

PHOTOTUBE BRACKET ASSEMBLY

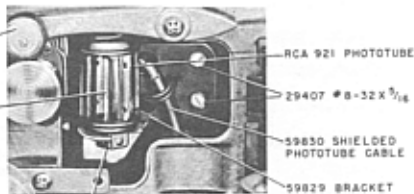
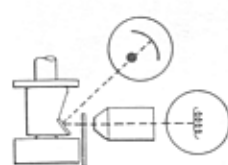
THE PHOTOTUBE IS HELD IN PLACE IN ITS BRACKET BY A SPRING CONTACTOR PRESSING DOWN FROM THE TOP

TO REMOVE PHOTOTUBE

1. TURN OFF POWER

2. RAISE THE SOUND PRESSURE ROLLER; INSERT A SMALL SCREWDRIVER IN WINDOW IN PHOTOTUBE COVER AND PULL OUTWARD.

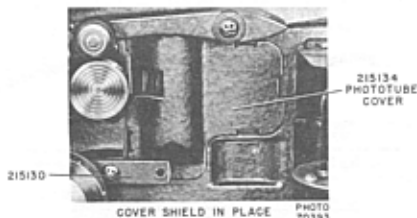
3. HOLD PHOTOTUBE ENVELOPE WITH LEFT HAND.



4. WITH RIGHT FOREFINGER, PRESS UP ON SQUARE BASE CONTACTOR AND LIFT PHOTOTUBE OUT TO THE RIGHT. NOTE POSITION OF PHOTOTUBE CATHODE WHEN PHOTOTUBE IS CORRECTLY INSTALLED.

TO INSTALL PHOTOTUBE

PRESS UPPER SPRING CONTACTOR UP WITH TOP OF PHOTOTUBE AND SLIP SQUARE BASE CONTACTOR INTO POSITION IN ITS RECEPTACLE. REPLACE TUBE COVER BY PRESSING FIRMLY INTO PLACE MAKING SURE IT DOES NOT INTERFERE WITH OPERATION OF PRESSURE ROLLER ARM. CORRECT POSITION OF PHOTOTUBE CATHODE IS SHOWN IN ILLUSTRATION ABOVE.



PARTS

Stock No.	Drawing No.	Description
PHOTOTUBE BRACKET ASSEMBLY		
59829	144766-1	Bracket, phototube bracket assembly, includes clip and rivet
31048	82373-4	Connector, male 2 contact
59830	148415-501	Cable, shielded phototube
215134	173080-4	Cover, phototube
29407	57456-107	Screw, bracket mounting, phototube
215130	8850647-3	Plate, optical bracket

TENSION ROLLER ASSEMBLY

THIS ROLLER CONTROLS "FLUTTER AND WON" (HIGH AND LOW FREQUENCY SOUND VARIATIONS). THE ROLLER AND ARM ARE HELD IN CORRECT POSITION BY A SHAFT ATTACHED TO A FLAT SPRING BEARING AGAINST A FELT PAD LOCATED IMMEDIATELY BEHIND THE CASTING THROUGH WHICH THE ARM SHAFT PASSES. IT IS REACHED THROUGH THE REAR OF THE PROJECTOR.

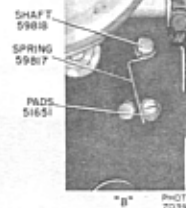
TO ADJUST TENSION ROLLER

1. LOOSEN THIS ALLEN SETSCREW
2. HOLD ARM UP AGAINST STOP
3. RETIGHTEN SETSCREW

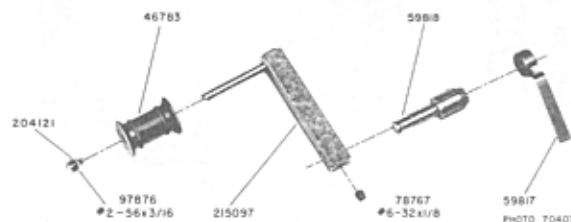
WHEN CORRECTLY ADJUSTED, FILM IN MOTION WILL BE APPROX. HORIZONTAL LEAVING SOUND DRUM



TO REPLACE SPRING 59817



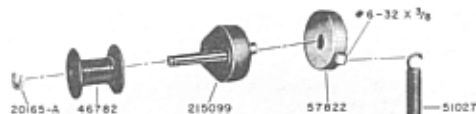
1. LOOSEN ALLEN SET-SCREW (FIG. A)
2. PULL OUT SPRING AND SHAFT WITH LONG NOSE PLIERS
3. INSTALL NEW SPRING ON SHAFT ASSEMBLY
4. HOLD WITH PLIERS AND CAREFULLY GUIDE FLAT SPRING AGAINST FELT PAD AND INTO CASTING HOLE
5. PUSH FIRMLY INTO PLACE
6. ADJUST TENSION ARM, FIG. A



PARTS

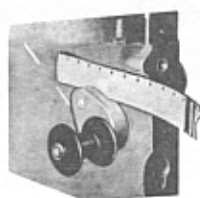
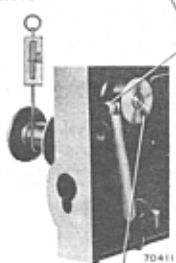
Stock No.	Drawing No.	Description
TENSION ROLLER ASSEMBLY		
215097	189898-503	Arm, tension roller arm and shaft assembly
51651	189915-1	Pad, tension roller spring
46783	182370-1	Roller, tension
97876	990072-603	Screw, roller shaft 2-56 x 3/16" lg.
59817	8876294-1	Spring, roller arm shaft
59818	8876292-1	Shaft, roller arm
78767	8888539-121	Screw, set, roller arm shaft 6-32 x 1/8" lg.
204121	87799-614	Washer, guide roller

SNUBBER ROLLER ASSEMBLY

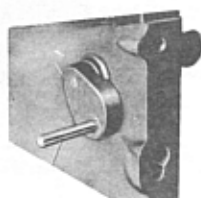


TO ADJUST SNUBBER ROLLER TENSION

1. LOOSEN THIS SET SCREW



3. INSERT 3 THICKNESS OF FILM BETWEEN ROLLER ARM AND FRAME TO ADJUST END-PLAY.



IF ROLLER STICKS OR SQUEAKS REMOVE 20165-A RETAINING WASHER AND 46782 ROLLER AND POLISH THIS SHAFT. LUBRICATE BY RUBBING WITH SOFT LEAD PENCIL OR MICROFINE GRAPHITE. CLEAN SHAFT HOLE IN ROLLER.

