MODEL S-1826 ADJUSTMENTS

All padding adjustments are carefully made at the factory and ordinarily no readjustments are necesary. However, when readjustments are required, the procedure given below must be followed in detail.

EQUIPMENT — Fully charged heavy duty storage battery or 6 volt power pack, 077 or 177 Philco Signal generator, 027 Philco Vacuum tube voltmeter and set tester or audio output meter, 45-2610 Padding screw driver.

GENERAL — VACUUM TUBE VOLTMETER. The model 027 Vacuum tube voltmeter is an extremely sensitive and accurate test instrument and is recommended for use when aligning and adjusting auto radios. Connect the negative (—) terminal of the Vacuum Tube Voltmeter to the high side (ungrounded side) of the volume control. Connect the positive (+) terminal to the radio housing. Connect the "AC" cord to a 110 volt AC socket. Press the VTVM button and the 10 volt button. Turn the "Set Zero Ohms — VTVM" control clockwise until a click is heard. Allow the tubes to heat up for a few minutes. Short the 150 meg. VTVM terminals and adjust the "Set Zero Ohms — VTVM" control until the mater reads zero on the 0-10 range scale (green scale). The needle will deflect from right to left.

AUDIO OUTPUT METER. If an audio output meter is used, connect the leads across the voice coil of the speaker. Use the 0-30 volt scale.

With the Radio and signal generator set up for operation at the prescribed frequency, turn the Radio volume control on full and set the signal generator attenuator so that a half scale reading is obtained on the meter. The signal in the speaker should be audible but not loud.

The shielding on the generator output lead must be connected to the Radio housing.

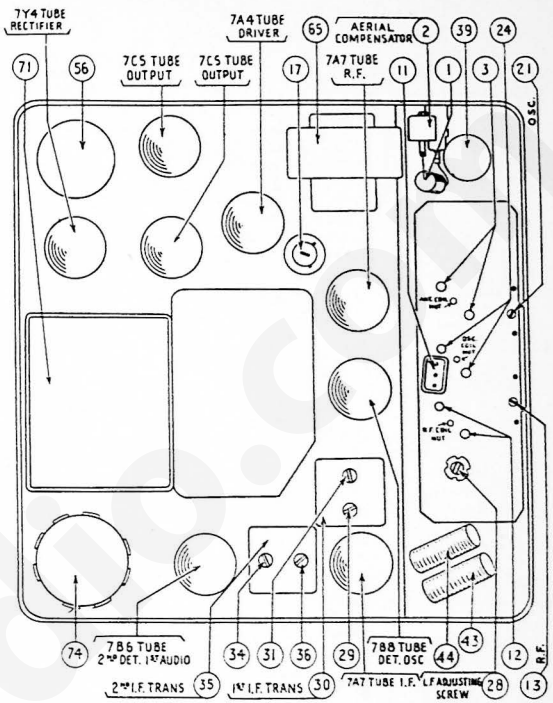

FIGURE 1

OPERATION	SIGNAL GENERATOR FREQUENCY	SIGNAL GENERATOR CONNECTION	DUMMY CAPACITY	SPECIAL INSTRUCTIONS	ADJUST PADDER
1	PUSH IN THE RIGHT KNOB UNTIL STATIONS CAN BE TUNED IN BY MANUAL TUNING				
2	270 K.C.	To Aerial Receptacle on Radio	See Note 1	Note 2	(34) (36) (29) (31) (34) (36) (29) (31)
3	1600 K.C.	To Aerial Receptacle on Radio	See Note 1	Set Tuning Control at 1600 K.C.	(21)
4	1360 K.C.	To Aerial Receptacle on Radio	See Note 1	Set Tuning Control at 1360 K.C.	(2) (13) Note 4
5	590 K.C.	To Aerial Receptacle on Radio	See Note 1	Set Tuning Control at 590 K.C.	(28) Note 3
6	1600 K.C.	To Aerial Receptacle on Radio	See Note 1	Set Tuning Control at 1600 K.C.	(21)
7	1360 K.C.	To Aerial Receptacle on Radio	See Note 1	Set Tuning Control at 1360 K.C.	(2) (13) Note 4
8	1200 to 1400 K.C.	Note 5	Note 5	Note 5	(2) Note 4

