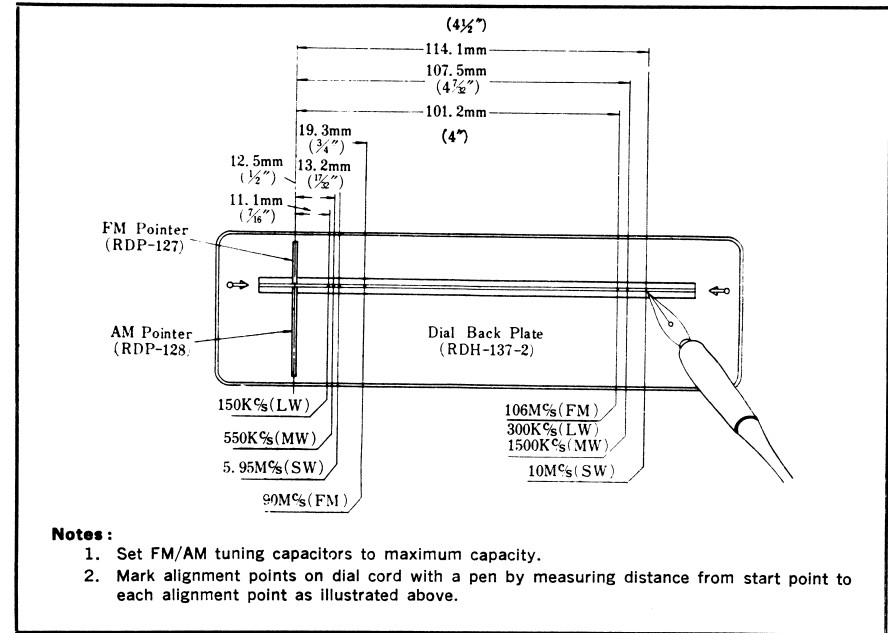


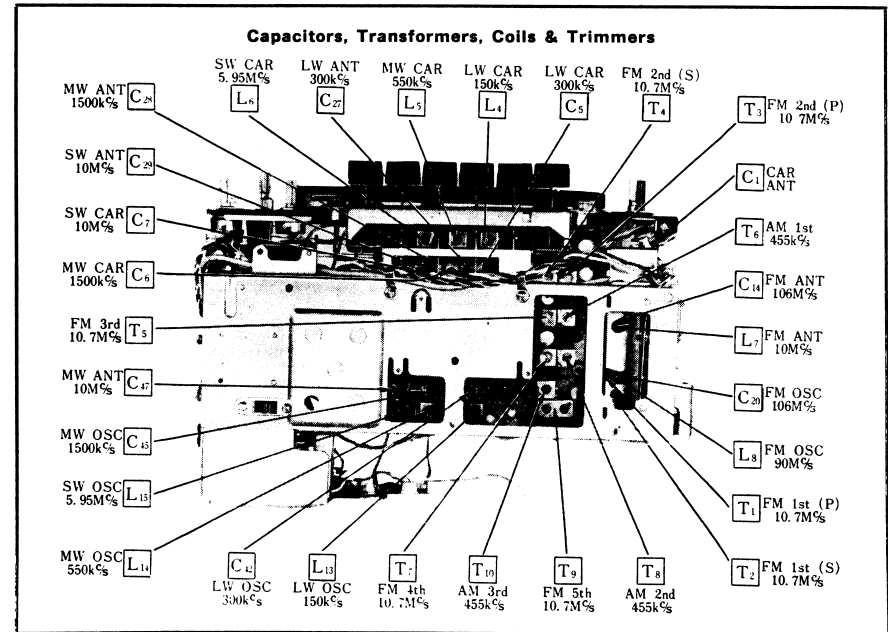
MODEL RF-885LD 4-BAND 12-TRANSISTOR PORTABLE RADIO