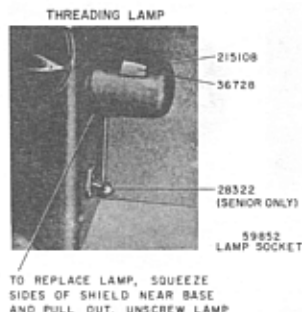
2. ROTATE COLLAR (WHICH CONTROLS SPRING TENSION) UNTIL A POSTAL SCALE, HOOKED OVER SNUBBER ROLLER, INDICATES A PULL OF IT TO 18 OUNCES TO RAISE IT OFF ITS STOP

4. BEFORE TIGHTENING COLLAR SET SCREW, PRESS COLLAR AND ROLLER ARM SNUG AGAINST FRAME. FILM STRIPS WILL SUPPLY CORRECT END PLAY SPACING (.015 TO .020). ARM MUST ROTATE FREELY. SNUBBER ROLLER SHOULD ROTATE FREELY WHEN FILM IS IN MOTION.

PARTS

Stock No.	Drawing No.	Description
SNUBBER ROLLER ASSEMBLY		
215099	189841-504	Arm, snubber roller arm and shaft assembly
57822	8874709-1	Collar, snubber arm tension spring
46782	182370-2	Roller, snubber
51027	189850-1	Spring, snubber roller arm
20165-A	60503-3	Washer, "C" snubber roller, retaining

THREADING LAMP ASSEMBLY AND TOOLS



TOOLS (SERVICE)



49101
SOUND OPTICAL
ADJUSTING WRENCH



49108
SOUND OPTICAL
ADJUSTING PIN
"AZIMUTH"



94566
CLAW PROTRUSION
GAUGE



94565
CLAW TRAVEL
GAUGE

PARTS

Stock No.	Drawing No.	Description
THREADING LAMP FOR ME-1338-C, -CF		
36728	849546-2	Lamp, threading
207305	983541-7	Nut, speed nut for threading lamp socket
215108	8874706-2	Shield, threading lamp
59852	8876217-1	Socket, threading lamp
28322	8976882-1	Switch, threading lamp
59813	8872221-40	Plug button, tumbler switch hole ME-1345-C only
TOOLS (SERVICE)		
49237	184682-2	Brush, aperture plate, cleaning
94565	8877523-1	Gauge, claw travel
94566	146860-2	Gauge, claw protrusion
49108	180001-9	Pin, sound optical azimuth, adj. wrench
49101	185142-501	Wrench, sound optical focusing wrench

TAKEUP AND REWIND MECHANISM

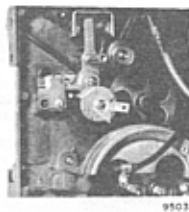
"OPERATE" - "REWIND"
TO DISASSEMBLE



REMOVE THESE FOUR SCREWS
TO REMOVE BELT GUARDS.
LARGE PULLEY GUARD AND
PULLEY.

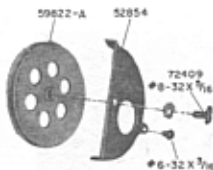
REMOVE 3 SHIELD MTD. SCREWS

215671
LOWER
215670
UPPER

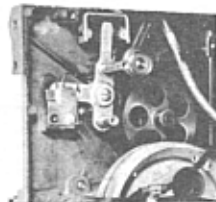


LARGE PULLEY AND GUARD
REMOVED. PULLEY MUST
ROTATE FREELY AFTER
ASSEMBLY.

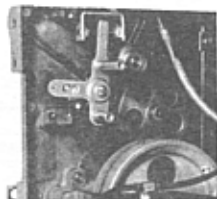
SPRING BELTS



72409
#8-32 X 7/16
#6-32 X 7/16



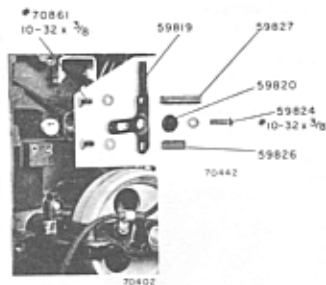
REMOVE SMALL PULLEY AND GEAR
ASSEMBLY. PULLEY MUST ROTATE
FREELY AFTER ASSEMBLY.



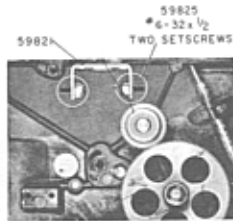
REMOVE SPRINGS AND BRACKET.



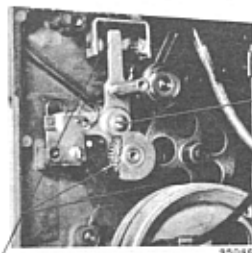
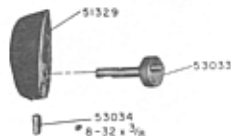
TAKEUP AND REWIND MECHANISM



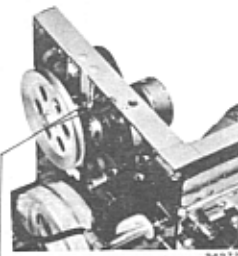
WHEN ASSEMBLING KNOB ALLOW
TWO THICKNESSES OF FILM
BETWEEN MAIN FRAME AND KNOB



#6
BRISTO
WRENCH
FOR
SETSCREWS
59825



WITH SHIFT KNOB IN "OPERATE" POSITION,
ADJUST THIS SCREW TO ALLOW A SMALL
AMOUNT OF BACKLASH BETWEEN THESE
TWO GEARS



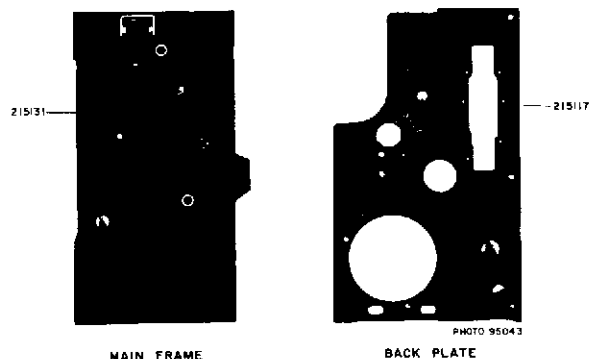
WITH SHIFT KNOB IN "REWIND" POSITION,
ADJUST THIS SCREW TO ALLOW A SMALL
AMOUNT OF BACKLASH BETWEEN THIS
GEAR AND LARGE PULLEY GEAR