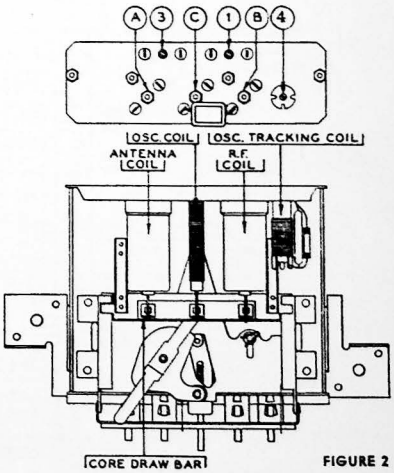

FIGURE 2

Make all adjustments for maximum reading on the meter.

NOTE 1 — Connect the aerial lead Part No. 95-0111, to the aerial receptacle in the radio. Connect a 35 Mmfd. Condenser in series between the signal generator and the aerial lead.

NOTE 2—Turn the tuning control clockwise as far as it will go

NOTE 3 — Rock the tuning control while adjusting the low frequency screw. Tune the control to the signal and adjust the screw for maximum output. Rotate the tuning control back and forth slightly for maximum output. Then readjust the screw for maximum output. Repeat this procedure until no further improvement is noticed.

NOTE 4 — When the aerial stage adjustment is made with the Radio installed in the car, the Radio aerial lead must be connected to the car aerial in the usual manner. Connect the signal generator output lead to a wire placed near the car aerial but not connected to it.

NOTE 5 — When installing the radio in the car, follow the installation instructions carefully. Tune in a weak broadcast signal between 1200 and 1400 Kilocycles on the control scale. Remove the plug button on the end of the radio and adjust the aerial compensator (2) (see Figure 1) for maximum signal.

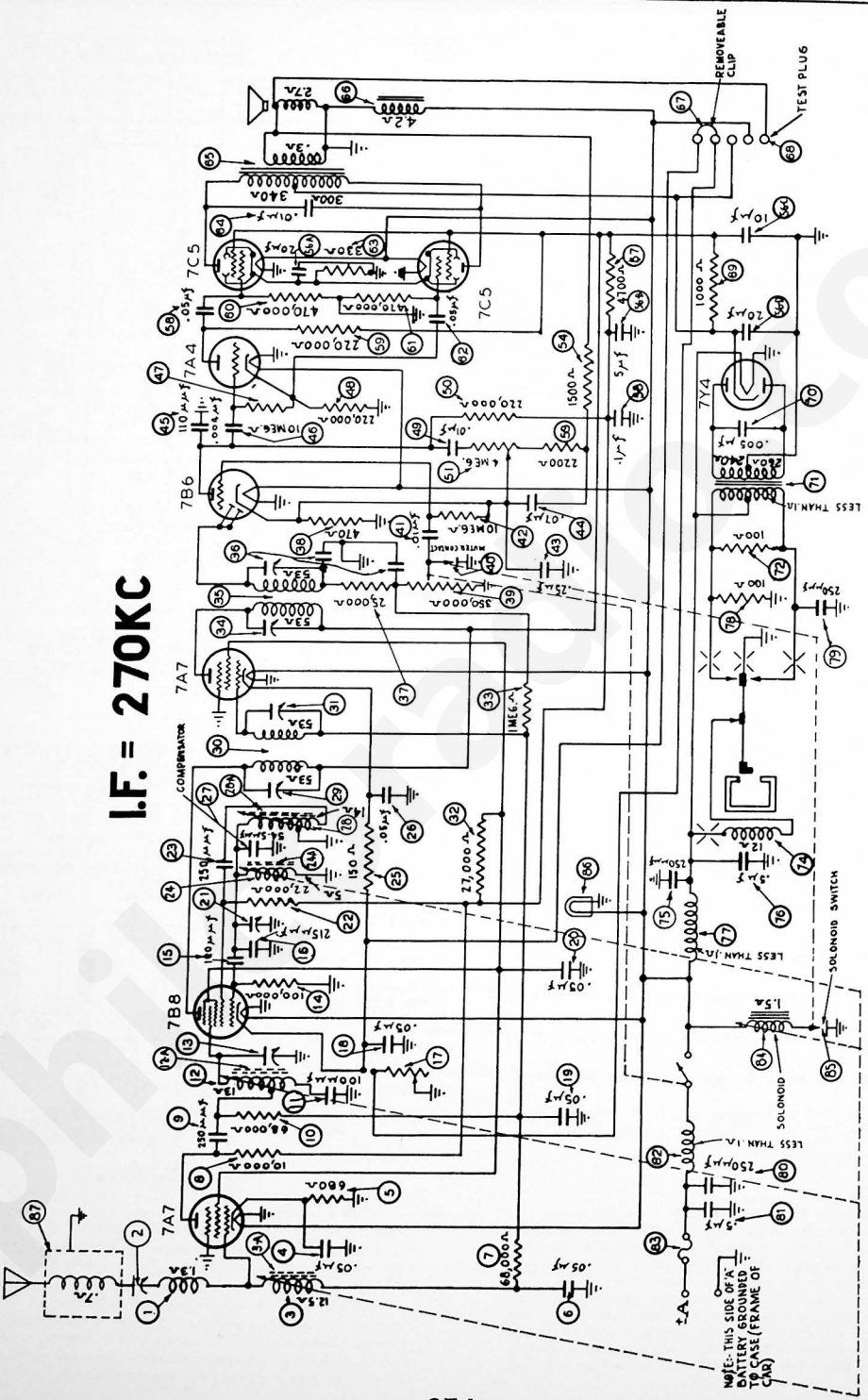
I.F. = 270KC
REMOVEABLE CLIP
TEST PLUG
7C5
7A4
7B6
7A7
7B8
7Y4
COMPENSATOR
SOLENOID SWITCH
SOLENOID
LESS THAN 1A
NOTE:- THIS SIDE OF 'A' BATTERY GROUNDED TO CASE (FRAME OF CAR)
+A

