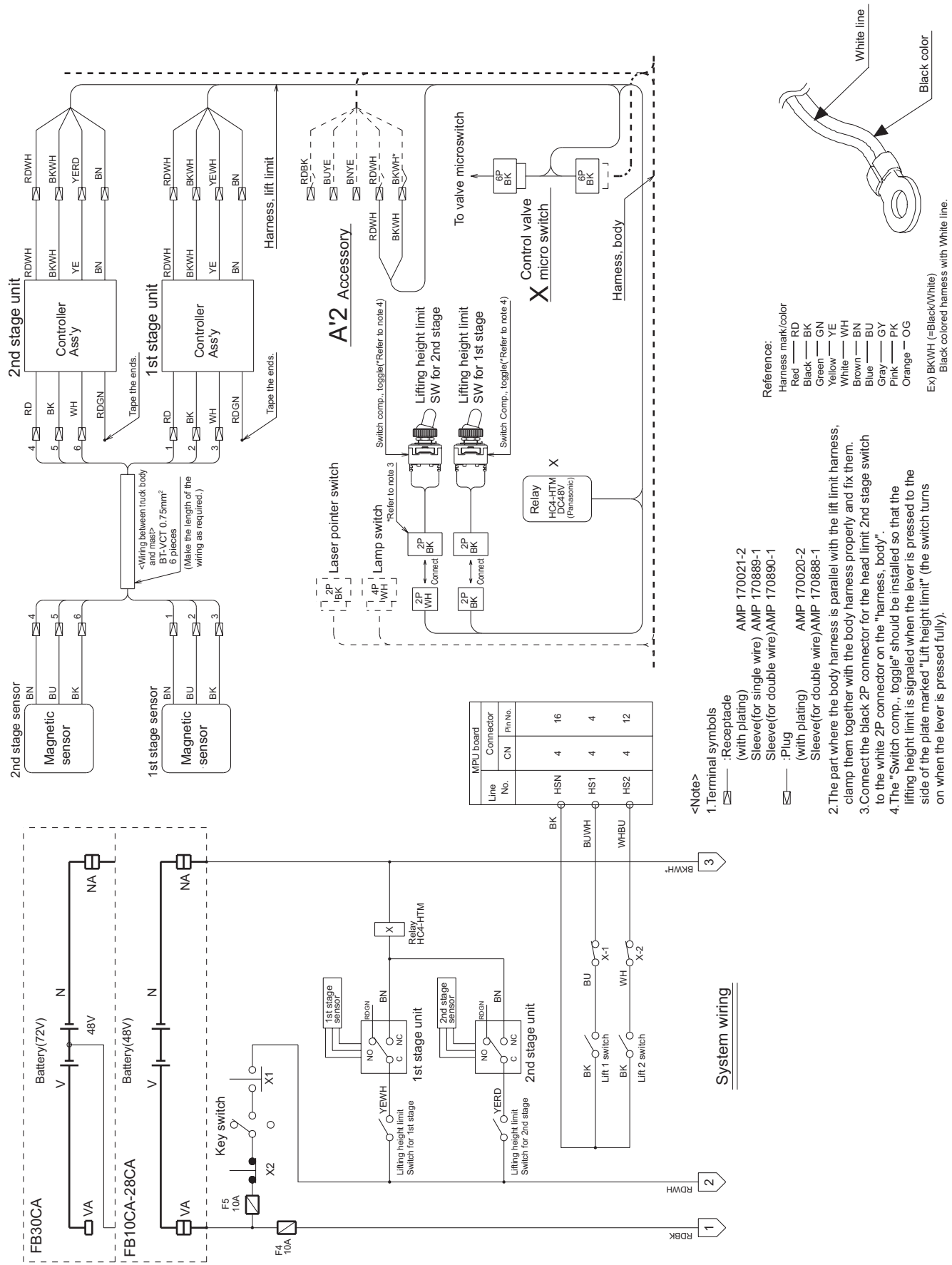
Wiring, lift limit

Lift limit / 1st stage

24801-11421-0E

4- 4.

4-4-13.



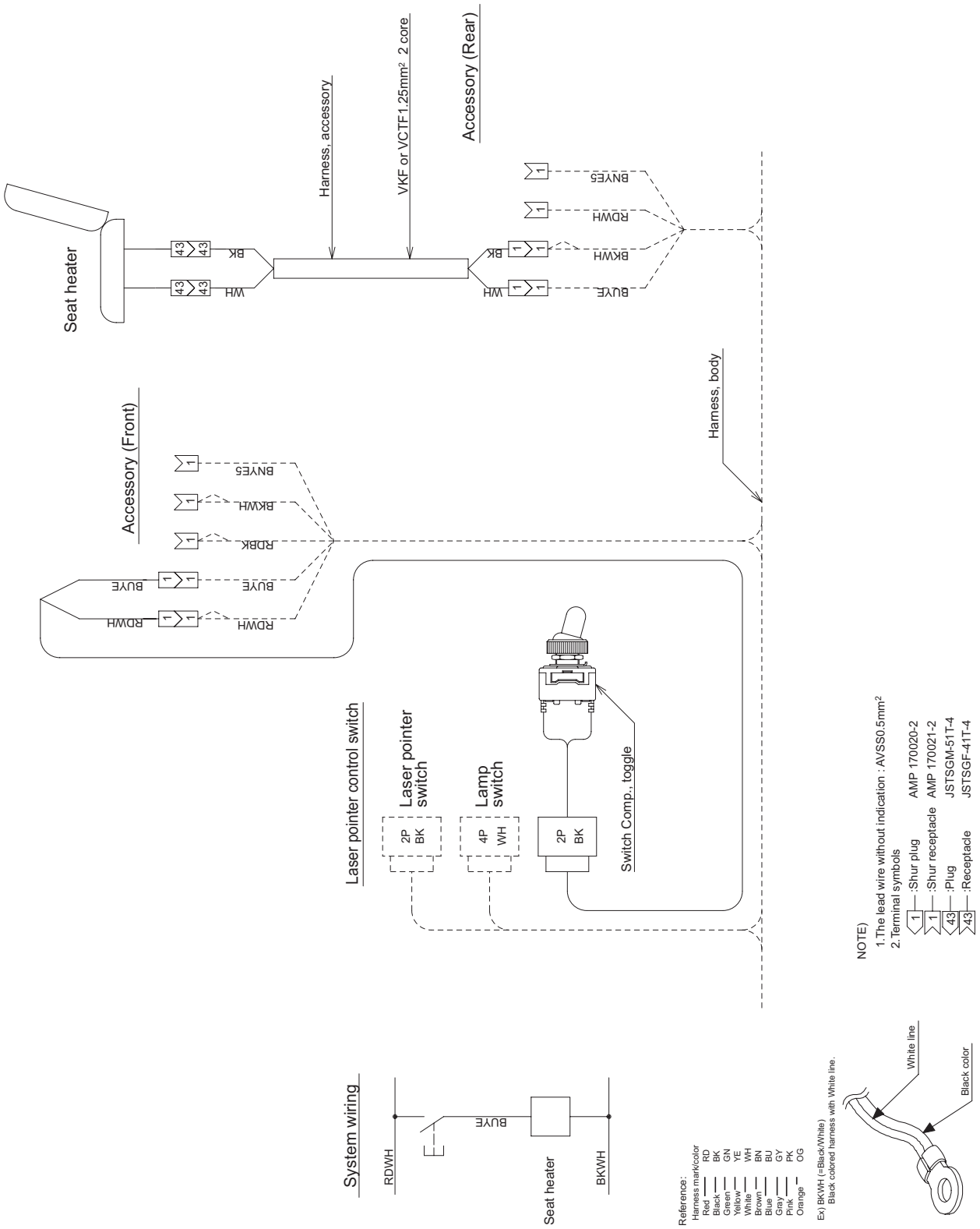
Wiring, lift limit

Lift limit / 2nd stage

24801-11431-0E

4- 4.

4-4-14.



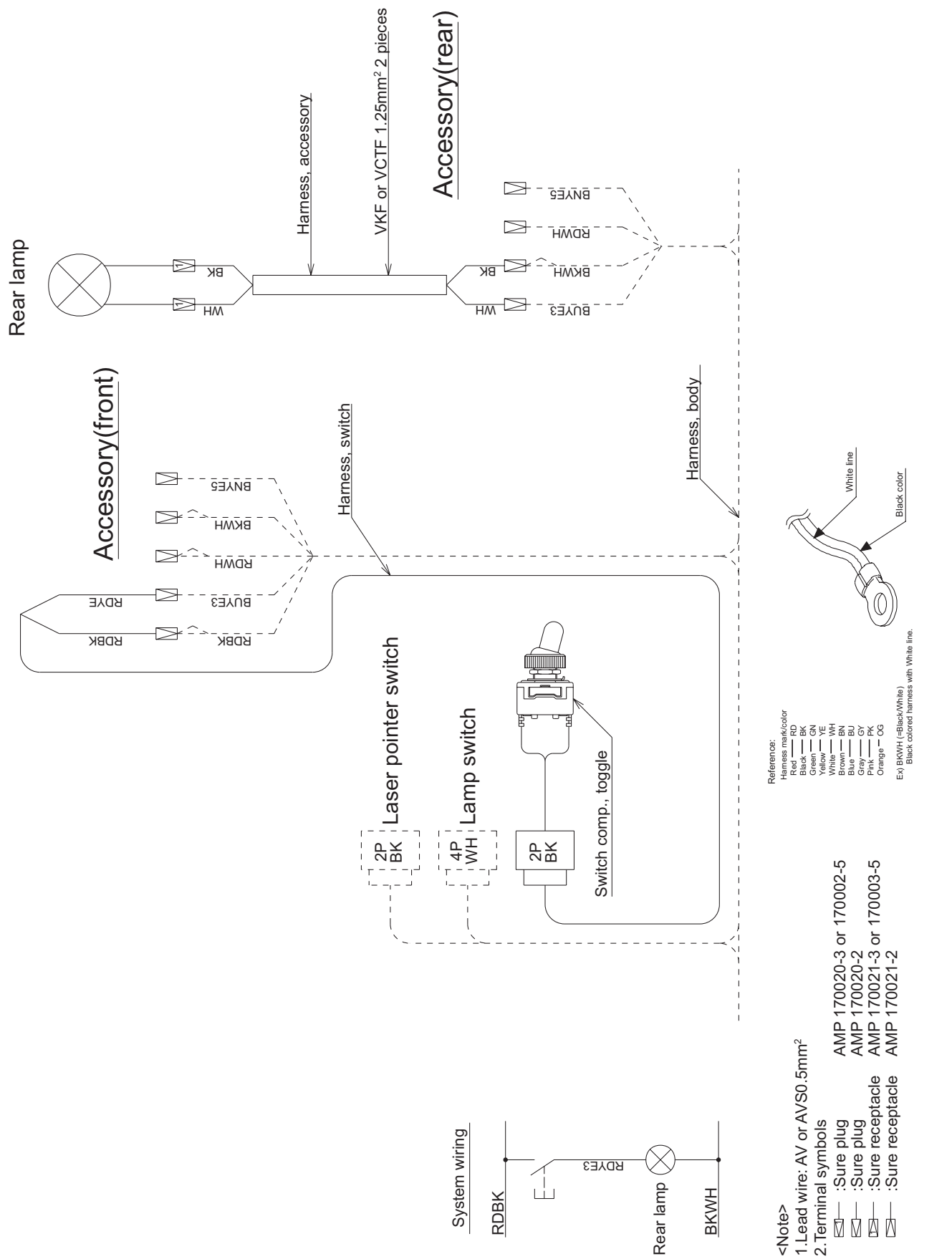
Wiring, seat heater

4- 4.

Seat heater

4-4-15.

24801-11740-2E

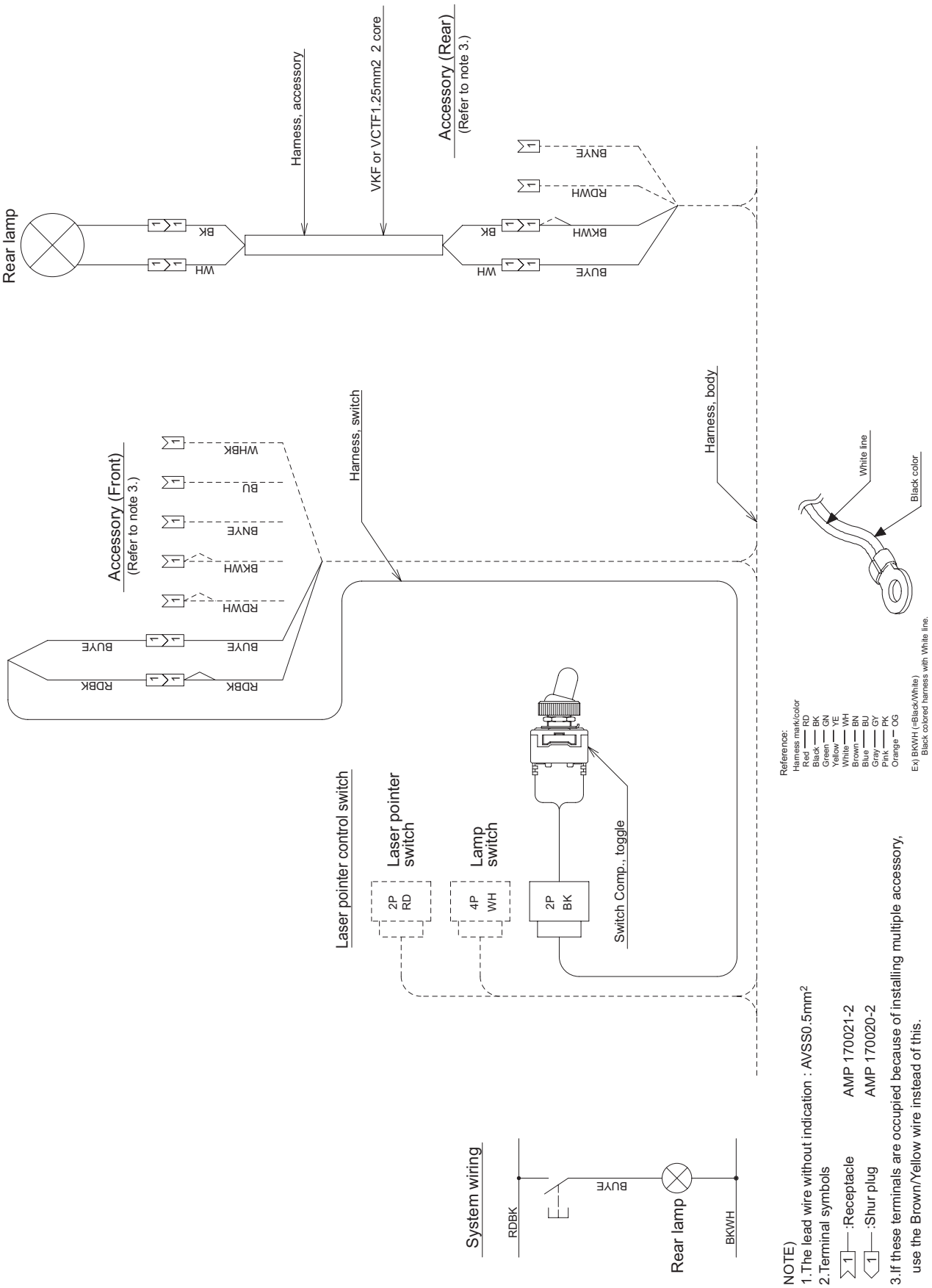


Wiring, rear lamp

4- 4.

Rear lamp (FB10CA-18CA:-221E03367 / FB20CA-28CA:-241AC9194 / FB30CA:-251AC1318)

4-4-16.

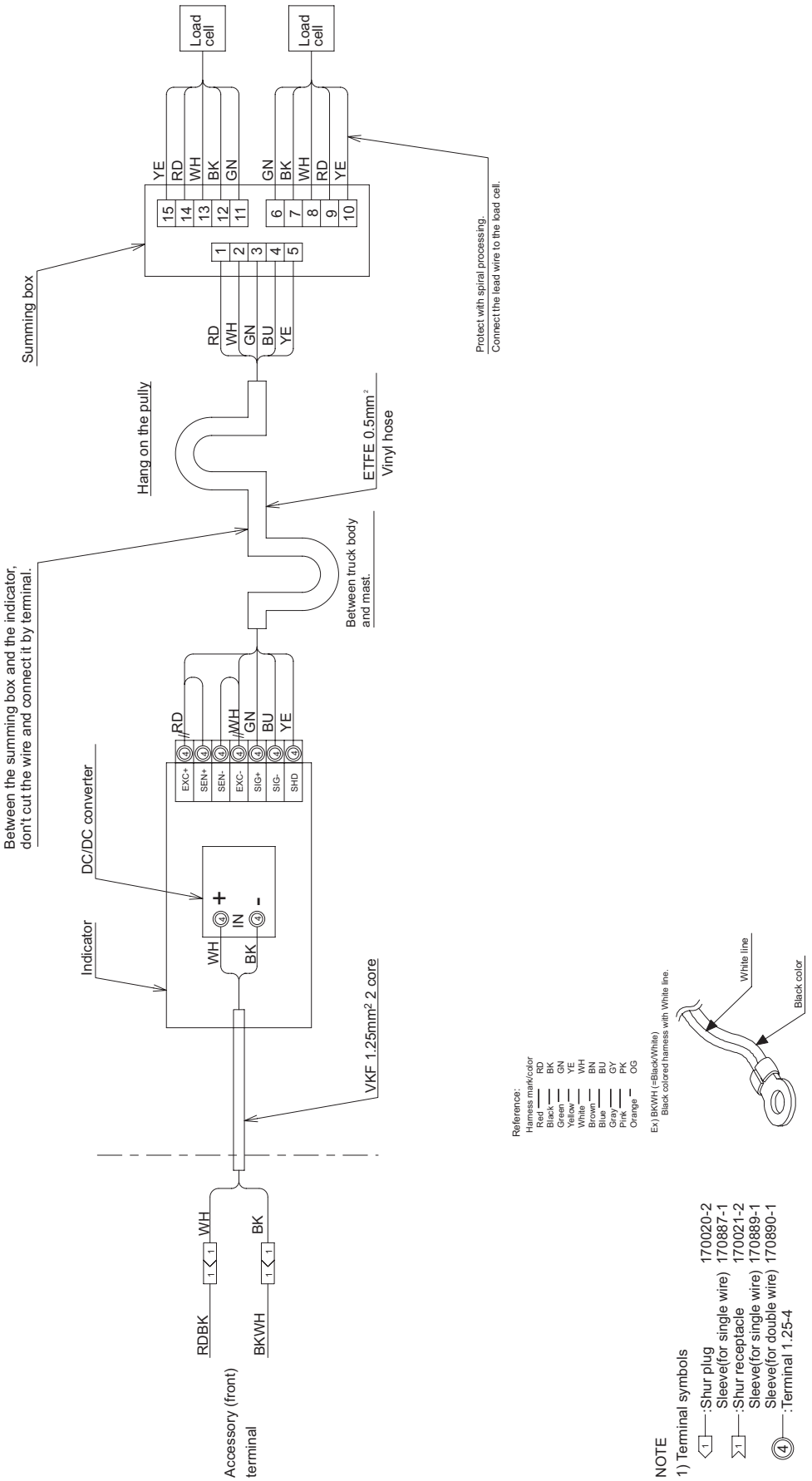


Wiring, rear lamp

4- 4.

Rear lamp (FB10CA-18CA:221E03368- / FB20CA-28CA:241AC9195- / FB30CA:251AC1319-)

4-4-17.

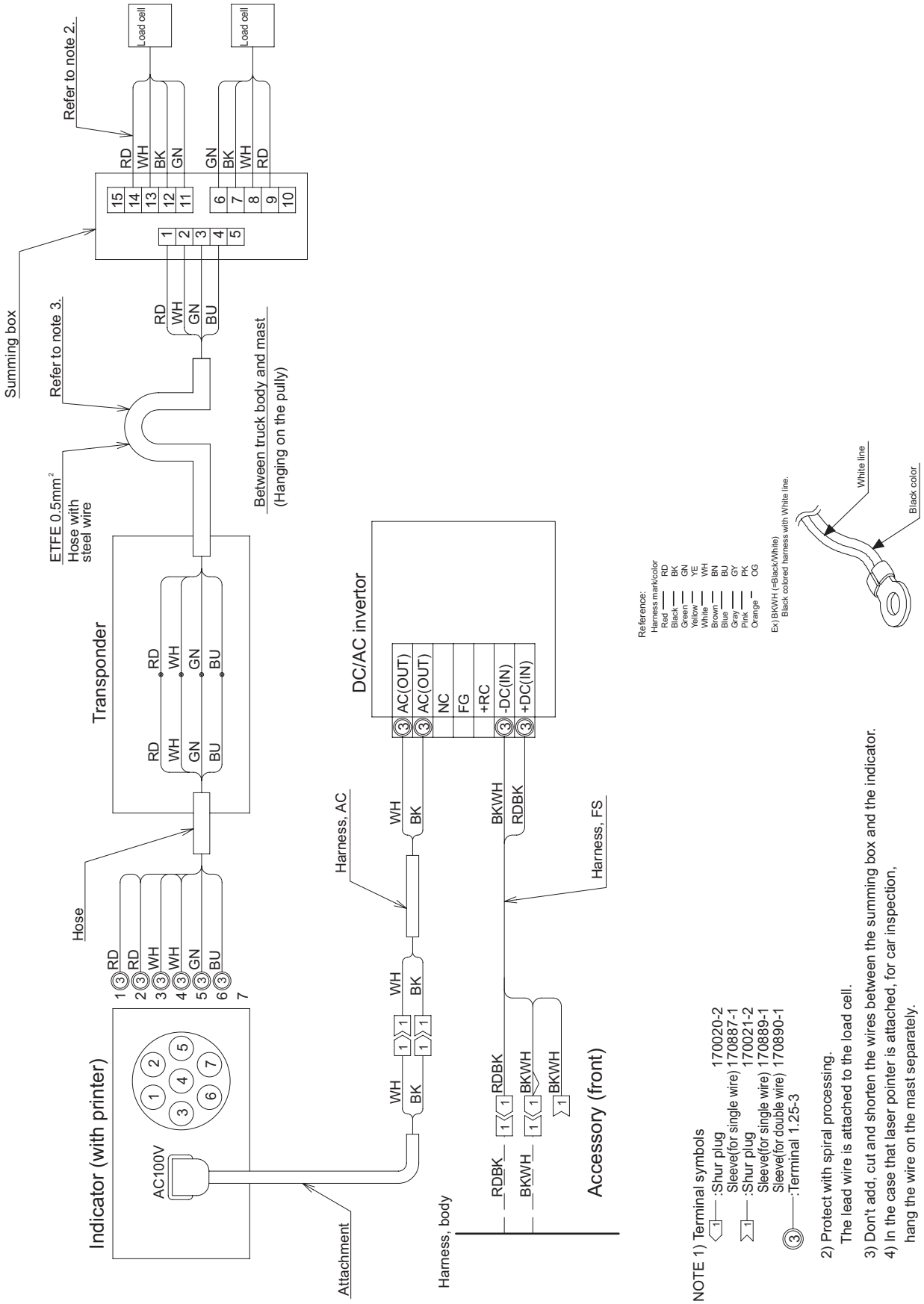


Wiring, fork scale

4- 4.

Fork scale / without printer (FB10CA-18CA: -221E05836 / FB20CA-28CA: -241C00720 / FB30CA: -251AC1484)

4-4-18.

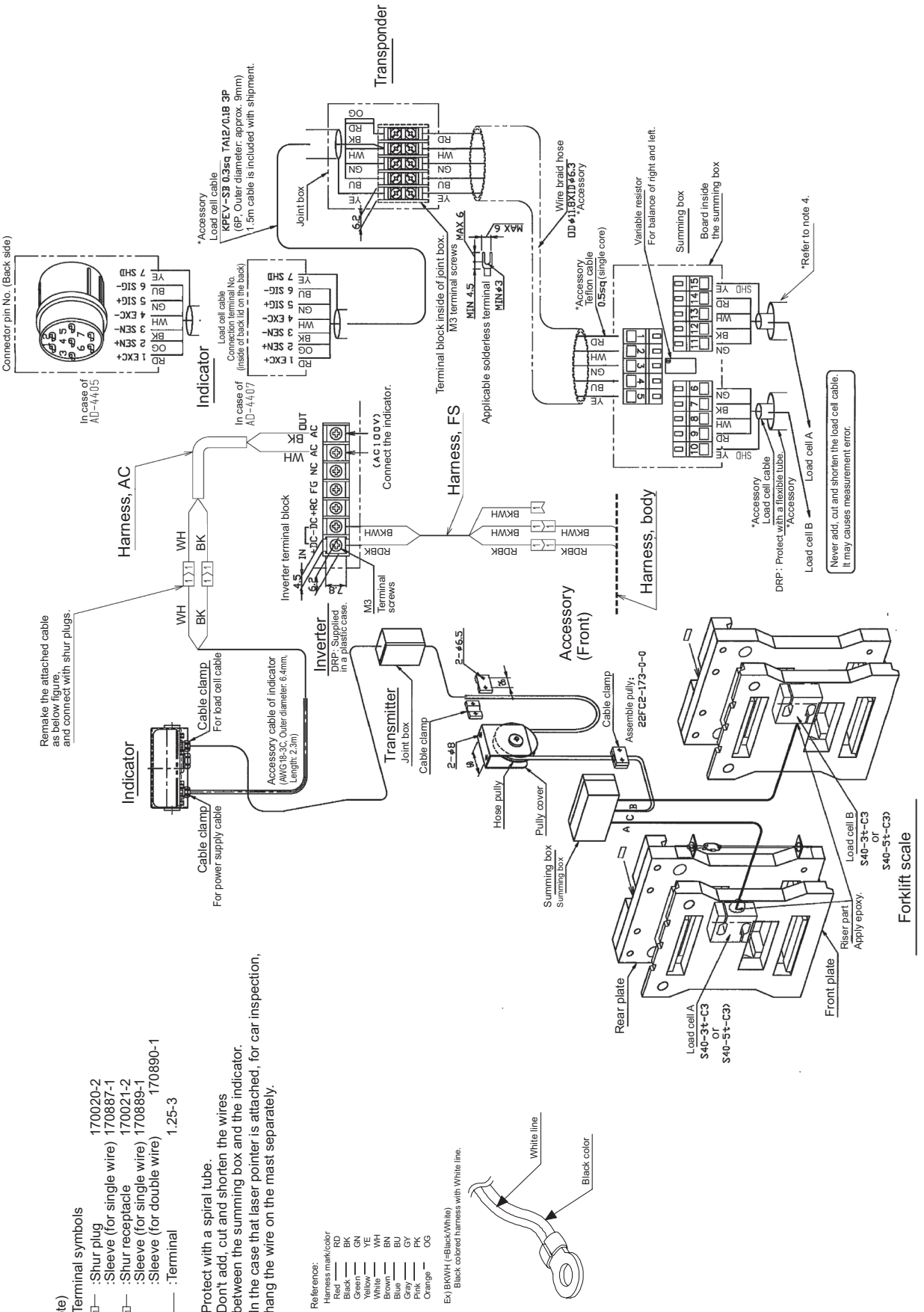


Wiring, fork scale

4- 4.