AN ADDITIONAL HALF-TURN "IN" OF THE ADJUSTING SCREWS AFTER THE GEARS JUST
BECOME FREE WILL PROVIDE THE CORRECT BACKLASH

PARTS

Stock No.	Drawing No.	Description
TAKEUP AND REWIND ASSEMBLY		
59619	8854540-2	Arm, pulley shift
215670	184261-8	Belt, rewind spring belt, upper
215671	184261-9	Belt, take-up spring belt, lower
59620	8876298-1	Bearing, pulley arm, oilite
59621	8876734-501	Bracket, arm stop bracket assembly
204321	184536-503	Guard, assembly small pulley
52854	8850527-2	Guard, large pulley
57663	147035-2	Guard, belt, lower section
57664	147036-2	Guard, belt, upper section
51329	142738-501	Knob, take-up & rewind, shift
204050	187555-2	Plate, take-up & rewind
59622-A	184307-504	Pulley, and gear assembly, large
59623-A	8853177-504	Pulley, and gear assembly, small
59624	57460-115	Screw, pulley arm, shoulder
53033	184291-503	Shaft, shift knob and pin assembly
54051	184300-3	Spring, take-up and rewind bracket
53034	8888539-144	Screw, shift knob, S.S.
59625	189195-16	Screw, stop bracket adj. 6-32 x 1/2" lg.
59626	8876222-1	Shaft, stud, small pulley, 0.700" lg.
59627	8876222-2	Shaft, large pulley, 1.22" lg.
70861	90445-105	Screw, pulley stud
72409	990318-107	Screw, pulley

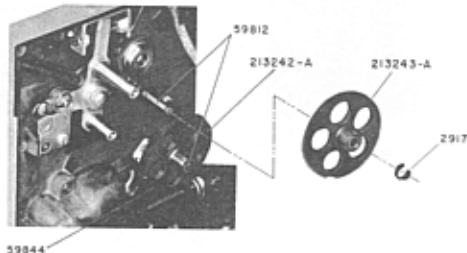
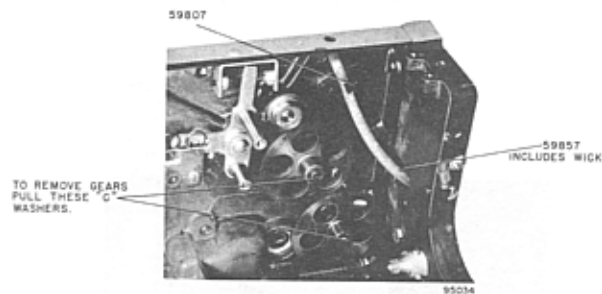
MAIN FRAME AND BACK PLATE



PARTS

Stock No.	Drawing No.	Description
MAIN FRAME AND BACK PLATE		
215131	175461-504	Frame, main frame assembly with shafts and oilite bearings
215117	166545-2	Plate, back

IDLER GEAR ASSEMBLIES, UPPER AND LOWER

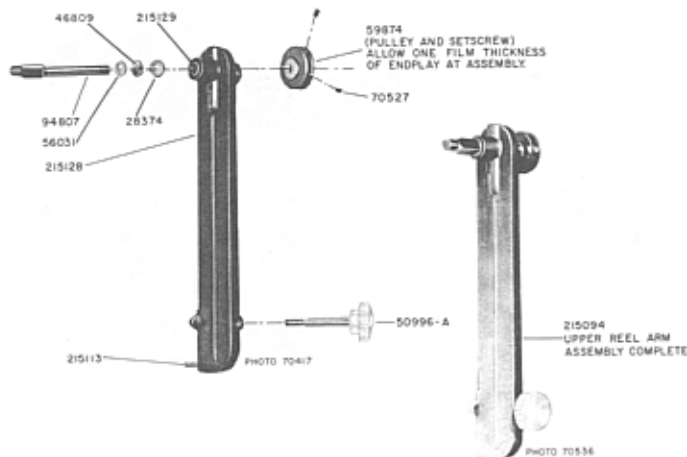


59844

PARTS

Stock No.	Drawing No.	Description
IDLER GEAR ASSEMBLIES		
213242-A	177687-501	Gear, idler gear powder iron lower
213243-A	177687-502	Gear, idler gear powder iron upper
59807	990502-8	Nut, oil pipe speed nut
59857	8876081-502	Pipe, oil pipe (includes wick)
59812	8875958-1	Shaft, upper and lower idler gear shaft
2917	61933-1	Washer, idler gear, spring

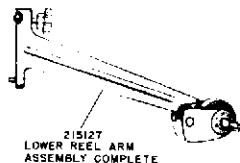
REEL ARM ASSEMBLY, UPPER



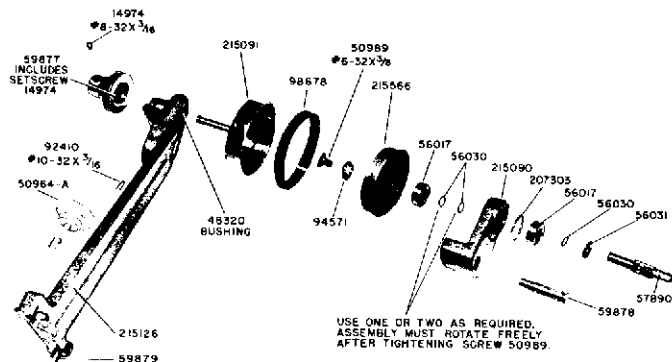
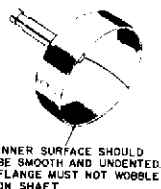
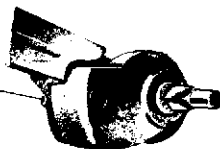
PARTS

Stock No.	Drawing No.	Description
REEL ARM - UPPER		
215113	184720-70	Pin, groove, upper reel arm, positioning
215094	148300-503	Arm, upper reel arm, complete
215128	8875945-502	Arm, upper reel arm, with bushing and pin assembly
215129	8876243-3	Bushing, upper reel arm
59874	8875943-1	Pulley, drive and setscrew
70527	8888539-122	Screw, pulley setscrew, 6-32 x 3/16" lg. cup point
50996-A	8434454-2	Screw, upper reel arm thumb screw
94807	185965-506	Bushing, upper reel arm
56031	88534-32	Washer, 1/2" OD x 1/4" ID x 0.20 thick
20374	286391-45	Washer, flat, 1/2" OD x 1/4" IDX .002 thick
46809	183750-1	Washer, spring, 7/16" OD x 1/4" IDX .0065 thick

REEL ARM ASSEMBLY (LOWER) TO SERVICE LOWER REEL ARM ASSEMBLY



LOOSEN THIS SETSCREW
(#10-32 X 3/16) TO REMOVE
FRICTION CLUTCH ASSEMBLY
WHEN REINSTALLING USE
TWO THICKNESSES OF FILM
FOR ENDPLAY ADJUSTMENT.



