Changes for the Better

MITSUBISHI ELECTRIC

SPLIT-TYPE, AIR CONDITIONER

No. OB384

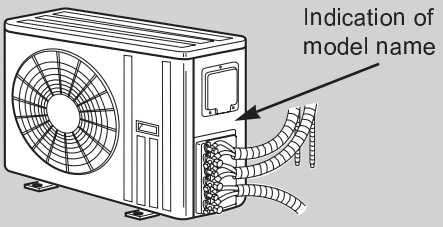
HFC utilized R410A

SERVICE MANUAL

Multi system type
Models

MUX-2A28VB -E1
MUX-2A59VB -E1
MUX-3A60VB -E1
MUX-3A63VB -E1
MUX-2A70VB -E1
MUX-4A73VB -E1

MUX-2A59VB -E1
MUX-3A60VB -E1
MUX-3A63VB -E1
MUX-2A70VB -E1



NOTE:
- As for indoor unit MSC-CA20VB -E1, MSC-CA25VB -E1 or MSC-CA35VB -E1, refer to the service manual OB393.
- This manual describes technical data of outdoor unit.
- As for indoor unit MSC-GA20VB -E1, MSC-GA25VB -E1 or MSC-GA35VB -E1, refer to the service manual OB385.

CONTENTS

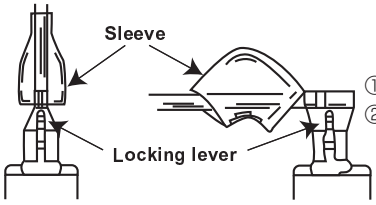
CE

12 DISASSEMBLY INSTRUCTIONS

<"Terminal with locking mechanism" Detaching points>

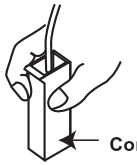
The terminal which has the locking mechanism can be detached as shown below.
There are two types (Refer to (1) and (2)) of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not.



①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

(2) The terminal with this connector has the locking mechanism.



①Hold the sleeve, and pull out the terminal slowly.

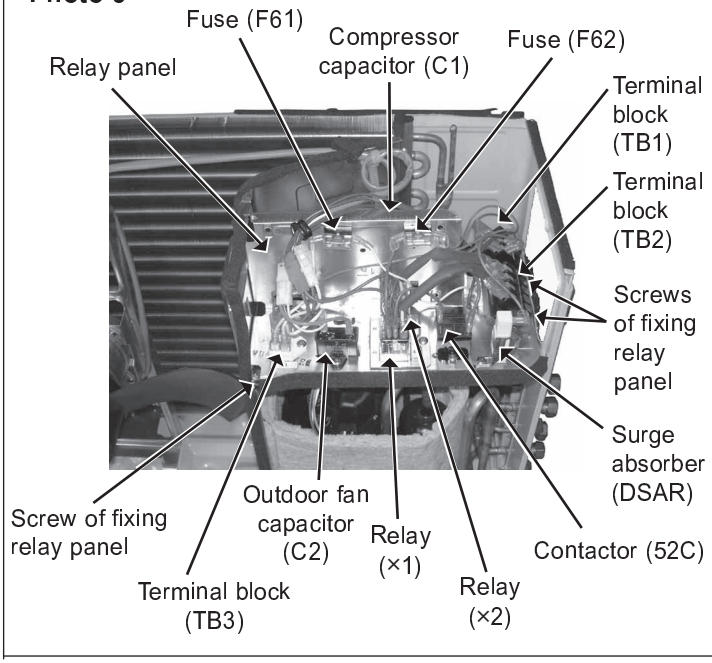
12-1. MUX-2A28VB - E1 OUTDOOR UNIT

OPERATING PROCEDURE

1. Removing the cabinet

(1) Remove the screws of the top panel.
(2) Remove the screw of the service panel.
(3) Remove the screws of the cabinet.
(4) Remove the screws of the front panel and motor support.
(5) Remove the service panel, and remove the screw from the insides.
(6) Remove the top panel.
(7) Remove the cabinet.