FIGURE 3

MODEL S-1826 CUSTOM AUTO RADIO (CONTINUED)

No.	Description	Part No.
①	Antenna Choke	65-0428
②	Antenna Padder	63-0053
③	Antenna Transformer	65-0349
③a	Iron Core	57-1541
④	Condenser (.05 Mfd.)	61-0111
⑤	Resistor (680 ohms)	33-168336
⑥	Condenser (.05 Mfd.)	61-0111
⑦	Resistor (68,000 ohms)	33-368154
⑧	Resistor (10,000 ohms)	33-310334
⑨	Condenser (250 Mmfd.)	60-125157
⑩	Resistor (68,000 ohms)	33-368154
⑪	Condenser (100 Mmfd.)	60-110157
⑫	R. F. Transformer	65-0350
⑫a	Iron Core	57-1541
⑬	Padder	63-0052
⑭	Resistor (100,000 ohms)	33-410154
⑮	Condenser (110 Mmfd.)	60-110157
⑯	Condenser (215 Mmfd.)	61-0148
⑰	Sensitivity Control	67-0036
⑱	Condenser (.05 Mfd.)	61-0111
⑲	Condenser (.05 Mfd.)	61-0111
⑳	Condenser (.05 Mfd.)	61-0101
㉑	Padder	63-0055
㉒	Resistor (22,000 ohms)	33-322334
㉓	Condenser (250 Mmfd.)	60-125157
㉔	Oscillator Transformer	65-0350
㉔a	Iron Core	57-1542
㉕	Resistor (150 ohms)	33-115336
㉖	Condenser (.05 Mfd.)	61-0111
㉗	Condenser (54.5 Mmfd.)	61-0149
㉘	Oscillator Tracking Trans.	65-0351
㉘a	Oscillator Tracking Core	57-1659
㉙	Padder (Pri. 1st I. F. Trans.)	
㉚	First I. F. Transformer	65-0352
㉛	Padder (Sec. 1st I. F. Trans.)	
㉜	Resistor (27,000 ohms)	33-327434
㉝	Resistor (1,000,000 ohms)	33-510154
㉞	Padder (Pri. 2nd I. F. Trans.)	
㉟	Second I. F. Transformer	65-0410
㊱	Padder (Sec. 2nd I. F. Trans.)	
㊲	Resistor (25,000 ohms)	33-325154
㊳	Resistor (470 ohms)	33-147336
㊴	Volume Control (350,000 ohms) & On-Off Switch	67-0037
㊵	Muter Switch	85-0125
㊶	Condenser (.01 Mfd.)	61-0100
㊷	Resistor (10,000,000 ohms)	33-610154
㊸	Condenser (.25 Mfd.)	61-0151
㊹	Condenser (.07 Mfd.)	61-0152
㊺	Condenser (110 Mmfd.)	60-110157
㊻	Condenser (4,000 Mmfd.)	61-0129
㊼	Resistor (10,000,000 ohms)	33-610154
㊽	Resistor (220,000 ohms)	33-422334
㊾	Condenser (.008 Mfd.)	61-0174
㊿	Resistor (220,000 ohms)	33-422334
(51)	Tone Control (1,000,000 ohms)	67-0038
(52)	Resistor (4,700 ohms)	33-247154
(53)	Resistor (1,500 ohms)	33-215154
(54)	Condenser (.1 Mfd.)	61-0113
(55)	Filter Condenser (5-10-20-20 Mfd.)	61-0150
(56)	Resistor (2,200 ohms)	33-222434
(57)	Condenser (.05 Mfd.)	61-0122
(58)	Resistor (220,000 ohms)	33-422334
(59)	Resistor (470,000 ohms)	33-447154
(60)	Resistor (470,000 ohms)	33-447154
(61)	Condenser (.05 Mfd.)	61-0101
(62)	Resistor (330 ohms)	33-133436
(63)	Condenser (.01 Mfd.)	61-0120
(64)	Output Transformer	65-0409
(65)	Field Coil	Not Replaceable
(65)a	Cone & Voice Coil (For 73-0052-2 Speaker)	91-0164
	(For 73-0052-3 Speaker)	91-0165
(67)	Jumper	57-1121
(68)	Test Socket	55-1078
(69)	Resistor (1,000 ohms)	33-210334
(70)	Condenser (5,000 Mmfd.)	61-0153
(71)	Power Transformer	65-0358
(72)	Resistor (100 ohms)	33-110334
(73)	Resistor (100 ohms)	33-110334
(74)	Vibrator	83-0026
(75)	Condenser (250 Mmfd.)	60-125157
(76)	Condenser (.5 Mfd.)	61-0137
(77)	Vibrator Choke	65-0151
(78)	Condenser (250 Mmfd.)	60-125157
(79)	Condenser (250 Mmfd.)	60-125157
(80)	Condenser (.5 Mfd.)	61-0137
(82)	"A" Choke	32-1644
(83)	Fuse	45-2559
(84)	Solenoid	65-0360

