

Service Manual

ORDER NO.
TRT1174

ACTIVE SUBWOOFER

TS-WX610A

/XCNEW5

1. SPECIFICATIONS

- Speaker specifications

Size..... ϕ 100(3-7/8" Dia.) mm \times 2
High compliance, rolled edge
Heat-resistant voice coil
Strontium magnet: 280 g (10 oz)

- Amplifier

Max. Power output..... 100 W \times 2 (80 Hz, 30 % THD)
DIN output power (DIN45324, 80 Hz, 2.0 Ω +B=14.4 V) .. 70 W \times 2
INPUT LEVEL (at Gain Max)

(RCA) 60 mV+60 mV/20 k Ω

(Speaker line)..... 1.2 V+1.2 V/5 k Ω

Power source DC 14.4V (10.8 V to 15.6 V allowable)

Max. current consumption 14 A

Grounding Negative ground

- Speaker system 6th Order Bandpass System

- Cabinet material..... High-density compound resin

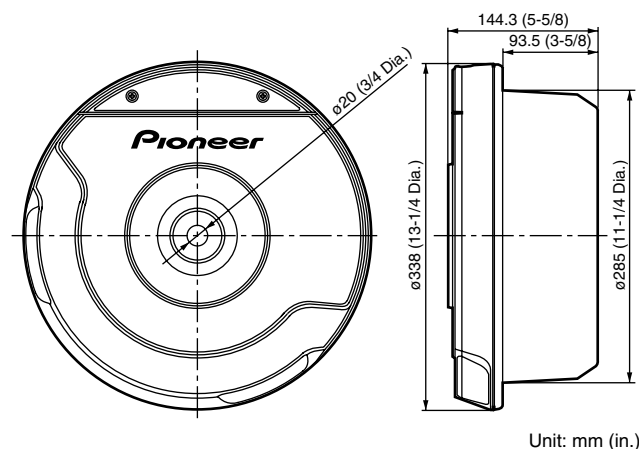
- Sensitivity 101 dB

- Size ϕ 338 mm (13-1/4" Dia.) \times 145 mm (5-3/4")(H)

- Weight (including accessory parts)..... 5.93 kg (13 lb 1 oz)

- Gross weight (including packaging)..... 7.37 kg (16 lb 4 oz)

● Figure of Measurement



Note :

Specifications and the design are subject to possible modification without notice due to improvements.

2. EXPLODED VIEWS AND PARTS LIST

NOTES: • Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

• The \triangle mark found on some component parts indicates the importance of the safety factor of the part.

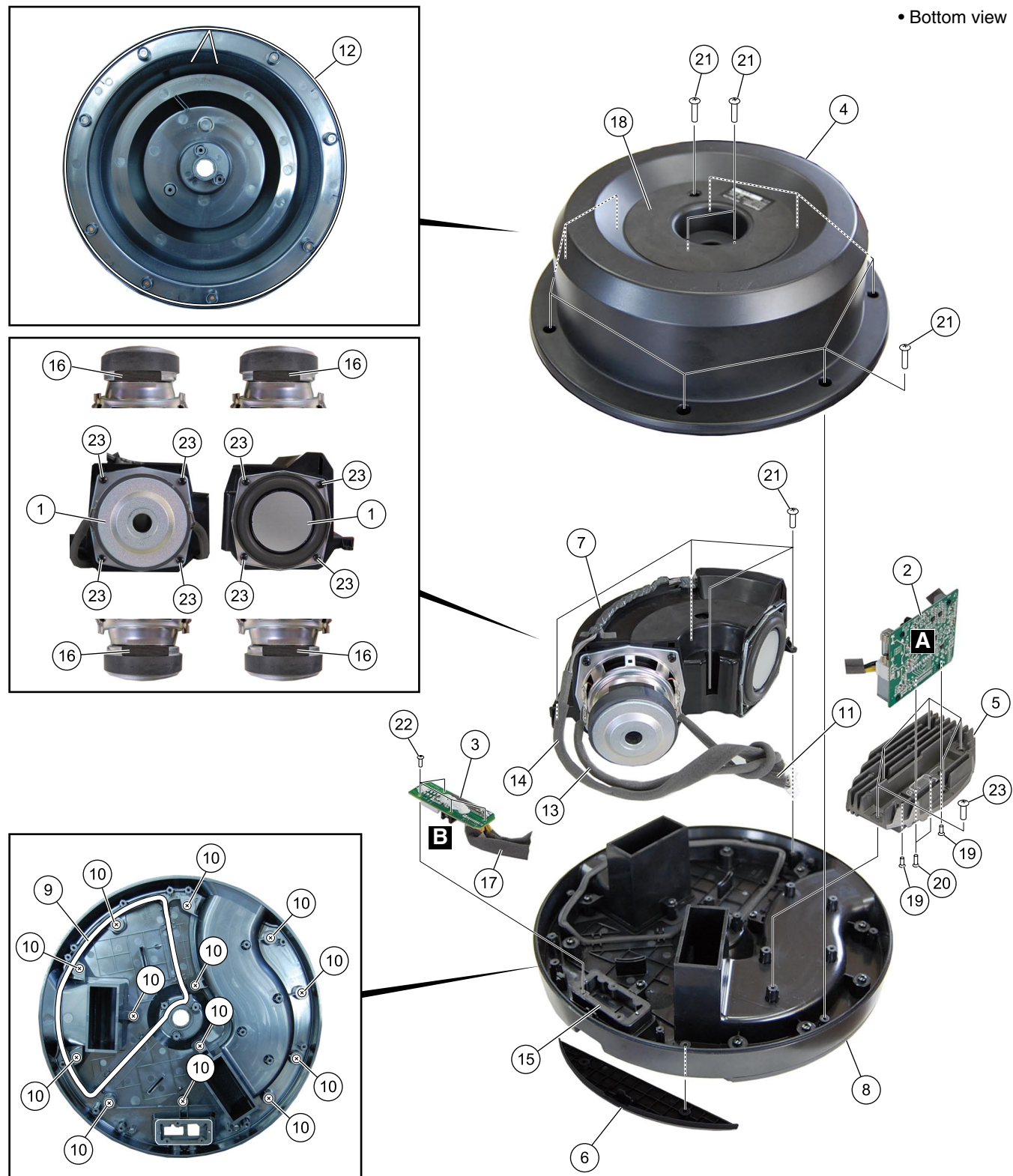
Therefore, when replacing, be sure to use parts of identical designation.

• Screws adjacent to ∇ mark on product are used for disassembly.

• For the applying amount of lubricants or glue, follow the instructions in this manual.

(In the case of no amount instructions, apply as you think it appropriate.)