Fork scale / with printer (FB10CA-18CA: -221E05836 / FB20CA-28CA: -241C00720 / FB30CA: -251AC1484)

4-4-19.



Note)
1. Terminal symbols
:Shur plug 170020-2
:Sleeve (for single wire) 170887-1
:Shur receptacle 170021-2
:Sleeve (for single wire) 170889-1
:Sleeve (for double wire) 170890-1
:Terminal 1.25-3
2. Protect with a spiral tube.
3. Don't add, cut and shorten the wires between the summing box and the indicator.
4. In the case that laser pointer is attached, for car inspection, hang the wire on the mast separately.

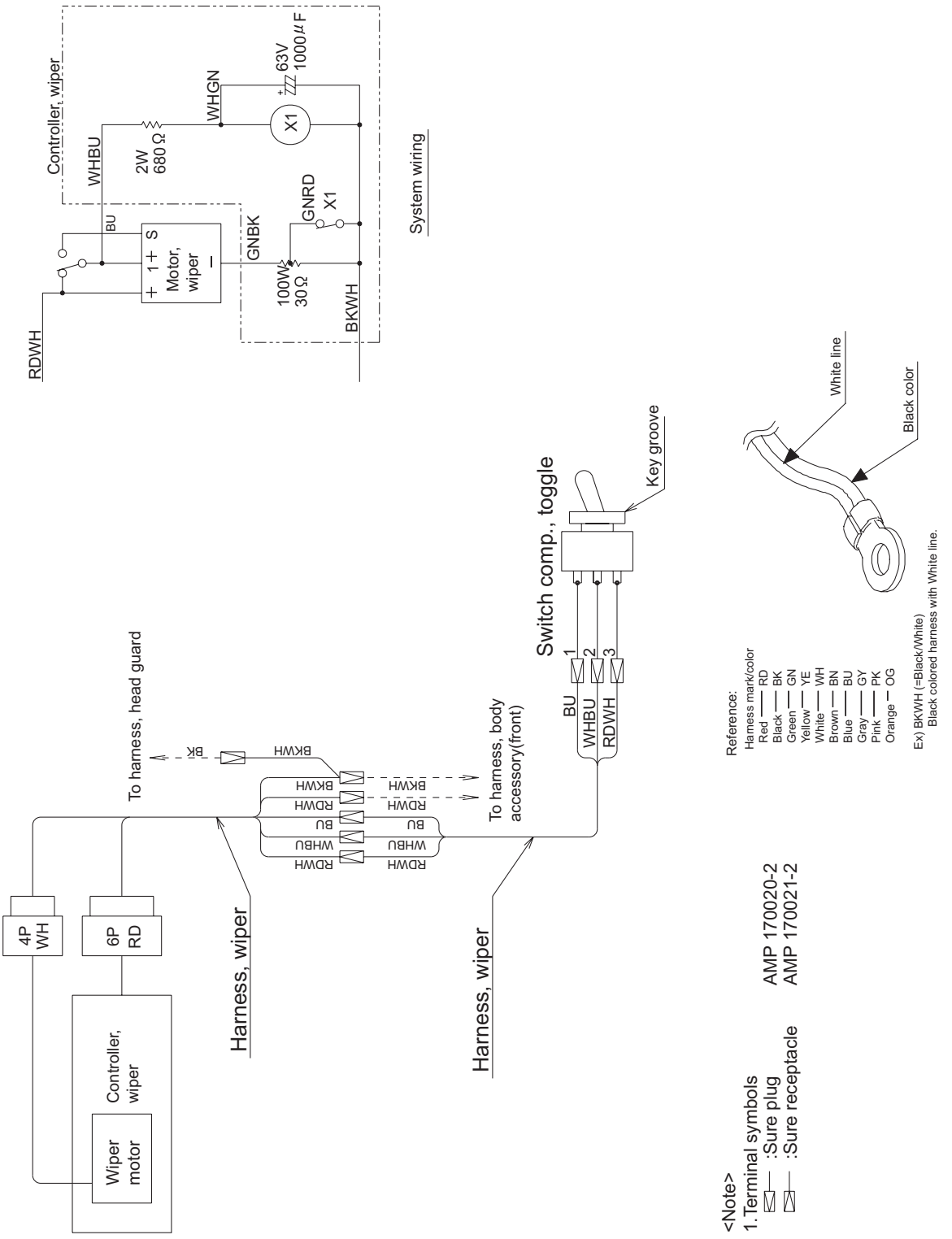
Reference:
Harness mark/color
Red RD
Black BK
Green GN
Yellow YE
White WH
Brown BN
Blue BU
Gray GY
Pink PK
Orange OG
Ex) BKWH (=Black/White)
Black colored harness with White line.

Wiring, fork scale

4- 4.

Fork scale / with or without printer (FB10CA-18CA: 221E05837- / FB20CA-28CA: 241C00721- / FB30CA: -251AC1485-)

4-4-20.



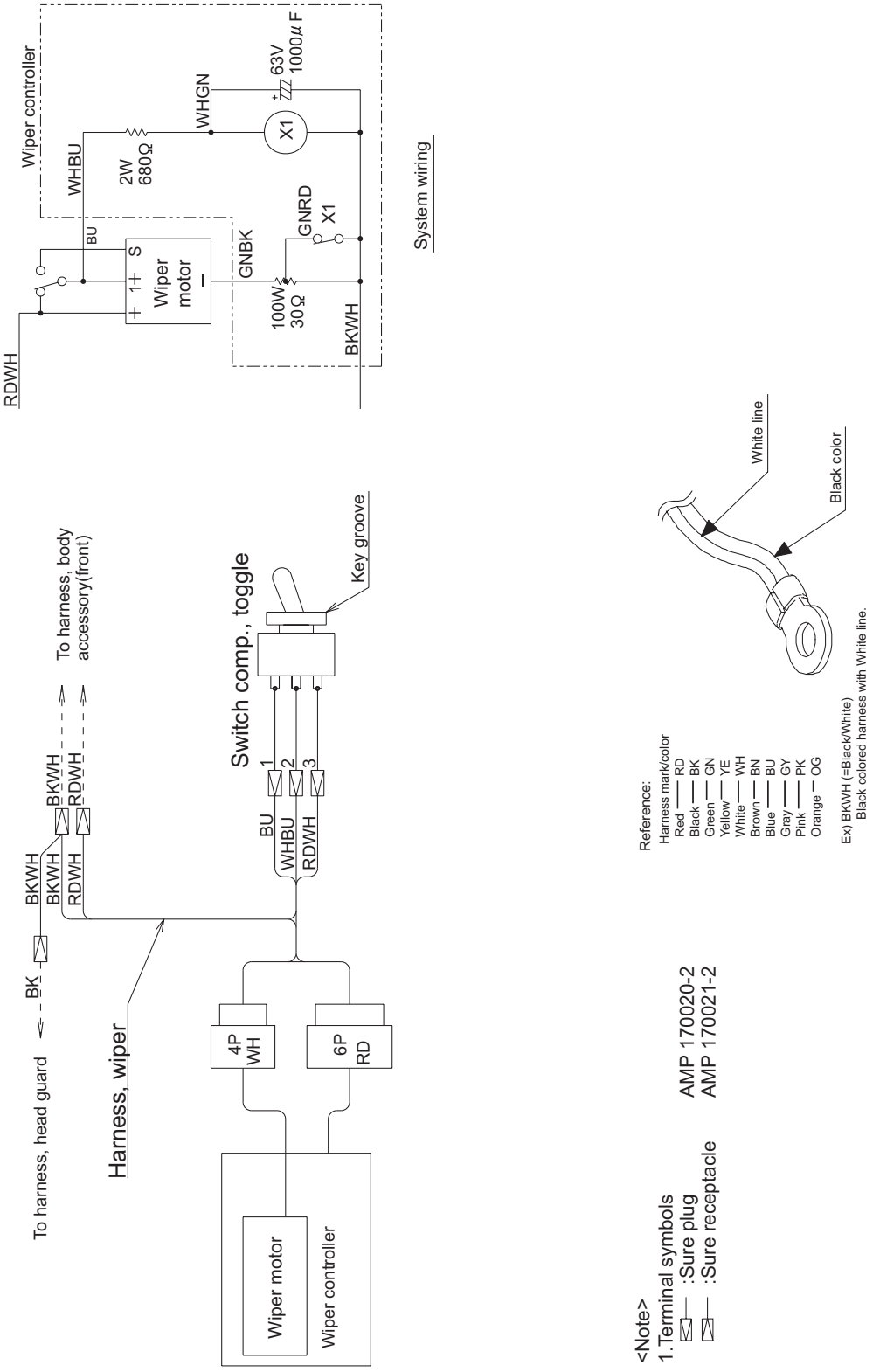
Wiring, wiper

Wiper

24801-16840-0E

4- 4.

4-4-21.



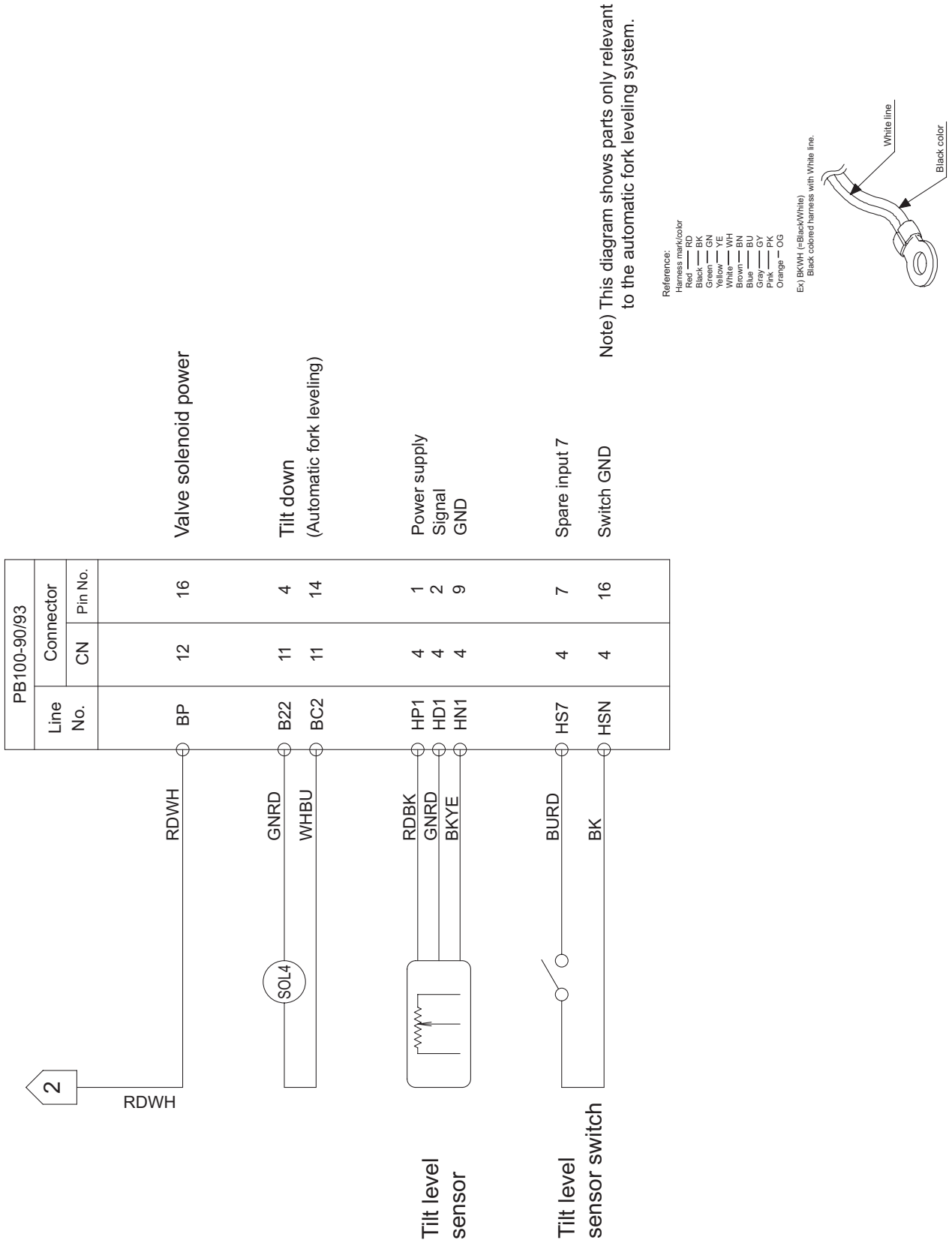
Wiring, wiper

Wiper / Lower mounting

24801-17450-0E

4- 4.

4-4-22.



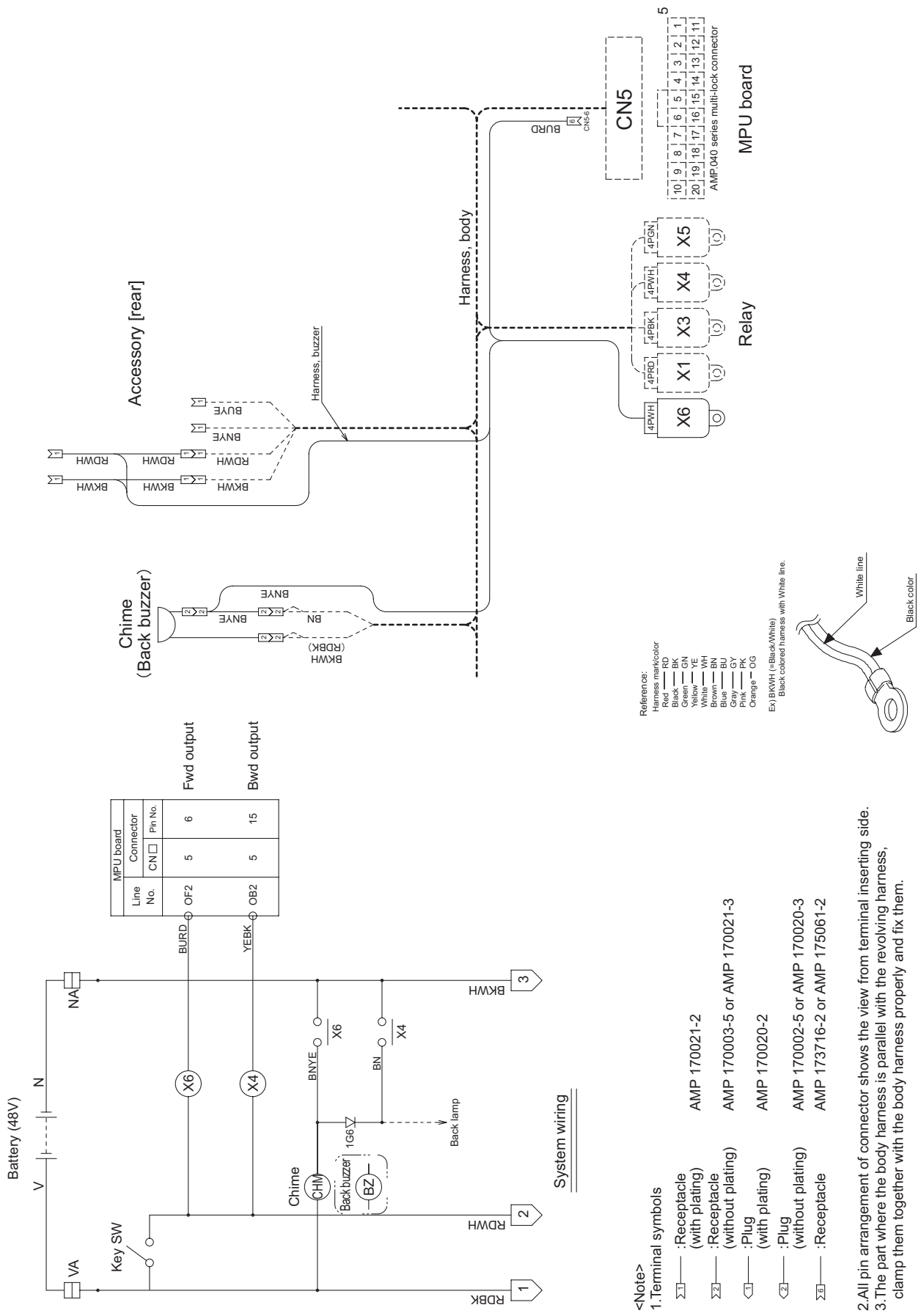
System wiring

Fork level auto stop

24900-31290-0E

4- 4.

4-4-23.

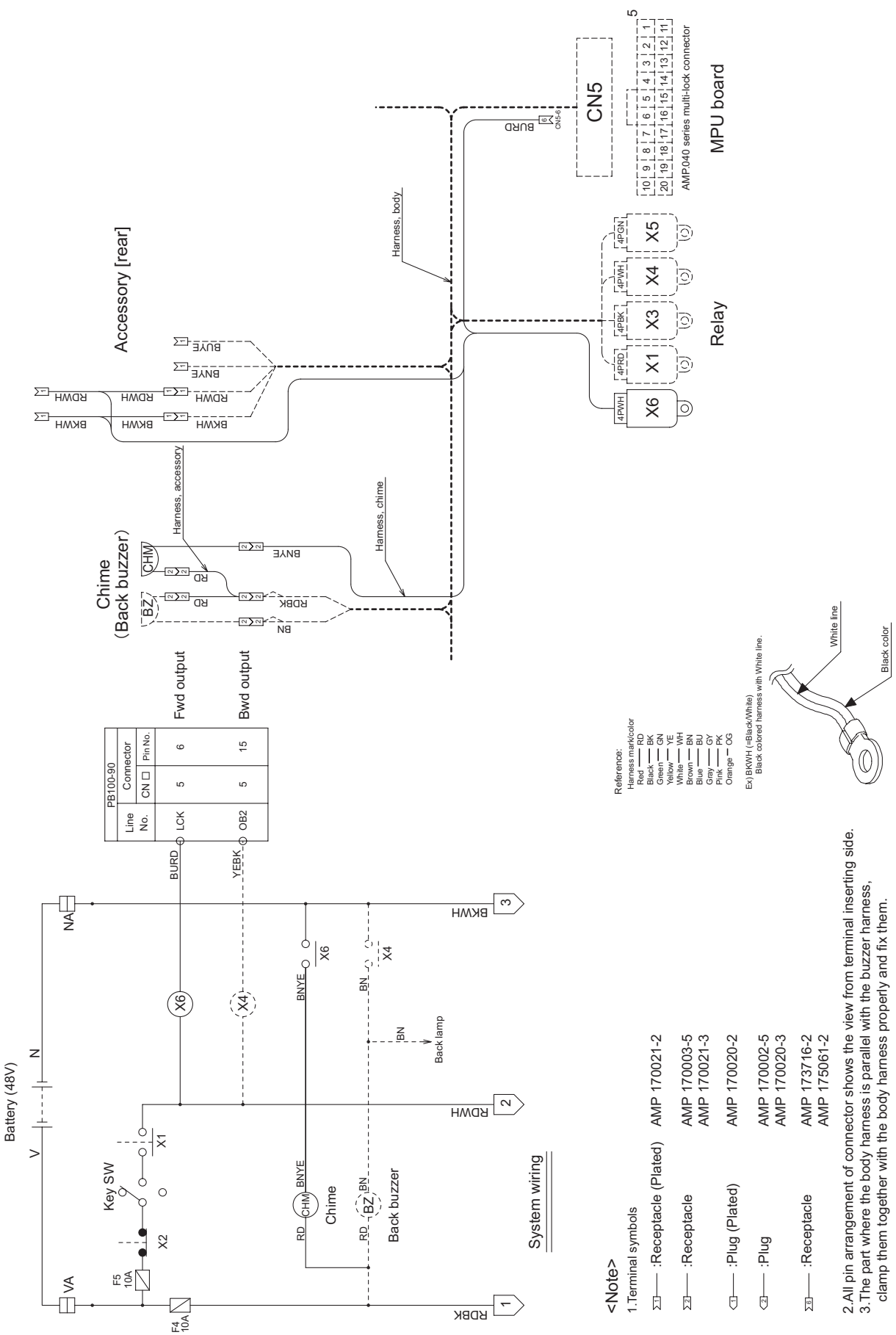


<Note>
1.Terminal symbols
:Receptacle (with plating) — AMP 170021-2
:Receptacle (without plating) — AMP 170003-5 or AMP 170021-3
:Plug (with plating) — AMP 170020-2
:Plug (without plating) — AMP 170002-5 or AMP 170020-3
:Receptacle — AMP 173716-2 or AMP 175061-2
2.All pin arrangement of connector shows the view from terminal inserting side.
3.The part where the body harness is parallel with the revolving harness, clamp them together with the body harness properly and fix them.

Wiring, chime (buzzer) (CAN) 4- 4.

Chime (buzzer) / Fwd & Bwd 4-4-24.

54001-39110-0E



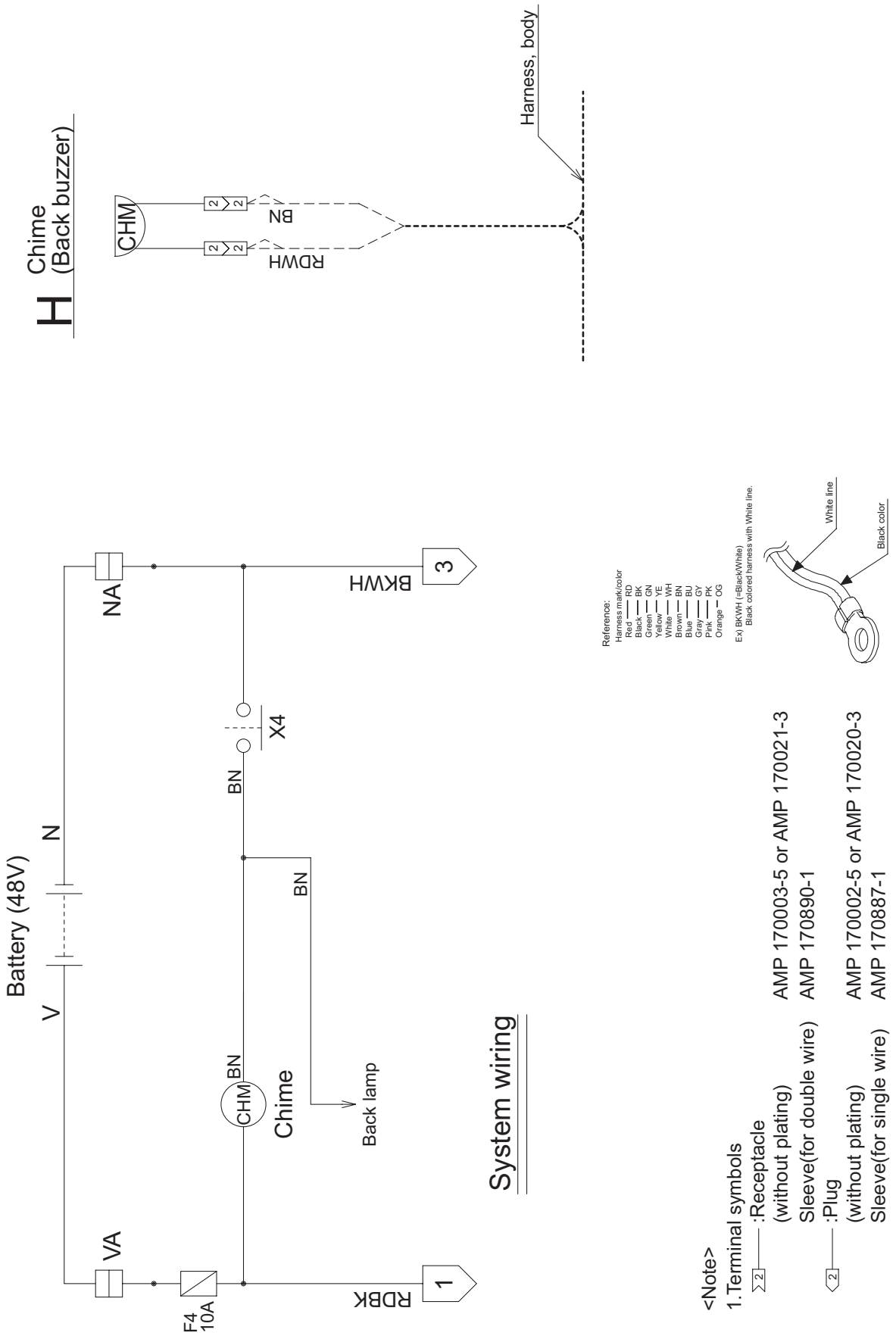
Wiring, chime (CAN)

4- 4.

Chime / Fwd

4-4-25.