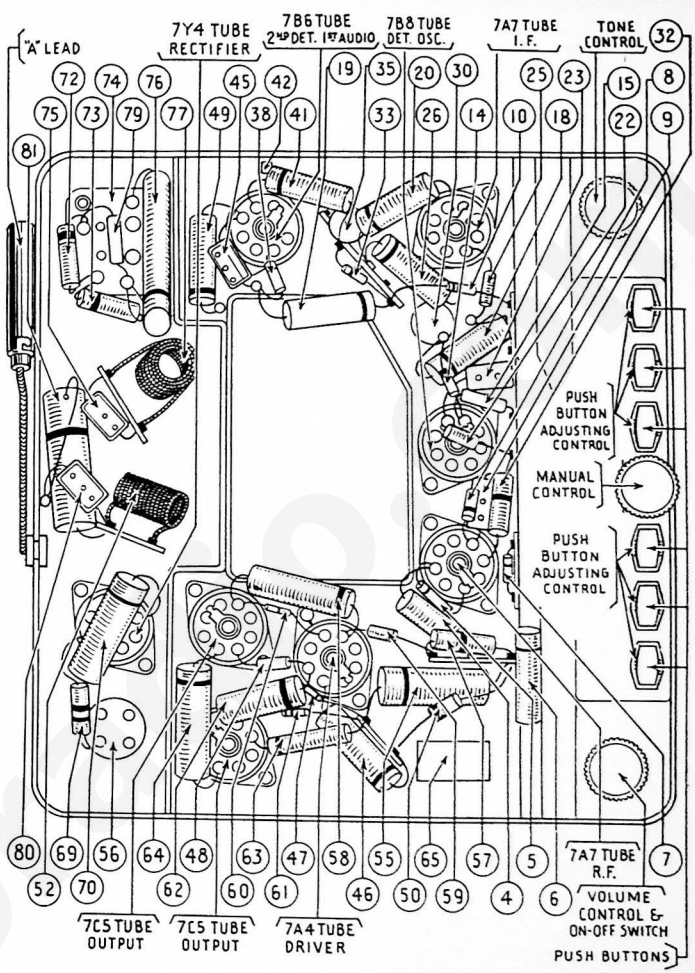

FIGURE 4

No.	Description	Part No.
(85)	Solenoid Switch ..Part of	85-0125
(86)	Pilot Lamp	34-2064
	Tuning & Volume Knob	77-0633
	Hook Bolt (Radio Mtg.)	97-0135FA3
	Wing Nut (Radio Mtg.)	97-0048FA3
	Gland Nut Wrench	28-5636FA3
	Condenser (Generator)	30-4007
	Condenser (Distributor)	60-125157
	Distributor Suppressor	32-2250
	Ground Strap	77-0336
	Fuel Gauge Resistor	67-0041
	Front Bezel	57-1549FA8
	Speed Nut (Bezel Mtg.)	97-0136FE7
	Color Disc Assembly	77-0646
	Tuning Switch	77-0600
	Dial	55-1012
	Push Button Knob	77-0612
	Speaker Gasket	55-1045
	Speaker Cable	95-0161
	Speaker Unit	73-0052
	Vibrator Socket	27-6153
	Tube Socket	27-6151
	Manual Knob Spacer	57-1669
	Manual Knob & Skirt Assy.	77-0809
	Manual Knob Sleeve	57-1623
	Manual Knob Spring	57-1628FA3
	Gland Nut	28-6558FA8
	Core Draw Bar Spring	57-1649
	Latch Bar Spring	57-1650
	Push Button Spring	57-1651
	Muter Spring	57-1652
	Pointer Spring	57-1653
	Pointer & Cam Assembly	77-0647
	Screws (Bezel Mtg.)	97-0111FA26
	Screw (Cover Mtg.)	W2212FA26
	Housing & Bracket Assembly (Ludington Green)	77-0660FC54
	Housing & Bracket Assembly (English Grey)	77-0660FC55
	Wiring Side Cover (Ludington Green)	57-1548FC54
	Wiring Side Cover (English Grey)	77-0660FC55
	Tube Side Cover (Ludington Green)	57-1547FC54
	Tube Side Cover (English Grey)	57-1547FC55

Procedure for Aligning Studebaker Tuning Unit, Part No. 77-0588

The following is the procedure for aligning the Studebaker tuning unit after a coil or other part of the assembly has been replaced. The unit should be aligned after it is mounted in the radio.

1—COMPLETE ALIGNMENT PROCEDURE

(a) Push in the tuning control knob so that stations can be tuned in by manual tuning.

(b) Turn the tuning control knob clockwise as far as it will go so that the cores will be in the extreme "out" position. Set the signal generator to 1600 K.C. and adjust padder (3) (Fig. 2) for maximum signal.

(c) Adjust padder (2) aerial compensator in radio and padder (1) (see Fig. 1) for maximum signal.

(d) Set the signal generator at 1400 K.C. and tune the manual control to 1400 K.C. Adjust the R.F. and antenna coil for maximum signal by turning the mounting nuts (A) and (B).

(e) Repeat (c) and (d) until no further improvement is noticed.

(f) Set the signal generator at 600 K.C. and the tuning control at 600 K.C. Adjust the screw (4) (see Fig. 2) for maximum signal. Rock the tuning control when making this

adjustment. Tune the control to the signal and adjust the screw for maximum output. Rotate the tuning control back and forth slightly until maximum output is obtained. Then readjust the screw until no further improvement is noticed.

(g) In case a great adjustment was necessary in (f) the adjustments (c) and (d) should be repeated.