Photo 3



PHOTOS

Photo 1

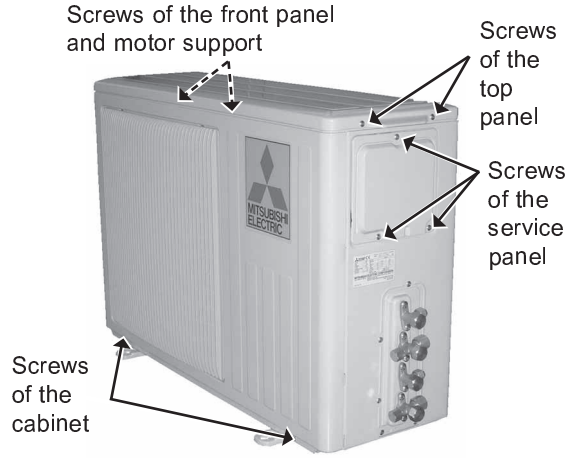
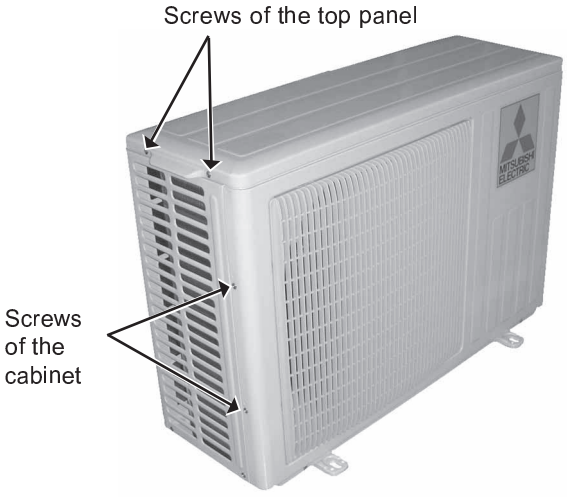
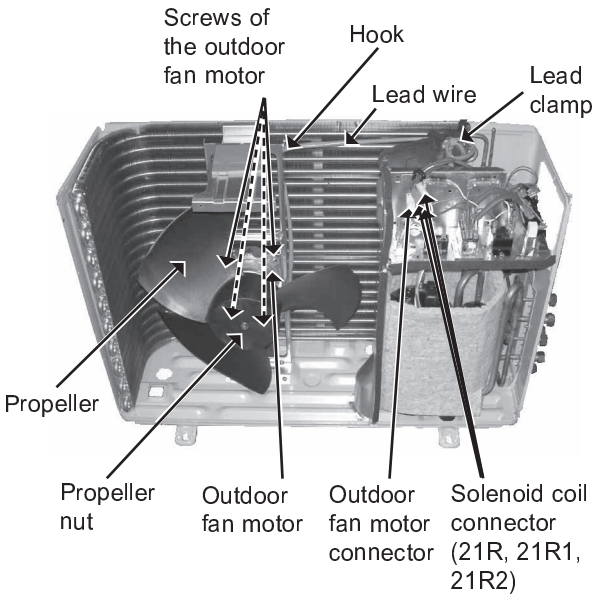
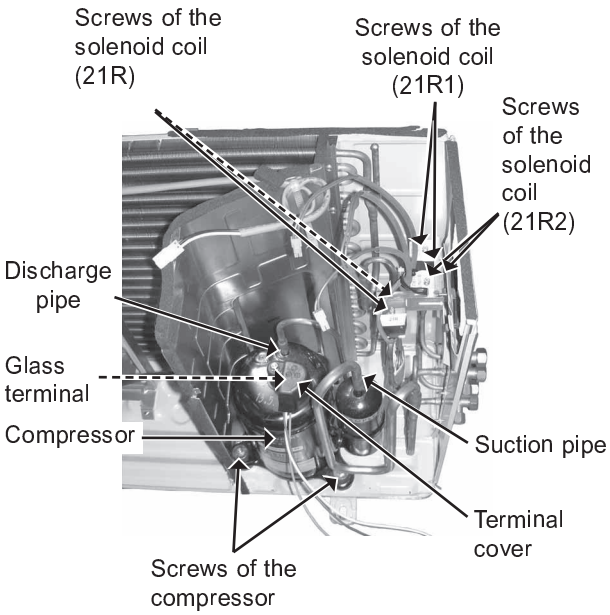


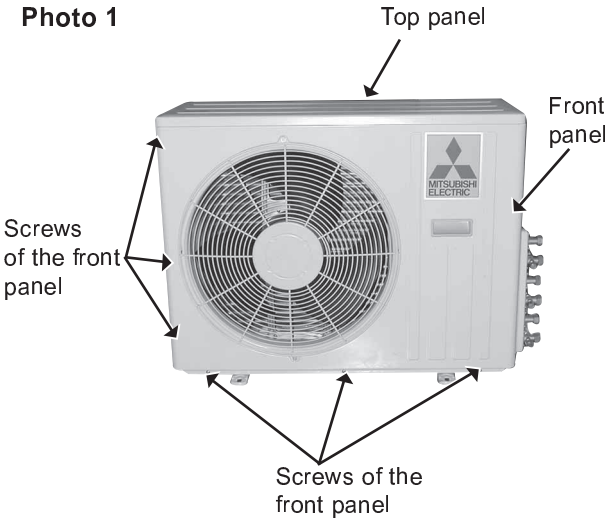
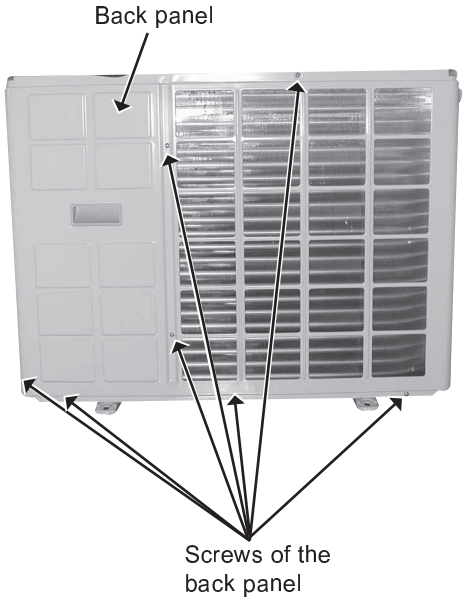
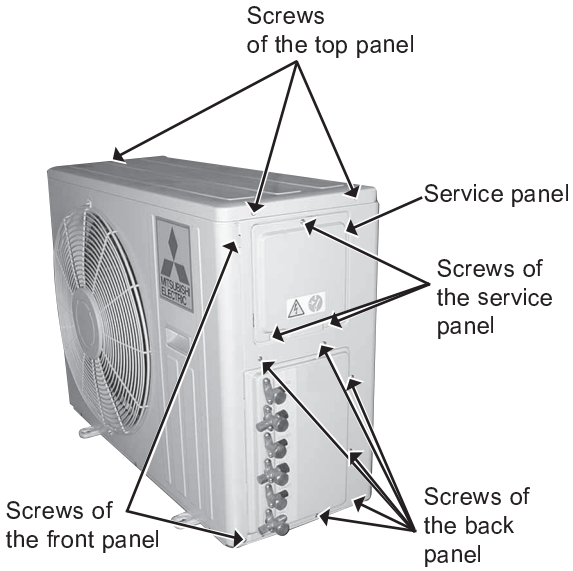
Photo 2