54001-39120-0E



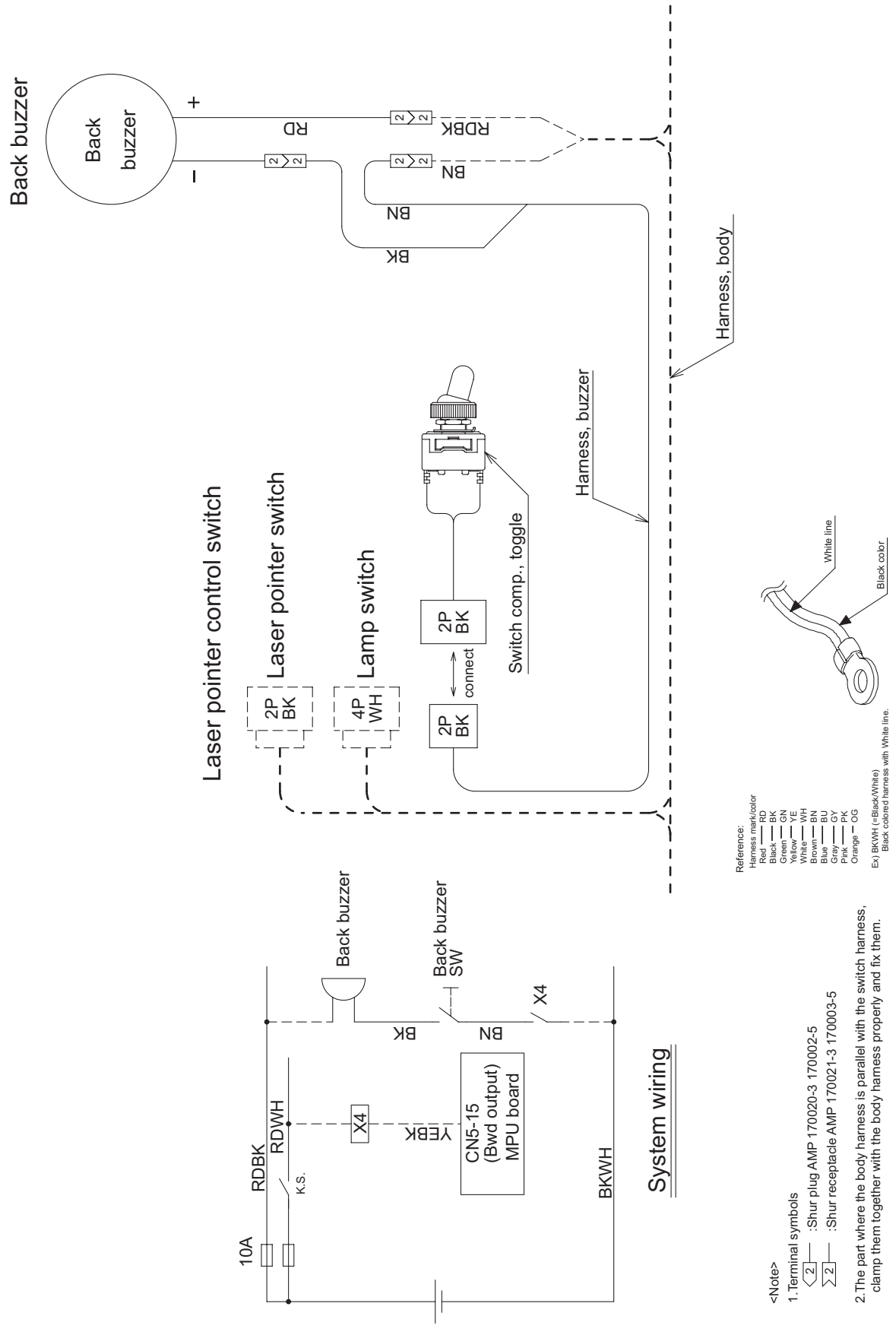
Wiring, chime (CAN)

Chime / Bwd

54001-39130-0E

4- 4.

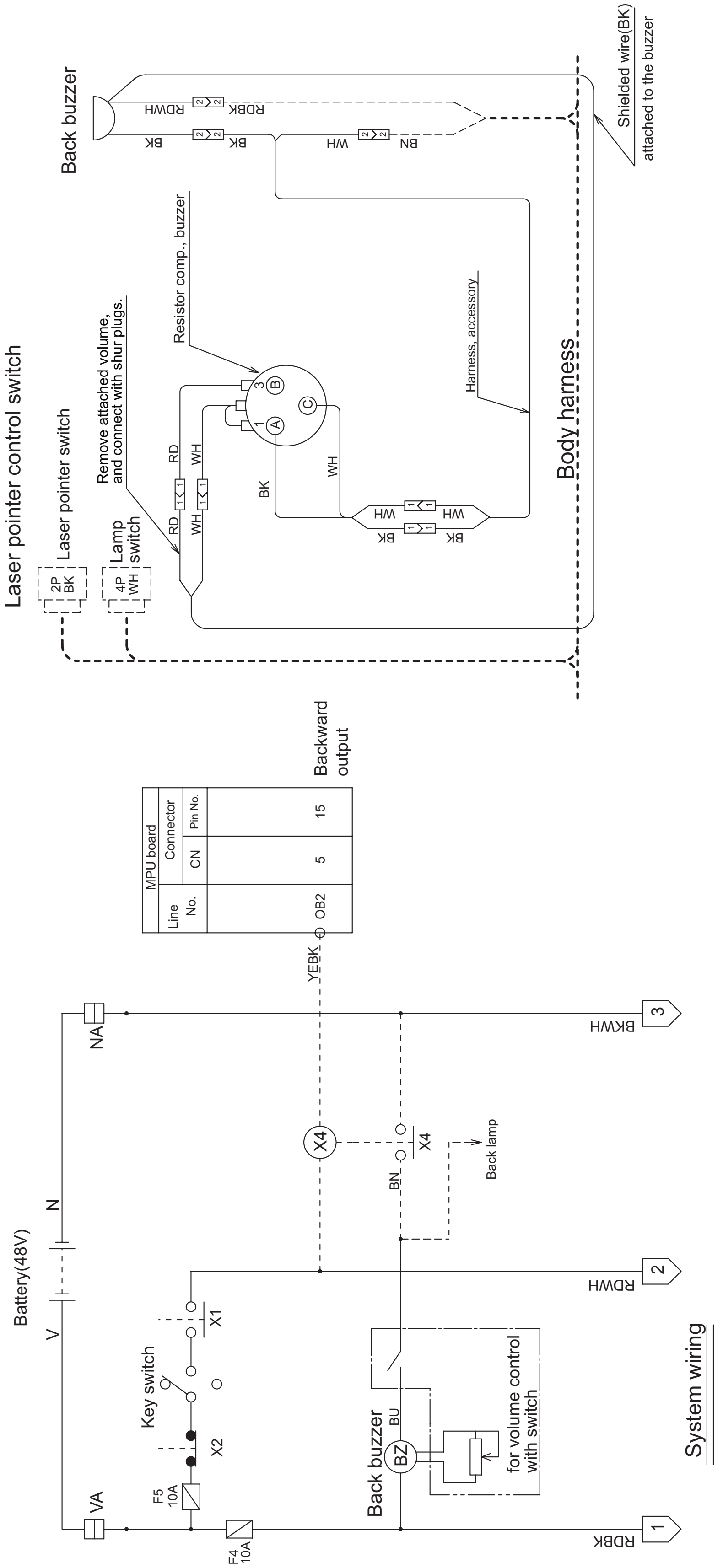
4-4-26.

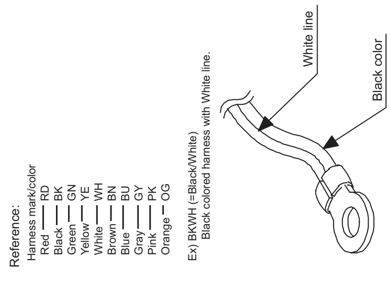


Wiring, buzzer (CAN) 4- 4.

Back buzzer / with ON•OFF switch 4-4-27.

54001-38320-0E





<Note>

1.Terminal symbols

- :Receptacle (Plated) AMP 170021-2
- :Receptacle AMP 170003-5, AMP 170021-3
- :Plug (Plated) AMP 170020-2
- :Plug AMP 170002-5, AMP 170020-3

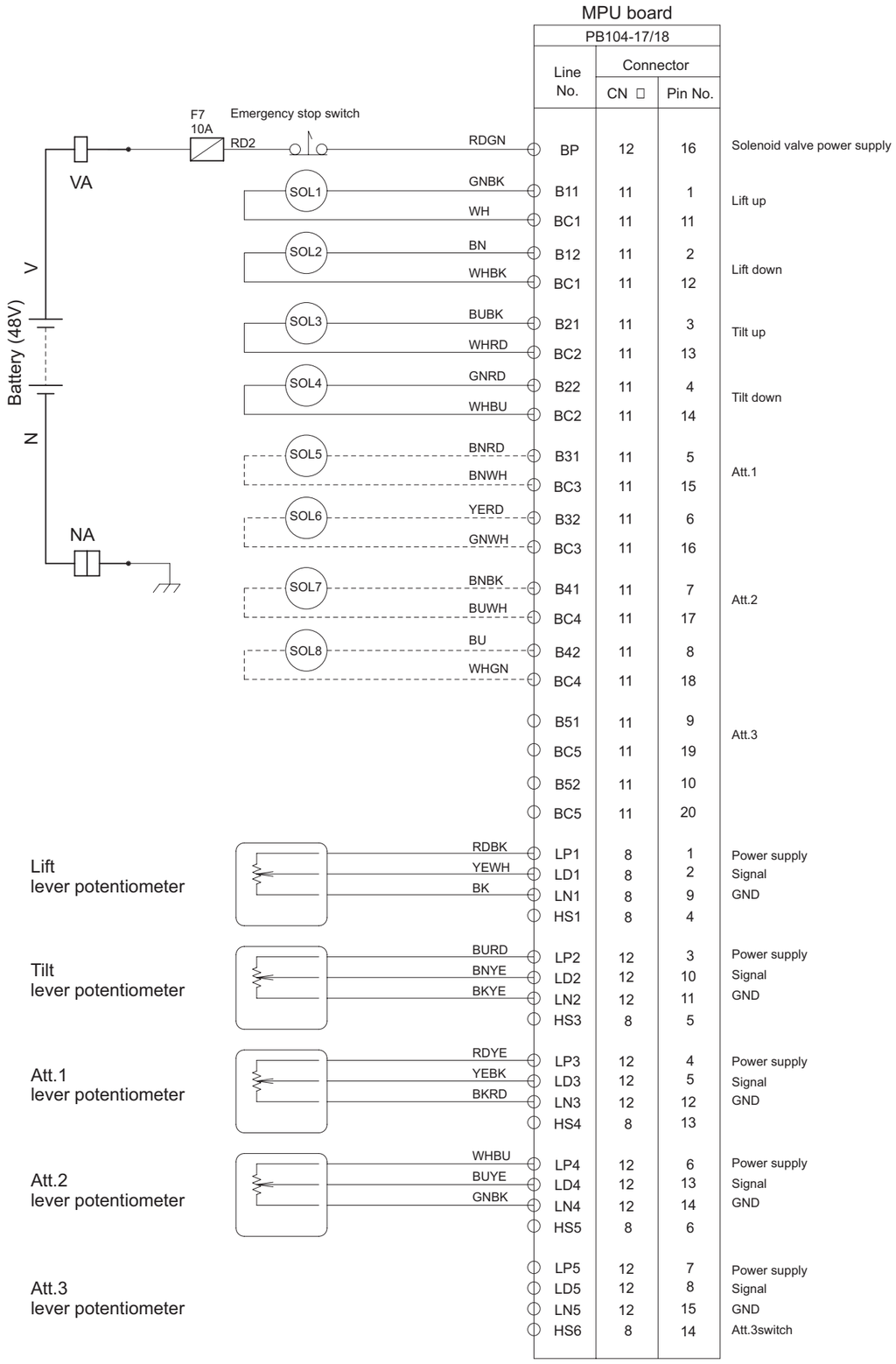
2.All pin arrangement of connector shows the view from terminal inserting side.

3.The part where the next three harnesses are parallel, clamp them together with the body harness properly and fix them.
1) Body harness
2) The shield wire attached to the buzzer (Black)
3) The wire of the buzzer resister Comp.

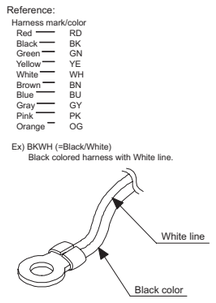
Wiring, buzzer (CAN) 4- 4.

Back buzzer / Volume controllable type 4-4-28.

54001-38300-0E

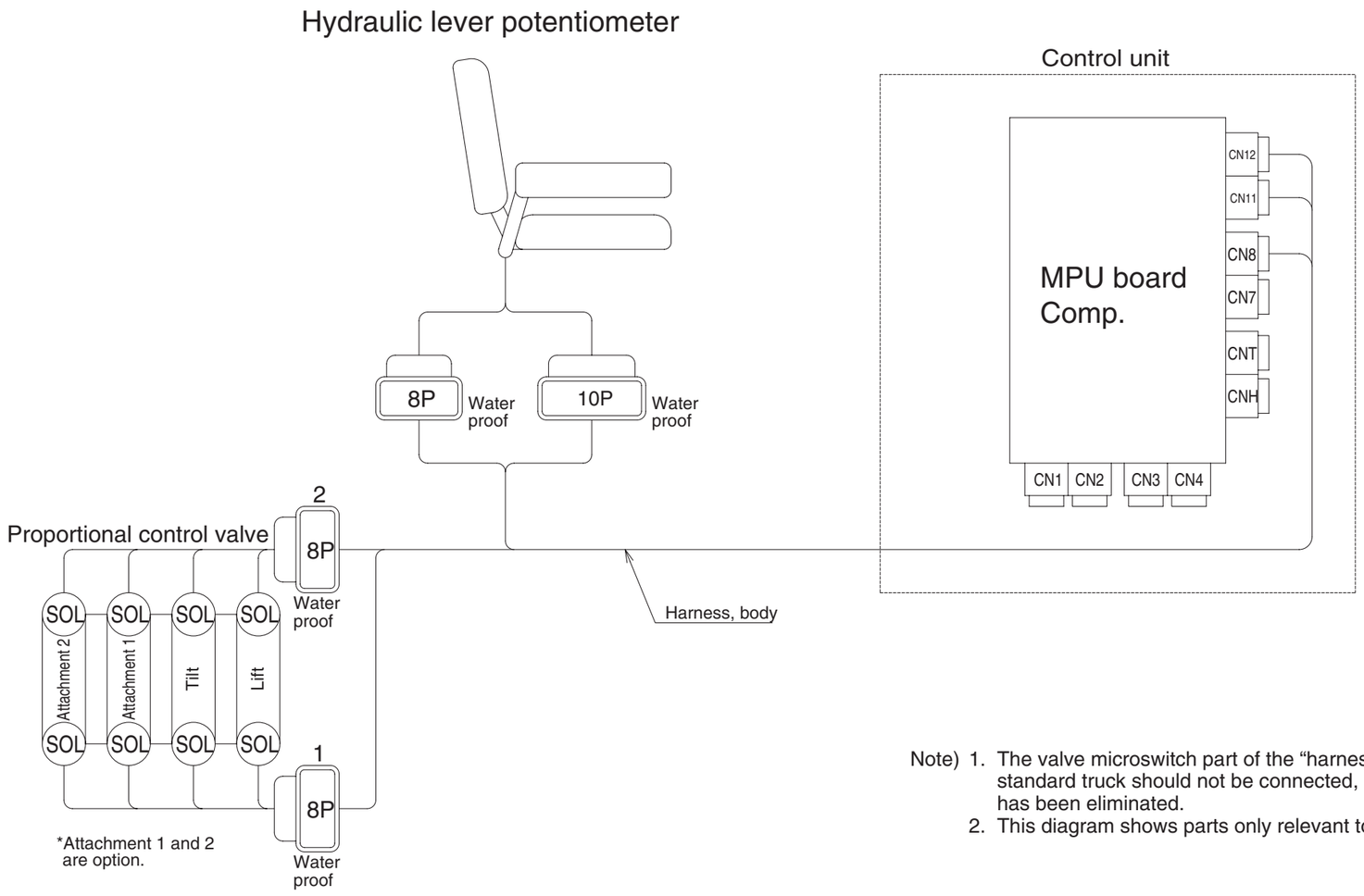


NOTE) This diagram shows parts only relevant to the “AOS, fingertip system”.

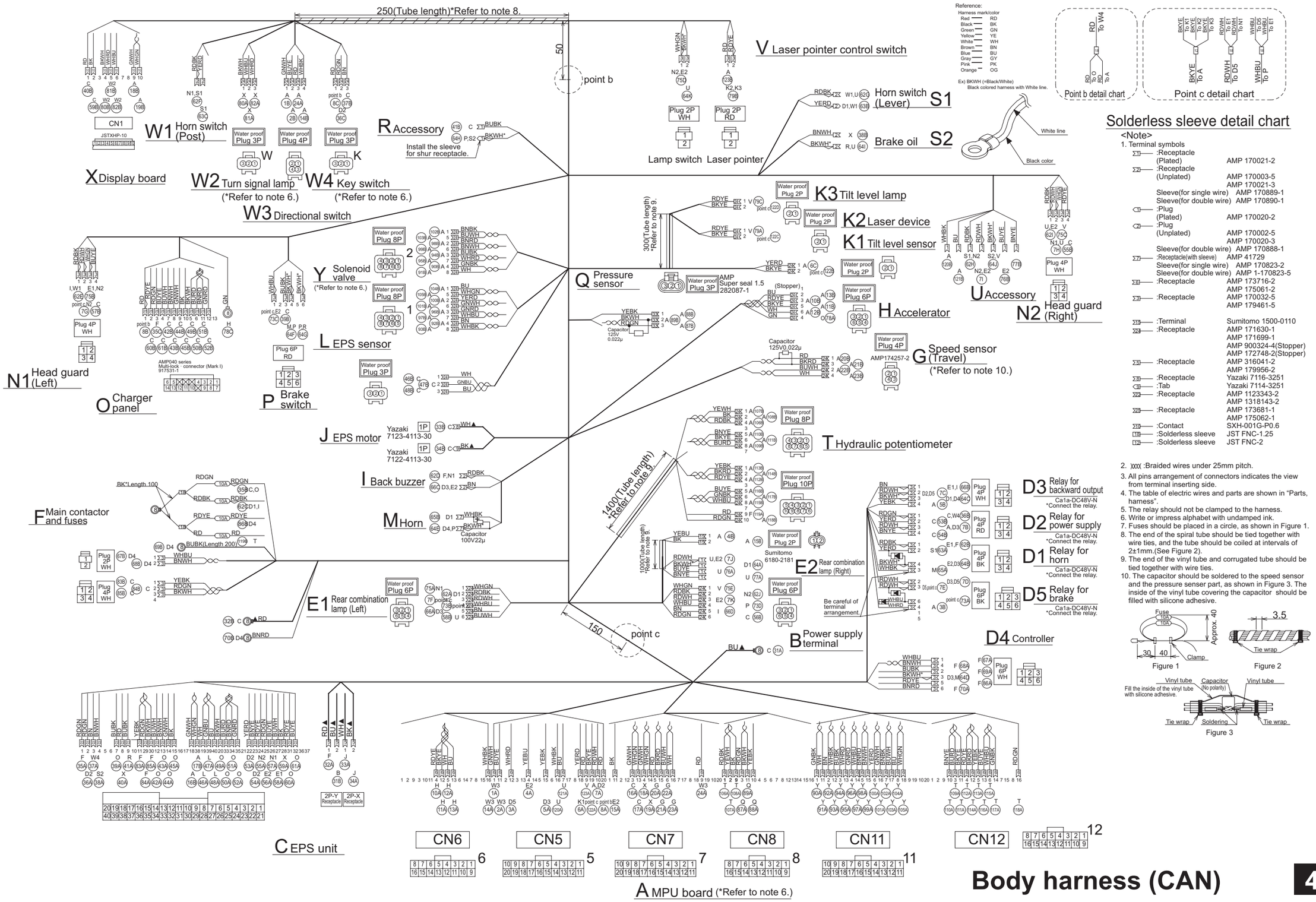


System wiring (CAN) 4- 5.

FB10CA-30CA/FB10HCA-25HCA 4-5-1.



Note) 1. The valve microswitch part of the “harness, body” on the standard truck should not be connected, because this part has been eliminated.
2. This diagram shows parts only relevant to the fingertip.



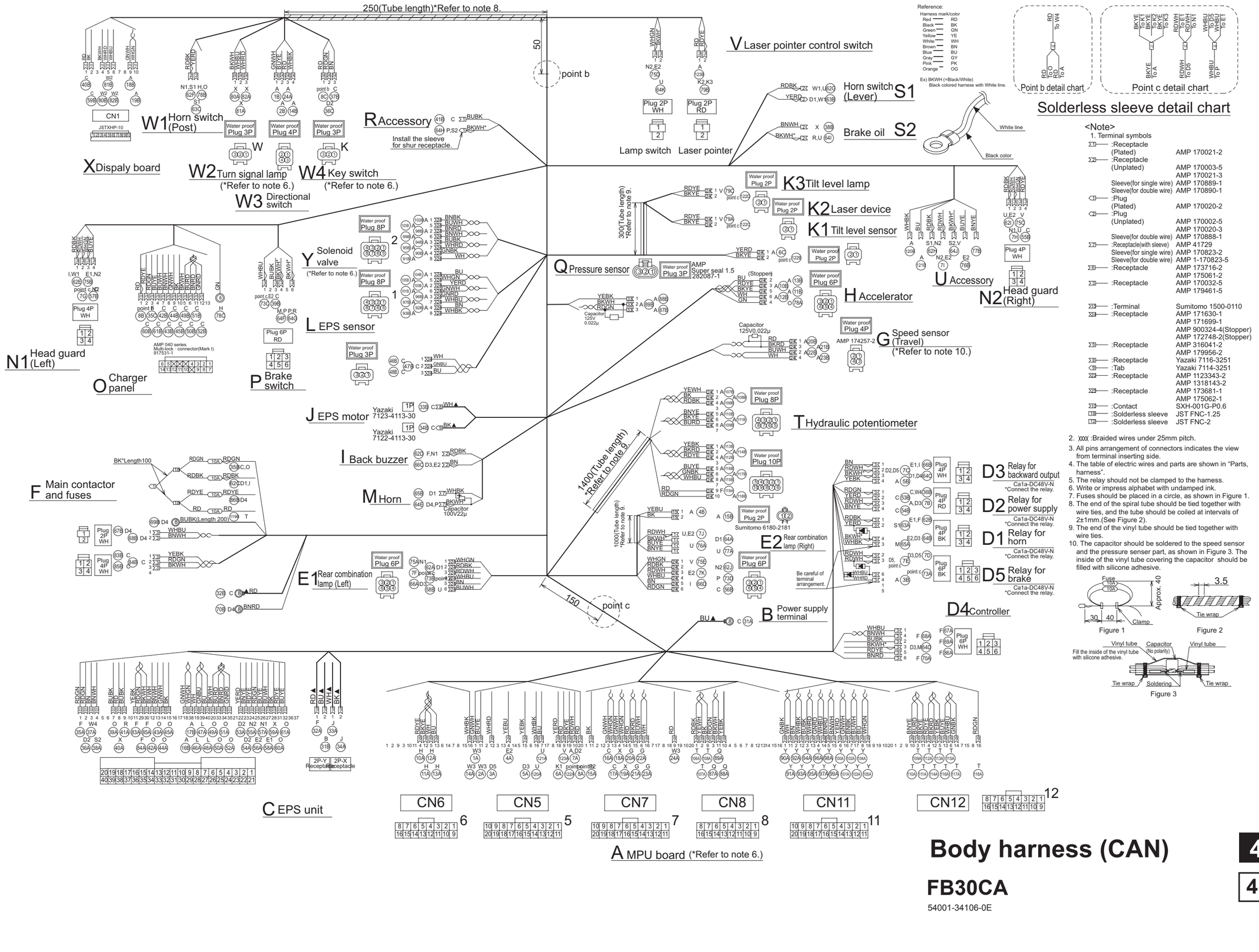
Body harness (CAN)

4- 5.

FB10CA-30CA/FB10HCA-25HCA

4-5-3.

54001-34086-0E



<Note>

1. Terminal symbols

▽1	:Receptacle (Plated)	AMP 170021-2
▽2	:Receptacle (Unplated)	AMP 170003-5 AMP 170021-3
	Sleeve(for single wire)	AMP 170889-1
	Sleeve(for double wire)	AMP 170890-1
◁1	:Plug (Plated)	AMP 170020-2
◁2	:Plug (Unplated)	AMP 170002-5 AMP 170020-3
	Sleeve(for double wire)	AMP 170888-1
▽7	:Receptacle(with sleeve)	AMP 41729
	Sleeve(for single wire)	AMP 170823-2
	Sleeve(for double wire)	AMP 1-170823-5
▽6	:Receptacle	AMP 173716-2 AMP 175061-2
▽3	:Receptacle	AMP 170032-5 AMP 179461-5
▽13	:Terminal	Sumitomo 1500-0110
▽24	:Receptacle	AMP 171630-1 AMP 171699-1 AMP 900324-4(Stopper) AMP 172748-2(Stopper)
▽5	:Receptacle	AMP 316041-2 AMP 179956-2
▽8	:Receptacle	Yazaki 7116-3251
◁9	:Tab	Yazaki 7114-3251
▽22	:Receptacle	AMP 1123343-2 AMP 1318143-2
▽25	:Receptacle	AMP 173681-1 AMP 175062-1
▽10	:Contact	SXH-001G-P0.6
□18	:Solderless sleeve	JST FNC-1.25
□12	:Solderless sleeve	JST FNC-2

2. ⟩⟩⟩⟩ :Braided wires under 25mm pitch.
3. All pins arrangement of connectors indicates the view from terminal inserting side.
4. The table of electric wires and parts are shown in “Parts, harness”.
5. The relay should not be clamped to the harness.
6. Write or impress alphabet with undamped ink.
7. Fuses should be placed in a circle, as shown in Figure 1.
8. The end of the spiral tube should be tied together with wire ties, and the tube should be coiled at intervals of 2±1mm.(See Figure 2).
9. The end of the vinyl tube should be tied together with wire ties.
10. The capacitor should be soldered to the speed sensor and the pressure senser part, as shown in Figure 3. The inside of the vinyl tube covering the capacitor should be filled with silicone adhesive.