PARTS

Stock No.	Drawing No.	Description
REEL ARM - LOWER		
215127	175460-503	Arm, lower reel arm, complete
215126	148307-502	Arm, reel arm with bushing and pin assembly
56017	8800619-2	Bearing, ball
215090	188047-9	Bracket, lower reel arm clutch
48320	8876243-4	Bushing, lower reel arm, oilite
215091	187588-505	Flange, drive flange and shaft assembly
94079	8853160-2	Pin, reel arm positioning pin
59877	188637-3	Pulley, belt drive and setscrew
215566	148102-7	Pulley, clutch
207305	142510-104	Ring, bearing retaining
98678	187551-3	Ring, felt clutch drive
93410	8886539-82	Screw, set clutch pivot shaft, 10-32 x 3/16" lg.
14974	8806539-142	Screw, pulley setscrew
50984-A	8434454-1	Screw, lower reel arm thumbcrew
94571	8875605-1	Lockwasher, dashed, type No. 6, reel shaft screw
50989	8887470-4	Screw, reel shaft binder head, 6-32 x 3/8
59878	188582-2	Shaft, clutch pivot
57890	185987-506	Shaft, reel shaft assembly, lower
56030	82237-31	Washer, flat 5/16" O.D., stl.
56031	889634-32	Washer, flat 1/2" O.D.

HANDLE MOUNTED ON PROJECTOR



94975

HANDLE

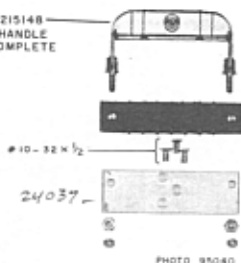
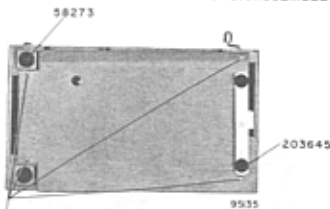
215148
HANDLE
COMPLETE

PHOTO 95040

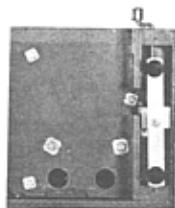
PARTS

Stock No.	Drawing No.	Description
HANDLE		
215148	8943868-501	Handle Assembly, projector, speaker criss

TILT MECHANISM
TO DISASSEMBLE TILT MECHANISM

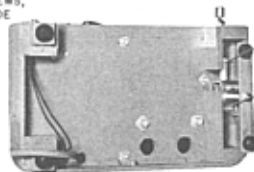
9535

REMOVE THESE FOUR SCREWS,
RAISE LEFT END AND SLIDE
COVER OFF TO LEFT.



9532

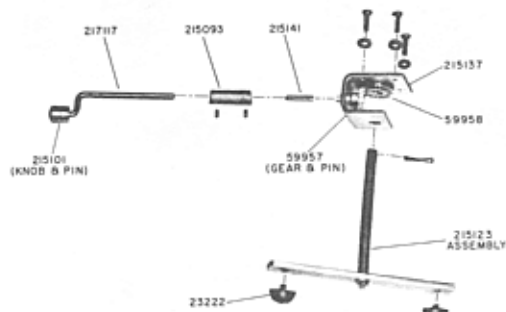
2. REMOVE THIS SETSCREW.



94981

3. REMOVE THREE SCREWS.
(UNSCREW FROM OTHER
SIDE.)

TILT MECHANISM FOR RCA 400 JUNIOR AND SENIOR

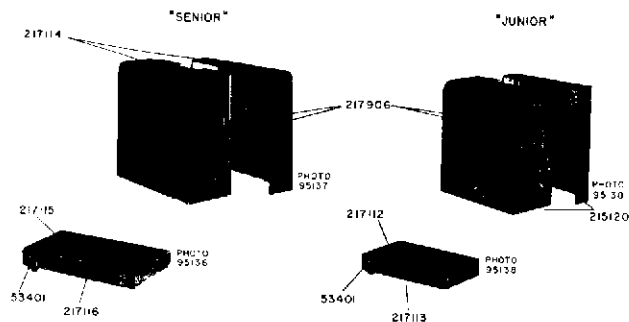


PHOTOS 95274, 95275, 95276

PARTS

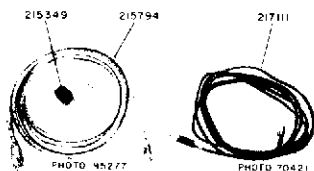
Stock No.	Drawing No.	Description
TILTING MECHANISM		
215137	8412490-2	Bracket, tilt mechanism
215093	8943873-1	Coupling, crankshaft, and setscrew
217117	8943877-501	Crank, shaft tilt assembly
215125	8876396-502	Foot, and tilt shaft assembly
23222	8853143-2	Foot, elastic tip
59957	8876006-3	Gear, crank shaft bevel gear and pin
59958	8876006-2	Gear, tilt shaft bevel gear
215101	8943874-1	Knob, crank & pin
215141	8943872-2	Shaft, drive gear

PROJECTOR CASES



CORDS

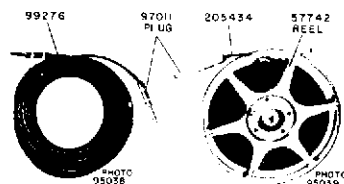
POWER CORDS



"SENIOR"
OR
(MI-1338-C-CF
AND MI-1345-CT)

"JUNIOR"
(MI-1345-C-CF)

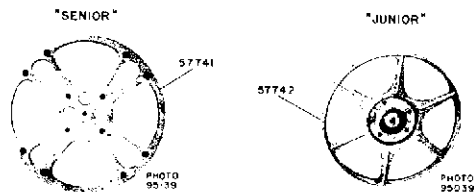
SPEAKER CORDS



"SENIOR"

"JUNIOR"

REELS



"SENIOR"

"JUNIOR"