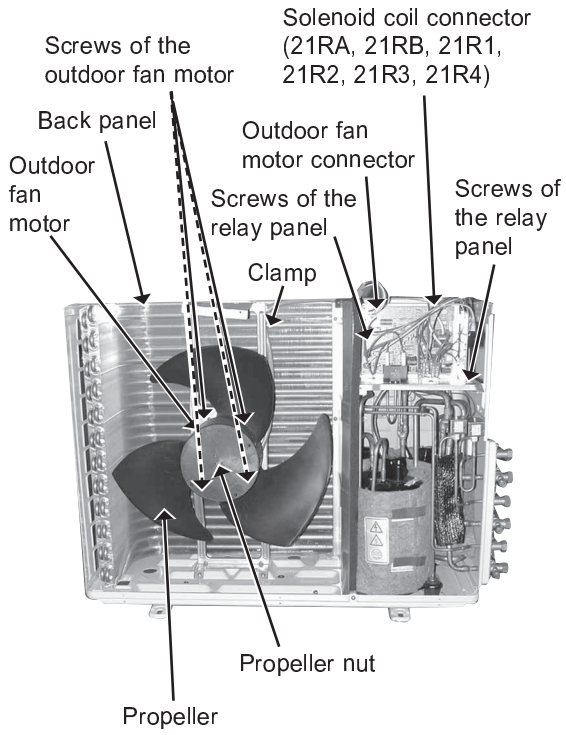


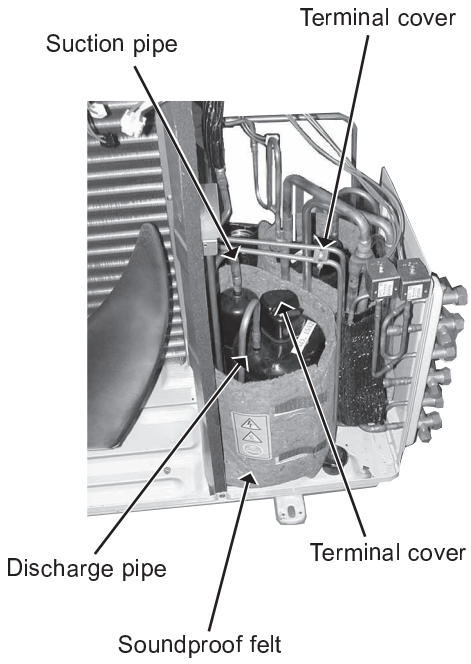
OPERATING PROCEDURE	PHOTOS
2. Removing the relay panel (1) Remove the service panel and the cabinet.(Refer to 1.) (2) Remove the following connectors. • Outdoor fan motor • Solenoid coil (21R, 21R1, 21R2)	**Photo 4** 
3. Removing the propeller and the outdoor fan motor (1) Remove the cabinet. (Refer to 1.) (2) Remove the propeller nut. (3) Remove the propeller. **NOTE : Loose the propeller in the rotating direction for removal.** When attaching the propeller, align the mark on the propeller and the motor shaft cut section. Set the propeller in position by using the cut on the shaft and the mark on the propeller. (4) Remove lead clamps and disconnect the outdoor fan motor connector. (5) Remove screws fixing the fan motor. (6) Remove the outdoor fan motor.	**Photo 5** 
4. Removing the compressor (1) Remove the cabinet. (Refer to 1.) (2) Remove the relay panel. (3) Remove the soundproof felt. (4) Remove the terminal cover on the compressor. (5) Disconnect lead wires from the glass terminal of the compressor. (6) Recover gas from the refrigerant circuit. **NOTE:**Recover gas from the pipes until the pressure gauge shows 0 kg/cm^2 (0 MPa). (7) Disconnect the welded part of the discharge pipe. (8) Disconnect the welded part of the suction pipe. (9) Remove nuts fixing the compressor. (10) Remove the compressor.	