2.1 EXTERIOR SECTION



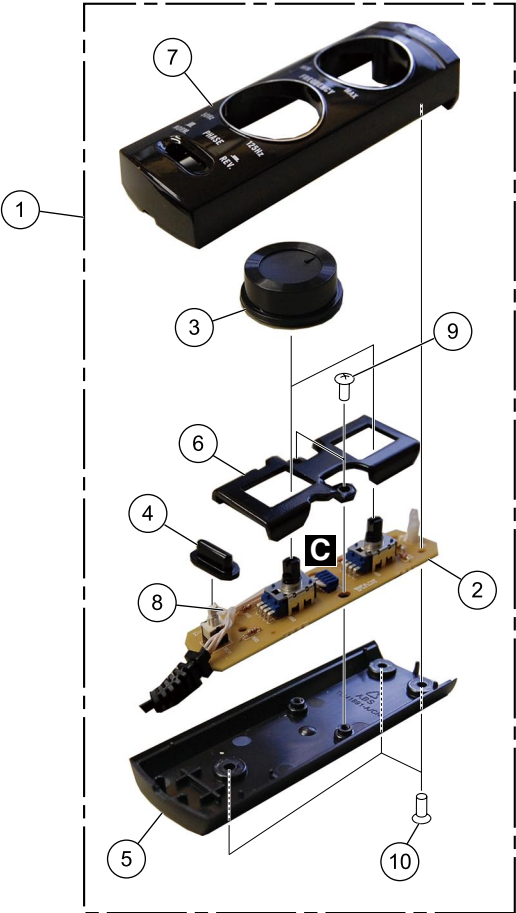
● Component Parts

Mark	No.	Description	Part No.	Remarks	Mark	No.	Description	Part No.	Remarks
	1	Speaker	10-1119CAZ	x2					A
	2	AMP Unit	TWK1027-AZ	x1		16	Cushion	TED2567	x4
	3	SWITCH Unit	TWS1049-AZ	x1		17	Cushion	TED2572	x1
	4	Cabinet	TLM1892	x1		18	Cushion	TED2599	x1
	5	Heat Sink	TNA2154	x1		19	Screw	BMZ30P080FTB	x2
						20	Screw	BMZ30P160FTB	x2
	6	Connector Cover Assy	TXK1814	x1					
	7	Small Cabinet Assy	TXL1342	x1		21	Screw	BPH40P220FTB	x15
	8	Top Cabinet Assy	TXL1341	x1		22	Screw	BPZ30P080FTB	x4
	9	└ Packing	TED2303	x1		23	Screw	BPH40P160FTB	x13
	10	└ Screw	BPH40P160FTB	x13					B
	11	Cord	TDC2914	x1					
	12	Silicon Tube	TEB1657	x1					
	13	Cushion	TED2307	x1					
	14	Cushion	TED2308	x1					
	15	Cushion	TED2433	x1					C

2.2 REMOTE CONTROL UNIT

● Component Parts

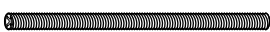







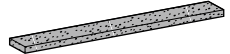

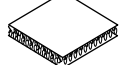
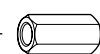
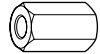



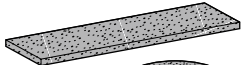
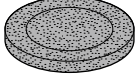
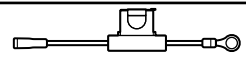
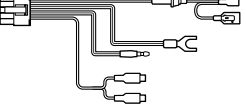

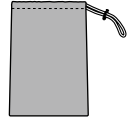



Mark	No.	Description	Part No.	Remarks
	1	Remote Control Unit	TXC1292-AZ	x1
NSP	2	SWITCH Unit	TWS1048	x1
	3	Knob	TAA1021	x2
	4	Switch Knob	TAA1022	x1
	5	Cabinet	TLM1891	x1
	6	Bracket	TNA1764	x1
	7	Grille Assy	TXK1816	x1
NSP	8	Wire Clip	TEX1013	x1
	9	Screw	BPZ26P070FTC	x2
	10	Screw	BPZ26P100FTB	x3



2.3 ACCESSORY PARTS LIST

Mark	No.	Description	Part No.	Remarks
A	1	Installation Kit	TEA2410	x1
	NSP	1-1 Screw	ZMZ80P1250FTB	x1
	NSP	1-2 Screw	ZMZ80P650FTB	x1
	NSP	1-3 Screw	ZMZ80P250FTB	x1
B	2	Installation Kit	TEA2393	x1
	NSP	2-1 Nut	NP80FTB	x1
	NSP	2-2 Nut	NC80FTB	x4
	NSP	2-3 Washer	TBE1021	x1
	NSP	2-4 Washer	TBE1022	x1
	NSP	2-5 Protect Cap	TEB1658	x1
		2-6 Cushion	TEB1666	x1
		2-7 Screw	BMZ40P080FTB	x2
C		2-8 Cushion	TED1850	x1
	3	Installation Kit	TEA2409	x1
	NSP	3-1 High Nut	TBN1026	x1
	NSP	3-2 High Nut	TBN1027	x1
	NSP	3-3 Hexagonal Post	TBX1007	x1
	NSP	3-4 Hexagonal Post	TBX1008	x1
		3-5 Plate Nut	TBN1025	x1
	4	Cushion	TEB1659	x2
	5	Cushion	TEB1660	x1
	6	C-Cord Assy	TXH1785	x1
D	NSP	6-1 Cord	TDC2904	x1
		6-2 Cord	TDC2909	x1
	7	C-Cord Assy	TXH1769	x1
	8	Tool Bag	TEX1017	x1
	9	Special Nut	TBN1028	x1
	10	Adapter	TBX1006	x1
E		Operating Instructions	TRD1378	x1
		Caution Card	TRM1023	x1

● PARTS INCLUDED

1	1-1	M8 mm × 125 mm		× 1
	①	ZMZ80P1250FTB		
	1-2	M8 mm × 65 mm		× 1
1	②	ZMZ80P650FTB		
	1-3	M8 mm × 25 mm		× 1
1	③	ZMZ80P250FTB		
2	2-1	M8 mm		× 1
	④	NP80FTB		
	2-2	M8 mm		× 4
	⑤	NC80FTB		
	2-3	φ 30 mm		× 1
	⑬	TBE1021		
	2-4	φ 35 mm		× 1
	⑭	TBE1022		
	2-5			× 1
	⑮	TEB1658		
2	2-6			× 1
	⑰	TEB1666		
	2-7	M4 mm × 8 mm		× 2
	⑲	BMZ40P080FTB		
	2-8			× 1
2	⑳	TED1850		
3	3-1	M8 mm		× 1
	⑦	TBN1026		
	3-2	M8 mm - M10 mm		× 1
	⑧	TBN1027		
	3-3	M6 mm - M8 mm		× 1
3	⑨	TBX1007		
	3-4	M10 mm - M8 mm		× 1
3	⑩	TBX1008		
	⑫	PEUGEOT, CITROEN, VOLKSWAGEN, OPEL, AUDI		× 1
3	⑬	TBN1025		
4	⑬	TEB1659		× 2
	⑭	TEB1660		× 1
6	6-1	5.5 m		× 1
	⑳	TDC2904		
6	6-2	5 m		× 1
	㉑	TDC2909		
7	㉒	5 m		× 1
	㉓	TXH1769		
8	㉔			× 1
	㉕	TEX1017		
9	⑥	OPEL, SAAB		× 1
	㉖	TBN1028		
10	⑪	RENAULT		× 1
	㉗	TBX1006		
10	㉘	6 m		× 1
	㉙	TXC1292-AZ		

2.4 PACKING PARTS LIST

Mark	No.	Description	Part No.	Remarks
F		Protector	TEC2286	1 pair
		Packing Case	THF5153	x1
		Packing Sheet	THS1137	x1

3. PCB PARTS LIST

- NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
- The \triangle mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.
- Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47 k ohm (tolerance is shown by J = 5%, and K = 10%).
- 560 Ω

→

56 × 10¹

→

561

.....

RD1/4PU

5

6

1

J

47 kΩ

→

47 × 10³

→

473

.....

RD1/4PU

4

7

3

J

0.5 Ω

→

R50

.....

RN2H

R

5

0

K

1 Ω

→

1R0

.....

RS1P

1

R

0

K
- Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
- 5.62 kΩ

→

562 × 10¹

→

5621

.....