SPECIFICATIONS

Frequency Range :	OA79} FM Ratio Detector
FM 87~108Mc/s	OA79} AM Detector & AGC
LW 150~300kc/s (2000~1000m)	OA70} Operation Compensator
MW 520~1610kc/s (577~186m)	1S1211}
SW 5.9~10Mc/s (50.8~30m)	1S1211}
Intermediate Frequency :	Sensitivity :
FM 10.7Mc/s	FM 0.5 μ V for 50mW Output
AM (LW, MW & SW) 455kc/s	1.8 μ V for S/N = 30dB
Transistors :	LW 70 μ V/m for 50mW Output } Portable
2SA379 FM RF Amplifier	MW 50 μ V/m for 50mW Output } Car
2SA377 FM Oscillator	SW 30 μ V/m for 50mW Output }
2SA377 FM Mixer	LW 10 μ V for 50mW Output }
2SA341 FM 1st IF Amplifier	MW 10 μ V for 50mW Output }
2SA341 FM 2nd IF Amplifier	SW 3 μ V for 50mW Output }
2SA341 AM Converter	Power Output :
2SA341 FM 3rd IF Amplifier	2.2 Watt Undistorted } Portable
2SA341 AM 1st IF Amplifier	3 Watt Maximum }
2SA341 FM 4th IF Amplifier	2.3 Watt Undistorted } Car
2SA341 AM 2nd IF Amplifier	6 Watt Maximum }
2SB173 1st AF Amplifier	Power Source :
2SB173 2nd AF Amplifier	7.5V (Five "D" size flashlight batteries) or
2SB324 3rd AF Amplifier	Car Battery 6V/12V
AD139 or 2SB448	Speaker :
AD139 or 2SB448	16cm(6 $\frac{1}{2}$ ") PM Dynamic Speaker
Diodes :	Cabinet Dimensions :
SC-15 FM AFC	295(Wide) \times 213(High) \times 91(Deep)mm
OA70 FM AGC	(11 $\frac{1}{2}$ " \times 8 $\frac{3}{8}$ " \times 3 $\frac{3}{8}$ ")
OA79 AM D. AGC	Weight :
	4 kg. (8 lb. 13 oz.) with batteries



Frequency & Distance on Dial Scale.



Alignment Points.

LW, MW & SW CAR RF ALIGNMENT

Output of signal generator should be no higher than necessary to obtain an output reading. Set Volume control to maximum. Set Battery saving switch to "NORMAL". Set Treble control fully counter-clockwise. Set Power source to 7.5 volt DC. Set Bass control fully counter clockwise. Set Car-Portable antenna switch to "CAR".						
Band Switch Position	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1 LW	Connect to Car Antenna Terminal through Car dummy antenna.	150kc/s (400~ Mod.)	150kc/s	Output meter across multi-connector socket. (Refer to Fig. 14)	L ₄ (ANT. Coil)	Adjust for maximum output.
2	"	300kc/s (400~ Mod.)	300kc/s	"	C ₅ (ANT. Trimmer)	Adjust for maximum output. Repeat steps (1) and (2).
3 MW	"	550kc/s (400~ Mod.)	550kc/s	"	L ₅ (ANT. Coil)	Adjust for maximum output.
4	"	1500kc/s (400~ Mod.)	1500kc/s	"	C ₆ (ANT. Trimmer)	Adjust for maximum output. Repeat steps (3) and (4).
5 SW	"	5.95Mc/s (400~ Mod.)	5.95Mc/s	"	L ₆ (ANT. Coil)	Adjust for maximum output.
6	"	10Mc/s (400~ Mod.)	10Mc/s	"	C ₇ (ANT. Trimmer)	Adjust for maximum output. Repeat steps (5) and (6)

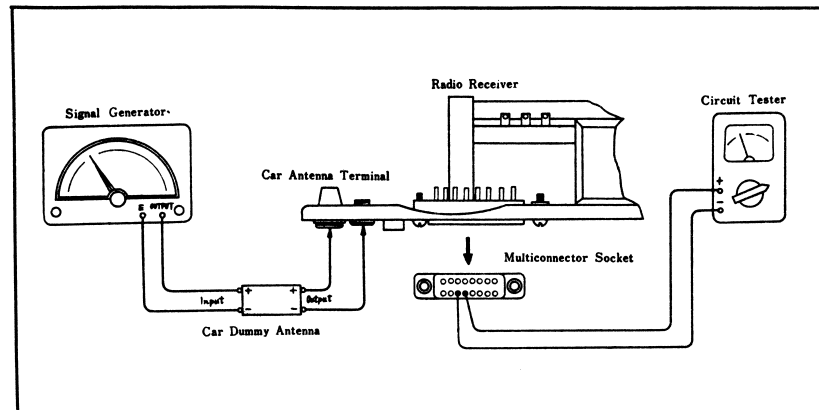


Fig. 14 Recommended Equipment Connection for LW, MW & SW Car RF Alignment.