12-2. MUX-2A59VB -E1 MUX-3A60VB -E1 MUX-3A63VB -E1 MUX-2A70VB -E1 MUX-4A73VB -E1
OUTDOOR UNIT

NOTE : These photos are MUX-3A60VB.
Other models are almost the same as MUX-3A60VB.

OPERATING PROCEDURE	PHOTOS
1.Removing the cabinet (1) Remove the screws of the service panel. (2) Remove the screws of the top panel. (3) Remove the service panel. (4) Remove the top panel. (5) Remove the screws of the front panel. (6) Remove the front panel. (7) Remove the screws of the back panel. (8) Remove the back panel.	**Photo 1** 
Photo 3  	**Photo 2** 

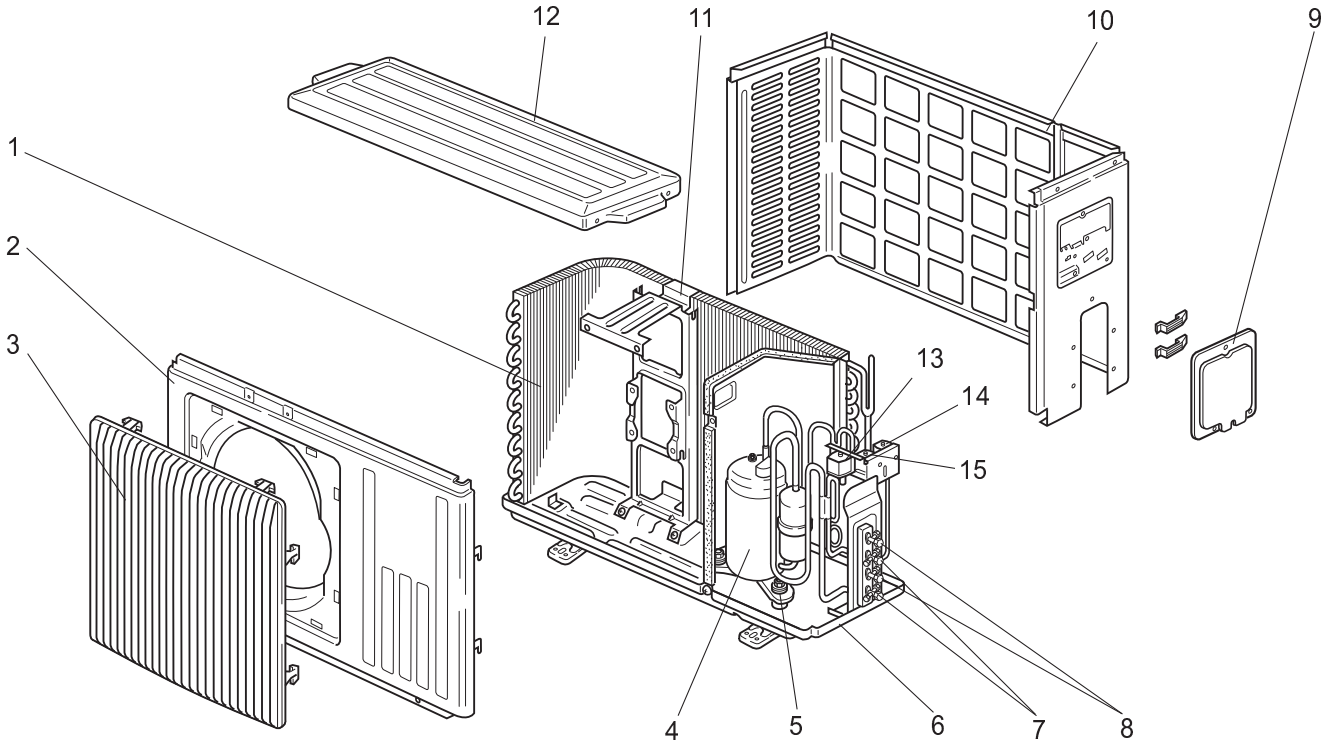
OPERATING PROCEDURE	PHOTOS
2. Removing the relay panel (1) Remove the cabinet. (Refer to 1.) (2) Disconnect the following connectors. · Outdoor fan motor · **Only MUX-3A60VB and MUX-3A63VB** Solenoid coil (21RB, 21R3, 21R4) · **Only MUX-4A73VB** Solenoid coil (21RA, 21RB, 21R1, 21R2, 21R3, 21R4)	**Photo 4** 
3. Removing the propeller (1) Remove the cabinet. (Refer to 1.) (2) Remove the propeller nut. (3) Remove the propeller. **NOTE : Loose the propeller in the rotating direction for removal.** When attaching the propeller, align the mark on the propeller and the motor shaft cut section. Set the propeller in position by using the cut on the shaft and the mark on the propeller.	
4. Removing the outdoor fan motor (1) Remove the cabinet. (Refer to 1.) (2) Remove the propeller. (Refer to 3.) (3) Remove the clamp of outdoor fan motor lead wire and disconnect the outdoor fan motor connector. (4) Remove the screws fixing the outdoor fan motor. (5) Remove the outdoor fan motor.	

