

## PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	49X124X	Pickup Arm	49	11X715	Switch Assembly
2		Pickup Cartridge	50	45P1149	Switch Trip
3	11X713	Spindle	51	11X158	Trip Lever
4	11X138	Turntable	52	25P447	"C" Washer for "Off" Shaft
5	21X283	Pickup Arm Mounting Hinge	53	46P139	Tension Spring - Index Plate
6	11X386	Pickup Counter Balance	54	11X718	Automatic Shut - Off Lever Assembly
7	11X385	Pickup Shaft Assembly			
8	42P239	Record Weight	55	11X032	Trip Reset Gear
9	49P145	Record Selector	56	11X320	Velocity Trip and Roller Assembly
	11X725	Selector and Weight Assembly			
10	46P232	Record Weight Spring	57	46P187	Tension Spring - Lock Lever
11	25P399	Washer for Record Weight	58	50P034	Hairpin Clip
12	25P447	"C" Washer for Weight	59	25P406	Fibre Washer
13	49P111A	Reject Button	60	11X460	Drive Wheel - 78 RPM
14	11X139	Control Knob	61	11X458	Drive Wheel - 45 RPM
15		Set Screw	62	11X456	Drive Wheel - 33-1/3 RPM
16		Spring Washer	63	46P134	Idler Link Spring
17	49P027	Escutcheon	64	25P363	Rubber Motor Mount
18	46P251	"Off" Spring	65	17X505	Motor and Top Bridge Assembly
19		Shut-Off Button	66	41P592	Motor Mount Sleeve
20	41P842	"Off" Shaft	67	25P367	Motor Mount Washer
21	42X205	Speed Selector Knob	68	26P110	Motor Mount Bolt
22	41P333	Shoulder Screw	69	25P343	Washer - Reset Gear
23	47P024	Large Fibre Gear	70	25P342	"C" Washer - Reset Gear
	11X132	Idler Gear Assembly (includes Items 22, 23, 24, 25, 26, 38, and 39)	71	25P343	Washer - Reset Gear
24	45P342	Idler Gear Coupler	72	11X722	Cam and Trigger Assembly
25	47P023	Small Fibre Gear	73	46P161	Tension Spring - Rocker
26	25P284	Coupling Washer - for 11X132	74	26P316	Adj. Screw - Rocker Arm
27	41P414	Turntable Bearing	75	11X141	Rocker and Roller Assembly
28	11X058	Bearing Race	75A	45P1155	10" Setting Lever
	25P269	Washer for Bearing Race	76	46P012	Compression Spring - Selector
29	50P125	Hairpin Clip	77	11X724	Selector Lever and Collar
30	25P030	Felt Washer	78	11X165	Rocker and Lever
31	11X366	Idler Wheel	79	46P245	Compression Spring - Selector Lever
32	45P350	Crescent Plate	80	11X721	No Record Lever
33		Base Plate	81		"C" Washer
34		Pickup Arm Lift Stop Bracket	82		Flat Washer
35	24P022	Needle Pad	83	46P022	Tension Spring
36	25P333	Lock Washer	84	11X046	Raising Arm Lever (for production 375-112 or earlier)
37	26P687	Bearing Nut		11X787	Raising Arm Lever (for production 375-113 or later)
38	25P284	Coupling Washer for 11X132			
39	25P222	Lock Washer - for 11X132	85	50P125	Hairpin Clip
	26P046	Nut - for 11X132	86	41P443	Pin Record Lever
40	26P697	Speed Nut - for Item 17	87	50P204	Spindle Clip
41	26P697	Speed Nut - for Item 17	88	46P139	Tension Spring - Raising Lever
42		Hairpin Clip	89		Tension Spring
43		Flat Washer	90		Sub-Base Plate Assembly
44	17X466	Hub and Lever Assembly	91	11X726	Tone Arm Raising Disc
45	41P444	"On" Shaft	92	23P009	Friction Disc
46	32P044	A. C. Switch	93	41P421	Retaining Pin - Rocker
47	46P117	Trip Lever Spring	94	45P935	Trip Arm
48	46P123	"On" Spring	95	41P576	Clutch Weight

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WEBSTER-CHICAGO  
MODEL 106WEBSTER-CHICAGO  
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MODEL 106

Figure 1

## GENERAL INFORMATION

The Webster-Chicago Model 106 is a three-speed, single-post, velocity trip type changer designed to play automatically up to a one-inch stack of 7-inch, 10-inch, or 12-inch records, not intermixed, at a speed of 33-1/3, 45, or 78 RPM. The pickup arm will return to its rest position after completing the record and will then automatically shut off.

Two "Off" positions are provided on the speed control mechanism so that when the changer is not in use, and when the speed selector lever is moved to one of these "Off" positions, the idler wheel and speed pulleys are positioned so as not to have any frictional contact; thus, the possibility of a flat spot developing on the rubber drive surface is eliminated.