FM IF ALIGNMENT WITH OSCILLOSCOPE

Set sweep selector of oscilloscope to "External Sweep". Apply 60~ sweep signal from sweep generator to horizontal input terminals of oscilloscope. Signal generator that provides 10.7Mc/s marker. Sweep generator that provides 10.7Mc/s center frequency and 400kc/s sweep width. Set band selector switch to FM. Set battery saving switch to "NORMAL". Set volume control to minimum. Set power source to 7.5Volt DC. Set treble control fully counter clockwise. Set bass control fully counter clockwise. Set AFC switch to "OFF".					
SWEEP GENERATOR COUPLING	SIGNAL GENERATOR COUPLING	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1 High side thru. .001μF to point TP ₁ . Common to chassis.	High side thru. .001μF to point TP ₁ . Common to chassis.	Point of non-interference. (on/about 100Mc/s)	Connect vert. Amp. of scope to TP ₂ (Terminal No.1 of R ₂₁ Volume Control.) Common to chassis.	T ₁ (FM 1st IFT Pri.) T ₂ (FM 1st IFT Sec.) T ₃ (FM 2nd IFT Pri.) T ₄ (FM 2nd IFT Sec.) T ₅ (FM 3rd IFT) T ₇ (FM 4th IFT)	Adjust for maximum amplitude and symmetrical curve. (Refer to Fig. 15)
2 "	"	"	Connect vert. Amp. of scope to point TP ₂ . Common to chassis.	T ₉ (FM 5th IFT)	Adjust T ₉ (P) for maximum amplitude and proper linearity between ±100kc/s markers. Adjust T ₃ (S) so that 10.7Mc/s marker is at the center. (Refer to Fig. 16)

Note : Align IF after unsoldering TP₁. When you check the detection wave, unsolder TP₁.

Note : When aligning the Ratio Detector circuit, the wave form may appear as in Fig. 15 & 16 or upside-down.

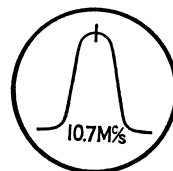


Fig. 15



Fig. 16

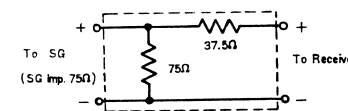
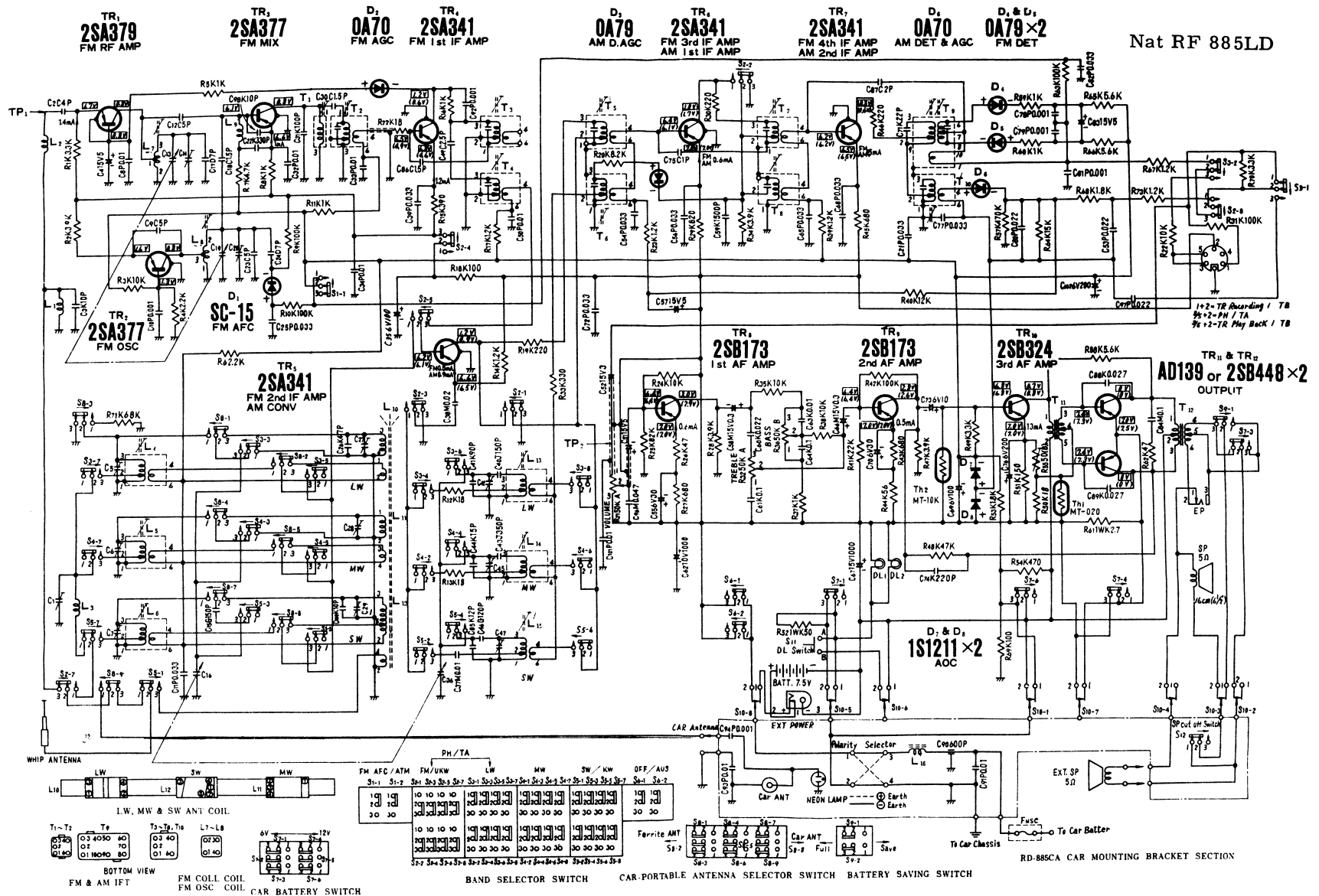