Figure 1

Figure 2

Figure 3

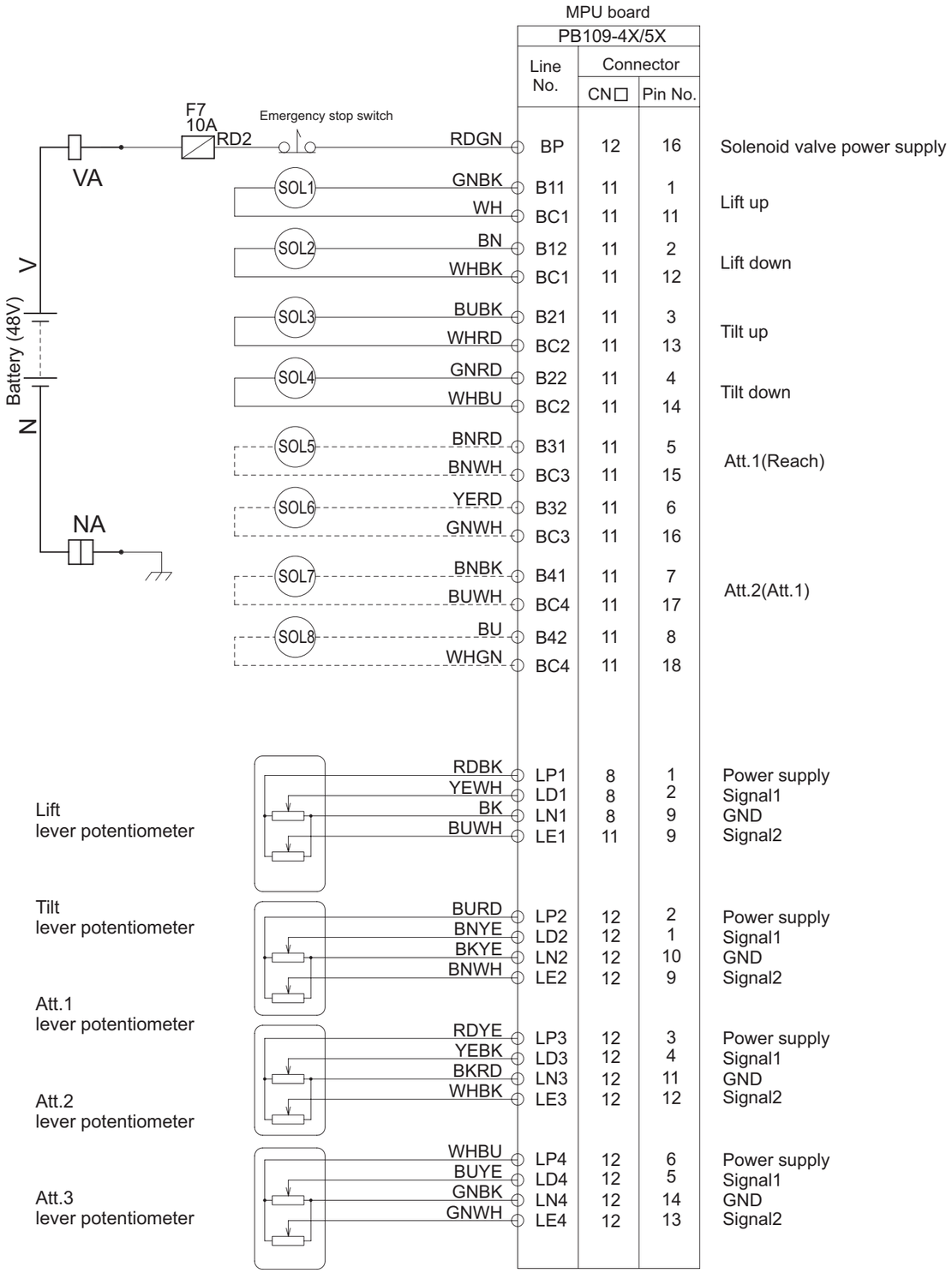
Body harness (CAN)

FB30CA

54001-34106-0E

4- 5.

4-5-4.



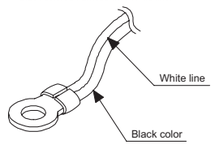
NOTE) This diagram shows parts only relevant to the “AOS, fingertip system”.

Reference:

Harness mark/color

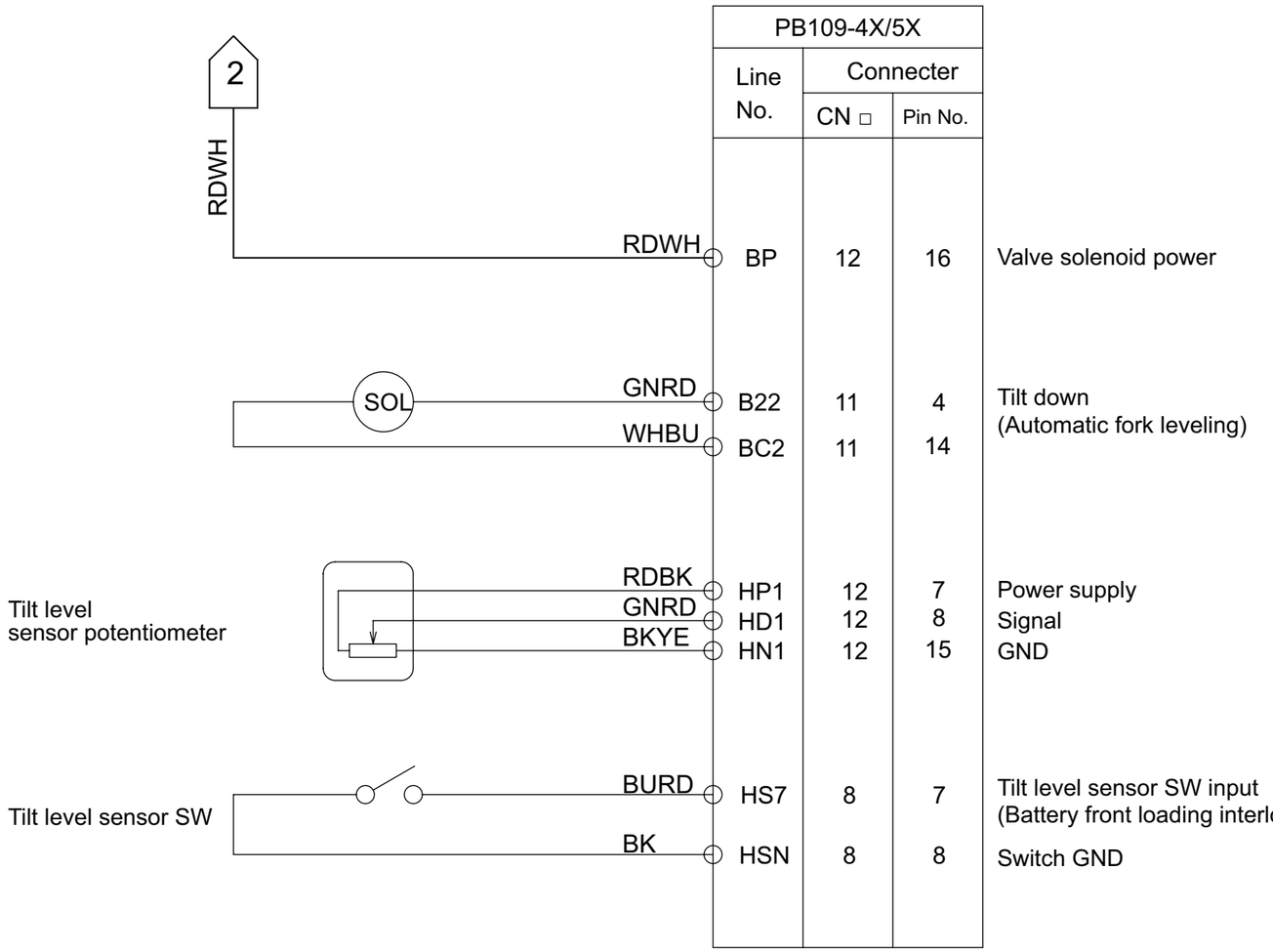
Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

Ex) BKWH (=Black/White)
Black colored harness with White line.



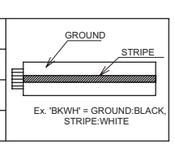
System wiring (MPU board unified gate circuit) 4- 5.

FB10CA-30CA/FB10HCA-25HCA 4-5-5.



Note) This diagram shows parts only relevant to the automatic fork leveling system.

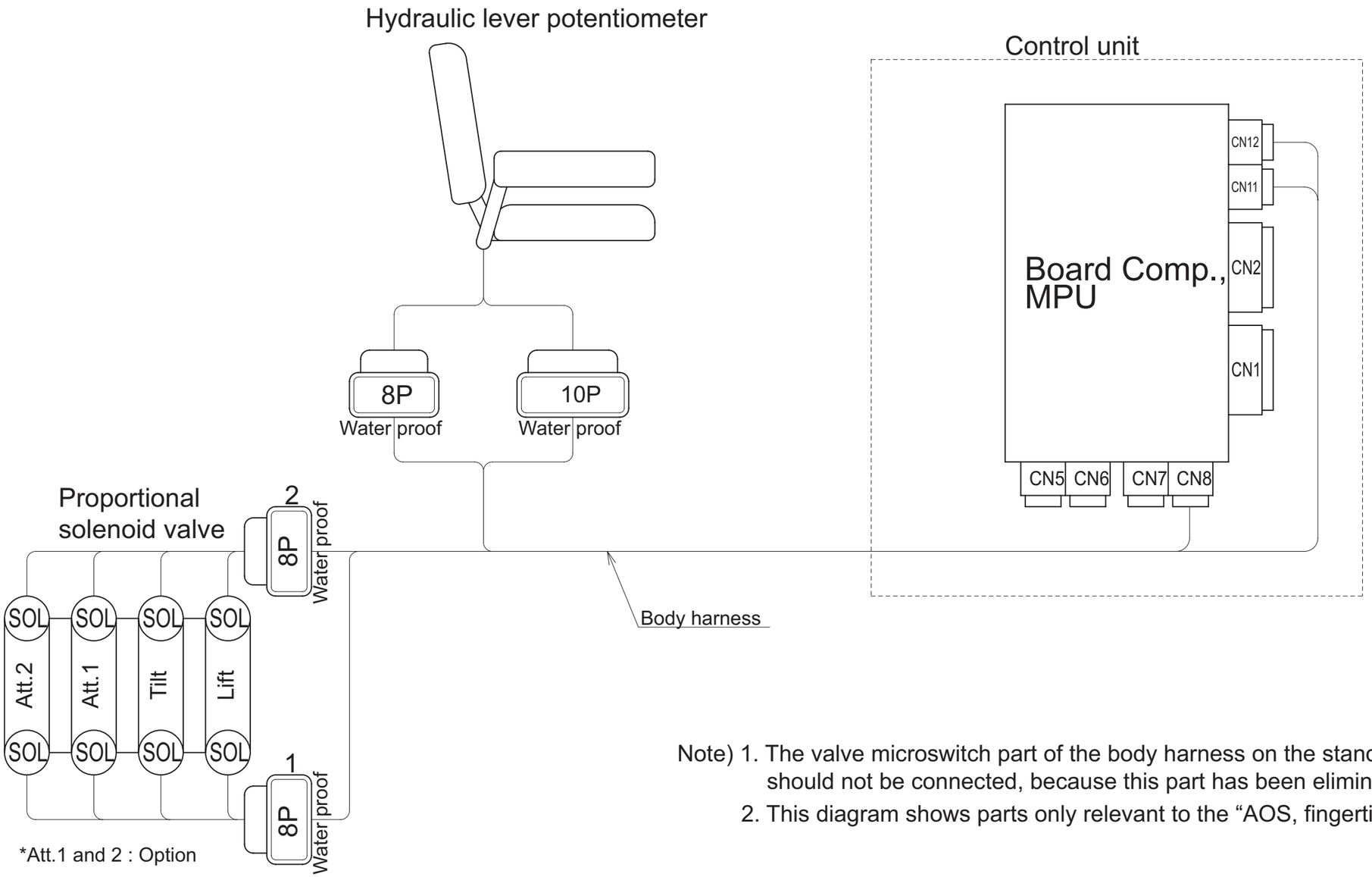
HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



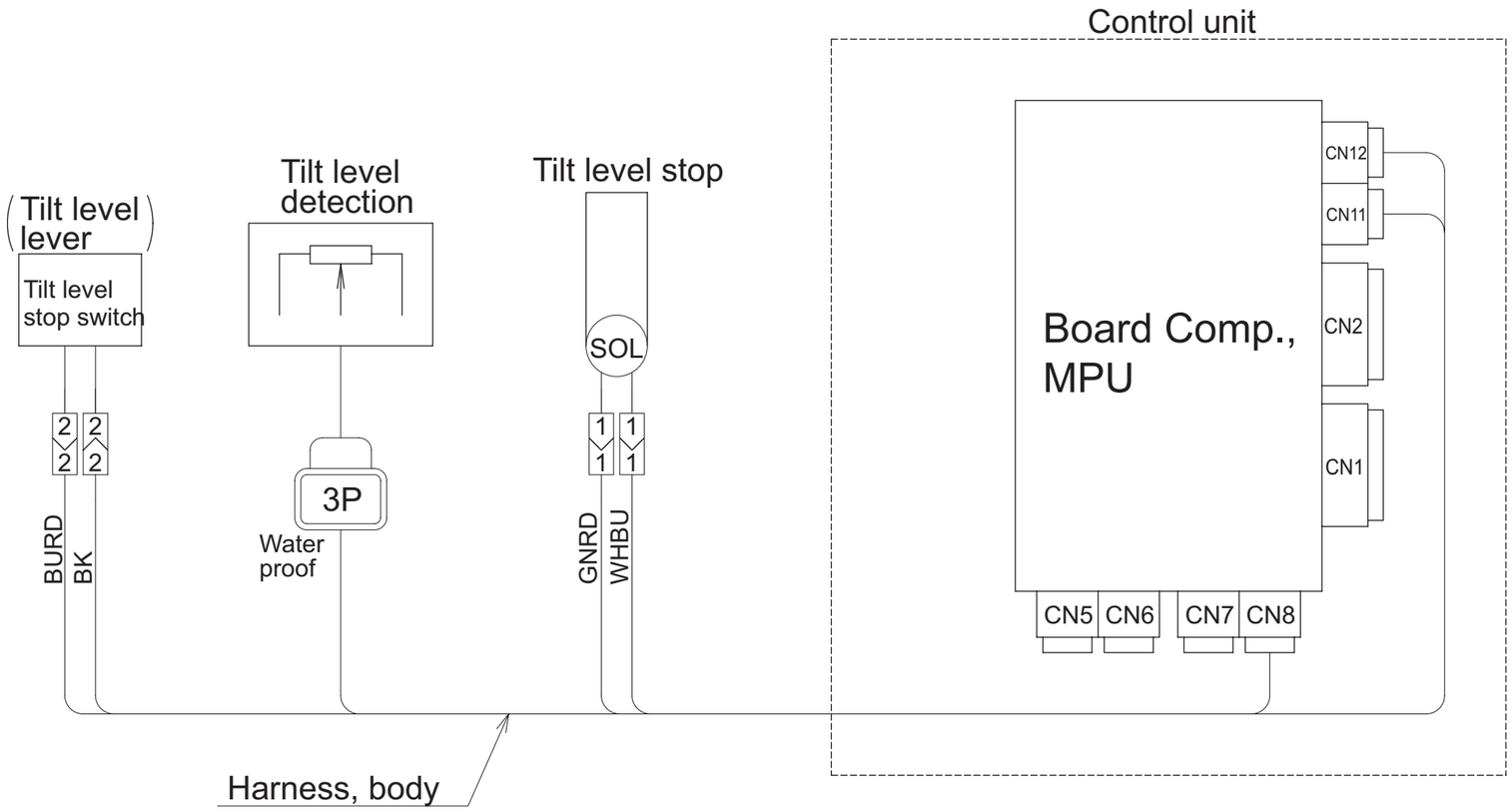
System wiring (MPU board unified gate circuit) 4- 5.

NFT production 4-5-6.

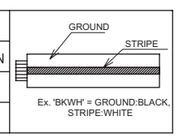
54001-95870-0E



Note) 1. The valve microswitch part of the body harness on the standard truck should not be connected, because this part has been eliminated.
2. This diagram shows parts only relevant to the “AOS, fingertip system”.



HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



Note）

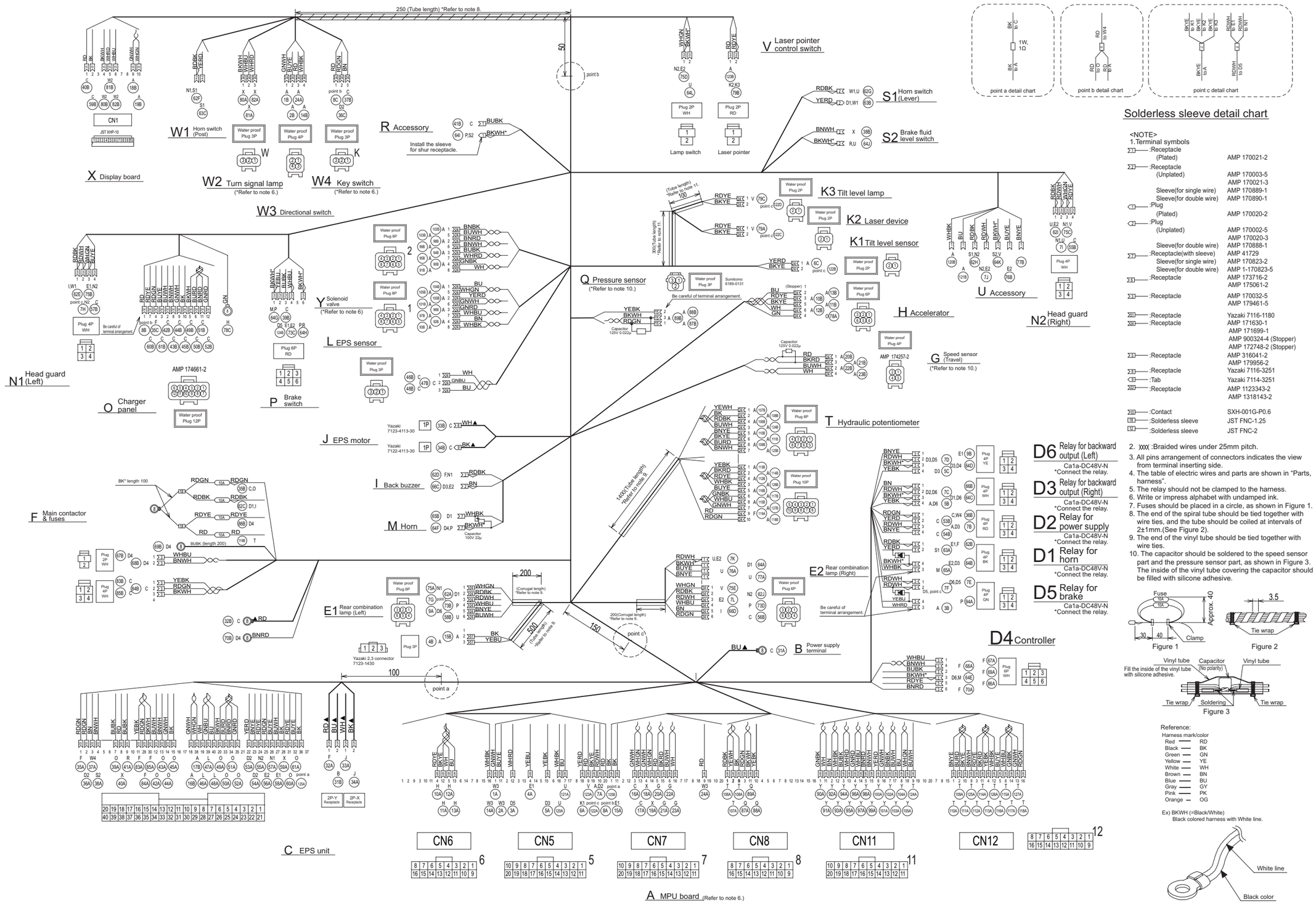
1.This diagram shows parts only relevant to the automatic fork leveling system.
2.Refer to NIS B7038 for wire treatment.
3.Refer to NIS A4010 for drawing instruction.
4.Terminal symbols

- 2 :Shur plug AMP 170020-3 (Loose piece)
  AMP 170002-5 (Strip form)
- 1 :Shur plug AMP 170020-2
- 2 :Shur receptacle AMP 170021-3 (Loose piece)
  AMP 170003-5 (Strip form)
- 1 :Shur receptacle AMP 170021-2

Body wiring (MPU board unified gate circuit) 4- 5.

NFT production 4-5-8.

54001-95890-0E



Solderless sleeve detail chart

<NOTE>
1.Terminal symbols

:Receptacle (Plated)	AMP 170021-2
:Receptacle (Unplated)	AMP 170003-5 AMP 170021-3
Sleeve(for single wire)	AMP 170889-1
Sleeve(for double wire)	AMP 170890-1
:Plug (Plated)	AMP 170020-2
:Plug (Unplated)	AMP 170002-5 AMP 170020-3
Sleeve(for double wire)	AMP 170888-1
:Receptacle(with sleeve)	AMP 41729
Sleeve(for single wire)	AMP 170823-2
Sleeve(for double wire)	AMP 1-170823-5
:Receptacle	AMP 173716-2 AMP 175061-2
:Receptacle	AMP 170032-5 AMP 179461-5
:Receptacle	Yazaki 7116-1180
:Receptacle	AMP 171630-1 AMP 171699-1 AMP 900324-4 (Stopper) AMP 172748-2 (Stopper)
:Receptacle	AMP 316041-2 AMP 179956-2
:Receptacle	Yazaki 7116-3251
:Tab	Yazaki 7114-3251
:Receptacle	AMP 1123343-2 AMP 1318143-2
:Contact	SXH-001G-P0.6
:Solderless sleeve	JST FNC-1.25
:Solderless sleeve	JST FNC-2

2. xxxx :Braided wires under 25mm pitch.
3. All pins arrangement of connectors indicates the view from terminal inserting side.
4. The table of electric wires and parts are shown in “Parts, harness”.
5. The relay should not be clamped to the harness.
6. Write or impress alphabet with undamped ink.
7. Fuses should be placed in a circle, as shown in Figure 1.
8. The end of the spiral tube should be tied together with wire ties, and the tube should be coiled at intervals of 2±1mm.(See Figure 2).
9. The end of the vinyl tube should be tied together with wire ties.
10. The capacitor should be soldered to the speed sensor part and the pressure sensor part, as shown in Figure 3. The inside of the vinyl tube covering the capacitor should be filled with silicone adhesive.

Figure 1

Figure 2

Figure 3

Reference:

Harness mark/color

Red	RD
Black	BK
Green	GN
Yellow	YE
White	WH
Brown	BN
Blue	BU
Gray	GY
Pink	PK
Orange	OG

Ex) BKWH (=Black/White)
Black colored harness with White line.

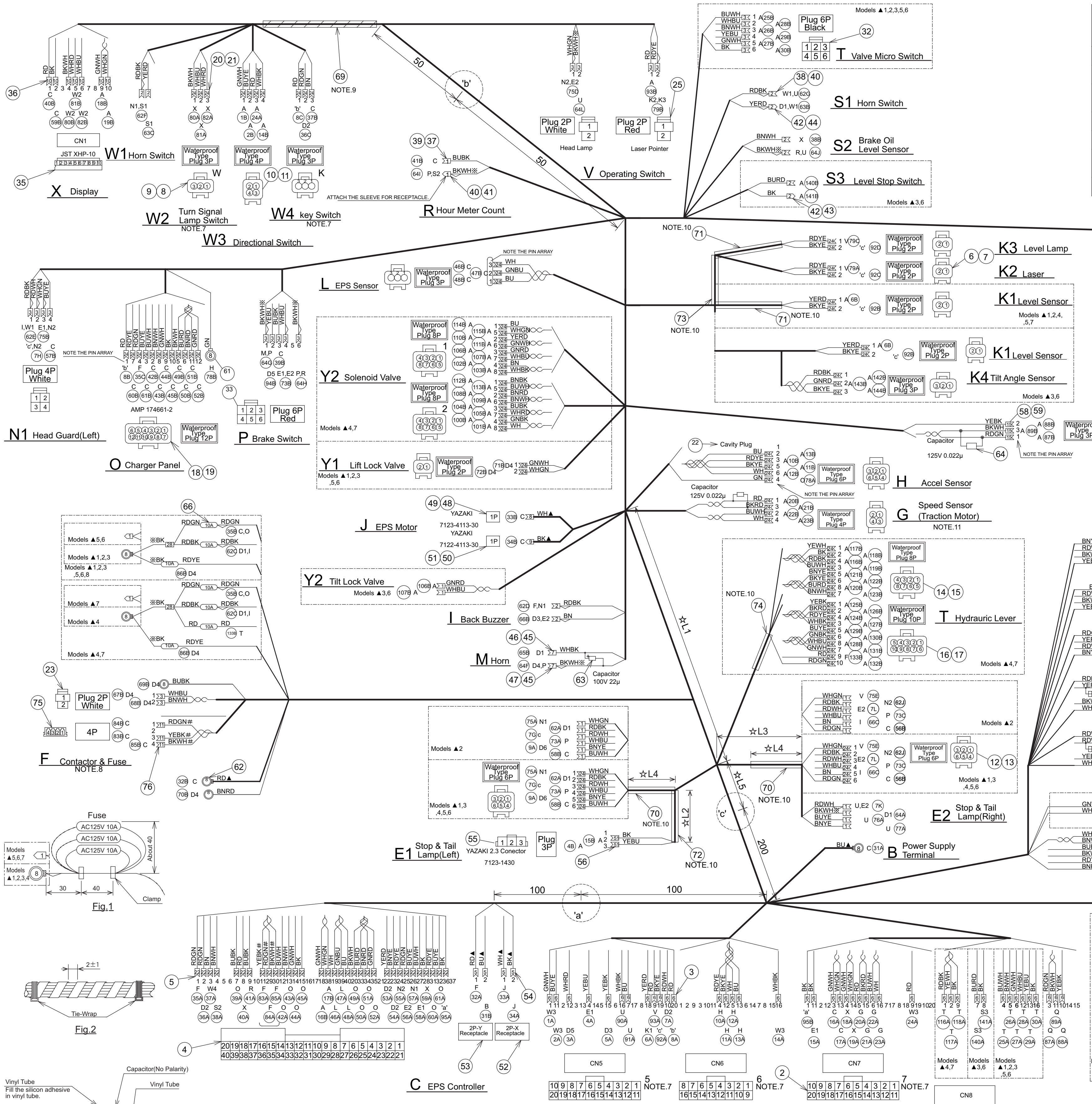
Body harness (MPU board unified gate circuit with two relays for backward)

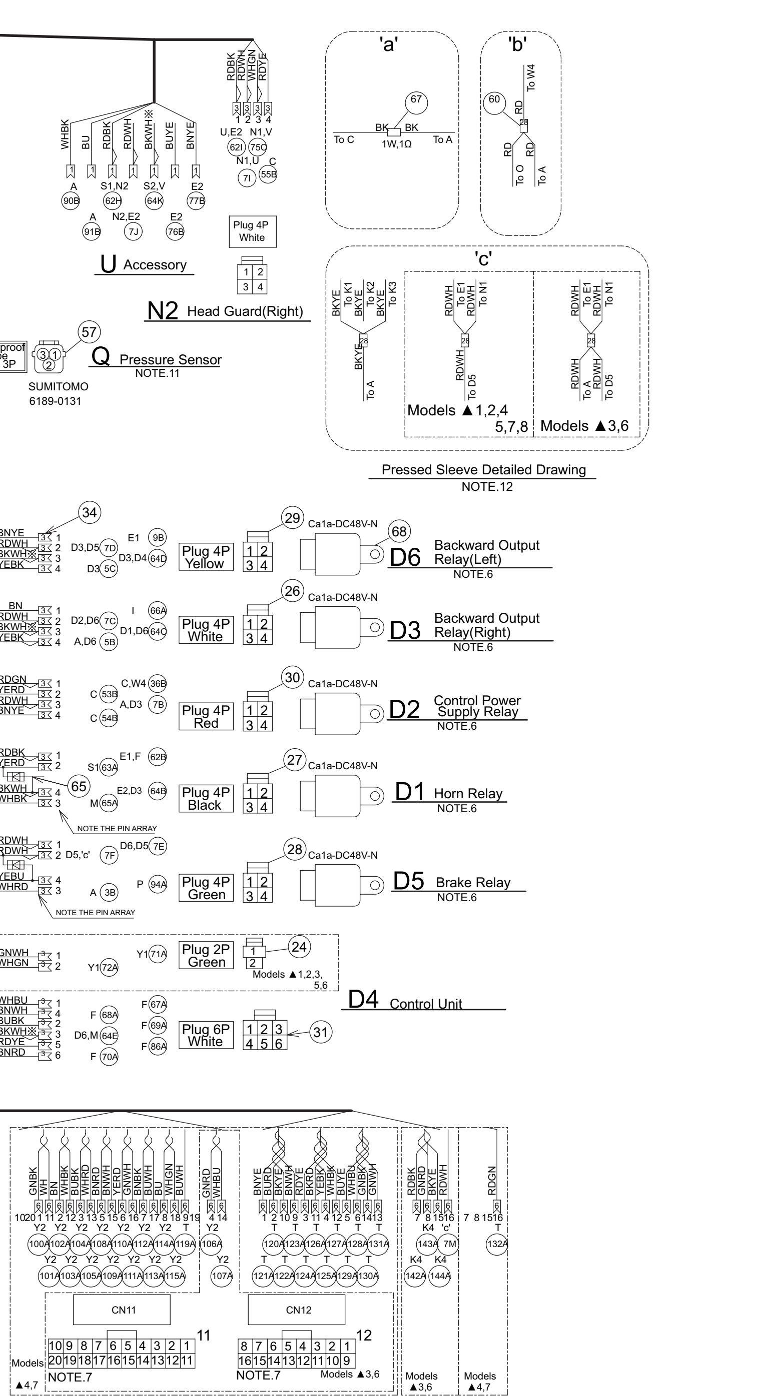
4- 5.