OPERATING PROCEDURE	PHOTOS
5. Removing the compressor (A, B) (1) Remove the cabinet. (Refer to 1.) (2) Remove the relay panel. (3) Remove the soundproof felt. (4) Remove the terminal cover on the compressor. (5) Disconnect lead wires from the compressor. (6) Recover gas from the refrigerant circuit. **NOTE:** Recover gas from the pipes until the pressure gauge shows 0 kg/cm^2 (0 MPa). (7) Disconnect the welded part of the discharge pipe. (8) Disconnect the welded part of the suction pipe. (9) Remove nuts fixing the compressor. (10) Remove the compressor.	**Photo 5** 
6. Removing the compressor (C) (1) Remove the cabinet. (Refer to 1.) (2) Remove the relay panel. (Refer to 2.) (3) Remove the screws fixing back panel. (4) Remove the back panel. (5) Remove the soundproof felt. (6) Remove the terminal cover on the compressor. (7) Disconnect lead wires from the compressor. (8) Recover gas from the refrigerant circuit. **NOTE:** Recover gas from the pipes until the pressure gauge shows 0 kg/cm^2 (0 MPa). (9) Disconnect the welded part of the discharge pipe. (10) Disconnect the welded part of the suction pipe. (11) Remove nuts fixing the compressor. (12) Remove the compressor.	

13 PARTS LIST

MUX-2A28VB -E1

13-1. OUTDOOR UNIT STRUCTURAL PARTS

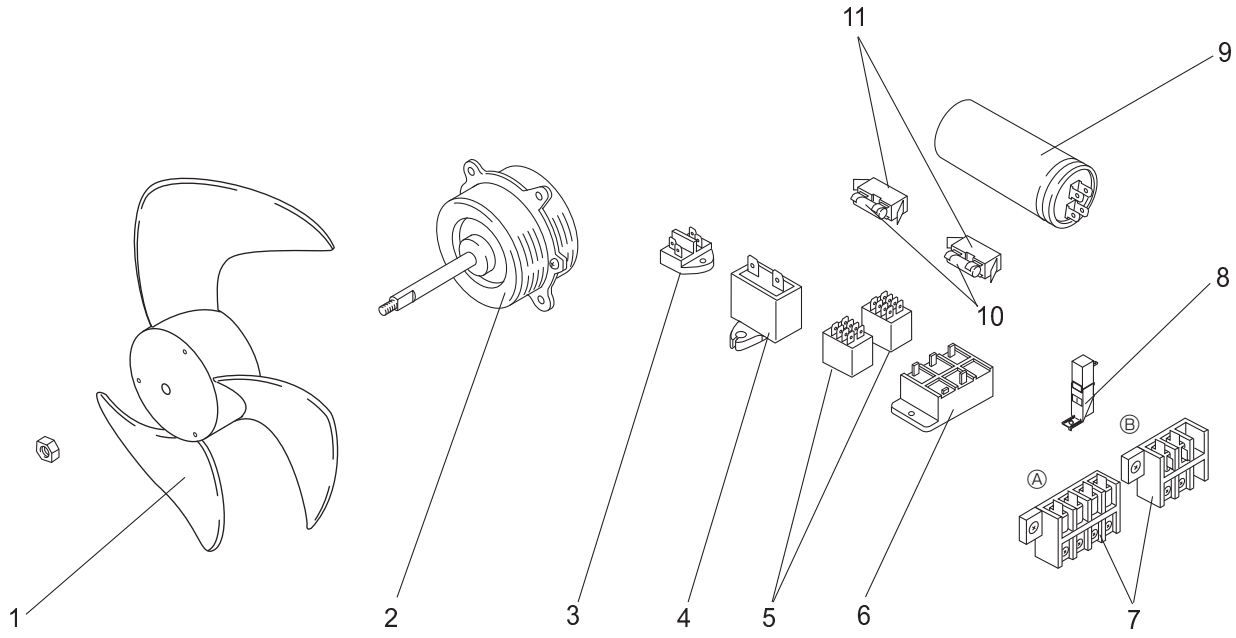


Part numbers that are circled are not shown in the illustration.