Fig. 17 FM Dummy Antenna

FM RF ALIGNMENT

Output of signal generator should be no higher than necessary to obtain an output reading. Set volume control to maximum. Set treble control fully counter clockwise. Set Power source to 7.5Volt DC. Set bass control fully counter clockwise. Set battery saving switch to "NORMAL". Set AFC switch to "OFF".					
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
3 Connect to TP ₁ through Dummy antenna. (Refer to Fig. 17)	90Mc/s (400~ Mod.)	90Mc/s	Output meter across voice coil.	L ₈ (OSC. Coil) L ₇ (Collector Coil)	Adjust for maximum output.
4 "	106Mc/s (400~ Mod.)	106Mc/s	"	C ₂₀ (OSC. Trimmer) C ₁₄ (ANT. Trimmer)	Adjust for maximum output. Repeat steps (3) and (4)

Note : As three output responses will be present, proper tuning is the center frequency.



Nat RF 885LD

TR₁₁ & TR₁₂
AD139 or 2SB448 $\times 2$
OUTPUTD₇ & D₈
1S1211 $\times 2$
AOC

RD-885CA CAR MOUNTING BRACKET SECTION

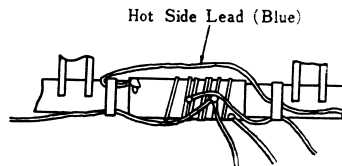
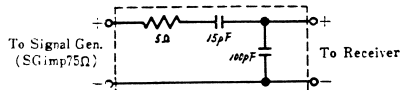
ALIGNMENT INSTRUCTIONS

LW, MW & SW IF & PORTABLE RF ALIGNMENT

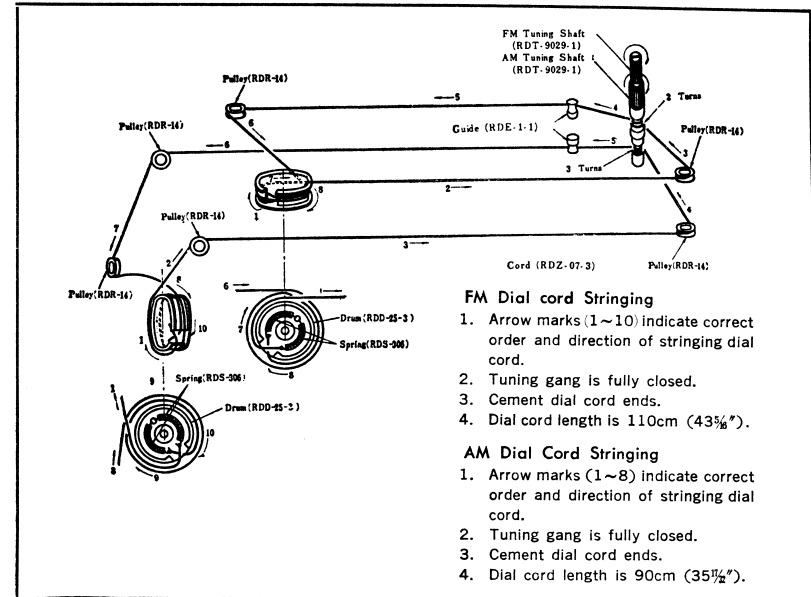
Output of signal generator should be no higher than necessary to obtain an output reading.
 Set Volume control to maximum. Set Battery saving switch to "NORMAL".
 Set Treble control fully counter clockwise. Set Power source voltage to 7.5 volt DC.
 Set Bass control fully counter clockwise. **Note:** Trimmer, C₁, is for alignment of Car Antenna.