FB10CA-18CA (-221E08894) / FB20CA-25CA (-241C02670)

4-5-9.

54002-22521-0E





	Models	L1	L2	L3	L4	L5	1	2	3	6	7	8	9	12	13	14	15	16	17	20	21	24	37	38	39	41	42	43	44	61	66	71	74
		Length(Part ☆)					Quantity:N																										
▲1	FB10CA-28CA	500	500	1150	200	150	2	2	37	4	4	3	3	3	3	-	-	-	-	54	54	1	12	7	7	1	1	-	2	3	3	1	—
▲2	FB10CA-28CA with CABIN	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	2	2	↑	↑	↑	↑	42	42	↑	24	↑	19	↑	↑	↑	↑	↑	↑	↑	↑
▲3	FB10CA-28CA with Automatic Fork Leveling Function	↑	↑	↑	↑	↑	3	3	45	↑	↑	4	4	3	3	↑	↑	↑	↑	57	57	↑	14	8	10	↑	2	1	↑	↑	↑	2	↑
▲4	FB10CA-28CA with Fingertip Lever	↑	↑	↑	↑	↑	↑	↑	64	3	3	3	3	↑	↑	3	3	1	1	86	86	—	12	7	7	↑	1	-	↑	↑	4	1	1
▲5	FB30CA	650	700	↑	↑	↑	2	2	37	4	4	↑	↑	↑	↑	-	-	-	-	54	54	1	↑	↑	↑	2	↑	↑	3	2	3	↑	—
▲6	FB30CA with Automatic Fork Leveling Function	↑	↑	↑	↑	↑	3	3	45	↑	↑	4	4	↑	↑	↑	↑	↑	↑	57	57	↑	14	8	10	↑	2	1	↑	↑	↑	2	↑
▲7	FB30CA with Fingertip Lever	↑	↑	↑	↑	↑	↑	↑	64	3	3	3	3	↑	↑	3	3	1	1	86	86	—	12	7	7	↑	1	-	↑	↑	4	1	1

※Permissible substitutes can be used.

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
76	Contact	SEH-001G-PU-P0.6	Gilding	3		JST 11
75	Housing	EHR-4		1		JST EH
74	Vinyl Tube(Inside Diameter:10mm,Length:1400mm,Black)			N		
73	Vinyl Tube(Inside Diameter:10mm,Length:300mm,Black)			1		
72	Vinyl Tube(Inside Diameter:6mm,Length:☆L2,Black)			1		
71	Vinyl Tube(Inside Diameter:6mm,Length:100mm,Black)			N		
70	Corrugate Tube(φ7)	CDP-B907-1		2	※	Shinagawa Shoko
69	Spiral Tube	SPP-13L		1	※	KITAGAWA INDUSTRIES
68	Relay	Ca1a-DC48V-N	ACA1223 AO1	5		Panasonic
67	Register	MOSX1C010J(1W,1Ω)		1	※	KOA
66	Fuse Comp.	10A		N	※	10A
65	Diode	1G6		2	※	NihonInter
64	Capacitor(125V 0.022uF)QXL2B223KTPT			2		NICHICON
63	Capacitor(100V 22uF)	TVX2A220MAD		1		NICHICON
62	Termial,LA	7009-1334	No plating	N	※	YAZAKI 8
61	Termial,LA	7009-1324	No plating	3	※	YAZAKI 8
60	Terminal	P1.25		4		JST 28
59	Seal,Wire	7165-0385		3		Sumitomo Wiring Systems
58	Terminal(F)	1500-0110	Tinning	3		Sumitomo Wiring Systems 15
57	Housing(3P-F)	6189-0131		1		Sumitomo Wiring Systems
56	Receptacle	7116-1180	Tinning	2		YAZAKI 51
55	Housing(3P-F)	7123-1430		1		YAZAKI
54	Receptacle 179956-2(Loose Piece)316041-2(Strip Form)		Gilding	4		AMP 5
53	Housing,Receptacle(2P-Y)	2-179958-2		1		AMP D05200
52	Housing,Receptacle(2P-X)	1-179958-2		1		AMP D05200
51	Tab	7114-3251	Tinning	1		YAZAKI 9
50	Conector,Receptacle(1P)	7123-4113-30		1		YAZAKI 58L
49	Receptacle	7116-3251	Tinning	1		YAZAKI 8
48	Conector,Receptacle(1P)	7123-4113-30		1		YAZAKI 58L
47	Sleeve(For two)	1-170823-5		1		AMP 250
46	Sleeve(For one)	170823-2		1		AMP 250
45	Receptacle	41729	With Sleeve	2		AMP 7
44	Sleeve(For two)	170888-1		N		AMP
43	Sleeve(For One)	170887-1		N		AMP
42	Plug 170020-3(Loose Piece)170002-5(Strip Form)		No plating	N		AMP 2
41	Plug	170020-2	Tinning	N		AMP 1
40	Sleeve(For two)	170890-1		11		AMP
39	Sleeve(For one)	170889-1		N		AMP
38	Receptacle 170021-3(Loose Piece)170003-5(Strip Form)		No plating	N		AMP 2
37	Receptacle	170021-2	Tinning	N		AMP 1
36	Contact	SXH-001G-P0.6	Gilding	7		JST 10
35	Housing	XHP-10		1		JST XH
34	Receptacle 179461-5(Loose Piece)170032-5(Strip Form)		Tinning	55		AMP 3
33	Housing,Plug(6P Red)	171898-9		1		AMP 250
32	Housing,Plug(6P Black)	171898-2		1		AMP 250
31	Housing,Plug(6P White)	171898-1		1		AMP 250
30	Housing,Plug(4P Red)	172134-9		1		AMP 250
29	Housing,Plug(4P Yellow)	172134-7		1		AMP 250
28	Housing,Plug(4P Green)	172134-4		1		AMP 250
27	Housing,Plug(4P Black)	172134-2		1		AMP 250
26	Housing,Plug(4P White)	172134-1		3		AMP 250
25	Housing,Plug(2P Red)	172130-9		1		AMP 250
24	Housing,Plug(2P Green)	172130-4		N		AMP 250
23	Housing,Plug(2P White)	172130-1		2		AMP 250
22	Seal(Cavity Plug)	172748-2		1		AMP
21	Seal(Rubber Plug)	900324-4		N		AMP
20	Receptacle 171699-1(Loose Piece)171630-1(Strip Form)		Tinning	N		AMP 24
19	Plate,Double Lock(12P)	174662-7		1		AMP
18	Housing,Plug(12P)	174661-2		1		AMP
17	Plate,Double Lock(10P)	174656-7		N		AMP
16	Housing,Plug(10P)	174655-2		N		AMP
15	Plate,Double Lock(8P)	174983-7		N		AMP
14	Housing,Plug(8P)	174982-2		N		AMP
13	Plate,Double Lock(6P)	174263-7		N		AMP
12	Housing,Plug(6P)	174262-2		N		AMP
11	Plate,Double Lock(4P)	174258-7		2		AMP
10	Housing,Plug(4P)	174257-2		2		AMP
9	Plate,Double Lock(3P)	174358-7		N		AMP
8	Housing,Plug(3P)	174357-2		N		AMP
7	Plate,Double Lock(2P)	174353-7		N		AMP
6	Housing,Plug(2P)	174352-2		N		AMP
5	Receptacle 1318143-2(Loose Piece)1123343-2(Strip Form)		Tinning	33		AMP 22
4	Housing,Plug(40P)	1318389-1		1		AMP 025
3	Receptacle 175061-2(Loose Piece)173716-2(Strip Form)		Gilding	N		AMP 6
2	Housing,Plug(20P)	175967-2		N		AMP 040
1	Housing,Plug(16P)	175966-2		N		AMP 040

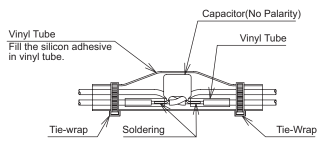


Fig.3

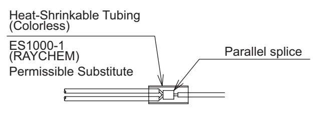


Fig.4

※The electric wire table is shown in the PARTS, HARNESS .

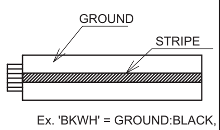
<Note>

2. Strand part at the pitch of 25 mm and below.
3. Refer to NIS B7038 for wire treatment.
4. Refer to NIS A4010 for drawing instruction.
5. All pin layout shows of connector the view terminal insert side.
6. Relay shall not be tied to the main harness.
7. Display the alphabet or number with description or stamping in immortal ink.
8. Fuse should be tied together in the form of concentric circle like Fig.1.
9. Winded by spiral tube at 2±1mm-intervals as shown in Fig. 2.
10. Covered by corrugate tube / vinyl tube. Both ends should be tied up by tie-wrap.
11. Solder the installation of the capacitor of the speed sensor and the pressure sensor as shown in Fig.3. And fill this the silicon adhesive in the vinyl tube.
12. Harness branches treatment should be like Fig.4.

13. Lead wire

※	:	AVS 0.85mm²
▲	:	UL1015 AWG12
#	:	AVSS 0.3mm²
other	:	AVSS 0.5mm²

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



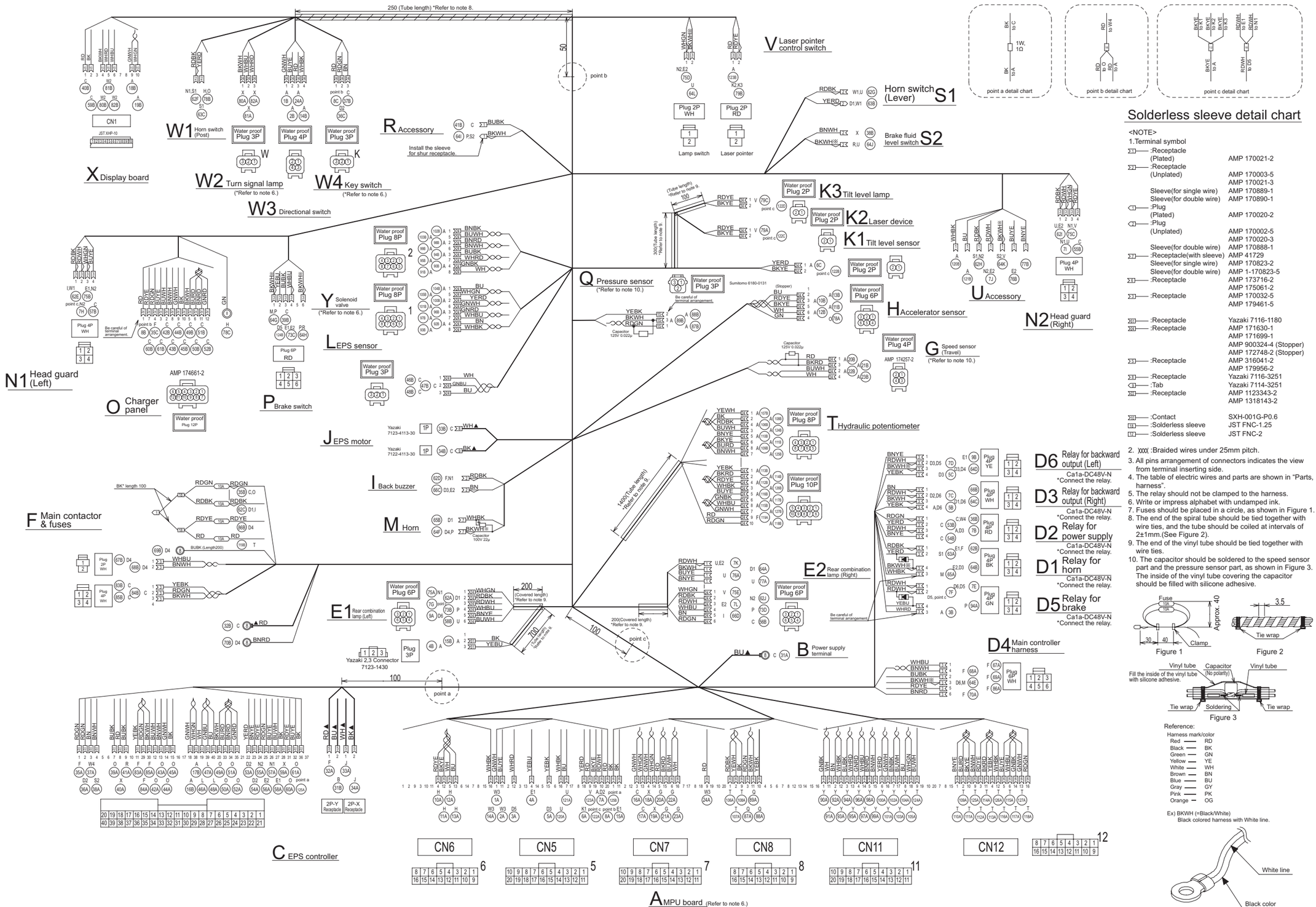
Body harness (MPU board unified gate circuit with two relays for backward)

4- 5.

FB10CA-18CA (221E08895-) /FB20CA-25CA (241C02671-)

4-5-10.

54002-44721-0E(E0000-42431-0E)



Body harness (MPU board unified gate circuit with two relays for backward)

4- 5.

FB30CA (-251AC1755)

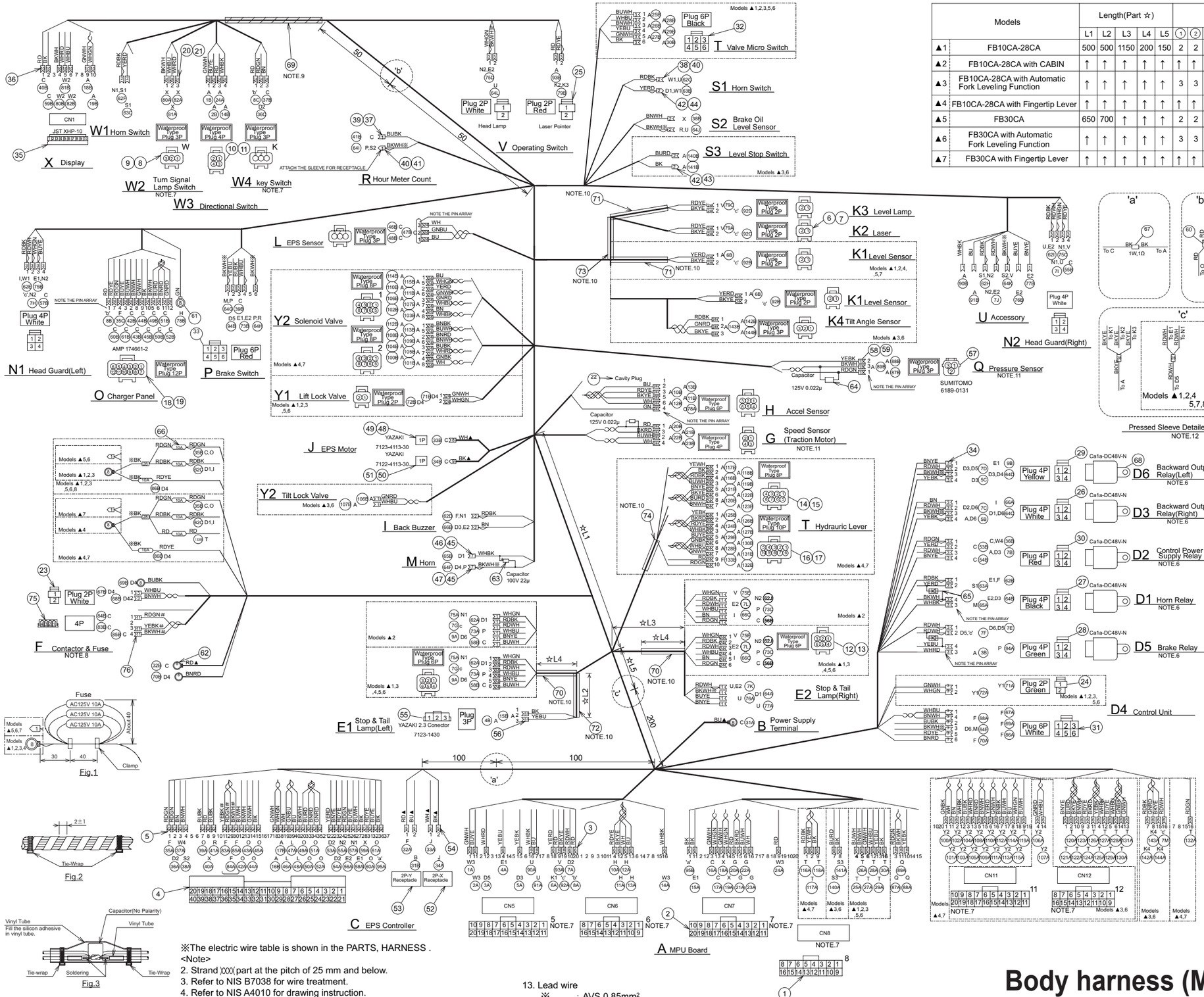
4-5-11.

54002-22531-0E

	Models	Length(Part ☆)					Quantity:N																										
		L1	L2	L3	L4	L5	1	2	3	4	5	6	7	8	9	12	13	14	15	16	17	20	21	24	37	38	39	41	42	43	44	61	66	71	74
▲1	FB10CA-28CA	500	500	1150	200	150	2	2	37	4	4	3	3	3	3	-	-	-	-	54	54	1	12	7	7	1	1	-	2	3	3	1	—
▲2	FB10CA-28CA with CABIN	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	2	2	↑	↑	↑	↑	42	42	↑	24	↑	19	↑	↑	↑	↑	↑	↑	↑
▲3	FB10CA-28CA with Automatic Fork Leveling Function	↑	↑	↑	↑	↑	3	3	45	↑	↑	4	4	3	3	↑	↑	↑	↑	↑	↑	57	57	↑	14	8	10	↑	2	1	↑	↑	2	↑
▲4	FB10CA-28CA with Fingertip Lever	↑	↑	—	↑	↑	↑	↑	64	3	3	3	3	↑	↑	3	3	1	1	86	86	—	12	7	7	↑	1	-	↑	↑	4	1	1
▲5	FB30CA	650	700	↑	↑	↑	2	2	37	4	4	↑	↑	↑	↑	-	-	-	-	54	54	1	↑	↑	↑	2	↑	↑	3	2	3	↑	—
▲6	FB30CA with Automatic Fork Leveling Function	↑	↑	↑	↑	↑	3	3	45	↑	↑	4	4	↑	↑	↑	↑	↑	↑	↑	↑	57	57	↑	14	8	10	↑	2	1	↑	↑	2	↑
▲7	FB30CA with Fingertip Lever	↑	↑	—	↑	↑	↑	↑	64	3	3	3	3	↑	↑	3	3	1	1	86	86	—	12	7	7	↑	1	-	↑	↑	4	1	1

※Permissible substitutes can be used.

76	Contact	SEH-001G-PLI-P0.6	Gilding	3		JST	11X
75	Housing	EHR-4		1		JST EH	
74	Vinyl Tube(Inside Diameter:10mm,Length:1400mm,Black)			N			
73	Vinyl Tube(Inside Diameter:10mm,Length:300mm,Black)			1			
72	Vinyl Tube(Inside Diameter:6mm,Length: ※L2,Black)			1			
71	Vinyl Tube(Inside Diameter:6mm,Length:100mm,Black)			N			
70	Corrugate Tube(φ7)	CDP-B907-1		2	※	Shinagawa Shoko	
69	Spiral Tube	SPP-13L		1	※	KITAGAWA INDUSTRIES	
68	Relay	Ca1a-DC48V-N	ACA1223 AO1	5		Panasonic	
67	Register	MOSX1C010J(1W,1Ω)		1	※	KOA	
66	Fuse Comp.	10A		N	※	10A	
65	Diode	1G6		2	※	NihonInter.	
64	Capacitor(125V 0.022uF)	QXL2B223KTPT		2		NICHICON	
63	Capacitor(100V 22uF)	TVX2A220MAD		1		NICHICON	
62	Termial,LA	7009-1334	No plating	N	※	YAZAKI	6
61	Termial,LA	7009-1324	No plating	3	※	YAZAKI	6
60	Terminal	P1.25		4		JST	2B
59	Seal,Wire	7165-0385		3		Sumitomo Wiring Systems	
58	Terminal(F)	1500-0110	Tinning	3		Sumitomo Wiring Systems	110
57	Housing(3P-F)	6189-0131		1		Sumitomo Wiring Systems	
56	Receptacle	7116-1180	Tinning	2		YAZAKI	5X
55	Housing(3P-F)	7123-1430		1		YAZAKI	
54	Receptacle 179956-2(Loose Piece)316041-2(Strip Form)		Gilding	4		AMP	4X
53	Housing,Receptacle(2P-Y)	2-179958-2		1		AMP D05200	
52	Housing,Receptacle(2P-X)	1-179958-2		1		AMP D05200	
51	Tab	7114-3251	Tinning	1		YAZAKI	5
50	Conector,Receptacle(1P)	7123-4113-30		1		YAZAKI 58L	
49	Receptacle	7116-3251	Tinning	1		YAZAKI	6X
48	Conector,Receptacle(1P)	7123-4113-40		1		YAZAKI 58L	
47	Sleeve(For two)	1-170823-5		1		AMP 250	
46	Sleeve(For one)	170823-2		1		AMP 250	
45	Receptacle	41729	With Sleeve	2		AMP	7X
44	Sleeve(For two)	170888-1		N		AMP	
43	Sleeve(For One)	170887-1		N		AMP	
42	Plug 170020-3(Loose Piece)170002-5(Strip Form)		No plating	N		AMP	2
41	Plug	170020-2	Tinning	N		AMP	1
40	Sleeve(For two)	170890-1		11		AMP	
39	Sleeve(For one)	170889-1		N		AMP	
38	Receptacle 170021-3(Loose Piece)170003-5(Strip Form)		No plating	N		AMP	2X
37	Receptacle	170021-2	Tinning	N		AMP	1X
36	Contact	SXH-001G-P0.6	Gilding	7		JST	15X
35	Housing	XHP-10		1		JST XH	
34	Receptacle 179461-5(Loose Piece)170032-5(Strip Form)		Tinning	55		AMP	3X
33	Housing,Plug(6P Red)	171898-9		1		AMP 250	
32	Housing,Plug(6P Black)	171898-2		1		AMP 250	
31	Housing,Plug(6P White)	171898-1		1		AMP 250	
30	Housing,Plug(4P Red)	172134-9		1		AMP 250	
29	Housing,Plug(4P Yellow)	172134-7		1		AMP 250	
28	Housing,Plug(4P Green)	172134-4		1		AMP 250	
27	Housing,Plug(4P Black)	172134-2		1		AMP 250	
26	Housing,Plug(4P White)	172134-1		3		AMP 250	
25	Housing,Plug(2P Red)	172130-9		1		AMP 250	
24	Housing,Plug(2P Green)	172130-4		N		AMP 250	
23	Housing,Plug(2P White)	172130-1		2		AMP 250	
22	Seal(Cavity Plug)	172748-2		1		AMP	
21	Seal(Rubber Plug)	900324-4		N		AMP	
20	Receptacle 171699-1(Loose Piece)171630-1(Strip Form)		Tinning	N		AMP	2X
19	Plate,Double Lock(12P)	174662-7		1		AMP	
18	Housing,Plug(12P)	174661-2		1		AMP	
17	Plate,Double Lock(10P)	174656-7		N		AMP	
16	Housing,Plug(10P)	174655-2		N		AMP	
15	Plate,Double Lock(8P)	174983-7		N		AMP	
14	Housing,Plug(8P)	174982-2		N		AMP	
13	Plate,Double Lock(6P)	174263-7		N		AMP	
12	Housing,Plug(6P)	174262-2		N		AMP	
11	Plate,Double Lock(4P)	174258-7		2		AMP	
10	Housing,Plug(4P)	174257-2		2		AMP	
9	Plate,Double Lock(3P)	174358-7		N		AMP	
8	Housing,Plug(3P)	174357-2		N		AMP	
7	Plate,Double Lock(2P)	174353-7		N		AMP	
6	Housing,Plug(2P)	174352-2		N		AMP	
5	Receptacle 1318143-2(Loose Piece)1123343-2(Strip Form)		Tinning	33		AMP	2X
4	Housing,Plug(40P)	1318389-1		1		AMP 025	
3	Receptacle 175061-2(Loose Piece)173716-2(Strip Form)		Gilding	N		AMP	5X
2	Housing,Plug(20P)	175967-2		N		AMP 040	
1	Housing,Plug(16P)	175966-2		N		**AMP 040**	
SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS	



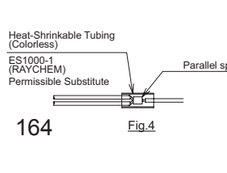


Fig.1

Fig.2

Fig.3

Fig.4

※The electric wire table is shown in the PARTS, HARNESS .
<Note>
2. Strand ⟩⟩⟩⟩part at the pitch of 25 mm and below.
3. Refer to NIS B7038 for wire treatment.
4. Refer to NIS A4010 for drawing instruction.
5. All pin layout shows of connector the view terminal insert side.
6. Relay shall not be tied to the main harness.
7. Display the alphabet or number with description or stamping in immortal ink.
8. Fuse should be tied together in the form of concentric circle like Fig.1.
9. Winded by spiral tube at 2±1mm-intervals as shown in Fig. 2.
10. Covered by corrugate tube / vinyl tube. Both ends should be tied up by tie-wrap.
11. Solder the installation of the capacitor of the speed sensor and the pressure sensor as shown in Fig.3. And fill this the silicon adhesive in the vinyl tube.
12. Harness branches treatment should be like Fig.4.