PARTS

Stock No.	Drawing No.	Description
PROJECTOR CARRYING CASE FOR MI-1338-C-CF "SENIOR"		
217115	166669-501	Base, projector base only
217114	8942564-501	Case, carrying, case, complete
217906	8973664-2	Catch, cover with rivets (black finish)
217116	177350-501	Cover, bottom, Sr.
58273	8874650-2	Foot, elastic tie
215148	8943888-501	Handle, carrying
53401	8876524-1	Jack, sound output (on base)
59675	990303-6	Nut, speed, 8-32 rear cover screw retaining
217817	8867494-1	Plate, carrying handle, plastic
204037	8876326-4	Plate, carrying handle, support
219114	990108-613	Screw, Phillips Hd. No. 8-32 x 1/2
219115	990108-613	Screw, Phillips Hd. No. 8-32 x 7/8
59981	175645-1	Shield, projector, left hand
94839	175487-0	Shield, projector, right hand
PROJECTOR COVER AND SPEAKER HOUSING FOR MI-1345-C-CF, -CT "JUNIOR"		
217112	166670-501	Base, projector
215124	8876040-504	Bracket, lower reel and storage bracket
205389	8876520-3	Cable, speaker, cable only, bulk
217906	8873664-2	Catch, cover with rivets, bright finish
205434	8876521-503	Cable, speaker cable and connectors 50 ft.
97011	8876516-2	Connector, male, 2 contact, speaker cable plug
217113	177346-501	Cover, carrying case, bottom cover
215120	8942565-504	Case, carrying case junior
58273	8874650-2	Foot, elastic tie
59969	148400-1	Grille, speaker
53401	8876524-1	Jack, speaker, sound output (on base)
59675	990303-6	Nut, speed, No. 8-32, rear cover screw retaining
59976	8876514-1	Nut, speed, No. 8-32, clamp type
57742	141983-8	Reel, speaker cable mounting film, 400 feet (not used in 1338-C)
59966	8887774-3	Screw, No. 8-32 x 3/8 Phillips Hd.
59974	8876035-1	Shaft, reel storage
59678	175488-1	Shield, projector, left hand
94838	175487-8	Shield, projector, right hand
215806	177496-1	Speaker, B" P.M. - V.C. g.n.
218385	8876053-4	Spacer, speaker
219114	990108-613	Screw, Phillips Hd. No. 8-32 x 1/2
219115	990108-613	Screw, Phillips Hd. No. 8-32 x 7/8

PARTS

Stock No.	Drawing No.	Description
SPEAKER AND ACCESSORY CARRYING CASE, MI-1312-C		
56719	8872118-1	Angle, lid hinge, rubber
97470	8876511-1	Bracket, speaker jack mounting
96276	8876517-502	Cable, speaker cable & connector
215146	8874808-505	Case, speaker carrying case
215351	8874659-5	Catch, speaker case
97011	8870516-2	Connecter, 2 contact, male, grounding speaker cable (plug)
57733	8874660-1	Foot, rubber
57766	8874874-1	Gasket, grille
57765	147810-2	Grille, rectangular, speaker
215148	8943886-501	Handle assembly carrying case
53401	8876524-1	Jack, speaker
57741	141983-12	Reel, film, 1600 feet
94436	165437-1	Speaker, 10" P.M. Speaker, 6-8 V.C. imp.
POWER CABLE AND ADAPTOR FOR MI-1338-C, -CF AND MI-1345-CT		
215349	8943815-1	Adaptor, 3 conductor to 2 conductor
2-5794	8946155-2	Cable, power, 3 conductor with 3 contact male connector, 10 feet lg. 15 amp, 125 V. 16 GAUGE
POWER CABLE FOR MI-1345-C, -CF		
217111	8946159-2	Cable, power, 2 conductor with 2 contact male connector, 10 feet lg. 16 GAUGE

TITANIC

P.O. BOX 6357
CINCINNATI, OHIO 45206

MI-1312-C SPEAKER AND ACCESSORIES CARRYING CASE AND MI-12453 AUXILIARY SPEAKER

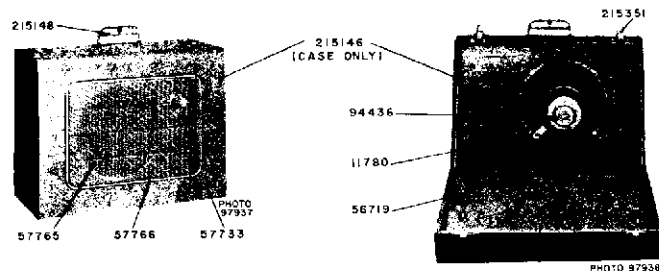


PHOTO 87938

MI-12453 SPEAKER MECHANISM (10-INCH) FOR MI-1312-C

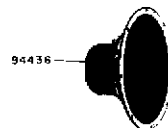


PHOTO 70425

ASSEMBLY OF RCA 400 JUNIOR SPEAKER

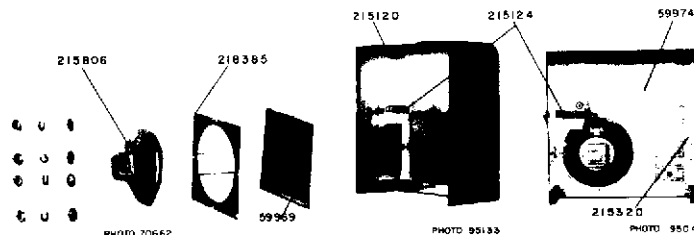


PHOTO 70662

PHOTO 95133

PHOTO 95041

CLEANING AND LUBRICATION

Inspect all bushings, bearings, and other parts for cleanliness.

Thoroughly clean all parts before reassembly with carbon tetrachloride or other solvent to avoid abrasive action of dirt on moving parts.

Apply four or five drops of light oil such as Socony Vacuum "Vactra Light X" (RCA Stock 25367) to all shafts and bushings prior to their reassembly.

Lightly apply lubriplate 110 to the teeth of all gears after their reassembly.

Place a few drops of light oil in motor oil holes once every 1000 hours.

Felt oil pads and wicks in oiling tubes should be saturated with "Sta-Put 370 Oil" (E. F. Houghton Co.).

Lubricate shafts carrying plastic rollers with micro-fine graphite or a soft lead pencil.

Do not use carbon tetrachloride or other solvent to clean coated lens surfaces. Breathe on lens and clean with lens tissue.

Do not force the assembly of parts. It should not be necessary to alter any parts by operations such as filing, tapping, drilling, scraping, etc., to enable them to be assembled.

Always use the proper tool designed to do the job.