RN1/4PC

5

6

2

1

F

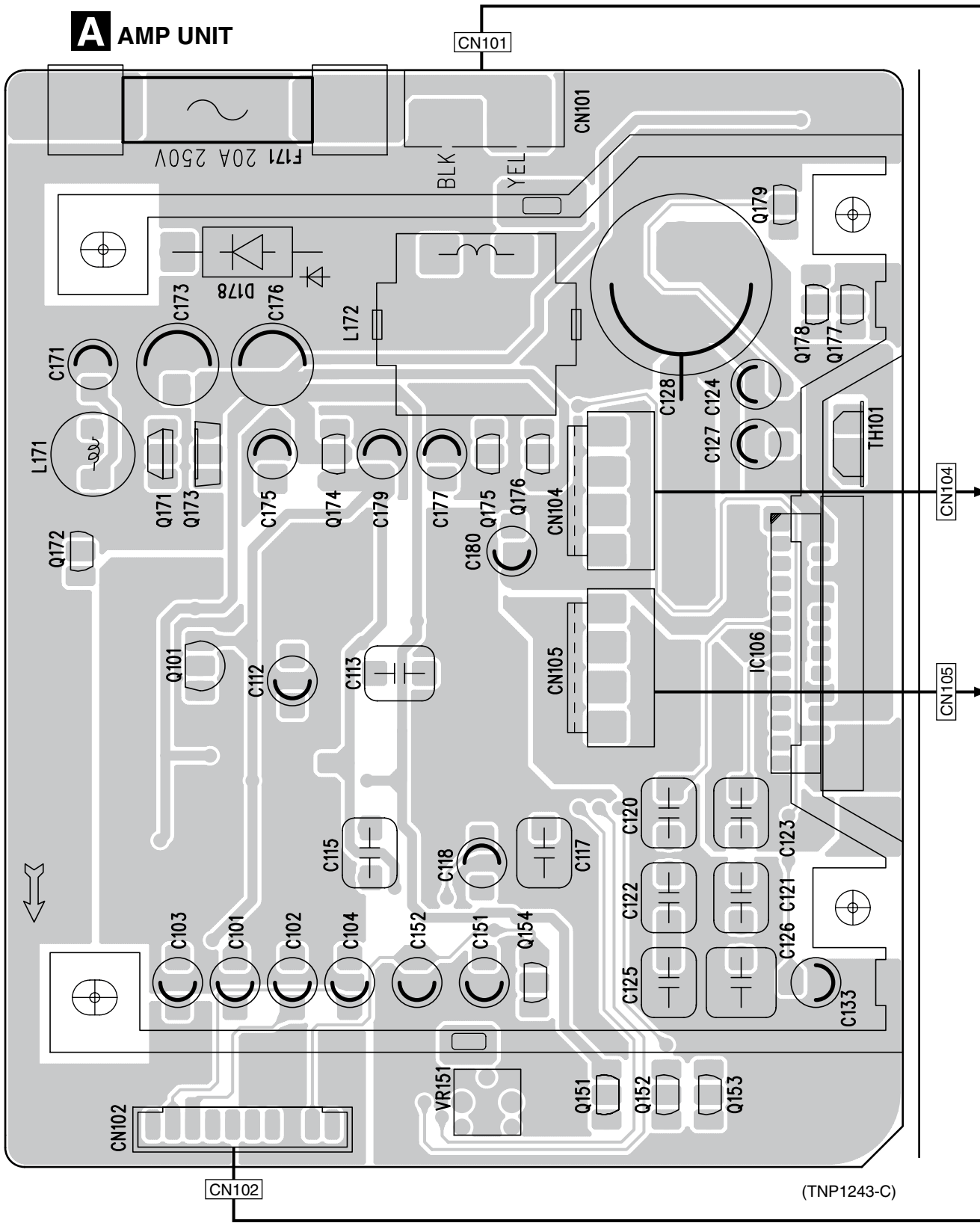
Mark No.	Description	Part No.	Mark No.	Description	Part No.
LIST OF ASSEMBLIES			C120-C123		CFTNA224J50
	1..AMP UNIT	TWK1027-AZ	C117		CFTNA333J50
	1..SWITCH UNIT	TWS1049-AZ	C113		CFTNA474J50
			C172		CKCYB821K50
	1..REMOTE CONTROL UNIT	TXC1292-AZ	C130,C153-C155		CKSRYB102K50
NSP	2..SWITCH UNIT	TWS1048	C129		CKSRYB224K25
<div><div>A</div>AMP UNIT (TWK1027-AZ)</div> <div>SEMOCONDUCTORS</div>			C119		CKSRYB332K50
	IC101,IC102,IC105	NJM2068M	C131,C132		CKSRYB473K50
	IC103,IC104	NJM13700M	C128 (4700/16 V)		TCH1307
	IC106	PAL007C	RESISTORS		
	Q101	2SK246(GRY)	VR151 (2.2k-B)		TCS1029
	Q151-Q153	2SA1049(GR)	Other Resistors		RS1/10S***J
		or KTA1267GR	OTHERS		
	Q176,Q178	DTA114ESA	CN101 CONNECTOR		TKS1123
	Q179	DTC114ESA	CN102 CONNECTOR		TKS1133
	Q171	KTA1281Y	CN104,CN105 CONNECTOR		TKS1075
	Q173	KTC2020L	TH101 POSISTOR		TCX1015
	Q154,Q172,Q174,Q175	KTC3199GR	F171 FUSE (20A)		TEK1014
	Q177	KTC3199GR	FUSE HOLDER		TKR1008
	D151,D152,D172,D173	LL914ST	SCREW		BMZ30P060FTB
	D175,D177	LL914ST	<div><div>B</div>SWITCH UNIT (TWS1049-AZ)</div> <div>OTHERS</div>		
	D171	ZMM5V6HSCST	CN201 CORD		TDC2968
	D176	ZMM6V8HSCST	CN202 CORD		TDC2967
	D174	ZMM9V1HSCST	CN203 CONNECTOR		TKS1129
	D178	1N5404	CN204 CONNECTOR		TKS1105
COILS			<div><div>C</div>SWITCH UNIT (TWS1048)</div> <div>SEMICONDUCTORS</div>		
	L172 CHOKE COIL	TTH1075	D501		1SS133
	L171 CHOKE COIL	TTH1079	NSP D502		B12E0MA006
CAPACITORS			SWITCH		
	C105-C108,C110,C114	CCSQSL101J50	SW501 PUSH SWITCH		TSG1019
	C116,C174,C178,C181	CCSQSL101J50	RESISTORS		
	C182,C183	CCSQSL101J50	VR501,VR502 (10k-B)		TCS1030
	C111	CCSQSL330J50	Other Resistors		RD1/4PU***J
	C101-C104,C112,C118	CEANP2R2M50	OTHERS		
	C127,C133,C151,C152	CEAT100M50	CN301 CORD		TDC2605
	C180	CEAT101M10			
	C124,C171,C177,C179	CEAT101M16			
	C173	CEAT221M16			
	C175	CEAT470M10			
	C176	CEAT471M16			
	C126	CFTNA105J50			
	C115	CFTNA183J50			
	C125	CFTNA223J50			