13. Lead wire
※ : AVS 0.85mm²
▲ : UL1015 AWG12
: AVSS 0.3mm²
other : AVSS 0.5mm²

HARNESS COLOR						GROUND / STRIPE
BK	BLACK	YE	YELLOW	BN	BROWN	Ex. 'BKWH' = GROUND:BLACK, STRIPE:WHITE
WH	WHITE	GN	GREEN	BU	BLUE	
RD	RED					

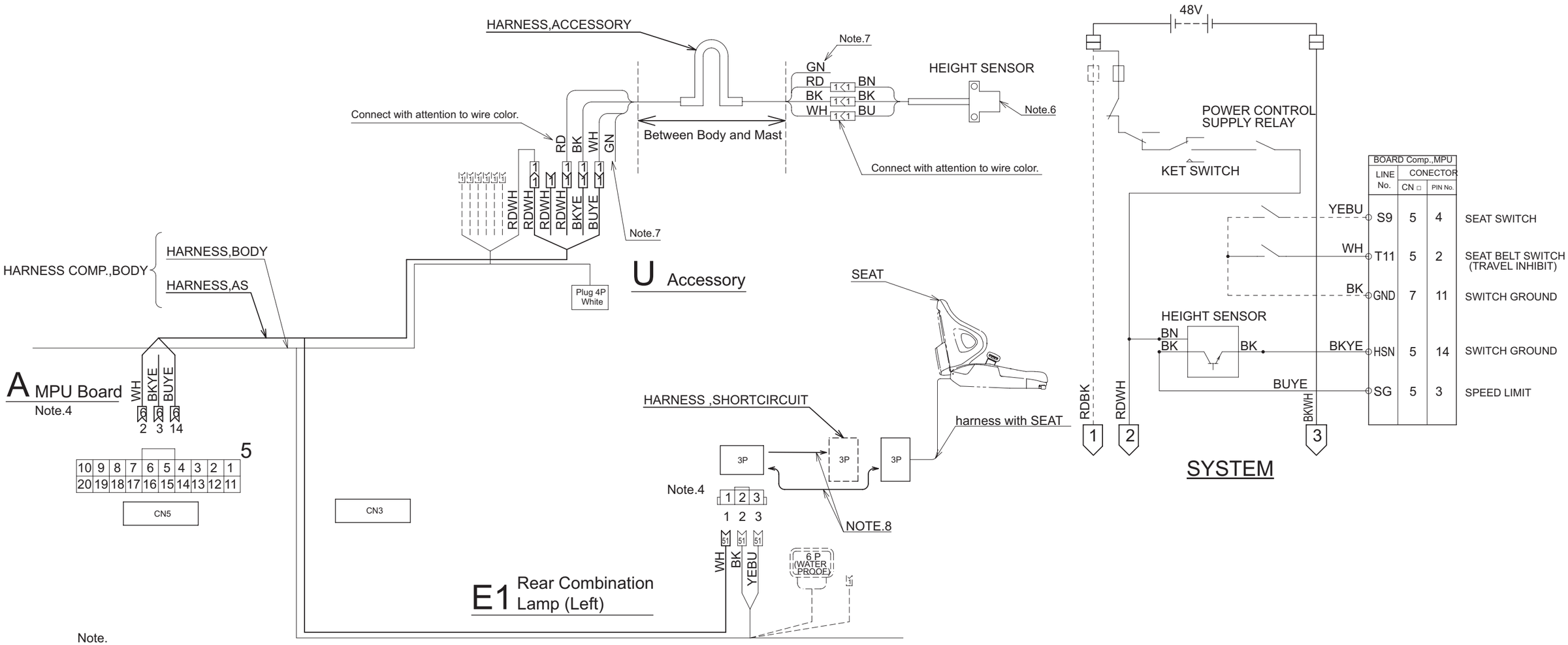
Body harness (MPU board unified gate circuit with two relays for backward)

FB30CA (251AC1756-)

54002-44731-0E(E0000-42431-0E)

4- 5.

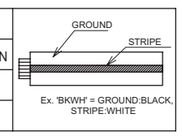
4-5-12.



Note.

1. Terminal
   - ∑1 :Receptacle AMP 170021-2
   - 1 :Shur plag AMP 170020-2
   - ∑23 :Receptacle AMP 175061-2
   - ∑51 :Receptacle YAZAKI 7116-1180
2. Refer to NIS B7038 for wire treatment.
3. Refer to NIS A4010 for drawing instruction.
4. All pin layout shows of connector the view from terminal insert side.
5. Clamp it at a suitable position, and fix the additional harness to HARNESS,BODY.
6. Install as response to magnet at less than set heigt.
7. Insulate end part of wire with insulating tape and so on.
8. After SEAT is attached on Truck,harness wtih SEAT should be connected to HARNESS Comp.,BODY (HARNESS,SHORTCIRCUIT should be removed).

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



※Operation

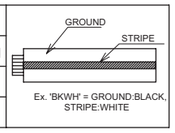
・Truck speed is reduced to maximum speed of 3km/h (the turtle mark is lighting)
With mast with full free lift(3 stage full free mast / 2 stage full free mast)：when mast is above staging for truck
With mast with limited free lift(2stage mast)：when fork is lifted more than 500 mm from ground for truck.
・Operation interlocking with Seat pressure switch & Seatbelt switch
Operations are available only during sitting on seat and fastening seatbelt.
Fastening seatbelt should be after sitting on seat.

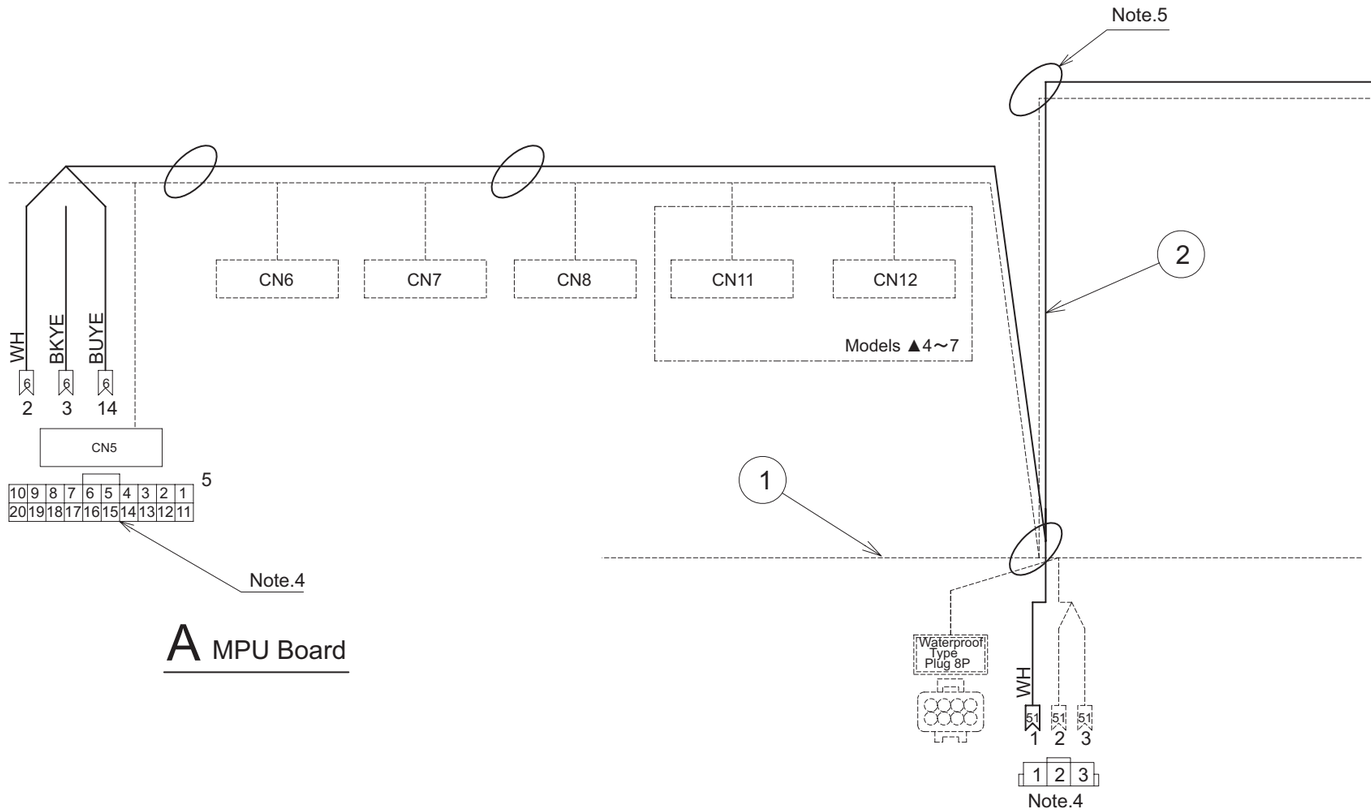
※The drawing shows the thing which incorporated HARNESS,AS in HARNESS,BODY.

Models			Made in
▲1		FB10CA-28CA	MN
▲2		FB30CA	
▲4	TJT	FB10CA-28CA	
▲5	TJT	FB30CA	
▲6	F.T Lever	FB10CA-28CA	
▲7	F.T Lever	FB30CA	
▲8		FB10CA-25CA	NFT
▲9		FB30CA	

Note.
1.Terminal
◇1—:Shur plug AMP 170020-2
∑1—:Shur receptacle AMP 170021-2
∑6—:Receptacle AMP 175061-2(Loose Piece) 173716-2(Strip Form)
∑51—:Receptacle YAZAKI 7116-1180
2.Refer to NIS B7038 for wire treatment.
3.Refer to NIS A4010 for drawing instruction.
4.All pin layout shows of connector the view from terminal insert side.
5.Clamp it at a suitable position, and fix the additional harness to HARNESS,BODY.

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				





A MPU Board

E1 Rear Combination Lamp(Left)

N2 Head Guard (Right)

U Accessory

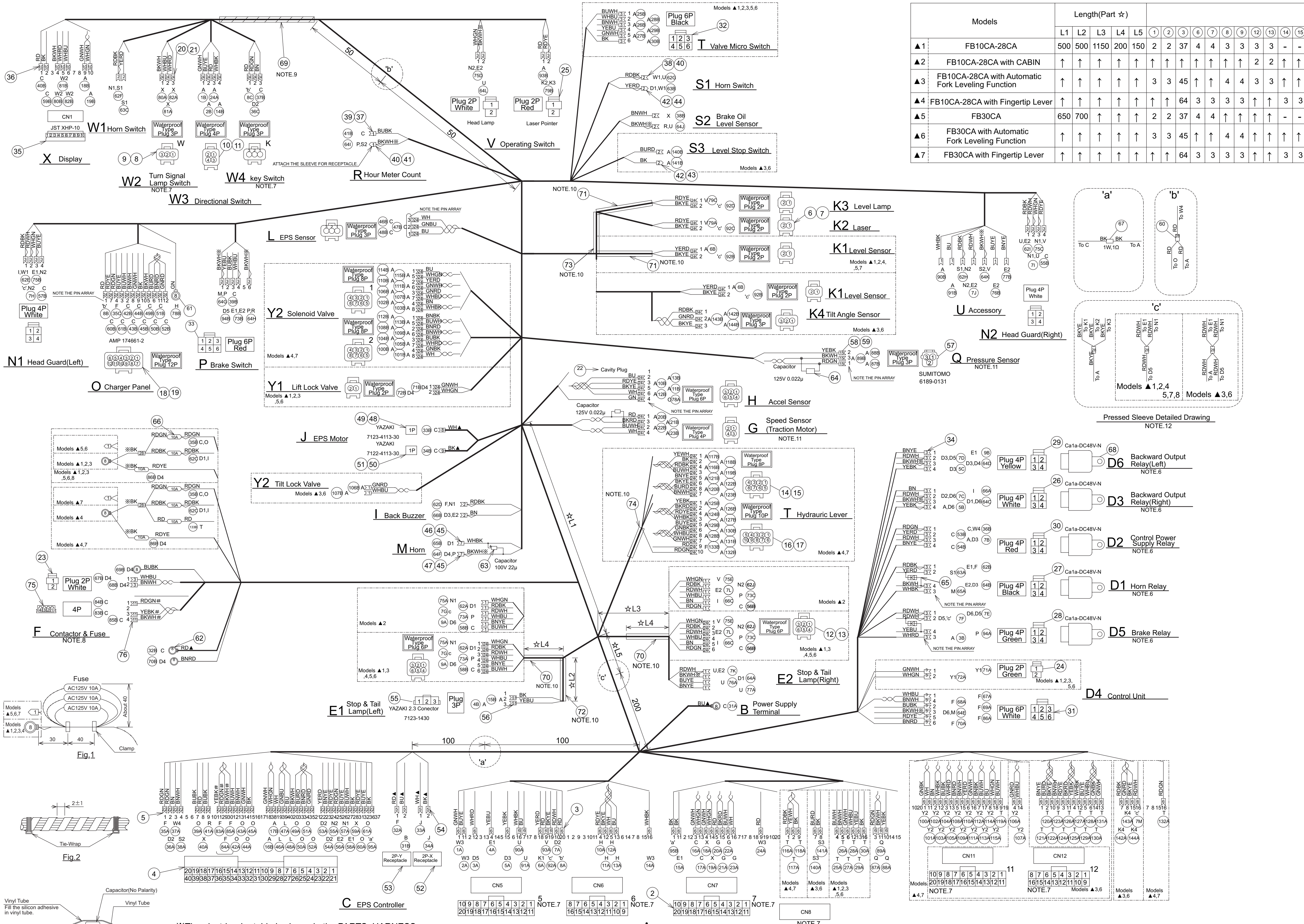
SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
2	HARNESS,AS			1		
1	HARNESS,BODY			1		

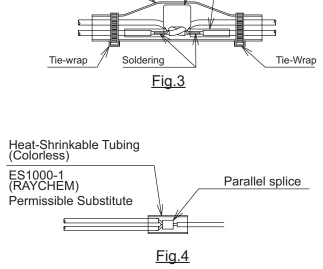
Harness Comp., body 4- 6.

Australian Standard compliant(AS) 4-6-2.

E0000-44871-0E

Models		Length(Part ☆)					Quantity:N																											
		L1	L2	L3	L4	L5	1	2	3	6	7	8	9	12	13	14	15	16	17	20	21	24	37	38	39	41	42	43	44	61	66	71	74
▲1	FB10CA-28CA	500	500	1150	200	150	2	2	37	4	4	3	3	3	3	-	-	-	-	54	54	1	12	7	7	1	1	-	2	3	3	1	—
▲2	FB10CA-28CA with CABIN	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	2	2	↑	↑	↑	↑	42	42	↑	24	↑	19	↑	↑	↑	↑	↑	↑	↑	↑
▲3	FB10CA-28CA with Automatic Fork Leveling Function	↑	↑	↑	↑	↑	3	3	45	↑	↑	4	4	3	3	↑	↑	↑	↑	57	57	↑	14	8	10	↑	2	1	↑	↑	↑	2	↑
▲4	FB10CA-28CA with Fingertip Lever	↑	↑	↑	↑	↑	↑	↑	64	3	3	3	3	↑	↑	3	3	1	1	86	86	—	12	7	7	↑	1	-	↑	↑	4	1	1
▲5	FB30CA	650	700	↑	↑	↑	2	2	37	4	4	↑	↑	↑	↑	-	-	-	-	54	54	1	↑	↑	↑	2	↑	↑	3	2	3	↑	—
▲6	FB30CA with Automatic Fork Leveling Function	↑	↑	↑	↑	↑	3	3	45	↑	↑	4	4	↑	↑	↑	↑	↑	↑	57	57	↑	14	8	10	↑	2	1	↑	↑	↑	2	↑
▲7	FB30CA with Fingertip Lever	↑	↑	↑	↑	↑	↑	↑	64	3	3	3	3	↑	↑	3	3	1	1	86	86	—	12	7	7	↑	1	-	↑	↑	4	1	1





※Permissible substitutes can be used.

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
76	Contact	SEH-001G-PU-P0.6	Gilding	3		JST 11
75	Housing	EHR-4		1		JST EH
74	Vinyl Tube(Inside Diameter:10mm,Length:1400mm,Black)			N		
73	Vinyl Tube(Inside Diameter:10mm,Length:300mm,Black)			1		
72	Vinyl Tube(Inside Diameter:6mm,Length:☆L2,Black)			1		
71	Vinyl Tube(Inside Diameter:6mm,Length:100mm,Black)			N		
70	Corrugate Tube(φ7)	CDP-B907-1		2	※	Shinagawa Shoko
69	Spiral Tube	SPP-13L		1	※	KITAGAWA INDUSTRIES
68	Relay	Ca1a-DC48V-N	ACA1223 AO1	5		Panasonic
67	Register	MOSX1C010J(1W,1Ω)		1	※	KOA
66	Fuse Comp.	10A		N	※	10A
65	Diode	1G6		2	※	NihonInter
64	Capacitor(125V 0.022uF)	QXL2B223KTPT		2		NICHICON
63	Capacitor(100V 22uF)	TVX2A220MAD		1		NICHICON
62	Termial,LA	7009-1334	No plating	N	※	YAZAKI 8
61	Termial,LA	7009-1324	No plating	3	※	YAZAKI 8
60	Terminal	P1.25		4		JST 28
59	Seal,Wire	7165-0385		3		Sumitomo Wiring Systems
58	Terminal(F)	1500-0110	Tinning	3		Sumitomo Wiring Systems 15
57	Housing(3P-F)	6189-0131		1		Sumitomo Wiring Systems
56	Receptacle	7116-1180	Tinning	2		YAZAKI 51
55	Housing(3P-F)	7123-1430		1		YAZAKI
54	Receptacle 179956-2(Loose Piece)316041-2(Strip Form)		Gilding	4		AMP 5
53	Housing,Receptacle(2P-Y)	2-179958-2		1		AMP D05200
52	Housing,Receptacle(2P-X)	1-179958-2		1		AMP D05200
51	Tab	7114-3251	Tinning	1		YAZAKI 9
50	Conector,Receptacle(1P)	7123-4113-30		1		YAZAKI 58L
49	Receptacle	7116-3251	Tinning	1		YAZAKI 8
48	Conector,Receptacle(1P)	7123-4113-30		1		YAZAKI 58L
47	Sleeve(For two)	1-170823-5		1		AMP 250
46	Sleeve(For one)	170823-2		1		AMP 250
45	Receptacle	41729	With Sleeve	2		AMP 7
44	Sleeve(For two)	170888-1		N		AMP
43	Sleeve(For One)	170887-1		N		AMP
42	Plug 170020-3(Loose Piece)170002-5(Strip Form)		No plating	N		AMP 2
41	Plug	170020-2	Tinning	N		AMP 1
40	Sleeve(For two)	170890-1		11		AMP
39	Sleeve(For one)	170889-1		N		AMP
38	Receptacle 170021-3(Loose Piece)170003-5(Strip Form)		No plating	N		AMP 2
37	Receptacle	170021-2	Tinning	N		AMP 1
36	Contact	SXH-001G-P0.6	Gilding	7		JST 10
35	Housing	XHP-10		1		JST XH
34	Receptacle 179461-5(Loose Piece)170032-5(Strip Form)		Tinning	55		AMP 3
33	Housing,Plug(6P Red)	171898-9		1		AMP 250
32	Housing,Plug(6P Black)	171898-2		1		AMP 250
31	Housing,Plug(6P White)	171898-1		1		AMP 250
30	Housing,Plug(4P Red)	172134-9		1		AMP 250
29	Housing,Plug(4P Yellow)	172134-7		1		AMP 250
28	Housing,Plug(4P Green)	172134-4		1		AMP 250
27	Housing,Plug(4P Black)	172134-2		1		AMP 250
26	Housing,Plug(4P White)	172134-1		3		AMP 250
25	Housing,Plug(2P Red)	172130-9		1		AMP 250
24	Housing,Plug(2P Green)	172130-4		N		AMP 250
23	Housing,Plug(2P White)	172130-1		2		AMP 250
22	Seal(Cavity Plug)	172748-2		1		AMP
21	Seal(Rubber Plug)	900324-4		N		AMP
20	Receptacle 171699-1(Loose Piece)171630-1(Strip Form)		Tinning	N		AMP 24
19	Plate,Double Lock(12P)	174662-7		1		AMP
18	Housing,Plug(12P)	174661-2		1		AMP
17	Plate,Double Lock(10P)	174656-7		N		AMP
16	Housing,Plug(10P)	174655-2		N		AMP
15	Plate,Double Lock(8P)	174983-7		N		AMP
14	Housing,Plug(8P)	174982-2		N		AMP
13	Plate,Double Lock(6P)	174263-7		N		AMP
12	Housing,Plug(6P)	174262-2		N		AMP
11	Plate,Double Lock(4P)	174258-7		2		AMP
10	Housing,Plug(4P)	174257-2		2		AMP
9	Plate,Double Lock(3P)	174358-7		N		AMP
8	Housing,Plug(3P)	174357-2		N		AMP
7	Plate,Double Lock(2P)	174353-7		N		AMP
6	Housing,Plug(2P)	174352-2		N		AMP
5	Receptacle 1318143-2(Loose Piece)1123343-2(Strip Form)		Tinning	33		AMP 22
4	Housing,Plug(40P)	1318389-1		1		AMP 025
3	Receptacle 175061-2(Loose Piece)173716-2(Strip Form)		Gilding	N		AMP 6
2	Housing,Plug(20P)	175967-2		N		AMP 040
1	Housing,Plug(16P)	175966-2		N		AMP 040

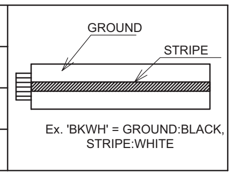
※The electric wire table is shown in the PARTS, HARNESS .

<Note>

2. Strand XXX part at the pitch of 25 mm and below.
3. Refer to NIS B7038 for wire treatment.
4. Refer to NIS A4010 for drawing instruction.
5. All pin layout shows of connector the view terminal insert side.
6. Relay shall not be tied to the main harness.
7. Display the alphabet or number with description or stamping in immortal ink.
8. Fuse should be tied together in the form of concentric circle like Fig.1.
9. Winded by spiral tube at 2±1mm-intervals as shown in Fig. 2.
10. Covered by corrugate tube / vinyl tube. Both ends should be tied up by tie-wrap.
11. Solder the installation of the capacitor of the speed sensor and the pressure sensor as shown in Fig.3. And fill this the silicon adhesive in the vinyl tube.
12. Harness branches treatment should be like Fig.4.
13. Lead wire

※	: AVS 0.85mm²
▲	: UL1015 AWG12
#	: AVSS 0.3mm²
other	: AVSS 0.5mm²

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



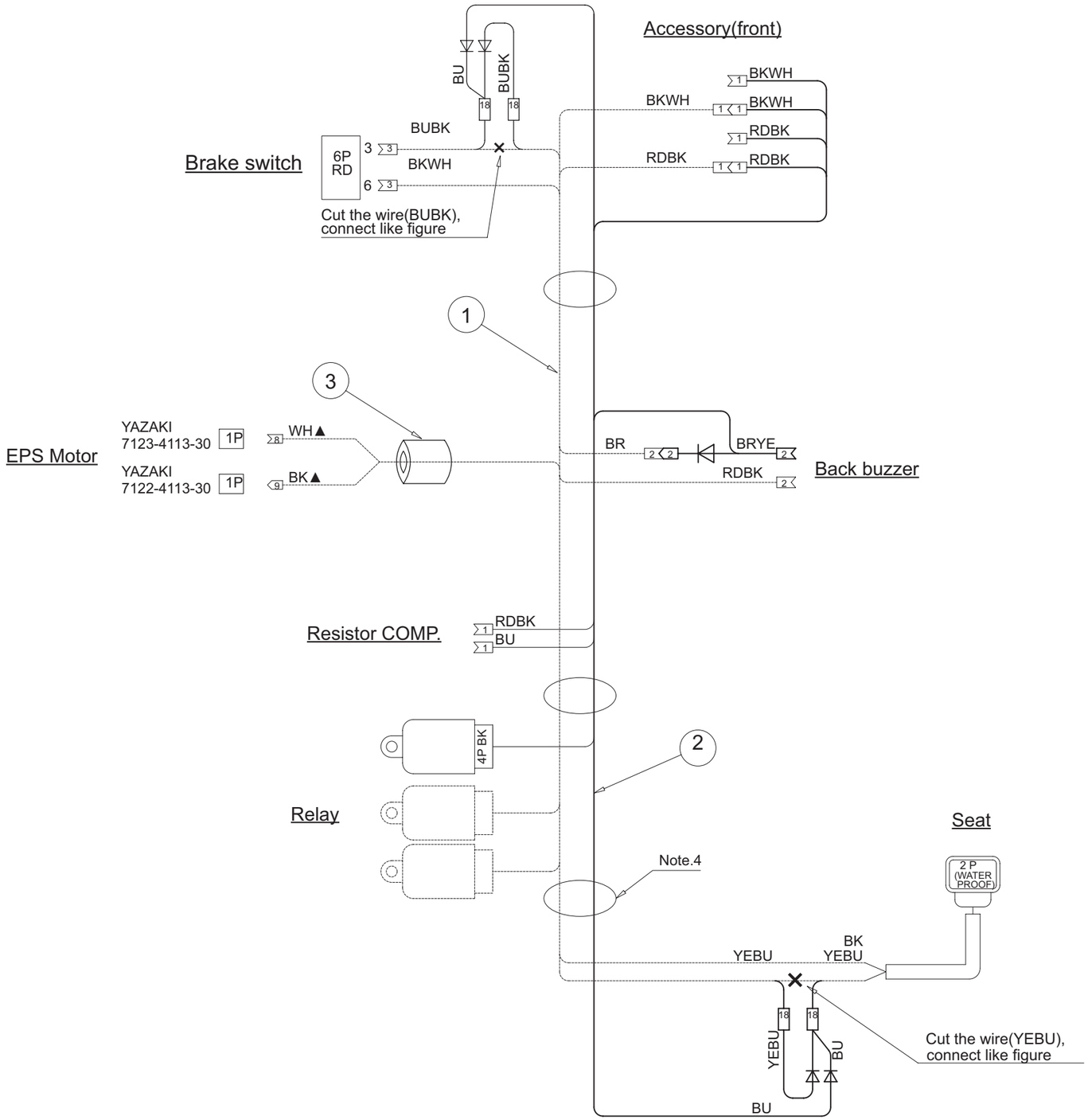
Harness, body

4- 6.