(h) In case the dial calibration is off frequency, it can be corrected by changing the starting position of the oscillator core. This is done by unsoldering the piano wire from the lug and moving the core slightly. A change of 1/64" in the position of the core is equivalent to approximately 20 K.C. on the dial. If the dial reads low, it can be corrected by starting the oscillator core further in the coil form. If it reads high, the core should be pulled out. If this position is changed, it will be necessary to realign the radio as described above.

2—ALIGNMENT WHEN ONLY THE ANTENNA COIL OR CORE IS REPLACED

(a) Set the piano wire end of the core 1¼" from the end of the coil form when the core draw bar is in the extreme "out" position, and solder the wire to the lug.

(b) Set up the signal generator to 1600 K.C., and adjust the aerial compensator (2) **in the radio** for maximum signal.

(c) Adjust the signal generator to 1400 K.C. and set the tuning control at 1400 K.C. Adjust the coil for maximum signal by turning the mounting nut (A) until maximum signal is obtained. In case a peak cannot be obtained, it may be necessary to unsolder the piano wire and move the core slightly, either in or out.

(d) Repeat (b) and (c).

3—ALIGNMENT WHEN ONLY THE R.F. TRANSFORMER OR CORE IS REPLACED

(a) Set the piano wire end of core 1¼" from the end of the coil form when the core draw bar is in the extreme "out" position and solder the wire to the lug.

(b) Set up the signal generator to 1600 K.C. and adjust padder (1) (see Fig. 2) for maximum signal.

(c) Adjust the signal generator to 1400 K.C. and set the tuning control at 1400 K.C. Adjust the coil form by turning the mounting nut (B) until maximum signal is obtained. In case a peak cannot be obtained, it may be necessary to unsolder the piano wire and move the core slightly, either in or out.

(d) Repeat (b) and (c).

4—ALIGNMENT WHEN ONLY THE OSCILLATOR TRACKING COIL OR CORE IS REPLACED

(a) Set the signal generator to 600 K.C. and the tuning control at 600 K.C. Adjust screw (4) (see Fig. 2) for maximum signal. Rock the tuning control while making this adjustment. Tune the control to the signal and adjust the screw for maximum output. Rotate the tuning control back and forth slightly until maximum output is obtained. Then readjust the screw until no further improvement is noticed.

(b) Check and readjust the aerial compensator (2) in the radio, and padder (1), (2), and (4) as described in 1.

5—ALIGNMENT WHEN ONLY THE OSCILLATOR COIL OR CORE IS REPLACED

(a) Set the piano wire end of the core 1¼" from the end of the coil form when the core draw bar is in the extreme "out" position, and solder the wire to the lug.

(b) Set up the signal generator to 1600 K.C. and adjust padder (3) (see Fig. 2) for maximum signal.

(c) Follow the same procedure as outlined under "1 — Complete Alignment Procedure".

1941 MIDSHIP AERIAL

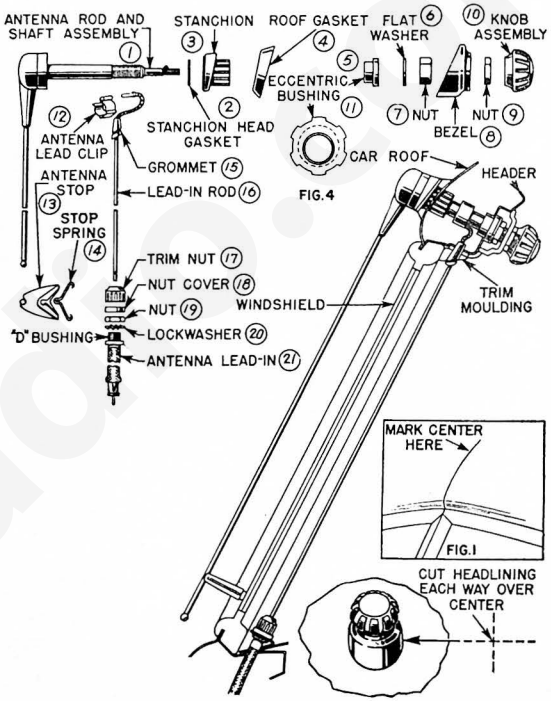

FIGURE 5

TYPE No. 1
(2 Section) Part No. 91-0162 ($7.00)