4

F

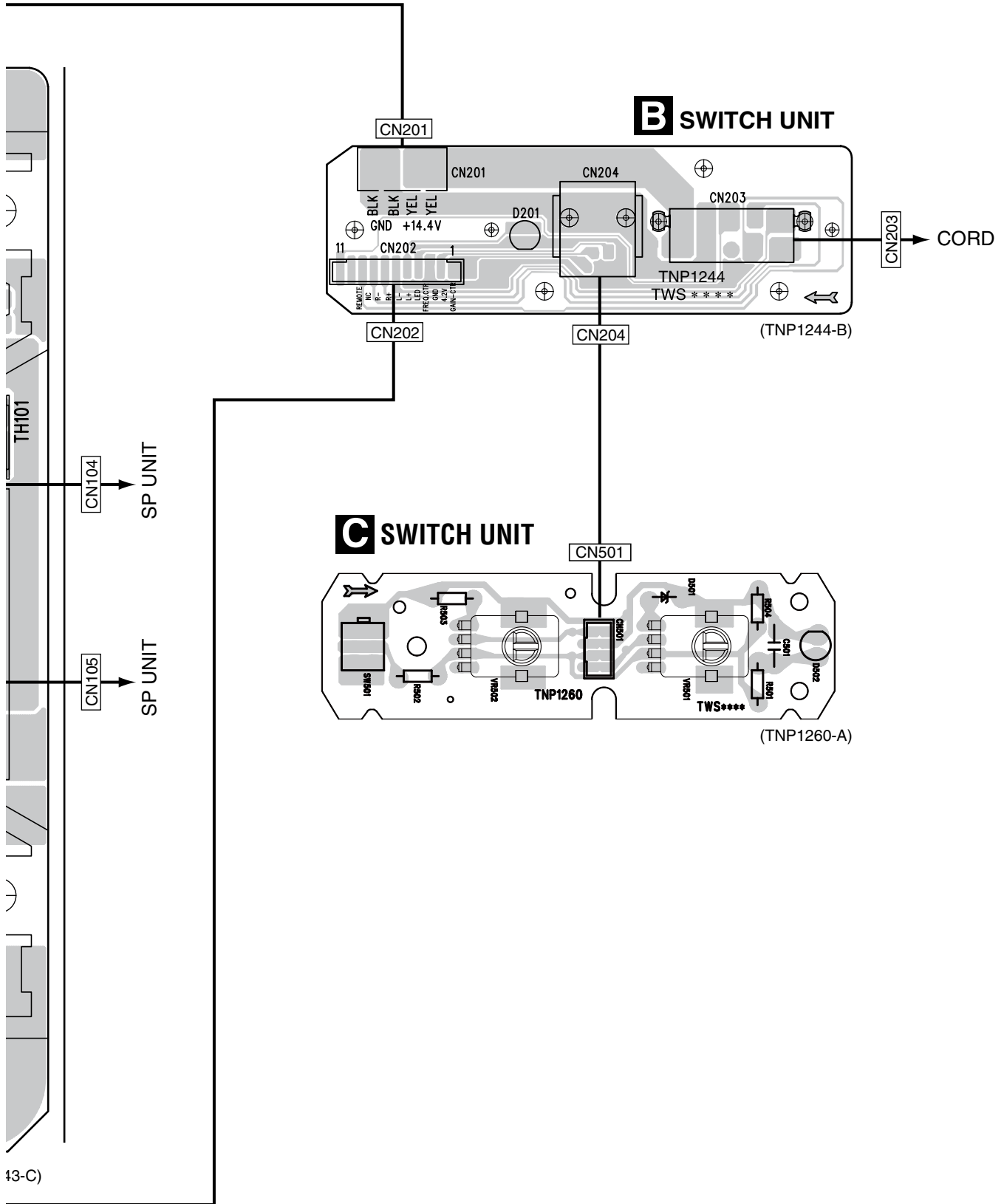
5. PCB CONNECTION DIAGRAM

SIDE A



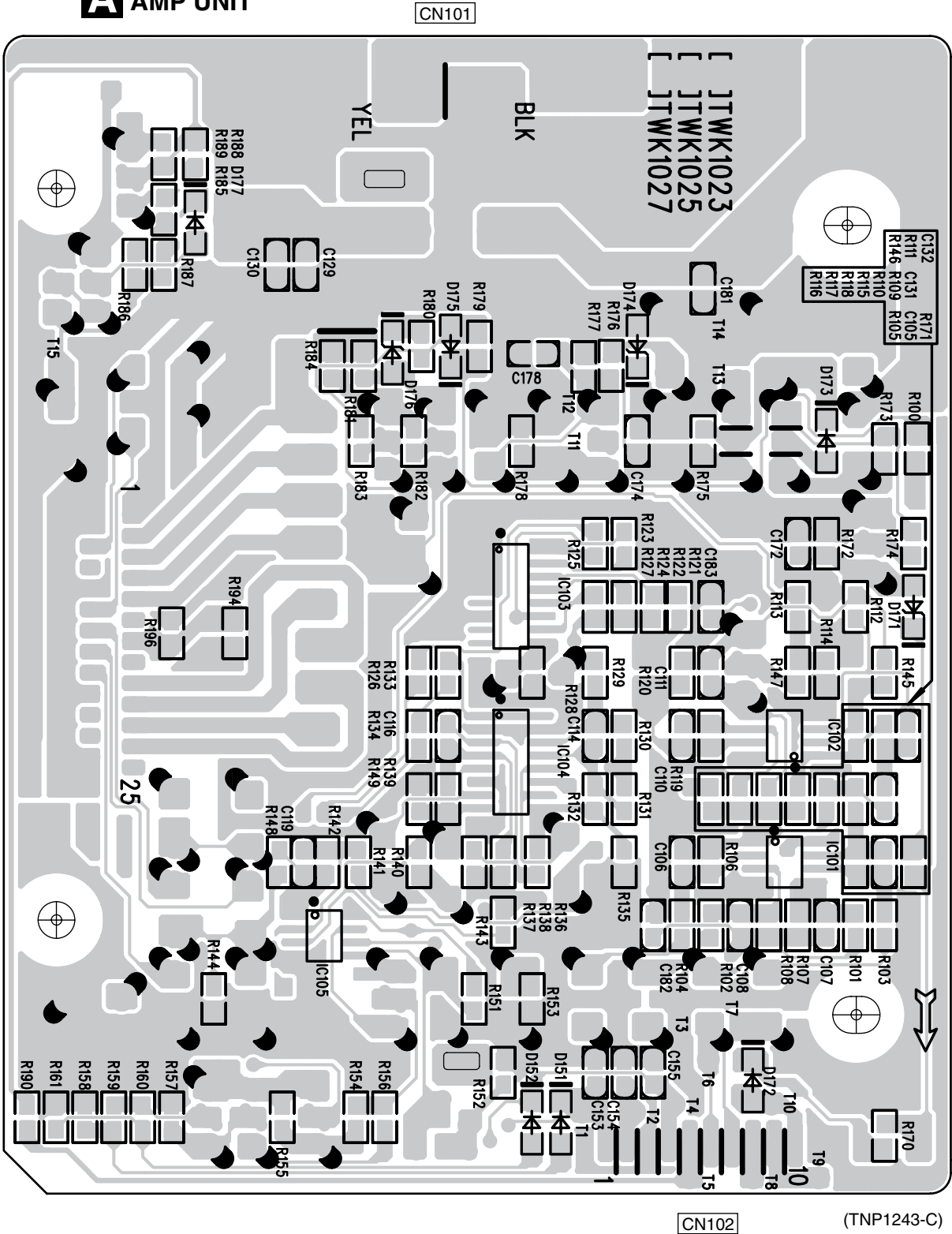
Q172 Q171 Q173 Q174 Q175 Q176 Q179 Q178 Q177
Q101 Q154 Q151 Q152 Q153 IC106

A



43-C)

A AMP UNIT



IC105

IC103
IC104

IC102
IC101

6. HOW TO INSTALL

EXAMPLE OF MOUNTING

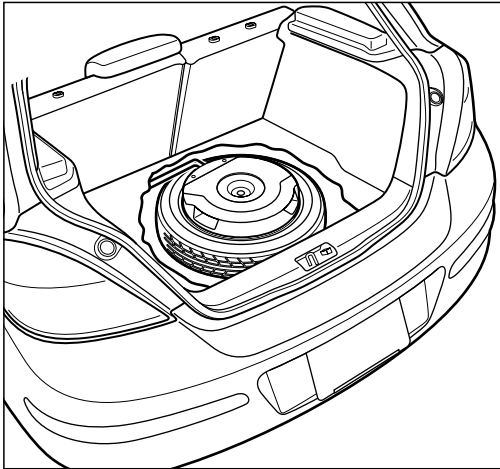


Table of compatible car models (as of February 2010)

