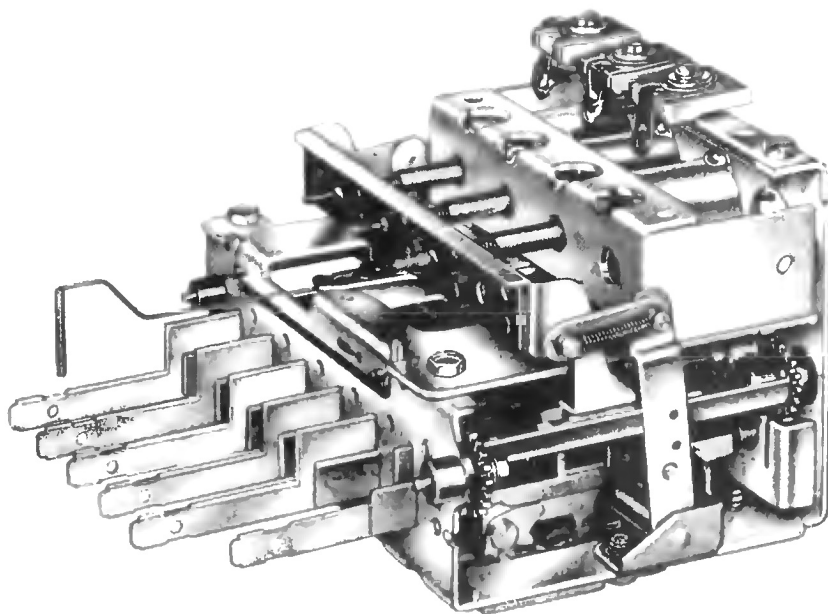


Motorola **AUTO** Radio

AUTOMATIC TUNER AT-58



GENERAL INFORMATION

DESCRIPTION

Automatic Tuner AT-58 is used in Motorola specific auto receivers.

This is a 3-gang permeability type tuner, mechanically operated by movement of its push buttons. Five pre-set and one manual tuning positions are provided. The frequency range is 535 to 1600 Kc. The pre-set positions can be set in any sequence to any frequency within this range.

SERVICE TOOLS

The simplicity of the tuner allows easy servicing with:

1. 1/4" open end and 1/4" box end wrench.
2. A stiff steel hook 1/16" diameter made of 1/8" rod, ground down and shaped like a #5 to #10 size crochet hook, to hook and unhook the springs.
3. Slab head wrench for coil adjustment: #2/56 head.

TO REMOVE TOP DECK

Unscrew two #8 sheet metal screws (45) on the back of the tuner and two #8 sheet metal screws (45) on the top front of the tuner. (Do not unscrew screws (45) at trimmer bracket). Before removing

top deck, unhook springs (53) and links (25). Grasp top deck and lift up and tip back. This leaves both decks open for servicing. See Figures 1 and 2.

SERVICING LOWER DECK

Looking at the top of the lower deck (with front to you), on the right we have the manual drive lead screw assembly (42). The other 5 assemblies (43) are the station set-up screw assemblies.

Note that all assemblies can be easily lifted out after springs (50) are unhooked.

Note also that unless a push button arm (1) is pushed in, all assemblies lay flat. When a push button arm (1) is pushed in, the assembly is tilted about 30°.

Visual inspection will show correct location of all springs in the assemblies and those which hold down the assemblies.

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Note action of gear train as manual knob is turned and push button arm is pushed in so gears mesh. Automatic tuning buttons can be checked for any binding by trying each button.

DRIVE ARM ADJUSTMENT

It is very important that the carriage drive assembly (12) be correctly adjusted in its bearings so as not to bind or be too loose and allow it to twist and force the tuner out of alignment.

On the left side of the lower deck, you will find a set screw (47) and lock nut (30) for assembly adjustment. Note that the assembly is floated in the base bracket (7) between two ball bearings (4), one on each end. Adjust by loosening lock nut (30) and then turn set screw (47) so that all bearing play is eliminated but yet carriage drive assembly (12) moves freely. Tighten lock nut (30) after adjustment. Before hooking spring (54), tip the tuner several times to make sure carriage drive assembly (12) is free enough to swing up or down by its own weight.

POINTER REPLACEMENT

The pointer is easily removed by downward and outward pressure to unhook it from the pointer arm (2). Pointer is replaced by reversing procedure.

SERVICE INFORMATION

The entire top deck of this tuner may be removed, while tuner is mounted in receiver chassis, allowing complete accessibility to all mechanical parts.

TO REPLACE PARTS ON LOWER DECK

Remove top deck of tuner (follow previous instructions). This exposes the 5-station set up screw assemblies (43) and manual lead screw assembly (42). These may be removed by unhooking springs (50) and lifting them out.

If push button arms or slider arms are to be replaced, it will be necessary to remove spring (54); then take out screws (46) from bottom of tuner to allow bracket (7) to move back and permit push button arm assemblies (1) or slider arms (3) to be removed after springs (53) have been removed.