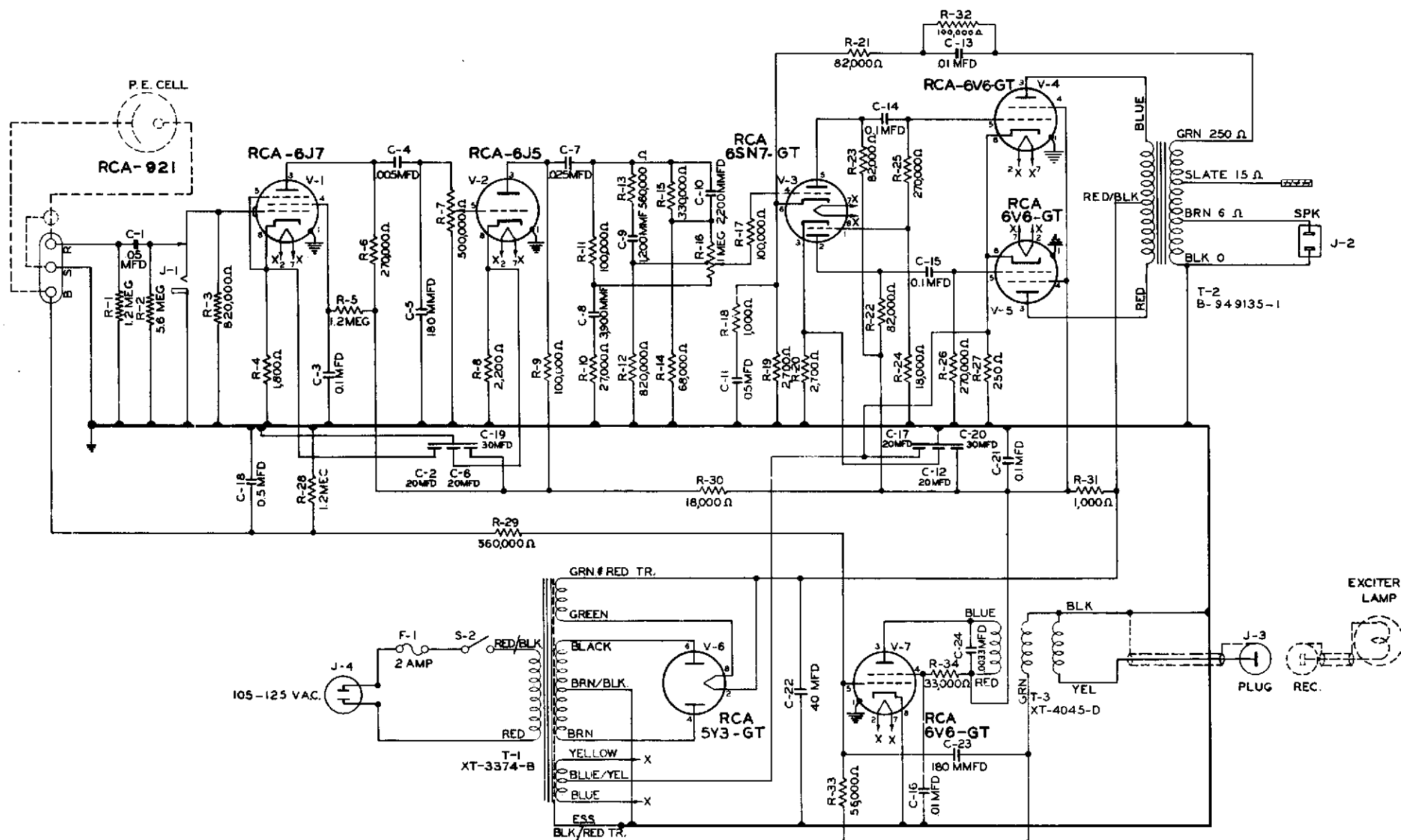
SERVICE AIDS

These notes have been prepared to aid the 16mm technician to quickly localize the cause of a given effect when its symptom is apparent and to suggest the required corrective action.

SOUND SYSTEM

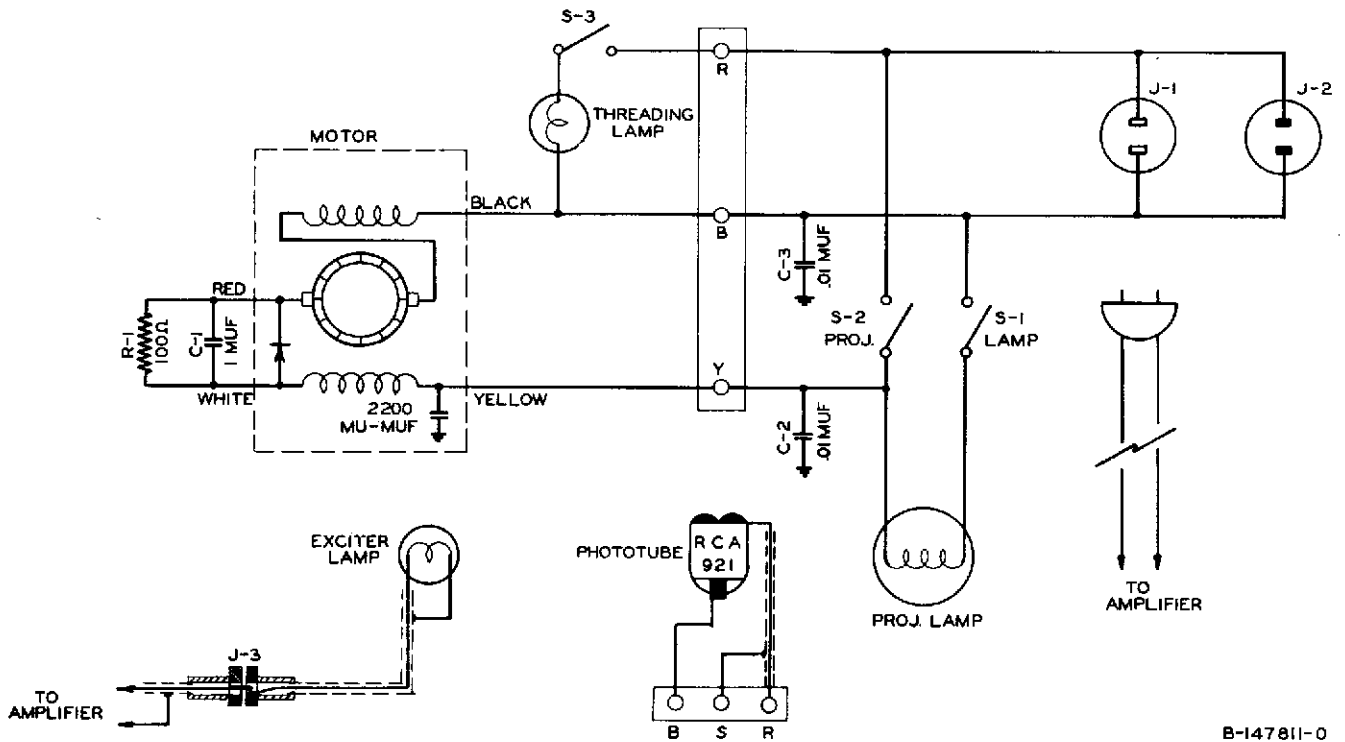
<i>Symptom</i>	<i>Probable Cause</i>	<i>Correction</i>
Weak or no sound, projection lamp lighted.	AMPL switch off. Volume control off. Blown amplifier fuse. Loudspeaker not connected. Plug out of back of projector. Power cord not connected to proper source of supply. Exciter lamp out. Defective Oscillator coil. Weak rectifier tube 5Y3GT. Open speaker voice coil circuit. Sound optic dirty or out of adjustment. Sound mirror dirty or out of adjustment. Phototube installed incorrectly.	Turn switch on. Adjust control. Replace with 2 amp. fuse only. If recurrent, determine cause. Plug in. Plug in. Check frequency and voltage. Replace. If new exciter lamp does not light, replace Oscillator tube 6V6GT. Replace. Replace. Replace cone after first checking speaker connections. Clean, See Page 24. Clean, See Page 21. Install in correct position, see page 26.
Sound on MIC—no sound on FILM.	Microphone plug in jack. Exciter lamp out. Sound optic dirty or out of adjustment. Sound mirror dirty or out of adjustment. Photocell defective or installed incorrectly.	Remove plug from jack. Replace—Check Oscillator tube. Clean, See Page 24. Clean, See Page 21. See Page 26.
Sound on FILM—no sound on MIC.	Microphone plug not in jack. Microphone plug or receptacle defective. Microphone defective.	Insert plug in jack. Repair or replace. Replace.
Sound microphonic (Ringing noise) (a) With Volume control on. (b) With Volume control off.	Phototube loose or hitting cover. Defective 6J7 tube. Defective 6J5 or 6SN7GT tube.	See Page 26. Replace. Replace.
Tone unsteady. (High or low frequency variations in pitch)	Film threaded under tension roller. Sound drum, shaft or bearings. Pressure roller incorrectly adjusted. Pressure roller dirty or binding. Tension roller incorrectly adjusted.	Thread over tension roller. See Page 21. See Page 23. Clean, See Page 23. See Page 27.