Car name	Car type	Year	How to install
AUDI	A3	1/96-2/03	A
AUDI	A4	9/97-12/99	J
AUDI	A4	1/00-9/07	J
AUDI	A6	4/04-	J
AUDI	A6 Avant	4/04-	J
AUDI	A8	10/09-	A
AUDI	Q5	4/08-	K
ALFA ROMEO	147	5/01-	A
ALFA ROMEO	156	9/97-2/05	A
ALFA ROMEO	156 Crosswagon	9/97-2/05	A
ALFA ROMEO	159	3/05-	A
ALFA ROMEO	159 Wagon	3/05-	A
ALFA ROMEO	GT	3/03-	A
ALFA ROMEO	Mito	9/08-	A
BMW	3 series	3/98-2/05	B
BMW	3 Touring	4/00-9/05	B
CHEVROLET	Aveo	1/06-	A
CHEVROLET	Aveo LT	1/06-	A
CHEVROLET	Epica	3/06-	A
CHEVROLET / DAEWOO	Lacetti	1/04-	A
CHEVROLET	Nubia	1/04-	A
CHEVROLET	Nubia Wagon	1/04-	A
CITROEN	C1	3/05-	A
CITROEN	C4	9/04-	H
FIAT	500	9/07-	A
FIAT	Bravo	4/07-	A
FIAT	Croma	3/05-	C
FIAT	Punto Classic	9/99-	A
FIAT	Punto (Grand Punto)	11/05-	A
FORD	Fiesta	9/01-8/08	D
FORD	Fiesta	9/08-	A
FORD	Focus	11/04-	D
FORD	Focus wagon	11/04-	D
FORD	Fusion	3/03-	D
FORD	Ka	9/08-	A
FORD	Mondeo	8/07-	D
HYUNDAI	Accent	1/06-8/08	A
HYUNDAI	Azera	12/05-	E
HYUNDAI	Getz	10/02-	A
HYUNDAI	i10	1/08-	A
HYUNDAI	i20	9/08-	A
HYUNDAI	i30	12/07-	A
HYUNDAI	i30 Wagon	12/07-	A
HYUNDAI	Matrix	1/01-	A
HYUNDAI	Sonata	10/05-	E
KIA	Magentz	5/06-	A
KIA	Rio	3/05-	A
LANCIA	Musa	10/04-	A
LANCIA	Ypsilon	3/03-	A
MAZDA	2	9/07-	E
MAZDA	5	5/05-	E
MERCEDES-BENZ	A180	2/04-	A
MERCEDES-BENZ	A200	2/04-	A
MERCEDES-BENZ	B180	5/03-	A
MERCEDES-BENZ	B200	5/03-	A
MERCEDES-BENZ	C200 Wagon	3/07-	A
MERCEDES-BENZ	C220	3/07-	A
MERCEDES-BENZ	E200	2/02-3/09	A
MERCEDES-BENZ	E220	2/02-3/09	A
MINI	Clubman	10/07-	A
OPEL	Antara	3/07-	E
OPEL	Astra	1/04-	F
OPEL	Astra Coupe	1/04-	F
OPEL	Astra Wagon	1/04-	F
OPEL	Corsa	10/06-	I

Car name	Car type	Year	How to install
OPEL	Signum	3/03-	F
OPEL	Vectra	3/02-	F
OPEL	Vectra Wagon	3/02-	F
PEUGEOT	107	3/05-	A
PEUGEOT	307	3/01-5/07	H
PEUGEOT	308	6/07-	H
PEUGEOT	308 CC	9/08-	H
PEUGEOT	3008	6/09-	H
RENAULT	Clio II	3/98-8/05	C
RENAULT	Clio Campus	9/05-12/07	C
RENAULT	Koleos	2/08-	A
RENAULT	Laguna	10/07-	C
RENAULT	Laguna Coupe	9/08-	C
RENAULT	Laguna GT	1/08-	C
RENAULT	Laguna series	10/99-9/07	C
RENAULT	Laguna Wagon	10/07-	C
RENAULT	Megane	10/02-8/08	G
RENAULT	Megane	9/08-	G
RENAULT	Megane Scenic	10/96-6/03	C
RENAULT	Megane Wagon	3/03-5/09	G
RENAULT	Scenic	7/03-5/09	G
RENAULT	Scenic SUV	1/07-5/09	G
RENAULT	Twingo II	6/07-	C
RENAULT	Velsatis	10/01-	C
SAAB	9-3	9/97-1/03	B
SAAB	9-3	2/03-	F
SAAB	9-3 Coupe	2/03-	F
SAAB	9-3 Wagon	2/03-	B
SAAB	9-5	1/06-	F
SAAB	9-5 Wagon	1/06-	F
SEAT	Cordoba	11/99-	A
SEAT	Ibiza	1/02-3/08	A
SEAT	Ibiza ECOmotive	1/02-3/08	A
SEAT	Ibiza	4/08-	A
SEAT	Toledo	10/98-9/04	A
SKODA	Fabia	9/99-3/07	A
SKODA	Fabia	4/07-	A
SKODA	Fabia combi	4/07-	A
SKODA	Octavia 5-door	9/96-9/04	A
SKODA	Octavia	10/04-	K
SKODA	Octavia combi	9/96-9/04	A
SKODA	Octavia combi	10/04-	K
SKODA	Roomstar	3/06-	A
SKODA	Superb	9/08-	K
TOYOTA	Auris	2/07-	A
TOYOTA	Avensis	1/03-8/08	A
TOYOTA	Avensis Wagon	1/03-8/08	A
TOYOTA	Avensis Wagon	9/08-	A
TOYOTA	Aygo	3/05-	A
TOYOTA	Collora	1/08-	A
TOYOTA	Prius	5/09-	A
TOYOTA	Yaris	9/05-	A
VOLVO	S40	2/04-	D
VOLVO	V50	2/04-	D
VOLVO	XC60	9/08-	D
VOLKSWAGEN	Beetle	10/98-	A
VOLKSWAGEN	Bora	10/98-12/04	A
VOLKSWAGEN	Fox	3/05-	A
VOLKSWAGEN	Golf IV	10/97-9/03	A
VOLKSWAGEN	Golf IV Variant	10/98-12/04	A
VOLKSWAGEN	Golf V Variant	3/07-10/09	K
VOLKSWAGEN	Jetta	1/05-	K
VOLKSWAGEN	Passat Variant	9/96-2/05	A
VOLKSWAGEN	Polo	9/01-3/09	A

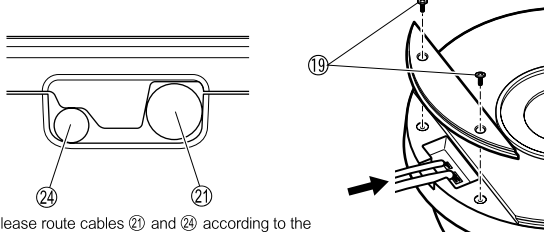
● INSTALLATION

1. Using the example for a typical installation procedure shown below as a reference, check the procedure for installation in your own car in the table of compatible car models.
2. Depending on the model of your car, it may be necessary to remove the tools stored inside the spare tire wheel. Place the removed tools into the provided tool bag ② and store them after reliably fixing them in a safe place such as in the luggage compartment or under the seat. (Picture 1)
3. Depending on the model of your car, it may be necessary to turn over the spare tire upside-down. (Picture 2)
4. Depending on the model of your car, it may be necessary to remove the small storage container, etc. on the top of the spare tire.
5. During installation, make sure that the tips of the long bolts (① : 125 mm, ② : 65 mm, ③ : 25 mm) do not protrude from the top end of this equipment. Combine with the provided nuts ⑤/⑦ to adjust the length. When doing so, make adjustments to let the protrusion length from the nuts be at least 5 mm. (Picture 3)

If, due to the model of your car, a protrusion of the tips cannot be avoided, purchase an M8 mm bolt of the appropriate length and use it.

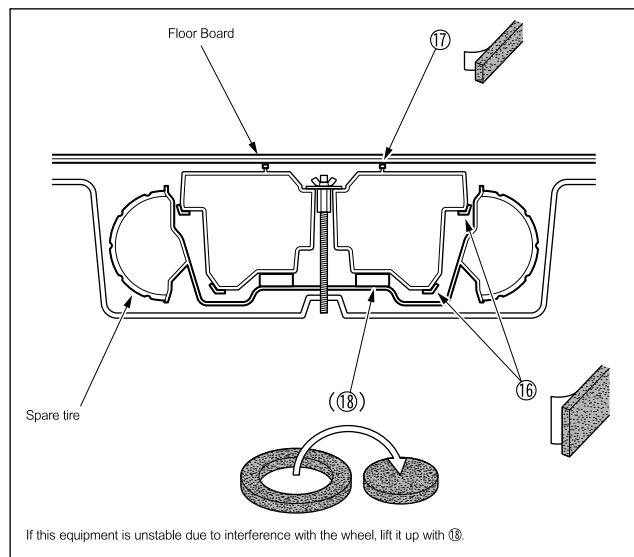
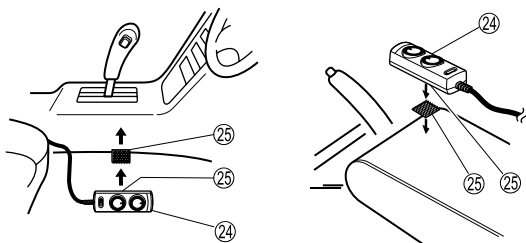
● HOW TO INSTALL

•Attaching terminal cover

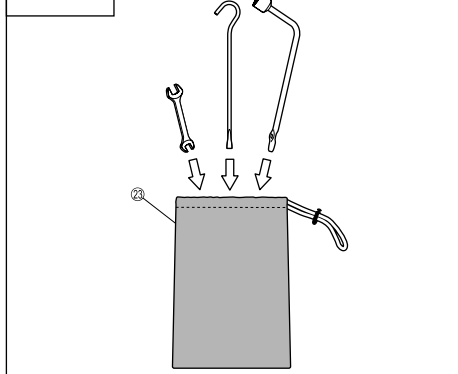


Please route cables ②① and ②④ according to the instructions in the illustration.