No.	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
				MUX-2A28VB-E1	
1	E02 755 630	OUTDOOR HEAT EXCHANGER		1	
2	E02 815 232	CABINET		1	
3	E02 815 521	GRILLE(OUT)		1	
4	E02 742 900	COMPRESSOR	MC	1	RN092VHSHT
5	E02 075 506	COMPRESSOR RUBBER SET		3	3RUBBERS/SET
6	E02 837 290	BASE		1	
7	E02 755 661	STOP VALVE(GAS)		2	ϕ9.52
8	E02 755 662	STOP VALVE(LIQUID)		2	ϕ6.35
9	E02 837 245	SERVICE PANEL		1	
10	E02 837 233	BACK PANEL		1	
11	E02 336 515	MOTOR SUPPORT		1	
12	E02 815 297	TOP PANEL		1	
13	E02 750 490	SOLENOID COIL	21R	1	
14	E02 751 490	SOLENOID COIL(A)	21R1	1	
15	E02 755 490	SOLENOID COIL(B)	21R2	1	
⑯	E02 755 492	SOLENOID VALVE(21R1,21R2)		2	
⑰	E02 759 492	SOLENOID VALVE(21R)		1	
⑱	E02 024 936	CAPILLARY TUBE		1	ϕ3.0xϕ1.4x1000
	E02 289 936	CAPILLARY TUBE		1	(A, B room) ϕ3.0xϕ1.6x900
	E02 642 936	CAPILLARY TUBE		2	(A, B room) ϕ3.0xϕ1.4x400

MUX-2A28VB -E1

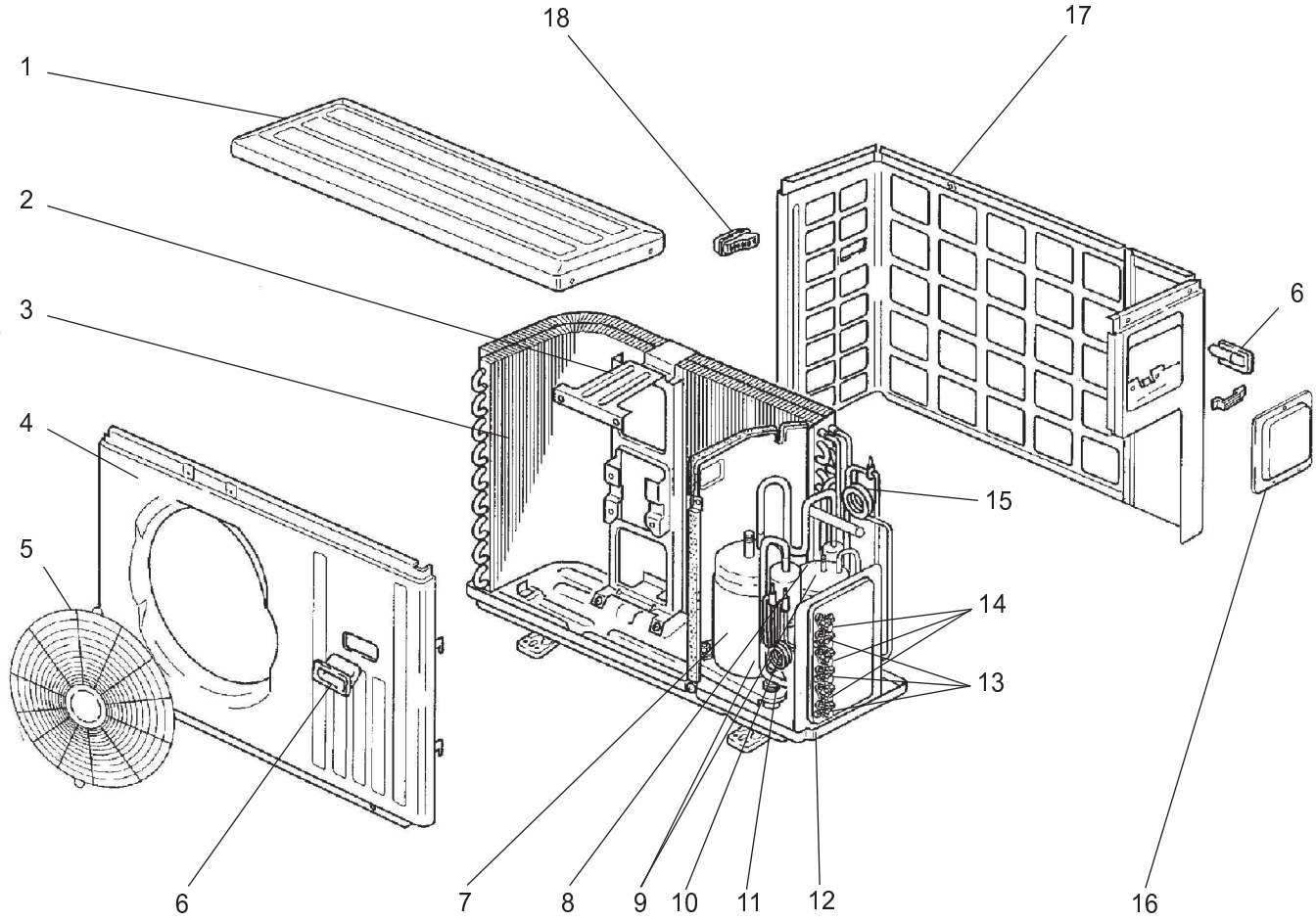
13-2. OUTDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS



No.	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
				MUX-2A28VB-E1	
1	E02 665 501	PROPELLER		1	
2	E02 677 301	OUTDOOR FAN MOTOR	MF	1	RA6V33-□□
3	E07 056 374	TERMINAL BLOCK	TB3	1	
4	E02 900 351	OUTDOOR FAN CAPACITOR	C2	1	2.0μF /440V AC
5	E02 755 341	RELAY	X1,X2	2	
6	E02 755 340	COMPRESSOR CONTACTOR	52C	1	
7	E02 637 374	TERMINAL BLOCK	TB2	1	4P FIGURE Ⓐ
	E02 755 374	TERMINAL BLOCK	TB1	1	3P FIGURE Ⓑ
8	E02 890 383	SURGE ABSORBER	DSAR	1	
9	E02 742 353	COMPRESSOR CAPACITOR	C1	1	20μF /450V AC
10	E02 095 382	FUSE	F61,F62	2	250V/ 2A
11	E07 001 241	FUSE HOLDER		2	

MUX-2A59VB -E1 MUX-3A60VB -E1 MUX-2A70VB -E1 MUX-4A73VB -E1

13-3. OUTDOOR UNIT STRUCTURAL PARTS



These figures show MUX-3A60VB.

13-3. OUTDOOR UNIT STRUCTURAL PARTS

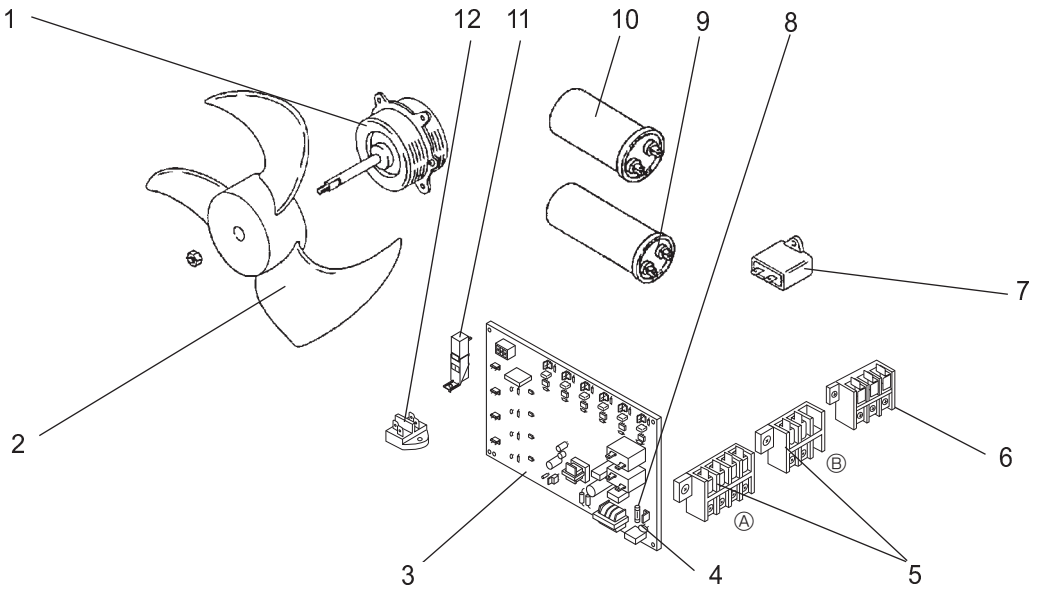
Part numbers that are circled are not shown in the illustration.