SERVICE HINTS

1. **STATION DRIFT (Push Buttons).** Check the flat friction spring (56) for breaks or permanent set.
2. **TUNER STICKING.** Check collars on manual drive assembly (42). If they are cocked or stuck, replace with new assembly.
3. **HARD TUNING FOR PRE-SETTING.** Check lubricant on the gear train. It should be Stayput #512 or equal.
4. **TWISTING CARRIAGE PLATE.** Due to poor setting of carriage drive assembly (12). See "Drive Arm Adjustment".

ANT., RF OR OSC. CORE REPLACEMENT

The tuner cores (18) are easily unscrewed from clip (14) and pulled out when carriage assembly (13) is extended. Note that the cores are coded with a paint dot on the screw portion; always use replacement cores bearing the same color coding. When ordering replacement cores, always specify color coding together with part number.

TO SET THE PUSH BUTTONS

1. Turn receiver "on" and allow it to warm up for a few minutes.
2. Push the first automatic tuning button in as far as it will go and HOLD IT THAT WAY.
3. With the tuning knob, tune in the station you desire to set up. Tune carefully until you are exactly on the station; tuning to either side of it will result in poor tone quality. The pointer will indicate station being set up. Release button and knob after tuning in station.
4. Follow above steps 2 and 3 for the remaining four buttons.

Patience is required to assemble push button arm assemblies (1) and slider arms (3) back into bracket (7). Reassemble tuner by working in reverse order.

Test all parts of lower deck for free operation before assembling to upper deck.

TO REPLACE TOP DECK

Make sure that carriage drive assembly (12) is tipped back (spring (54) unhooked) and carriage assembly (13) carrying the tuning cores is out. Slip in the top deck, making sure the spring washer (70) on the manual drive assembly (42) is between the drive assembly gear and the back of the base before putting in screws and locking the two decks together.

5. **ROUGH DRIVE -** Check die cast gears (19, 20 & 21). Check for lubrication (Stayput #512). Check manual drive bushings.
6. **LATCH BAR JAMMING OUT.** Check the latch bar spring (51) on the back. If it is bent out of shape, turn it 180° and reshape. If it is weak-
replace.
7. **STICKING POINTERS.** Check the pointer bearing (6) and make sure the linkage of the assembly is free.
8. **POINTER NOT RE-POSITIONING OR SLOPPY ACTION.** Be sure to check the torsion spring (58) (on the under side of the top deck) for breakage or slipping from the notches on the base and the pointer link plate (34).

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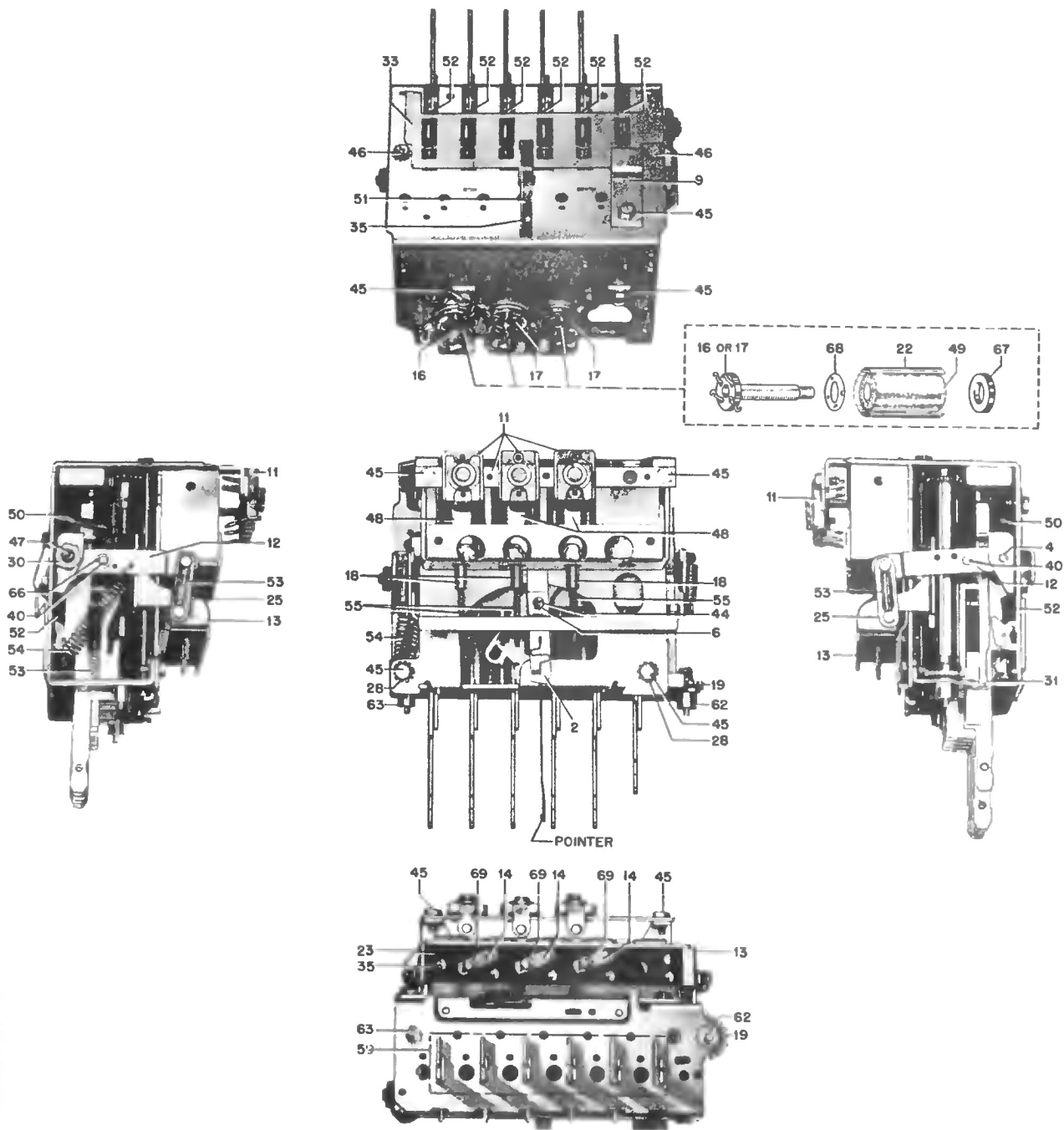