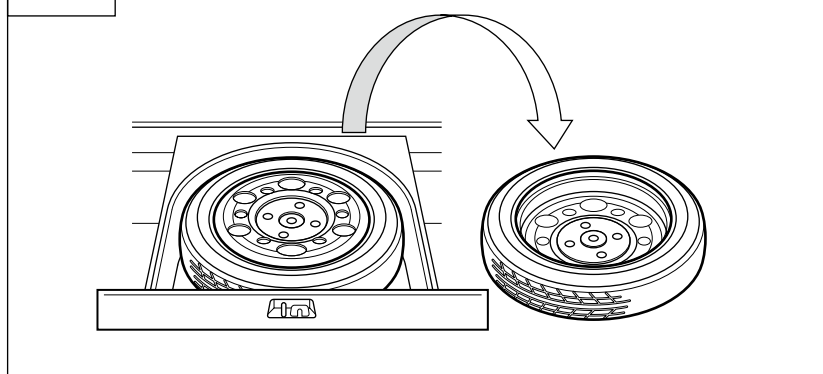
•How to attach the remote control



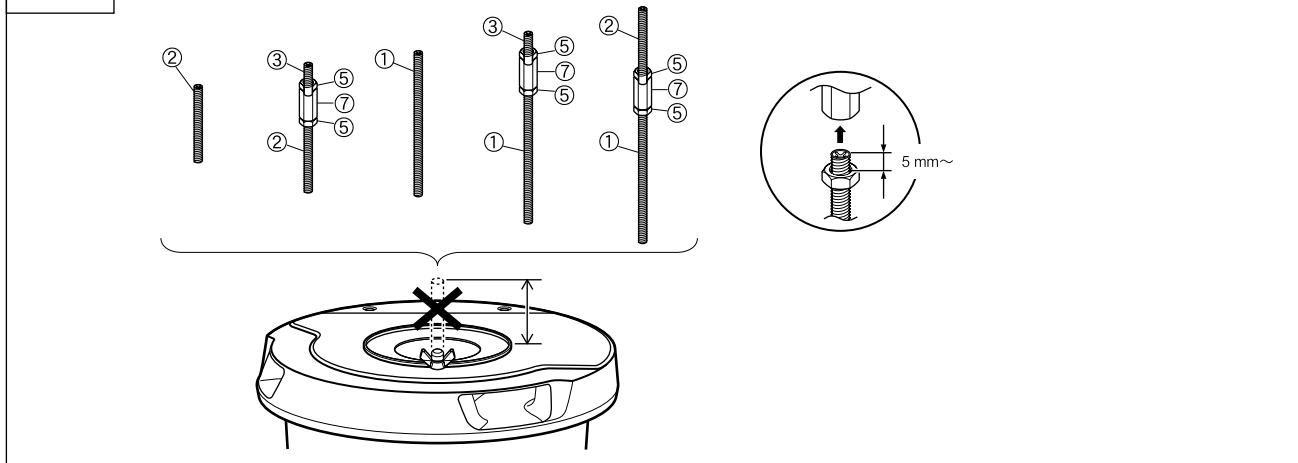
Picture 1



Picture 2



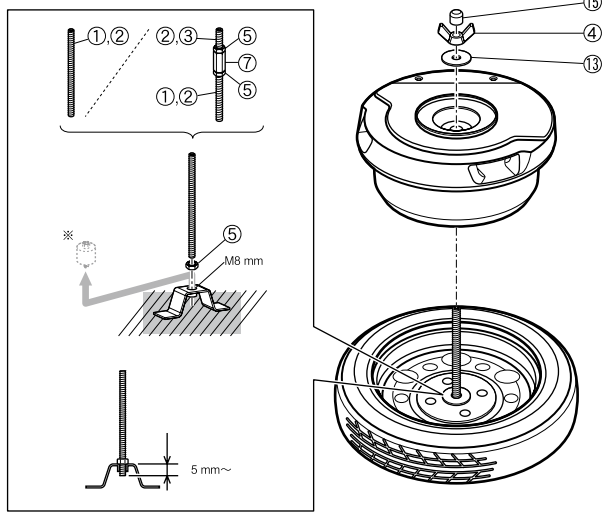
Picture 3



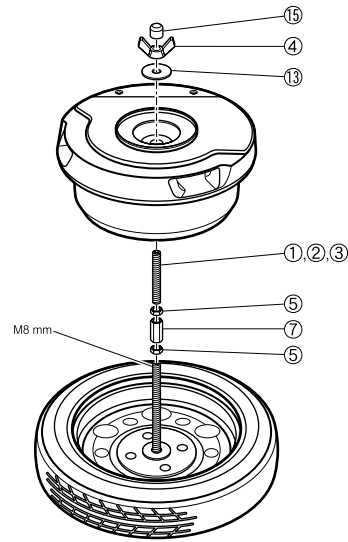
A

A

※ In case of ALFA ROMEO except Mito, remove factory part.