No.	Description	Part No.	List Price
①	Antenna Rod & Shaft Assy. (For Push On Knob)	91-0169	$4.25
	(For Knob with Set Screw)	91-0206	4.50
②	Stanchion Head Gasket	55-1068	.02
③	Stanchion	55-1052	.10
④	Roof Gasket	55-1055	.10
⑤	Eccentric Bushing	55-1054	.10
⑥	Flat Washer (per 100)	W1866FA3	2.00
⑦	Nut	97-0177	.05
⑧	Bezel	55-1059	.15
⑨	Nut	97-0178FA3	.05
⑩	Knob (Push On)	77-0617	.20
	(With Set Screw)	77-0846	.45
⑪	Same as ⑤		
⑫	Antenna Lead Clip	57-1611	.05
⑬	Antenna Stop	55-1060	.10
⑭	Antenna Stop Spring	57-1624	.05
⑮	Grommet	55-1057	.04
⑯	Lead-in Rod Assy.	77-0618	.60
⑰	Trim Nut	55-1058	.10
⑱	Nut Cover	28-5602FA8	.10
⑲	Nut	97-0131FA3	.04
⑳	Lockwasher (per 100)	97-0140FA3	1.75
㉑	Antenna Lead	95-0157	1.10
	Template	57-1642	.05
	Set Screw Wrench	28-4696	.10
	Spacer (Between Bezel & Nut)	55-1144	.02
	Round Grommet	55-1189	.03
	Head Cover	57-1599FA8	.50
	Head Cover Screw (per 100)	W267FA8	.20
	Reel Assy.	77-0627	.20
	Latch Reel Lock	57-1608	.05
	Latch Reel Spring (per 100)	57-1609	.75
	Antenna Rod & Tape Assy. (For Push On Knob)	77-0628	1.25
	(For Knob with Set Screw)	77-0834	1.00
	Stanchion Tube Assy. (Early Type)	77-0626	.85
	(Late Type)	77-0773	1.00
	"C" Washer (per 100)	4042FA3	2.00
	Knob Shaft (Early Type)	318-2235	.30
	(Late Type)	77-0776	1.00

TYPE No. 2
(3 Section) Part No. 91-0189 ($8.50)

No.	Description	Part No.	List Price
①	Antenna Rod & Shaft Assy.	91-0195	$5.00
②	Stanchion Head Gasket	55-1068	.02
③	Stanchion	55-1266	.15
④	Roof Gasket	55-1055	.10
⑤	Eccentric Bushing	55-1054	.10
⑥	Flat Washer (per 100)	W1866FA3	2.00
⑦	Nut	97-0177	.05
⑧	Bezel	55-1059	.15
⑨	Nut	97-0178FA3	.05
⑩	Knob	77-0846	.45
⑪	Same as ⑤		
⑫	Antenna Lead Clip	57-1611	.05
⑬	Antenna Stop	55-1060	.10
⑭	Antenna Stop Spring	57-1624	.05
⑮	Grommet	55-1057	.04
⑯	Lead-in Rod Assy.	77-0618	.60
⑰	Trim Nut	55-1058	.10
⑱	Nut Cover	28-5602FA8	.10
⑲	Nut	97-0131FA3	.04
⑳	Lockwasher (per 100)	97-0140FA3	1.75
㉑	Antenna Lead	95-0157	1.10
	Template	57-1642	.05
	Set Screw Wrench	28-4696	.10
	Spacer (Between Bezel & Nut)	55-1144	.02
	Round Grommet	55-1189	.03
	Head Cover	57-1599FA8	.50
	Head Cover Screw (per 100)	W267FA8	.20
	Reel Assy.	77-0876	.20
	Washer	97-0183	.02
	Reel Ring	57-1966	.10
	Type Backing Spring	57-1965FA3	.02
	Latch Reel Lock	57-1608	.05
	Latch Reel Spring (per 100)	57-1609	.75
	Antenna Rod & Tape Assy.	77-0774	1.50
	Stanchion Tube Assy.	77-0773	1.00
	"C" Washer (per 100)	4042FA3	2.00
	Knob Shaft	77-0776	1.00