Australian Standard compliant(AS)

4-6-3.

E0000-42431-0E



※The drawing shows the thing which incorporated HARNESS,ACCESSORY and CORE,FERRITE in HARNESS,BODY.

③CORE,FERRITE	Models
0	FB10CA-28CA
	FB30CA
1	FB10CA-28CA / EEC
	FB30CA / EEC

Note.

1.Terminal

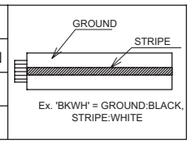
1 :Shur plug AMP 170020-2
2 :Shur plug AMP 170020-3
9 :Tab YAZAKI 7116-3251
1 :Shur Receptacle AMP 170021-2
2 :Shur Receptacle AMP 170021-2
8 :Receptacle YAZAKI 7116-3251
18 :Terminal JST FNC-1.25

2.Refer to NIS B7038 for wire treatment.

3.Refer to NIS A4010 for drawing instruction.

4.Clamp it at a suitable position, and fix the additional harness to HARNESS,BODY.

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



3	CORE,FERRITE TFT-112514N		↔		TAKEUCHI INDUSTRY
2	HARNESS,ACCESSORY		1		
1	HARNESS,BODY		1		
	PART NAME SIZE	MATERIAL	QTY	MASS	REMARKS

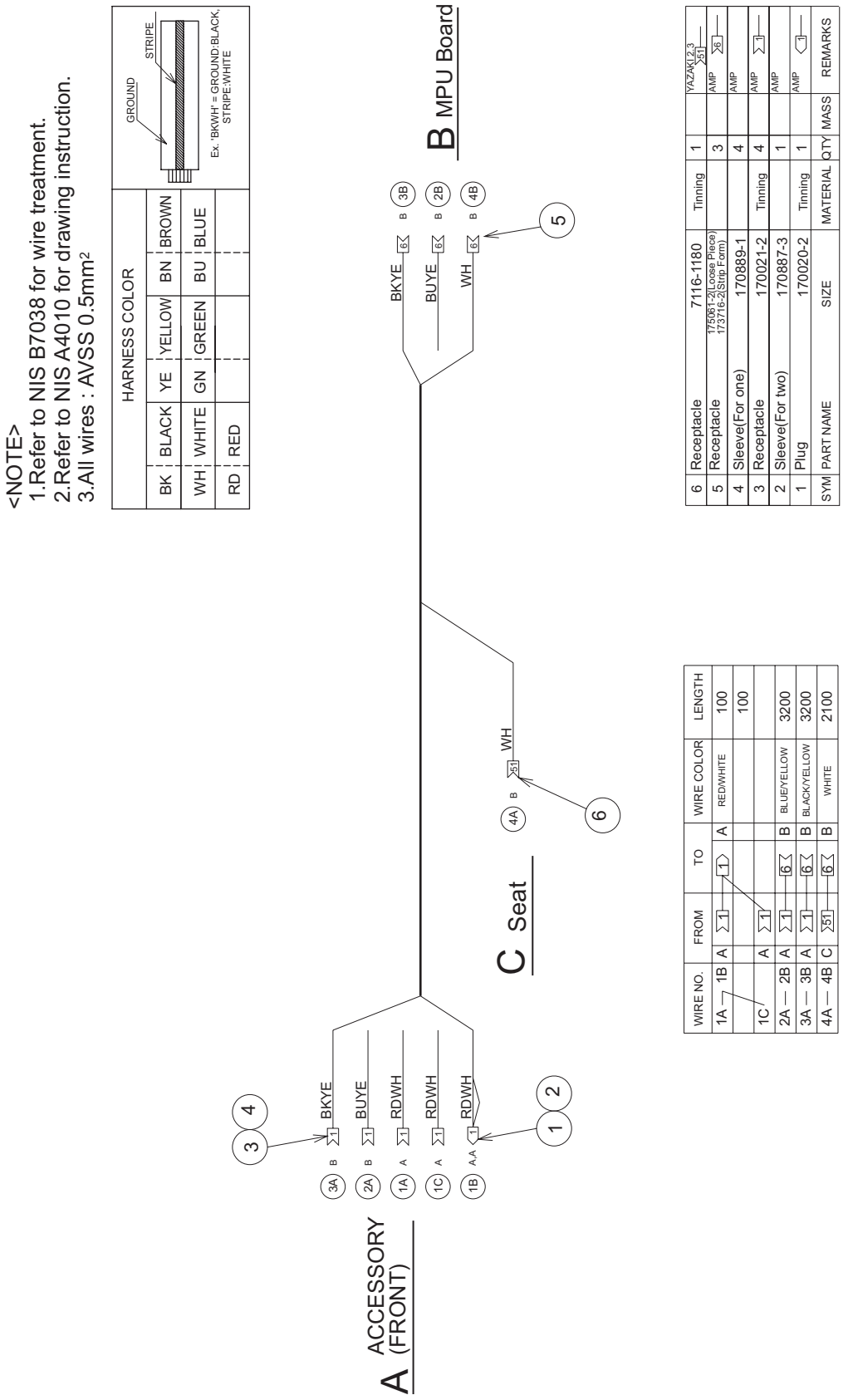
Harness Comp., body

4- 6.

Australian Standard compliant(AS) / NFT production

4-6-4.

E0000-42451-0E



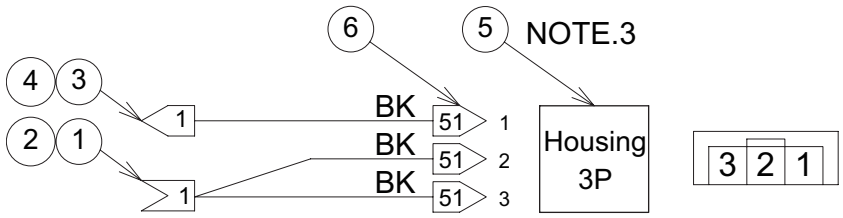
Harness, AS

4- 6.

Australian Standard compliant(AS)

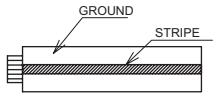
4-6-5.

54002-57660-0E



＜NOTE＞
1.Refer to NIS B7038 for wire treatment.
2.Refer to NIS A4010 for drawing instruction.
3.All pin layout shows of connector the view from terminal insert side.
4.Both ends of vinyl tube should be tied up by tie-wrap.
5.Lead Wire is AVSS 0.5mm^2.

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
6	Tab	7144-1170	Tinning	3		YAZAKI 51
5	Housing (3P-M)	7122-1430		1		YAZAKI
4	Sleeve (For one)	170887-1		1		AMP
3	Plug	170020-2	Tinning	4		AMP 1
2	Sleeve (For two)	170889-2		1		AMP
1	Receptacle	170021-2	Tinning	1		AMP 1

Harness, short circuit 4- 6.

Australian Standard compliant(AS) 4-6-6.

54002-56440-1E

Line No.	From		To		Color	Length
1A — 1B	A	1	B		RD	1000
2A — 2B	A	1	B		WH	1000
3A — 3B	A	1	B		BK	1000
4A — 4B	A	1	B		GN	1000

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
5	Sleeve (for one)	170889-1		4		AMP
4	Receptacle	170021-3(Loose piece) 170003-5(Strip form)	Unplating	4		AMP
3	Tab	179462-3(Loose piece) 170340-3(Strip form)		4		AMP
2	Housing, cap (4P WH)	172133-1		1		AMP
1	Lead wire	VCT0.5mm² 4 core cable	1400mm	1		SWCC SHOWA HOLDINGS

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				

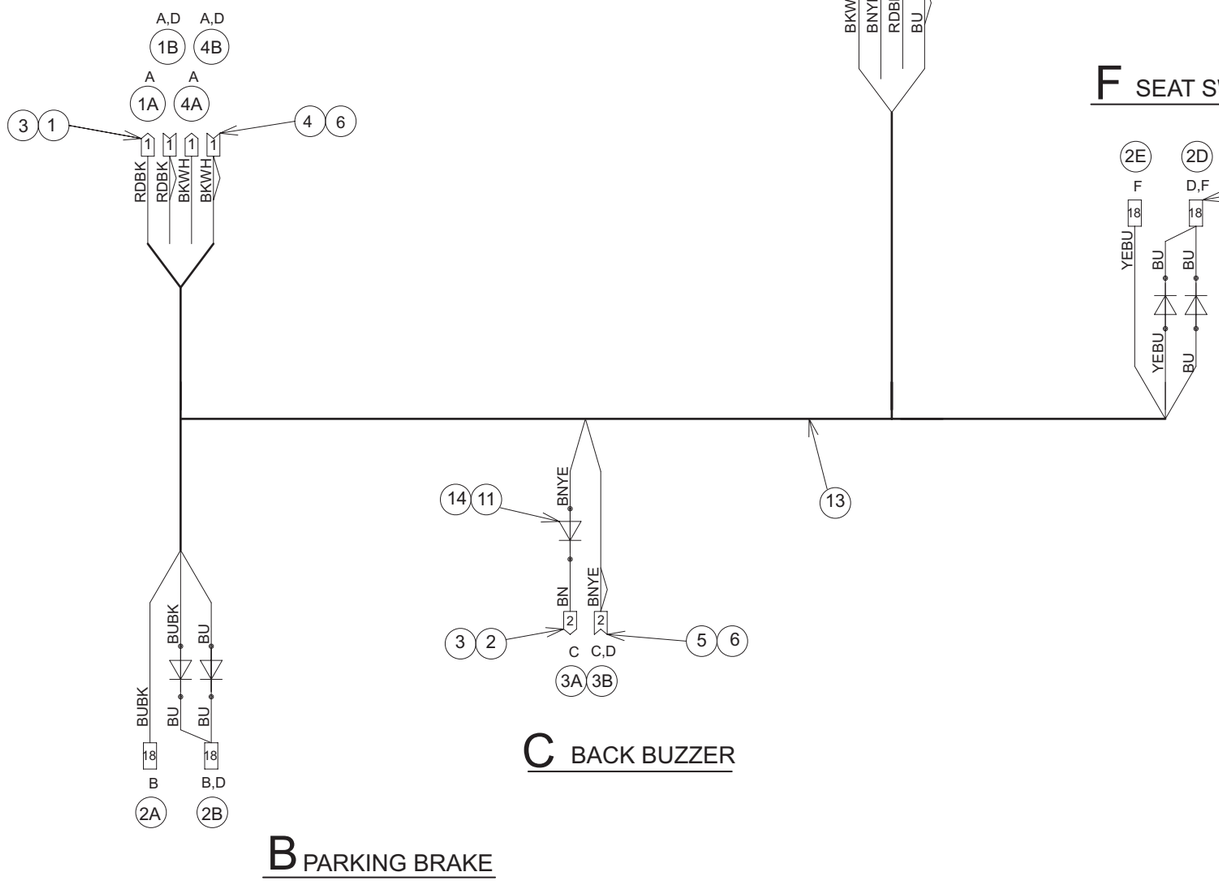
<Note>
1.Refer to KA-10284 for wire treatment.
2.Refer to NIS A4010 for drawing instruction.
3.All pin layout shows of connector the view from terminal insert side.
4.Marked bands shown in this figure are not required for completed harness.

Harness, head guard 4- 6.

Australian Standard compliant(AS) 4-6-7.

24801-10111-0E

MEMO



Note
1.REFER TO NIS B7038 FOR WIRE TREATMENT.
2.REFER TO NIS A4010 FOR DRAWING INSTRUCTION.
3.COVER THE DIODE WITH VINYL TUBE TO INSULATE.
4.ALL PIN LAYOUT SHOWS THE VIEW FROM TERMINAL INSERT SIDE.
5.FIT CAPACITOR, RESISTOR, AND DIODE TO D.CA-RELAY
AS IN THE FIG A.
USE THE VINYL TUBE HAVING HEAT-RESISTANT TEMPERATURE
OF ≧105℃.

HARNESS COLOR						GROUND / STRIPE
BK	BLACK	YE	YELLOW	BN	BROWN	
WH	WHITE	GN	GREEN	BU	BLUE	
RD	RED					Ex. "BKWH" = GROUND:BLACK, STRIPE:WHITE

Wire Number		From	To		Wire Color	Wire Length
1A	1B	A	1 — 1	A	RDBK	100
						2700
1C		D	3 — a			
2A	2B	B	18 — 18	B	BUBK	200
			a		BU	2950
2C	2D	D	3 — 18	F		2600
					YEBU	200
2E		F	18			
3A	3B	C	2 — 2	C	BNYE	200
						1550
3C		D	3			
4A	4B	A	1 — 1	A	BKWH	100
						2700
4C		D	3			

※PERMISSIBLE SUBSTITUTES CAN BE USED.

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
15	WIRE,LEAD	AVSS 0.5mm²				
14	VINYL TUBE	T-105T(-02)	※			KYOWA
13	RESISTOR	MOS2C681J(2W680Ω)	※	1		KOA
12	CAPACITOR	UVR2A471MHD(100V470μF)	※	1		NICHICON
11	DIODE	10DDA60	※	6		NIHON INTER
10	RELAY	CA1b-DC48V-N		1		PANASONIC
9	TERMINAL	FNC-1.25		4		JST 18
8	RECEPTACLE	179461-5(LOOSE PIECE) 170032-5(STRIP FORM)		4		AMP 3
7	HOUSING PLUG 4P BLACK	172134-2		1		AMP
6	SLEEVE(FOR TWO)	170889-3		3		AMP
5	SHUR RECEPTACLE	170021-3(LOOSE PIECE) 170003-5(STRIP FORM)	NO PLATING	1		AMP 2
4	SHUR RECEPTACLE	170021-2	WITH PLATING	2		AMP 1
3	SLEEVE(FOR ONE)	170887-1		3		AMP
2	SHUR PLUG	170020-3(LOOSE PIECE) 170002-5(STRIP FORM)	NO PLATING	1		AMP 2
1	SHUR PLUG	170020-2	WITH PLATING	2		AMP 1

Harness, accessory

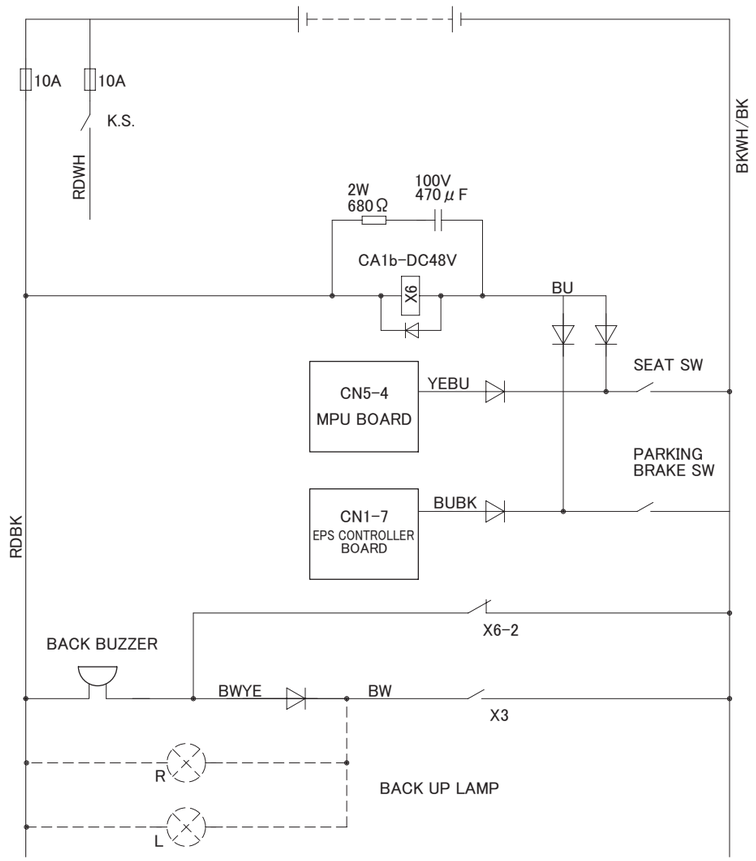
4- 7.

Parking alarm

4-7-1.

54002-55100-0E

SYSTEM WIRING



OPERARION

Even if key-switch off, when the operator releases the parking brake and leaves the seat, an alarm (back buzzer) sounds after 1 sec.

NOTE)

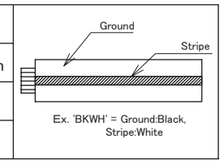
1.TERMINAL

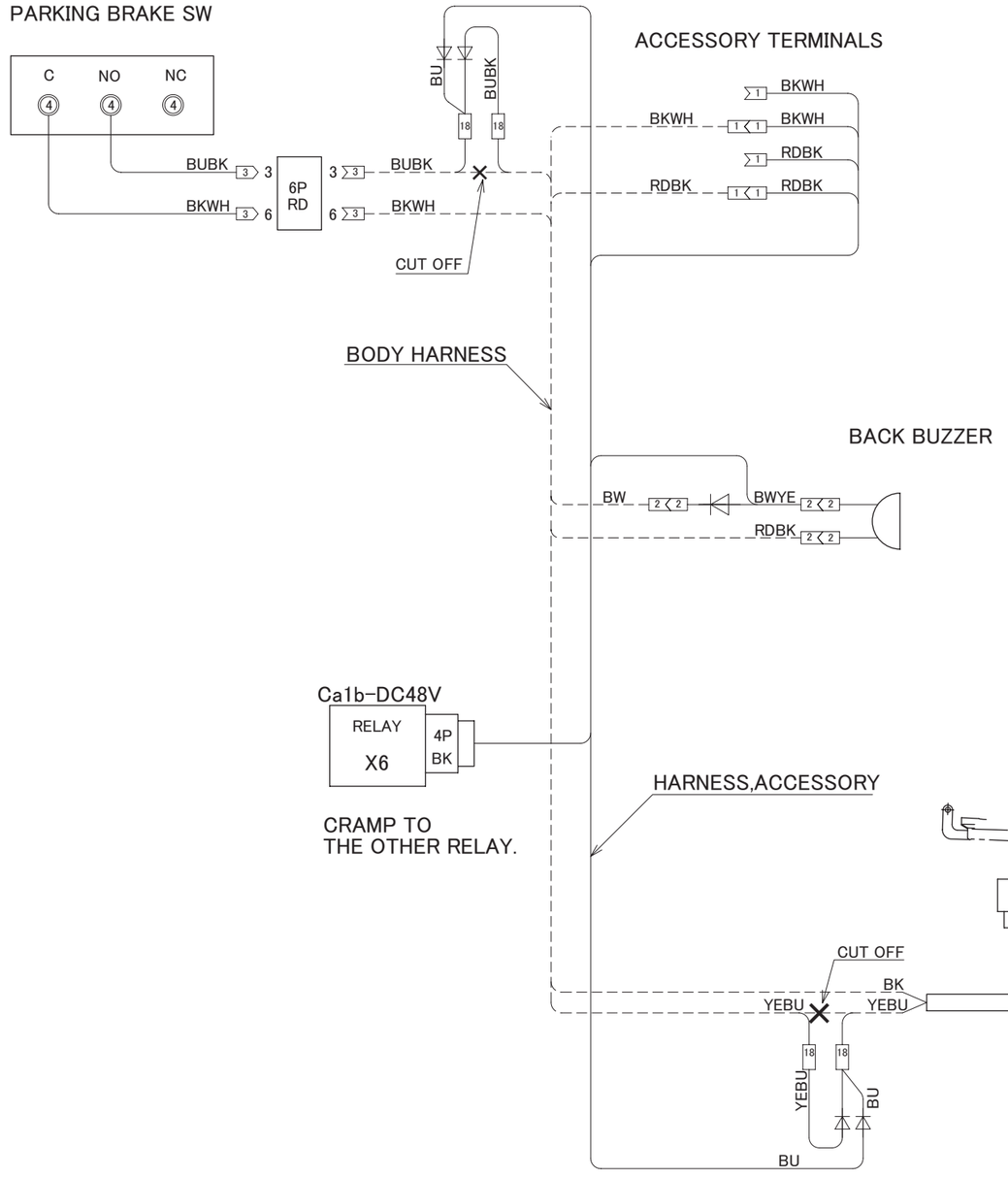
2	:SHUR PLUG	AMP 170020-3(LOOSE PIECE) 170002-5(STRIP FORM)
1	:SHUR PLUG	AMP 170020-2
2	:SHUR RECEPTACLE	AMP 170021-3(LOOSE PIECE) 170003-5(STRIP FORM)
1	:SHUR RECEPTACLE	AMP 170021-2
18	:TERMINAL	JST FNC-1.25

2.REFER TO NIS B7038 FOR WIRE TREATMENT.

3.REFER TO NIS A4010 FOR DRAWING INSTRUCTION.

Harness Color					
BK	Black	YE	Yellow	BN	Brown
WH	White	GN	Green	BU	Blue
RD	Red				





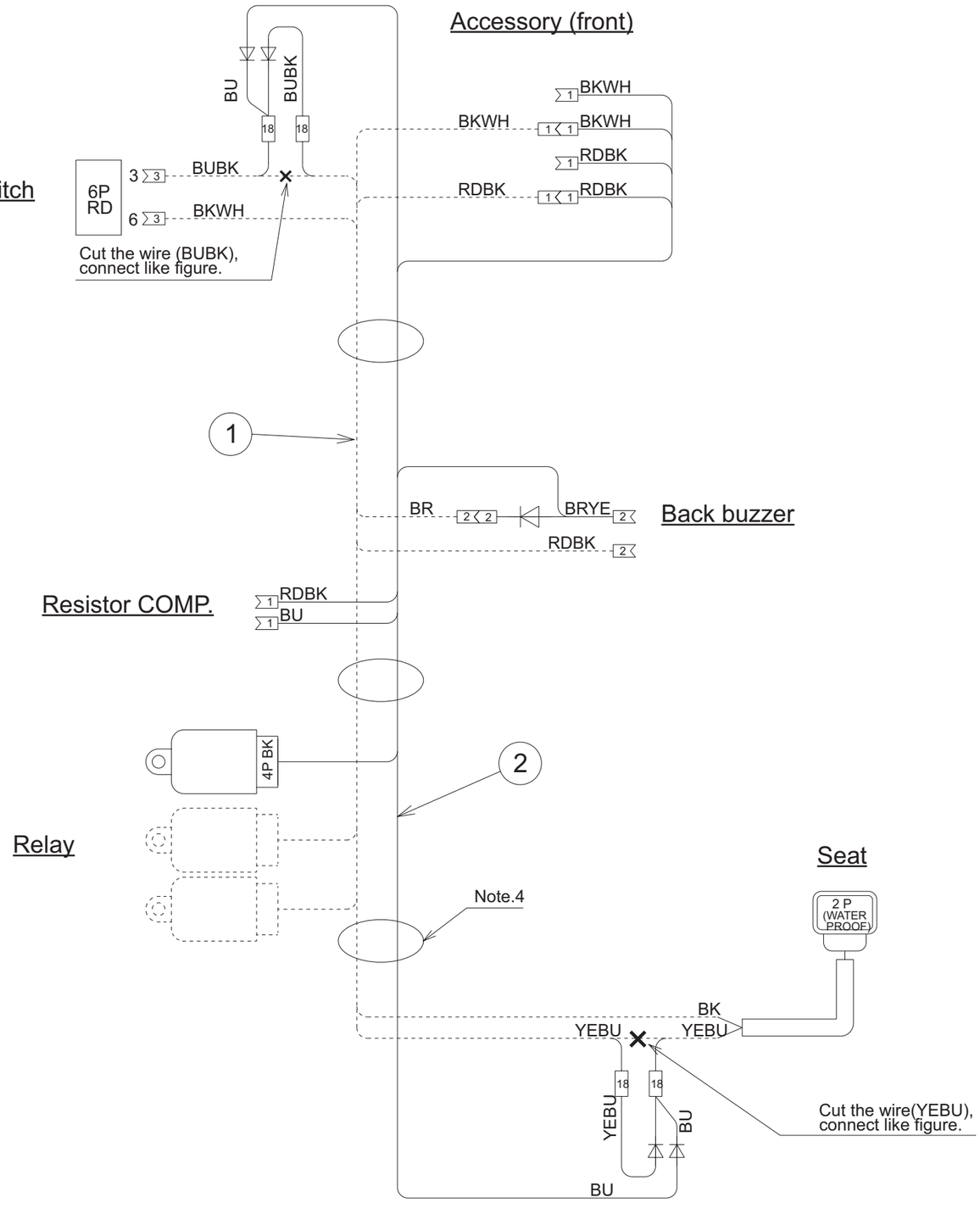
Wiring

Parking alarm

54002-60530-1E

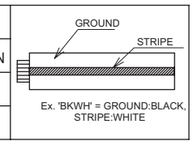
4- 7.

4-7-2.