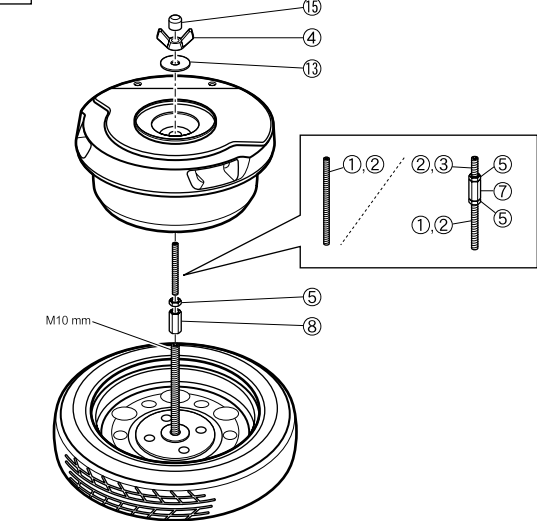


B

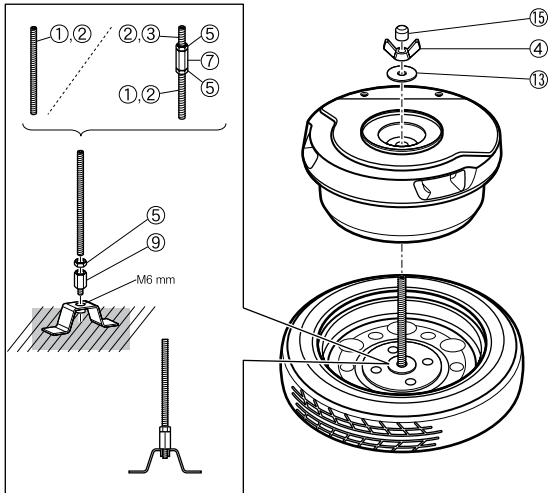


C

C

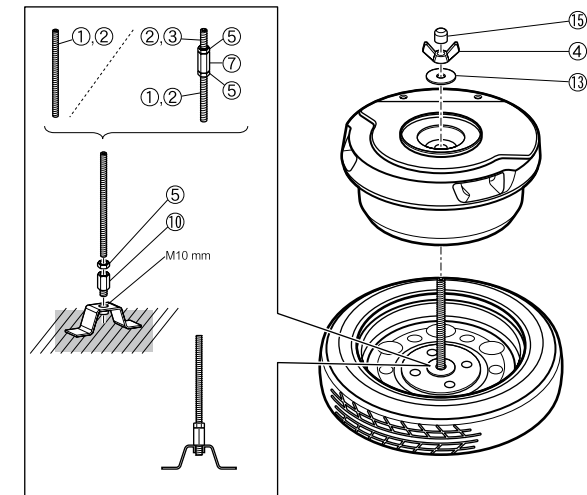


D

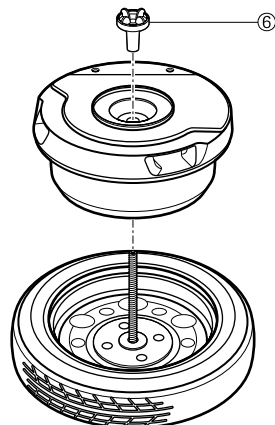


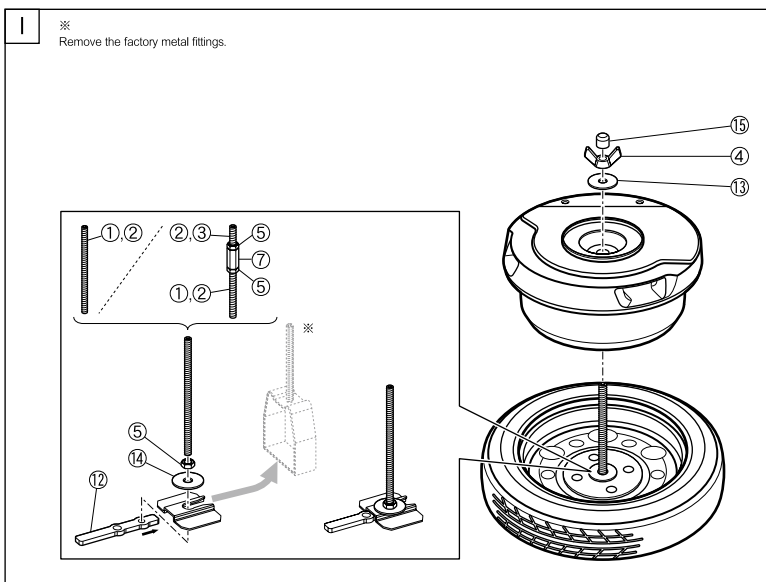
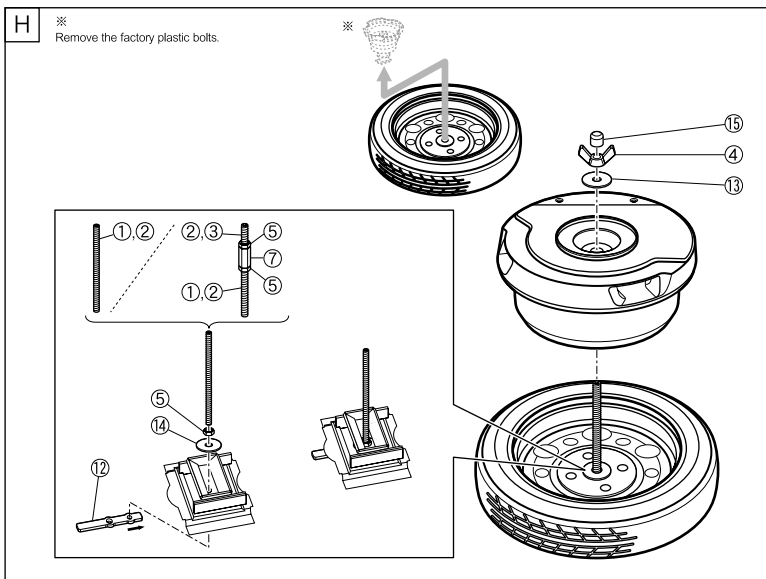
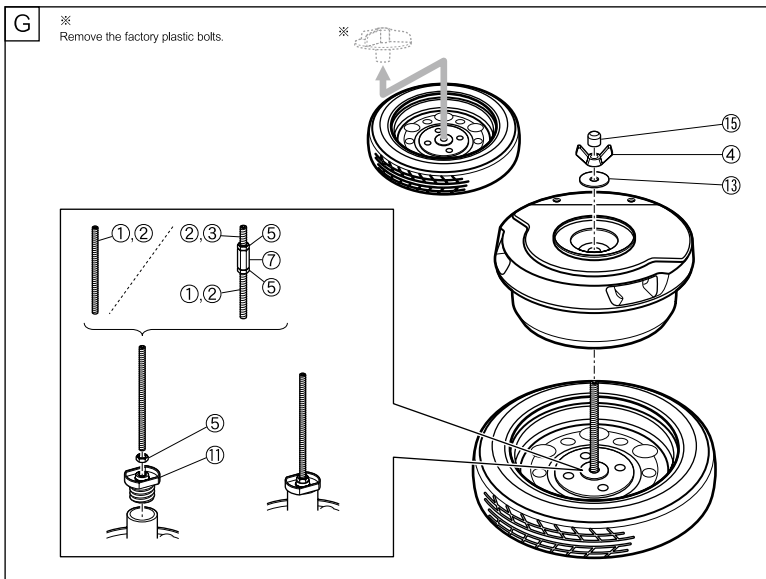
D

E



F

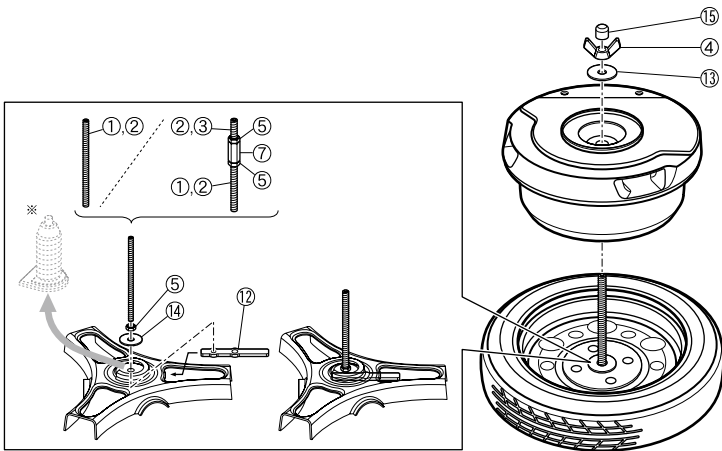




A

J

※
Remove the factory plastic bolts.

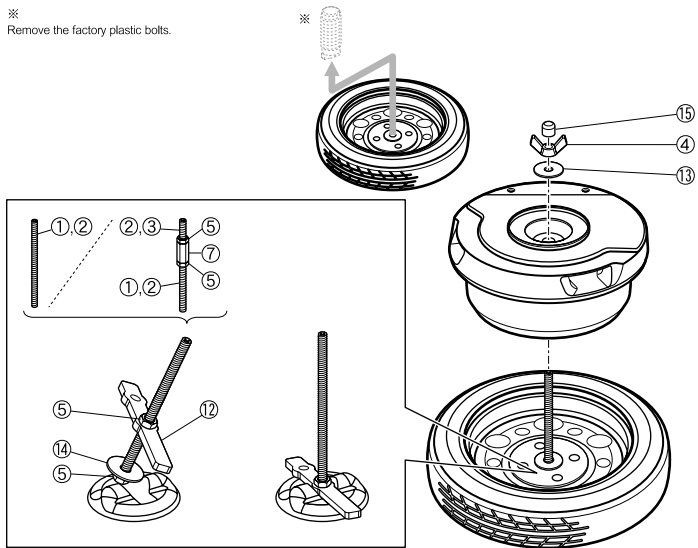


B

C

K

※
Remove the factory plastic bolts.