No.	Part No.	Part Name	Symbol in Wiring Diagram	Q'ty / unit					Remarks
				MUX-2A59 VB-E1	MUX-3A60 VB-E1	MUX-3A63 VB-E1	MUX-2A70 VB-E1	MUX-4A73 VB-E1	
1	E02 819 297	TOP PANEL		1	1	1	1	1	
2	E02 636 515	MOTOR SUPPORT		1	1	1	1		
	E02 726 515	MOTOR SUPPORT						1	
3	E02 922 630	OUTDOOR HEAT EXCHANGER		1					
	E02 924 630	OUTDOOR HEAT EXCHANGER			1				
	E02 925 630	OUTDOOR HEAT EXCHANGER				1			
	E02 923 630	OUTDOOR HEAT EXCHANGER					1		
	E02 926 630	OUTDOOR HEAT EXCHANGER						1	
4	E02 737 232	CABINET		1	1	1	1		
	E02 819 232	CABINET						1	
5	E02 819 521	FAN GUARD		1	1	1	1	1	
6	E02 819 009	HANDLE		2	2	2	2	2	
7	E02 742 900	COMPRESSOR	MC1,MC2	1		1			RN092VHSHT
	E02 743 900	COMPRESSOR	MC1		1				RN099VHSHT
8	E02 744 900	COMPRESSOR	MC1,MC2	1		1	2	1	RN145VHSHT
9	E02 746 900	COMPRESSOR	MC1,MC2		1			1	RN125VHSHT
10	E02 756 936	CAPILLARY TUBE		1					(B room) ϕ3.0×ϕ1.4×1100
	E02 199 936	CAPILLARY TUBE		1					(A room) ϕ3.0×ϕ1.4×850
	E02 757 936	CAPILLARY TUBE			1				(A room) ϕ3.0×ϕ1.4×950
	E02 289 936	CAPILLARY TUBE			3	3			(A, B, C room) ϕ3.0×ϕ1.6×900
	E02 134 936	CAPILLARY TUBE				1			(B, C room) ϕ3.0×ϕ1.6×700
	E02 408 936	CAPILLARY TUBE					2		(A, B room) ϕ3.0×ϕ1.4×700
	E02 140 936	CAPILLARY TUBE						1	(C, D room) ϕ3.0×ϕ1.8×800
	E02 176 937	CAPILLARY TUBE						1	(A, B room) ϕ3.0×ϕ2.0×700
	E02 077 937	CAPILLARY TUBE						2	(A, B room) ϕ3.0×ϕ1.8×700
	E02 726 936	CAPILLARY TUBE						2	(C,D room) ϕ3.0×ϕ1.6×600
11	E02 075 506	COMPRESSOR RUBBER SET		6	6	6	6	6	3RUBBERS/SET
12	E02 756 290	BASE		1	1	1	1	1	
13	E02 757 661	STOP VALVE (GAS)		2	3	3	2	4	ϕ9.52
14	E02 756 662	STOP VALVE (LIQ)		2	3	3	2	4	ϕ6.35
15	E02 024 936	CAPILLARY TUBE			1	1		2	ϕ3.0×ϕ1.4×1000
16	E02 756 245	SERVICE PANEL		1	1	1	1		
	E02 759 245	SERVICE PANEL						1	
17	E02 757 233	BACK PANEL (OUT)		1	1	1	1		
	E02 759 233	BACK PANEL (OUT)						1	
18	E02 817 009	HANDLE		1	1	1	1	1	
(19)	E02 637 490	SOLENOID COIL	21RB		1	1			
(20)	E02 652 490	SOLENOID COIL (B)	21R3		1	1			
(21)	E02 652 491	SOLENOID COIL (C)	21R4		1	1			
(22)	E02 726 490	SOLENOID COIL (BALANCE)	21RA					1	
(23)	E02 728 490	SOLENOID COIL (BALANCE)	21RB					1	
(24)	E02 729 490	SOLENOID COIL (A)	21R1					1	
(25)	E02 730 490	SOLENOID COIL (B)	21R2					1	
(26)	E02 726 491	SOLENOID COIL (C)	21R3					1	
(27)	E02 727 491	SOLENOID COIL (D)	21R4					1	
(28)	E02 755 492	SOLENOID VALVE			2	2		4	
(29)	E02 759 492	SOLENOID VALVE			1	1		2	

MUX-2A59VB -E1 MUX-3A60VB -E1 MUX-3A63VB -E1 MUX-2A70VB -E1 MUX-4A73VB -E1

13-4. OUTDOOR UNIT

FUNCTIONAL PARTS AND ELECTRICAL PARTS



No.	Part No.	Part Name	Symbol in Wiring Diagram	Q'ty / unit					Remarks
				MUX-2A59 VB-E1	MUX-3A60 VB-E1	MUX-3A63 VB-E1	MUX-2A70 VB-E1	MUX-4A73 VB-E1	
1	E02 756 301	OUTDOOR FAN MOTOR	MF61	1	1	1	1		RA6V60-□□
	E02 726 301	OUTDOOR FAN MOTOR	MF61					1	RA6V60-□□
2	E02 214 501	PROPELLER		1	1	1	1	1	
3	E02 756 444	OUTDOOR CONTROL P.C. BOARD		1					
	E02 757 444	OUTDOOR CONTROL P.C. BOARD			1	1			
	E02 758 444	OUTDOOR CONTROL P.C. BOARD					1		
	E02 759 444	OUTDOOR CONTROL P.C. BOARD						1	
4	E02 085 385	SURGE ABSORBER	NR61	1	1	1	1	1	
5	E02 637 374	TERMINAL BLOCK	TB2	1	1	1	1		4P FIGURE Ⓐ
			TB2,TB3					2	
	E02 637 377	TERMINAL BLOCK	TB3		1	1			3P FIGURE Ⓑ
6	E02 756 374	TERMINAL BLOCK	TB1	1	1	1	1	1	3P
7	E02 895 351	OUTDOOR FAN CAPACITOR	C61	1	1	1	1		3.0μF/440V AC
	E02 890 351	OUTDOOR FAN CAPACITOR	C61					1	4.0μF/440V AC
8	E02 127 382	FUSE	F61	1	1	1	1	1	250V/3.15A
9	E02 742 353	COMPRESSOR CAPACITOR	C2	1		1			20μF/450V AC
	E02 665 353	COMPRESSOR CAPACITOR	C2					1	25μF/450V AC
			C1,C2		2				
10	E02 667 353	COMPRESSOR CAPACITOR	C1	1		1		1	30μF/450V AC
			C1,C2				2		
11	E02 890 383	SURGE ABSORBER	DSAR	1	1	1	1	1	
12	E07 056 374	TERMINAL BLOCK	TB4	1	1	1	1	1	

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