※The drawing shows the thing which incorporated HARNESS,ACCESSORY in HARNESS,BODY

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



Note.
1.Terminal

2	:Shur plug	AMP 170020-3
1	:Shur plug	AMP 170020-2
2	:Shur Receptacle	AMP 170021-3
1	:Shur Receptacle	AMP 170021-2
18	:Terminal	JST FNC-1.25

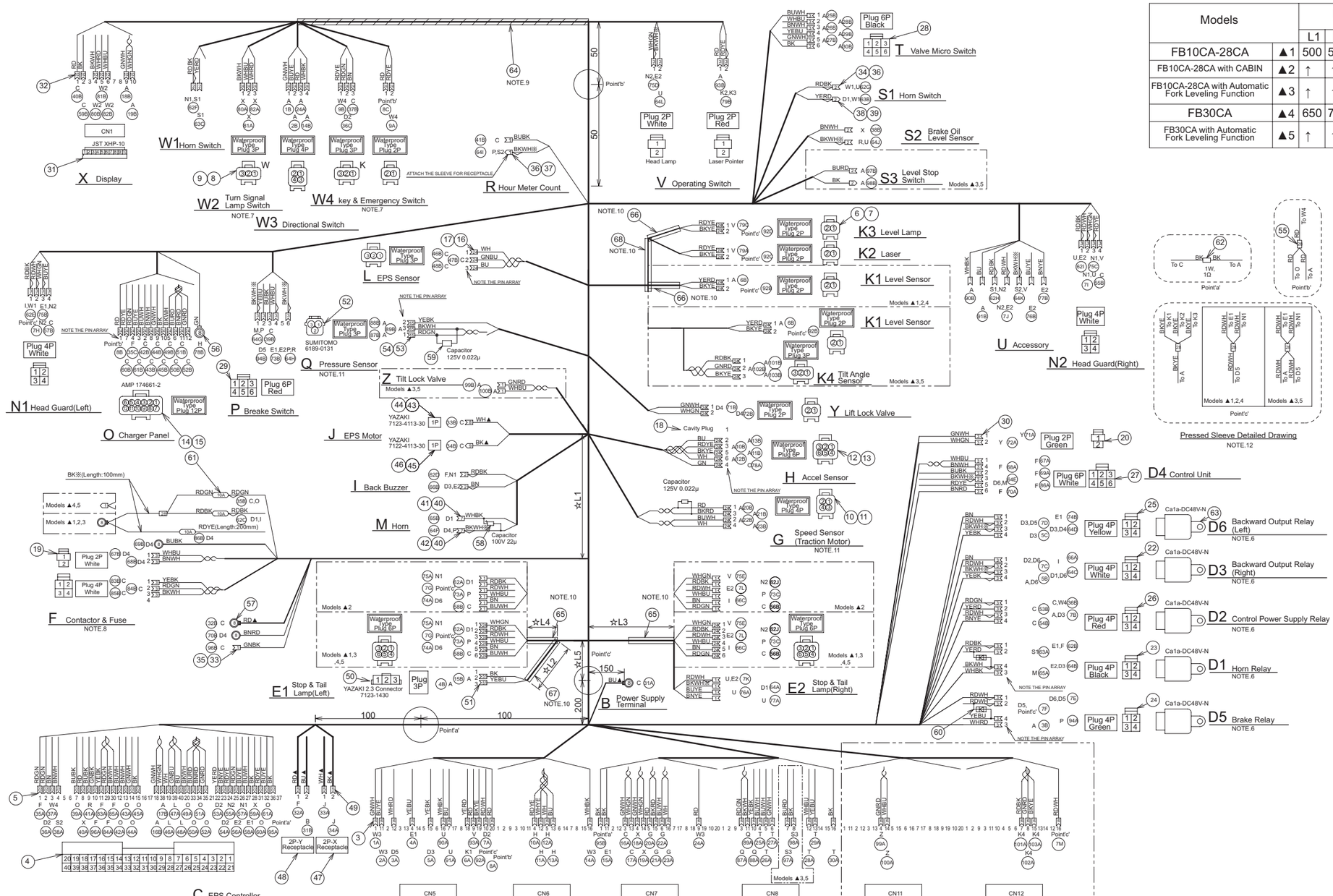
2.Refer to NIS B7038 for wire treatment.
3.Refer to NIS A4010 for drawing instruction.
4.Clamp it at a suitable position, and fix the additional harness to HARNESS,BODY.

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
3						
2	HARNESS,ACCESSORY			1		
1	HARNESS,BODY			1		

Harness Comp., body 4- 7.

Parking alarm / NFT production 4-7-3.

E0000-42780-0E



Models		Length(Part ☆)					Quantity:N															
		L1	L2	L3	L4	L5	①	②	③	⑧	⑨	⑫	⑬	⑯	⑰	㉝	㉞	㉟	㊲	㊴	㊼	㊻
FB10CA-28CA	▲1	500	500	1150	200	150	2	2	37	3	3	3	3	56	56	13	7	8	1	1	3	2
FB10CA-28CA with CABIN	▲2	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	1	1	44	44	25↑	↑	20↑	↑	↑	↑	↑
FB10CA-28CA with Automatic Fork Leveling Function	▲3	↑	↑	↑	↑	↑	3	3	45	4	4	3	3	59	59	15	8	11	1	2	3	1
FB30CA	▲4	650	700	↑	↑	↑	2	2	37	3	3	↑	↑	56	56	13	7	8	2	↑	2	2
FB30CA with Automatic Fork Leveling Function	▲5	↑	↑	↑	↑	↑	3	3	45	4	4	↑	↑	59	59	15	8	11↑	1	↑	1	

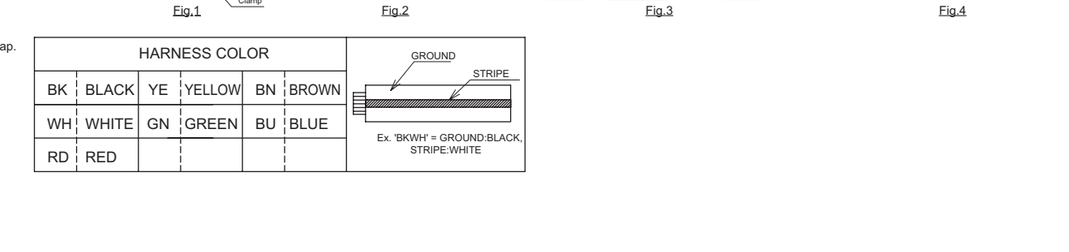
※Permissible substitutes can be used.

68	Vinyl Tube(Inside Diameter:10mm,Length:300mm,Black)		1			
67	Vinyl Tube(Inside Diameter:6mm,Length:☆L2,Black)		1			
66	Vinyl Tube(Inside Diameter:6mm,Length:100mm,Black)		N			
65	Corrugate Tube(φ7) CDP-B907-1		2	※	Shinagawa Shoko	
64	Spiral Tube SPP-13L		1	※	KITAGAWA INDUSTRIES	
63	Relay Ca1a-DC48V-N	ACA1223 AO1	5		Panasonic	
62	Register MOSX1C010J(1W,1Ω)		1	※	KOA	
61	Fuse Comp. 10A		3	※	10A	
60	Diode 1G6		2	※	Nihon Inter	
59	Capacitor(125V 0.022uF) QXL2B223KTPT		2		NICHICON	
58	Capacitor(100V 22uF) TVX2A220MAD		1		NICHICON	
57	Termial,LA 7009-1334	No plating	N	※	YAZAKI	8
56	Termial,LA 7009-1324	No plating	3	※	YAZAKI	8
55	Terminal P1.25		4		JST	28
54	Seal,Wire 7165-0385		3		Sumitomo Wiring Systems	
53	Terminal(F) 1500-0110	Tinning	3		Sumitomo Wiring Systems	15K
52	Housing(3P-F) 6189-0131		1		Sumitomo Wiring Systems	
51	Receptacle 7116-1180	Tinning	2		YAZAKI	5K
50	Housing(3P-F) 7123-1430		1		YAZAKI	
49	Receptacle 179956-2(Loose Piece)1316041-2(Strip Form)	Gilding	4		AMP	5
48	Housing,Receptacle(2P-Y) 2-179958-2		1		AMP D05200	
47	Housing,Receptacle(2P-X) 1-179958-2		1		AMP D05200	
46	Tab 7114-3251	Tinning	1		YAZAKI	9
45	Connector,Receptacle(1P) 7123-4113-30		1		YAZAKI 58L	
44	Receptacle 7116-3251	Tinning	1		YAZAKI	8
43	Connector, receptacle(1P) 7123-4113-30		1		YAZAKI 58L	
42	Sleeve(For two) 1-170823-5		1		AMP 250	
41	Sleeve(For one) 170823-2		1		AMP 250	
40	Receptacle 41729	With Sleeve	2		AMP	7
39	Sleeve(For two) 170887-3		N		AMP	
38	Plug 170020-3(Loose Piece)170002-5(Strip Form)	No plating	1		AMP	2
37	Plug 170020-2	Tinning	N		AMP	1
36	Sleeve(For two) 170889-2		11		AMP	
35	Sleeve(For one) 170889-1		N		AMP	
34	Receptacle 170021-3(Loose Piece)170003-5(Strip Form)	No plating	N		AMP	2
33	Receptacle 170021-2	Tinning	N		AMP	1
32	Contact SXH-001G-P0.6	Gilding	7		JST	10
31	Housing XHP-10		1		JST XH	
30	Receptacle 179461-5(Loose Piece)170032-5(Strip Form)	Tinning	55		AMP	3
29	Housing, plug(6P Red) 171898-9		1		AMP 250	
28	Housing, plug(6P Black) 171898-2		1		AMP 250	
27	Housing, plug(6P White) 171898-1		1		AMP 250	
26	Housing, plug(4P Red) 172134-9		1		AMP 250	
25	Housing, plug(4P Yellow) 172134-7		1		AMP 250	
24	Housing, plug(4P Green) 172134-4		1		AMP 250	
23	Housing, plug(4P Black) 172134-2		1		AMP 250	
22	Housing, plug(4P White) 172134-1		4		AMP 250	
21	Housing, plug(2P Red) 172130-9		1		AMP 250	
20	Housing, plug(2P Green) 172130-4		1		AMP 250	
19	Housing, plug(2P White) 172130-1		2		AMP 250	
18	Seal(Cavity Plug) 172748-2		1		AMP	
17	Seal(Rubber Plug) 900324-4		N		AMP	
16	Receptacle 171699-1(Loose Piece)171630-1(Strip Form)	Tinning	N		AMP	2K
15	Plate, double lock(12P) 174662-7		1		AMP	
14	Housing,Plug(12P) 174661-2		1		AMP	
13	Plate, double lock(6P) 174263-7		N		AMP	
12	Housing, plug(6P) 174262-2		N		AMP	
11	Plate, double Lock(4P) 174258-7		2		AMP	
10	Housing, plug(4P) 174257-2		2		AMP	
9	Plate, double lock(3P) 174358-7		N		AMP	
8	Housing, plug(3P) 174357-2		N		AMP	
7	Plate, double lock(2P) 174353-7		5		AMP	
6	Housing, plug(2P) 174352-2		5		AMP	
5	Receptacle 1318143-2(Loose Piece)1123343-2(Strip Form)	Tinning	34		AMP	2K
4	Housing, plug(40P) 1318389-1		1		AMP 025	
3	Receptacle 175061-2(Loose Piece)173716-2(Strip Form)	Gilding	N		AMP	6
2	Housing, plug(20P) 175967-2		N		AMP 040	
1	Housing, plug(16P) 175966-2		N		AMP 040	

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS

<NOTE>
1.Strand)))(part at the pitch of 25 mm and below.
2.Refer to NIS B7038 for wire treatment.
3.Refer to NIS A4010 for drawing instruction.
4.All pin layout shows of connector the view from terminal insert side.
5.The electric wire table is shown in the PARTS,HARNESS.
6.Relay shall not be tied to the main harness.
7.Display the alphabet or number with description or stamping in immortal ink.
8.Fuse should be tied together in the form of concentric circle like Fig.1.
9.Winded by spiral tube at 2±1mm-intervals as shown in Fig.2.
Both ends should be tied up by tie-wrap.
10.Coverd by corrugate tube / vinyl tube. Both ends should be tied up by tie-wrap.
11.Solder the installation of the capacitor of the speed sensor and the pressure sensor as shown in Fig.3.
And fill the silicon adhesive in the vinyl tube.
12.Harness branches treatment should be like Fig.4.
13.Lead Wire
※ :AVS 0.85 mm²
▲ :UL-1015 AWG12
other :AVSS 0.5mm²

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



Harness, body

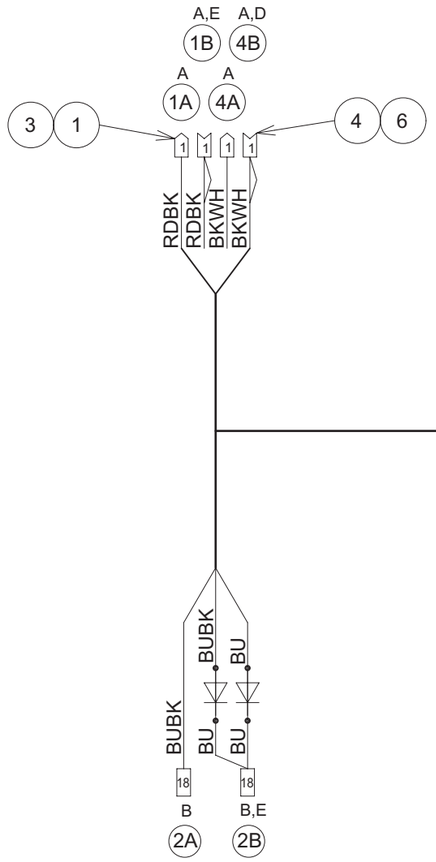
Parking alarm / NFT production

4- 7.

4-7-4.

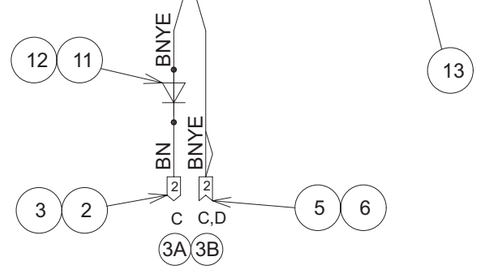
E0000-37201-0E

A Accessory



B Parking brake

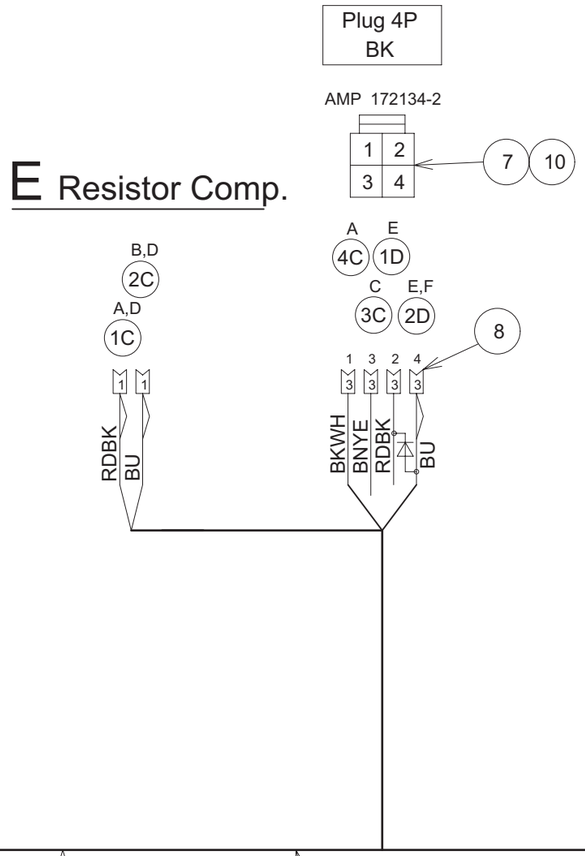
C Back buzzer



D Ca relay

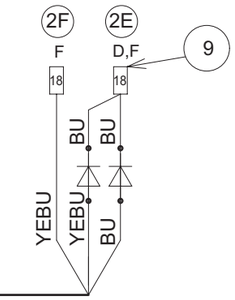
Ca1b-DC48V

※Connect the relay



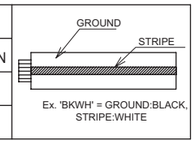
E Resistor Comp.

F Seat SW



Note
1.REFER TO NIS B7038 FOR WIRE TREATMENT.
2.REFER TO NIS A4010 FOR DRAWING INSTRUCTION.
3.ATTACH THE DIODE BY SOLDERING, AND COVER IT WITH VINYL TUBE TO INSULATE.
4.ALL PIN LAYOUT SHOWS THE VIEW FROM TERMINAL INSERT SIDE.

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				



Line No.	From		To		Color	Length
1A — 1B	A	1	1	A	RDBK	100
						2850
1C — 1D	E	1	3	D		450
		a				
2A — 2B	B	18	18	B	BU	200
			a			3100
2C — 2D	E	1	3	D		450
						2500
2E — 2F	F	18	18	F		200
3A — 3B	C	2	2	C	BNYE	200
						1450
3C	D	3				
4A — 4B	A	1	1	A	BKWH	100
						2600
4C	D	3				

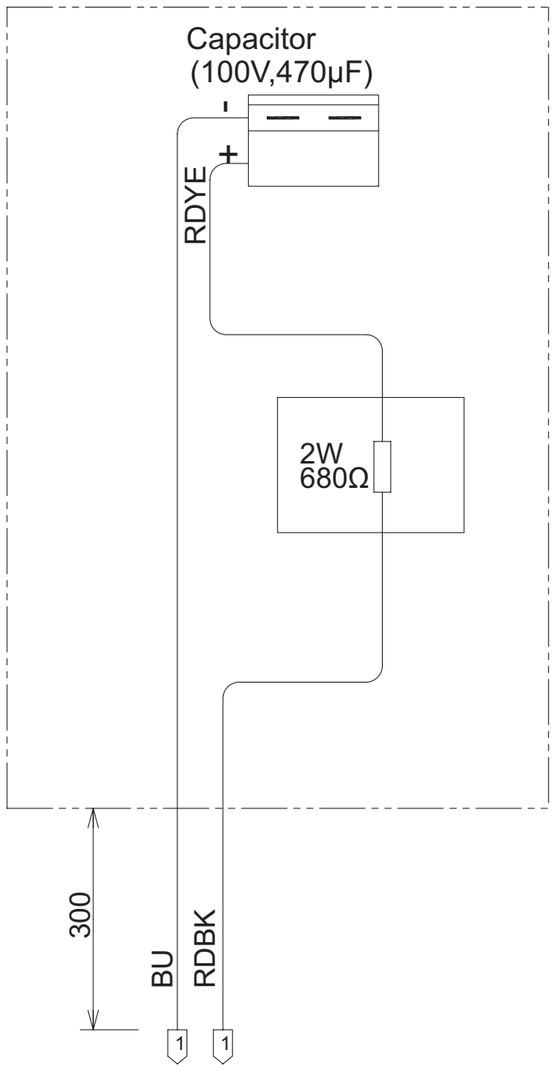
SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
13	Wire, lead	AVSS 0.5mm²				
12	Vinyl tube					
11	Diode	1G6	or equivalent	5		Nihon Inter
10	Relay	CA1b-DC48V-N		1		Panasonic
9	Terminal (Crimping sleeve)	FNC-1.25		4		JST 18
8	Receptacle	179461-5(Loose piece) 170032-5(Strip form)		4		AMP 3
7	Housing, plug 4P BK	172134-2		1		AMP
6	Sleeve (for two)	170889-3		5		AMP
5	Shur receptacle	170021-3(Loose piece) 170003-5(Strip form)	No plating	1		AMP 2
4	Shur receptacle	170021-2	With plating	4		AMP 1
3	Sleeve (for one)	170887-1		3		AMP
2	Shur plug	170020-3(Loose piece) 170002-5(Strip form)	No plating	1		AMP 2
1	Shur plug	170020-2	With plating	2		AMP 1

Harness, accessory 4- 7.

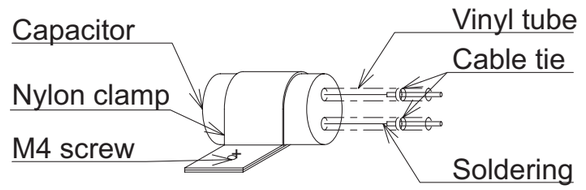
Parking alarm / NFT production 4-7-5.

54001-39271-0E

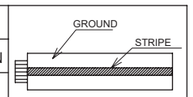
Resistor Comp.



Note)
1. Refer to KA-10284 for wire treatment.
2. Refer to NIS A4010 for drawing instruction.
3. Attach the register by soldering.
4. Attach a capacitor as shown in the figure below.



HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED				

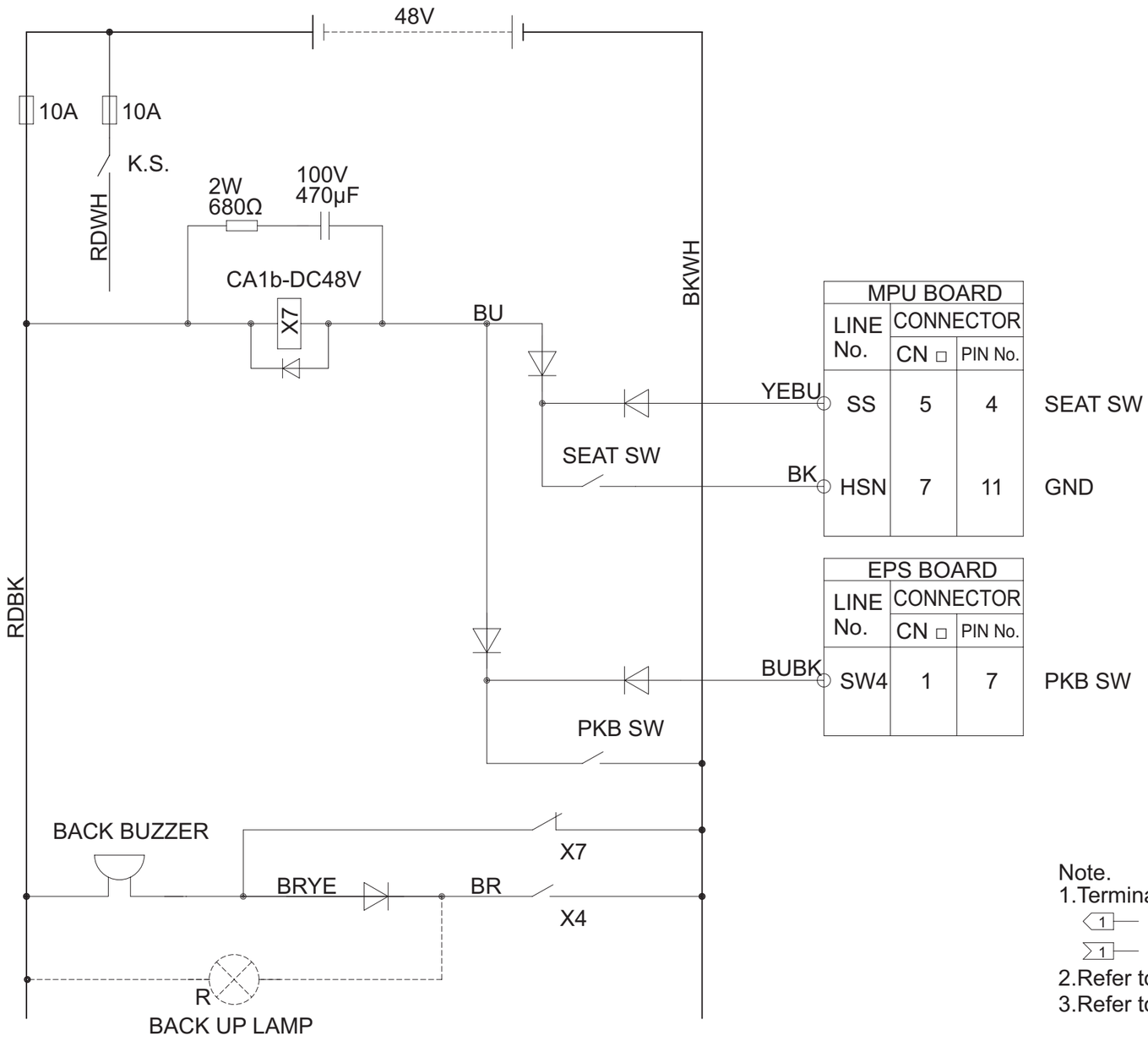


Ex. 'BKWH' = GROUND:BLACK, STRIPE:WHITE

SYM	PART NAME	SIZE	MATERIAL	QTY	MASS	REMARKS
5	Wire, lead	AV/AVS 0.5mm²				
4	Sleeve (for one)	170887-1		2		AMP
3	Shur plug	170020-2		2		AMP ◇1
2	Resistor	2W,680Ω		1		
1	Capacitor	100V,470μF		1		

Wiring

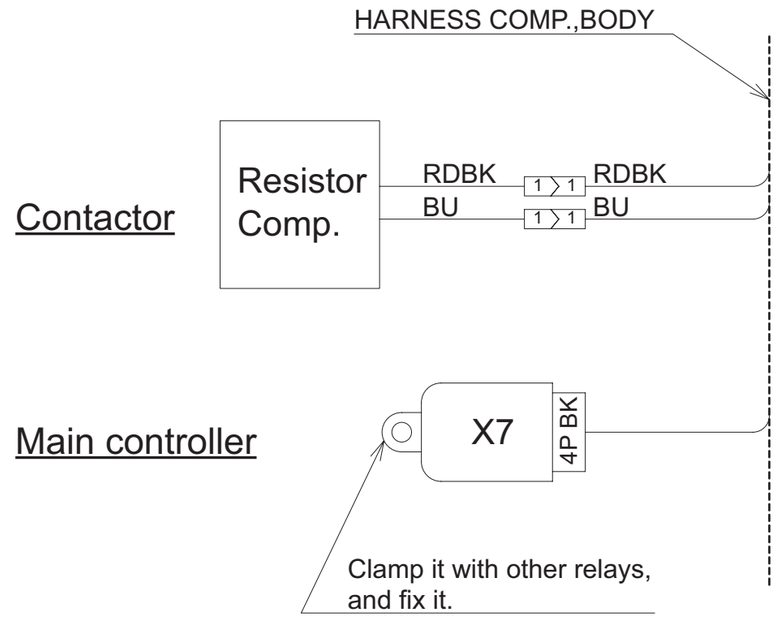
Parking alarm / NFT production



MPU BOARD				
LINE No.	CONNECTOR			
	CN □	PIN No.		
YEBU	SS	5	4	SEAT SW
BK	HSN	7	11	GND

EPS BOARD				
LINE No.	CONNECTOR			
	CN □	PIN No.		
BUBK	SW4	1	7	PKB SW

WIRING,SYSTEM



Note.
1.Terminal
- 1 :Shur plug AMP 170020-2
- 1 :Shur Receptacle AMP 170021-2

2.Refer to NIS B7038 for wire treatment.
3.Refer to NIS A4010 for drawing instruction.

Working:
Without pulling a parking brake lever, a warning buzzer (back buzzer) sounds about one second later.

HARNESS COLOR					
BK	BLACK	YE	YELLOW	BN	BROWN
WH	WHITE	GN	GREEN	BU	BLUE
RD	RED