<i>Symptom</i>	<i>Probable Cause</i>	<i>Correction</i>
Tone unsteady (continued)	Sound drum dirty. Guide roller sticking. Phototube cover interfering with pressure roller arm. Erratic takeup tension.	Clean. See Page 22. Install cover correctly, see page 26. See Page 34.
Motor "hash" in sound.	Open capacitor across governor control, 1 mfd. Open capacitor from power line to frame .01 mfd or 2200 mfd (inside motor). Defective governor or governor brushes. Commutator brushes not seated. Lock washers missing from screws holding amplifier cover.	Replace. Replace. Repair or replace. Repair. Replace.
Sound but no picture.	Lamp switch off. Projection lamp missing or burned out.	Turn on. Replace.
Loses both film loops.	Upper sprocket shoe out of adjustment.	Adjust, See Page 33.
Loses lower loop.	Broken sprocket holes. Bad splices. Film binding in gate. Claw out of adjustment. Dirty claw.	Cut out and splice film. Resplice. Check for thick splices. Check side pressure shoes. Adjust, See Pages 13, 14 and 15. Remove dirt and emulsion from claw.
Improper tapeup operation.	Takeup bearing sticking. Excessive takeup tension.	See Page 34. See Page 34.
Projector mechanism noisy.	Claw travel excessive.	See Page 15.
Tears sprocket holes.	Upper reel arm shaft binding. Under-cut claw. Under-cut film sprocket teeth. Excessive takeup tension.	See Page 33—Adjust end play. See Page 13. See Page 20. See Page 34.
Travel ghosts. White streaks above or below white areas on screen image)	Shutter out of adjustment.	See Page 12.
Picture motion unsteady.	Unsteadiness present in picture print. Claw travel too short. Improper threading. Claw undercut. Side pressure shoe springs on aperture plate too weak. Picture gate not latched securely.	See Page 32. Check loops for proper length. See Page 13. See Page 18. Bend latch spring, See Page 19.
Picture indistinct or illumination low.	Projection lens dirty. Condenser lens dirty. Condenser lens incorrectly assembled. Reflector dirty or damaged. Projection lamp black or blistered. Low line voltage.	Clean, See Page 3. Clean, See Page 7. See Page 7. Clean or replace, See Page 7. Replace lamp. Use a Voltage Booster.
Film scratched.	Film pressure shoe dirty or damaged. Sound drum pressure roller dirty or damaged. Emulsion hardened on film-gate shoe. Aperture plate dirty or damaged. Guide roller dirty or sluggish. Snubber roller damaged.	Clean or replace, See Page 19. Clean, See Page 23. Remove emulsion. Clean or replace, See Page 18. Clean, See Page 22. See Page 28.



RCA 400 AMPLIFIER SCHEMATIC

T-164937-0



B-147811-0

RCA 400 PROJECTOR CIRCUITS

REPLACEMENT PARTS

The following parts list is included to provide identification when ordering replacement parts. RCA 16MM Dealers will be glad to quote on genuine factory-tested parts. Replacement parts supplied may be slightly different in form or size from the original parts but will be completely interchangeable with them.

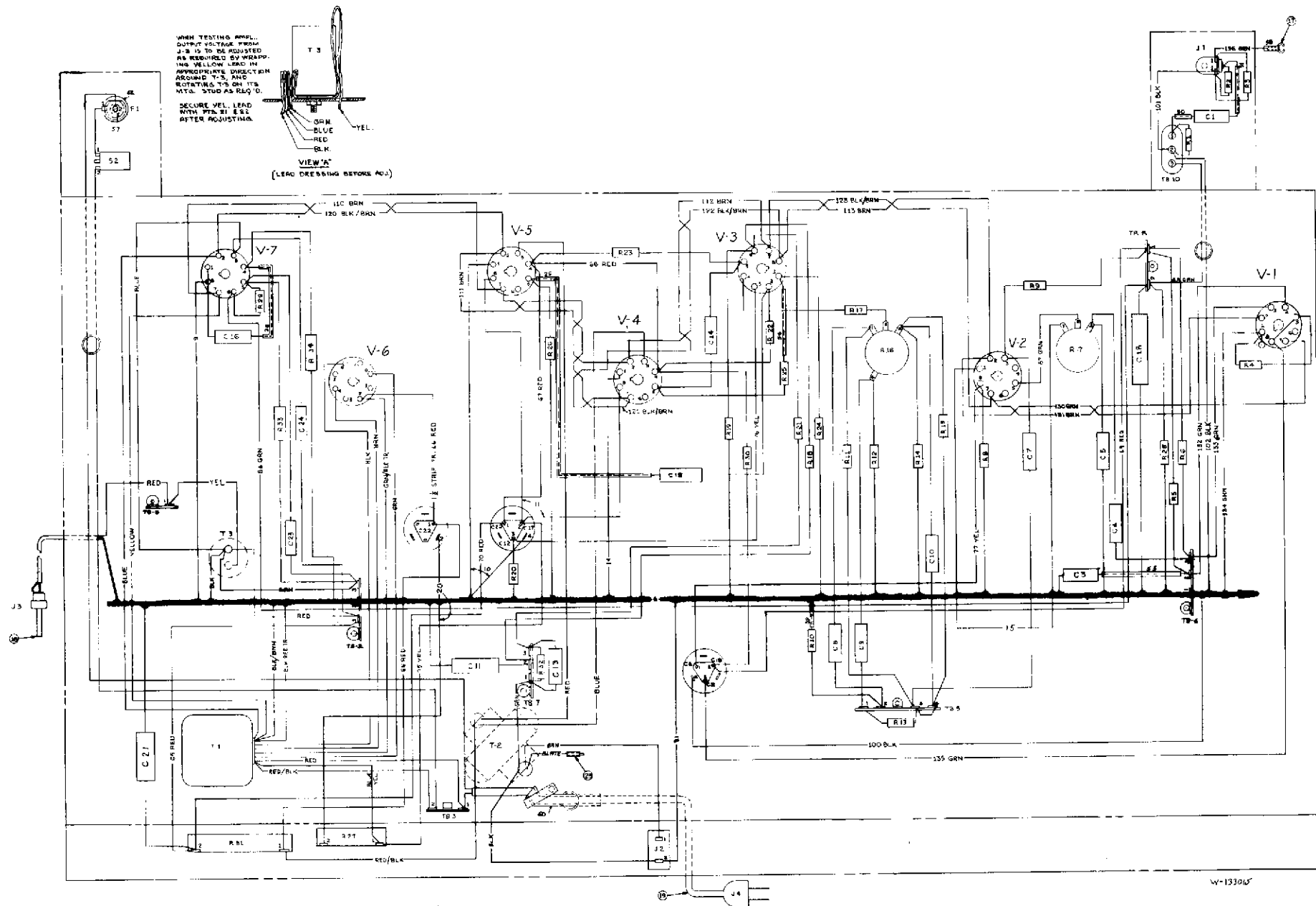
For your convenience, this parts list has been arranged alphabetically by name of the sub-assembly and also by name of the part associated with each sub-assembly. After the part number has been determined from the exploded view of the sub-assembly, its name and purpose may be readily found by checking the part numbers listed under the sub-assembly involved.