FIGURE 1. AUTOMATIC TUNER AT-58 PARTS LOCATIONS

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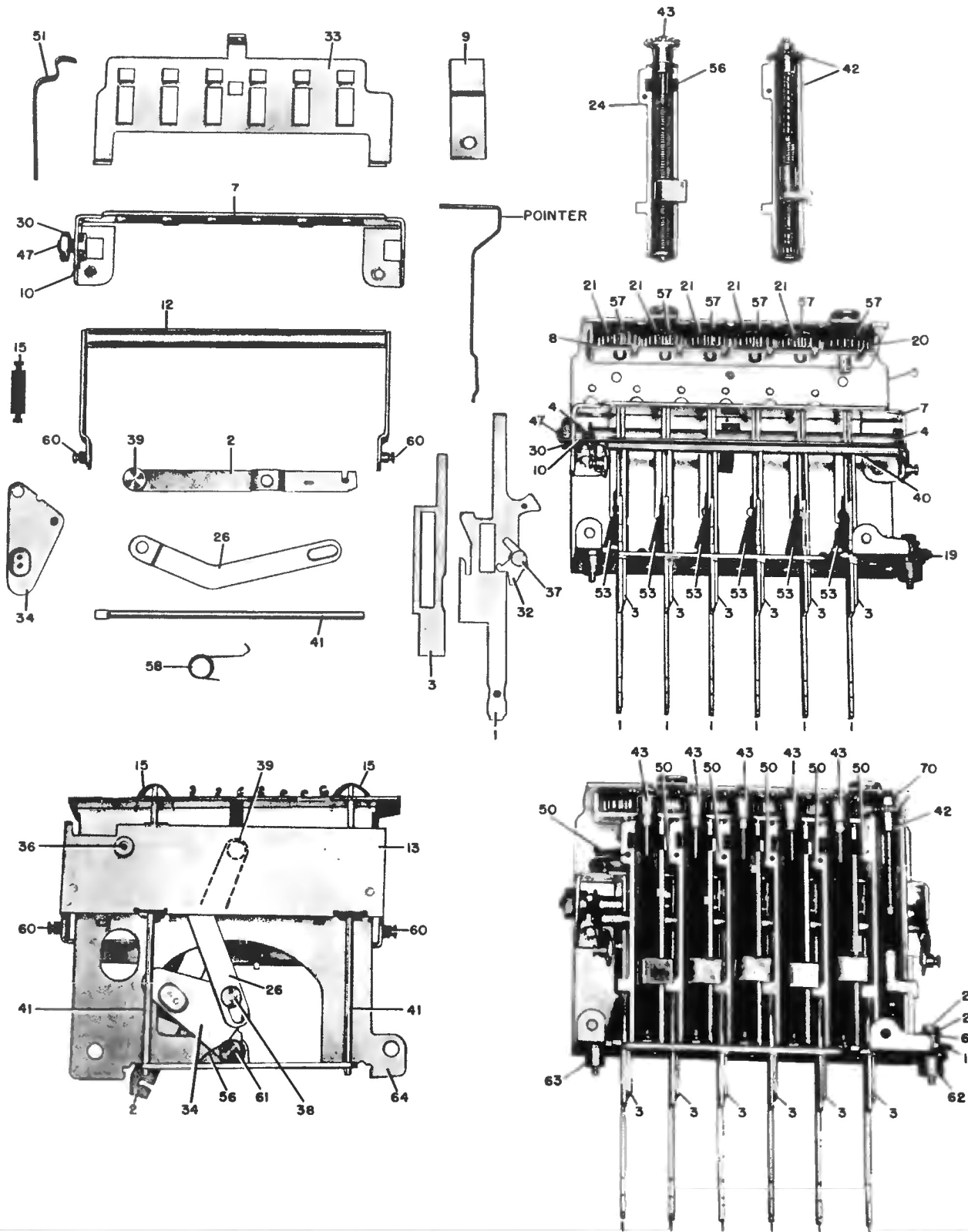


FIGURE 2. AUTOMATIC TUNER AT-58 PARTS LOCATION