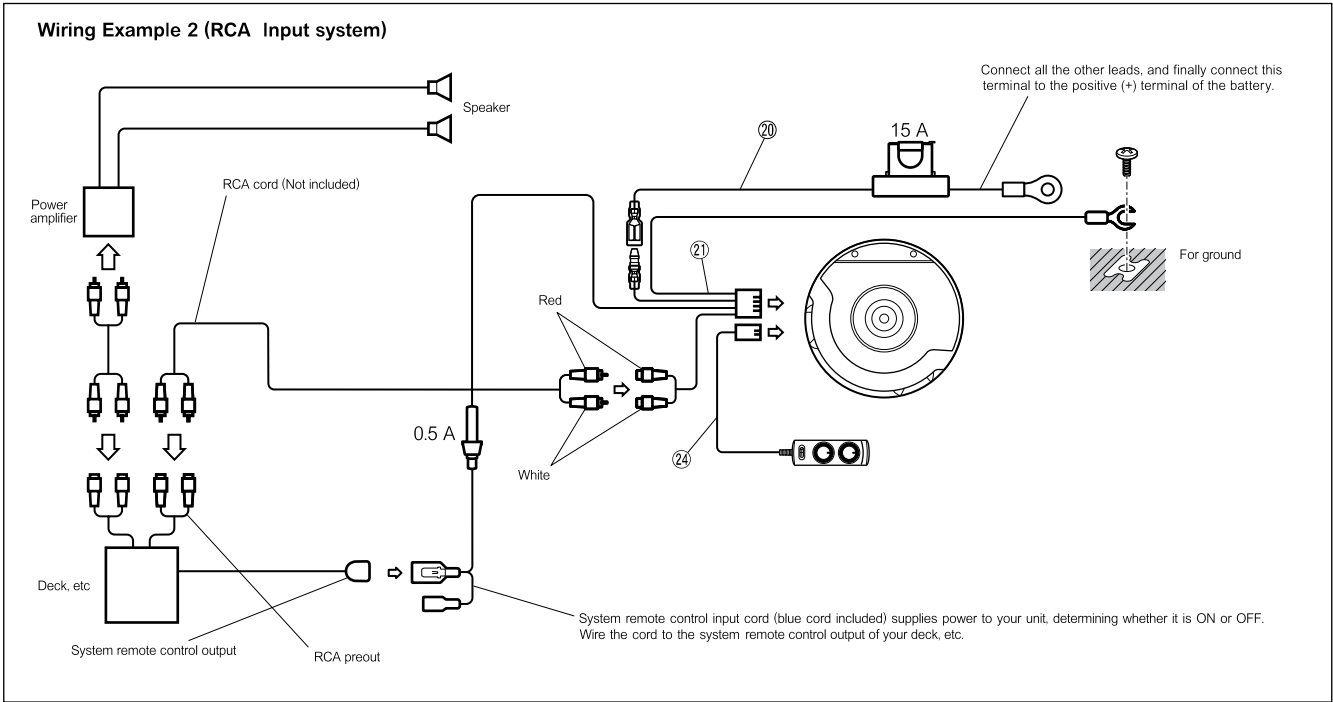
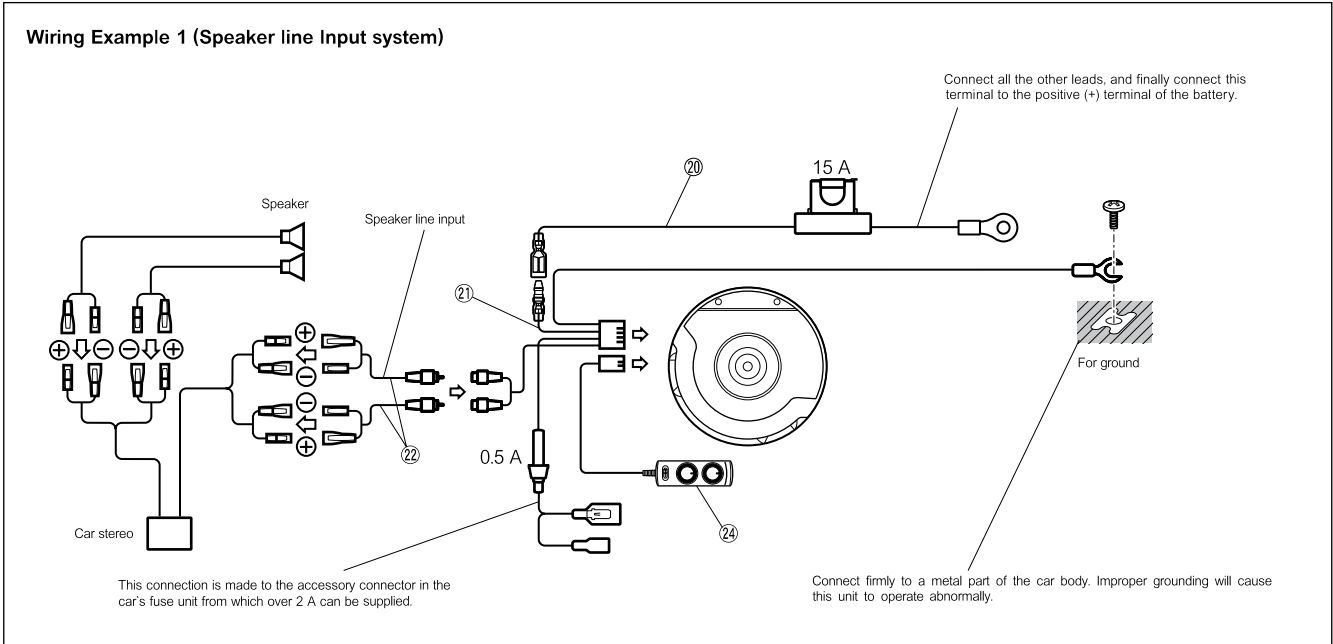


D

E

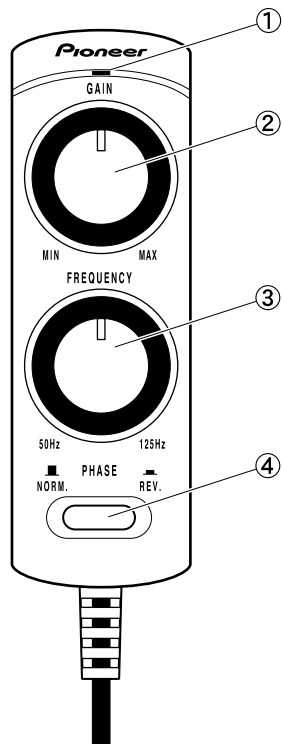
F

7. CONNECTIONS



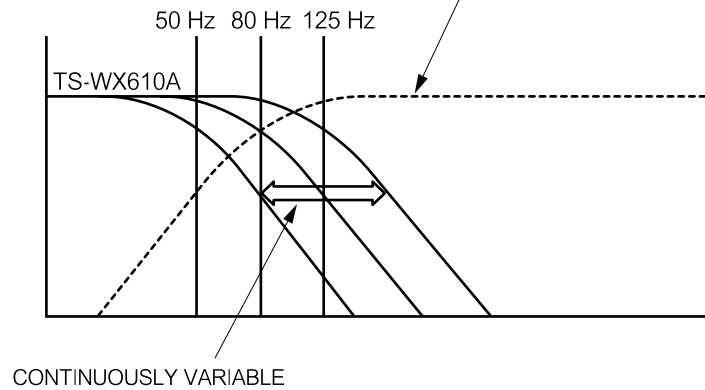
FINAL STEP OF THE INSTALLATION Finish the installation by reconnecting the vehicle's negative (–) battery lead.

8. CONTROLS AND THEIR USE



CROSSOVER FREQUENCY

FULL-RANGE SPEAKER



- ① Power indicator
Lights up when power is turned on.
- ② Gain control
Use this control to set the desired gain level.
- ③ Frequency control
Turn this knob to change the frequency during sound reproduction.
Set the knob to the bass setting of your choice (continuously variable from 50 Hz to 125 Hz).
- ④ Phase switch
Use switch to select the phase according to the system.