Band switch Position	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455kc/s (400~Mod.)	Point of non-interference. (on/about 600kc/s)	Output meter across earphone jack.	T ₁₀ (AM 3rd IFT) T ₈ (AM 2nd IFT) T ₆ (AM 1st IFT)	Adjust for maximum output.
2	"	150kc/s (400~Mod.)	150kc/s	"	L ₁₃ (OSC. Coil) L ₁₀ (ANT. Coil)	Adjust for maximum output by sliding coil (L ₁₀) along ferrite core.
3	"	300kc/s (400~Mod.)	300kc/s	"	C ₄₂ (OSC. Trimmer) C ₂₇ (ANT. Trimmer)	Adjust for maximum output. Repeat steps (2) and (3)
4	"	550kc/s (400~Mod.)	550kc/s	"	L ₁₄ (OSC. Coil) L ₁₁ (ANT. Coil)	Adjust for maximum output by sliding coil (L ₁₁) along ferrite core.
5	"	1500kc/s (400~Mod.)	1500kc/s	"	C ₄₅ (OSC. Trimmer) C ₂₈ (ANT. Trimmer)	Adjust for maximum output. Repeat steps (4) and (5)
6	"	5.95Mc/s (400~Mod.)	5.95Mc/s	"	L ₁₅ (OSC. Coil) L ₁₂ (ANT. Coil)	Adjust for maximum output by moving hot side lead of coil (L ₁₂) (Refer to Fig.1.3)
7	"	10Mc/s (400~ Mod.)	10Mc/s	"	C ₄₇ (OSC. Trimmer) C ₂₉ (ANT. Trimmer)	Adjust for maximum output. Repeat steps (6) and (7)

Note: 1. Cement antenna bobbin with wax after completing alignment.



Car Dummy Antenna & Alignment Points.



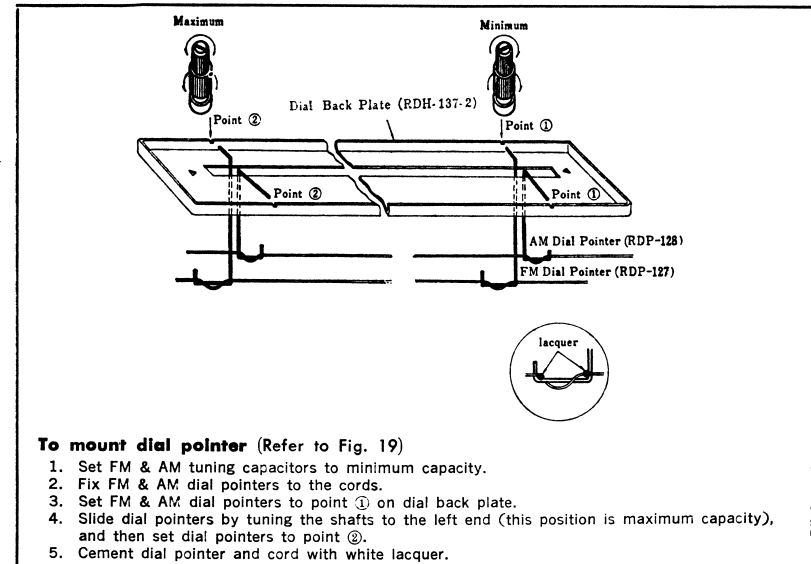
FM Dial cord Stringing

1. Arrow marks (1~10) indicate correct order and direction of stringing dial cord.
2. Tuning gang is fully closed.
3. Cement dial cord ends.
4. Dial cord length is 110cm (43 $\frac{3}{8}$ ").

AM Dial Cord Stringing

1. Arrow marks (1~8) indicate correct order and direction of stringing dial cord.
2. Tuning gang is fully closed.
3. Cement dial cord ends.
4. Dial cord length is 90cm (35 $\frac{1}{2}$ ").

Dial Cord Stringing Guide.



To mount dial pointer (Refer to Fig. 19)

1. Set FM & AM tuning capacitors to minimum capacity.
2. Fix FM & AM dial pointers to the cords.
3. Set FM & AM dial pointers to point ① on dial back plate.
4. Slide dial pointers by tuning the shafts to the left end (this position is maximum capacity), and then set dial pointers to point ②.
5. Cement dial pointer and cord with white lacquer.

Dial Pointer Mounting Guide.