For example, to ascertain the name of a part associated with the intermittent mechanism, turn alphabetically to "Intermittent Assembly," under which all parts associated with this mechanism are also alphabetically listed.

The exploded assembly views show the mechanical assembly sequence of the parts making up the sub-assembly as well as their stock number, and will prove a ready reference and a positive check when the stock number or name of part is in doubt.

LIST OF AMPLIFIER PARTS

Symbol No.	DESCRIPTION	Stock No.	Symbol No.	DESCRIPTION	Stock No.
C-1	Capacitor, 0.05 mfd., 400 v.	70615	R-11	Same as R-2.	
C-2	Capacitor, 20-20-30 mfd.	51339	R-12	Resistor, 820,000 ohms, $\frac{1}{2}$ w.	
C-3	Capacitor, 0.1 mfd., 400 v.	70617	R-13	Resistor, 560,000 ohms, $\frac{1}{2}$ w.	
C-4	Capacitor, 0.005 mfd., 400 v.	70606	R-14	Resistor, 68,000 ohms, $\frac{1}{2}$ w.	
C-5	Capacitor, 180 mmf., 500 v.	68541	R-15	Resistor, 330,000 ohms, $\frac{1}{2}$ w.	
C-6	Part of C-2		R-16	Control, tone control, 1.0 meg. ...	53029
C-7	Capacitor, 0.025 mfd., 400 v.	70612	R-17	Same as R-2.	
C-8	Capacitor, 3900 mmf., 500 v.	68738	R-18	Resistor, 1000 ohms, $\frac{1}{2}$ w.	
C-9	Capacitor, 1200 mmf.	68495	R-19	Resistor, 2700 ohms, $\frac{1}{2}$ w.	
C-10	Capacitor, 2200 mmf.	39660	R-20	Same as R-19.	
C-11	Same as C-1.		R-21	Resistor, 82,000 ohms, $\frac{1}{2}$ w.	
C-12	Same as C-2.		R-22	Resistor, 82,000 ohms, 1 w.	
C-13	Capacitor, 0.01 mfd., 400 v.	70610	R-23	Same as R-22.	
C-14, 15	Same as C-3.		R-24	Resistor, 18,000 ohms, $\frac{1}{2}$ w.	
C-16	Same as C-13.		R-25, 26	Same as R-6.	
C-17	Part of C-12.		R-27	Resistor, 250 ohms, 7.4 w.	51340
C-18	Capacitor, 0.5 mfd., 100 v.	70619	R-28	Resistor, 1.2 meg., $\frac{1}{2}$ w.	
C-19	Part of C-2.		R-29	Same as R-13.	
C-20	Part of C-12.		R-30	Same as R-24.	
C-21	Same as C-3.		R-31	Resistor, 1000 ohms, 10.9 w.	52938
C-22	Capacitor, 40 mfd., 450 v.	37308	R-32	Resistor, 1200 ohms, 2 w.	
C-23	Same as C-5.		R-33	Resistor, 56,000 ohms, 1 w.	
C-24	Capacitor, .0033 mfd., 500 v.	39664	R-34	Resistor, 33,000 ohms, 2 w.	
F-1	Fuse, 2 amperes	3883	R-35	Same as R-2.	
	Holder, fuse	52097	S-2	Switch, toggle switch	43503
J-1	Jack, microphone	47613	T-1	Transformer, power transformer.	53030
J-2	Connector, speaker, 2 contact, female	57756	T-2	Transformer, output transformer.	57828
J-3	Connector, exciter lamp cable, single contact male	31048	T-3	Coil, oscillator coil	52939
J-4	Connector, power cable, 2 contact male	4577		Board, terminal, for phototube	54113
R-1	Resistor, 5.6 meg., $\frac{1}{2}$ w.			Cable, shielded, exciter lamp current, with single contact male connector	57642
R-2	Resistor, 100,000 ohms, $\frac{1}{4}$ w.			Cover, amplifier cover	57740
R-3	Resistor, 470,000 ohms, $\frac{1}{2}$ w.			Cushion, tube socket	37396
R-4	Resistor, 1800 ohms, $\frac{1}{2}$ w.			Knob, volume or tone control	32116
R-5	Resistor, 1.2 meg., $\frac{1}{2}$ w.			Socket, tube socket	31319
R-6	Resistor, 270,000 ohms, $\frac{1}{2}$ w.			Socket, cushioned tube socket	52937
R-7	Control, volume control, 0.5 meg.			Plate, mounting, for C-2, C-12, C-22	28452
R-8	Resistor, 2200 ohms, $\frac{1}{2}$ w.			Screw, amplifier cover screw, No. 10-32 x $\frac{1}{4}$ " bd. hd.	56508
R-9	Resistor, 100,000 ohms, $\frac{1}{2}$ w.				
R-10	Resistor, 27,000 ohms, $\frac{1}{2}$ w.				



RCA 400 AMPLIFIER WIRING DIAGRAM