A record may be rejected at any time, while playing, by pressing the "Reject" button. Manual operation is provided for playing "badly warped" records, "nonstandard," "home recordings," or "inside-out" records.

The motor is designed to operate on 105-120 volts, 60 cycles, AC only.

Manufactured by:

Webster-Chicago Corporation  
5610 Bloomingdale Avenue  
Chicago 39, Illinois

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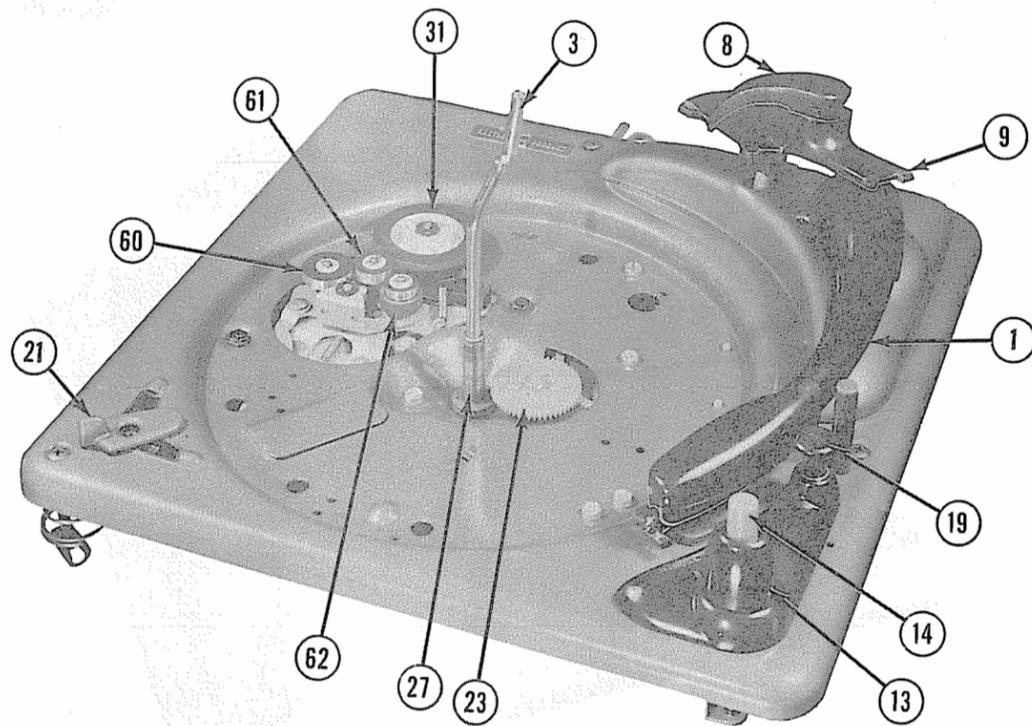


Figure 2

#### AUTOMATIC OPERATION

1. Turn the record selector post (9) to "10," "7," or "12," depending on size record to be played. The selector post turns in a clockwise direction to the "12" position and counterclockwise to the "10" position. For 7" records, turn the selector post to its intermediate position.

2. Turn the cartridge needle selector to 78 or 33-1/3-45, depending on type record to be played.

3. Turn the "Manual-Automatic" control knob (14) to "Automatic."

4. Move the speed control lever (21) to the proper speed.

5. Place up to a one-inch stack of records on the spindle so that the bottom record rests on the spindle shelf and record selector shelf.

6. Place the record stabilizer weight (8) on the records.

7. Press the "Reject" button (13). This turns the changer on and starts the automatic operation in playing the entire stack of records; upon completion of the last record, the changer will shut off automatically.

NOTE: If the turntable starts rotating but the changer does not cycle when the "Reject" knob is first pressed, push on it again to trip the mechanism.

8. To reject a record while playing, press on the "Reject" button (13).

9. To stop the changer while a record is playing, press on the "Off" button (19); then move the arm to its arm rest. If the changer is not to be used for a period of time, move the speed control lever (21) to one of the "Off" positions.

#### MANUAL OPERATION

1. Rotate the record shelf (9) to the "12" position to permit more clearance in loading and unloading records.

2. Place the record to be played on the turntable.

3. Turn the "Manual-Automatic" control (14) to "Manual."

4. Move the speed control lever (21) to the proper setting.

5. Move the needle selector knob to 78 or 33-1/3-45, depending on type record to be played.

6. Depress the "Reject" button (13). This starts the turntable rotating.

7. Move the needle to the starting groove of the record.

8. After the record has finished playing, press the "Off" button (19); then place the pickup arm on its rest.

#### CHANGE CYCLE

The trip dog on the main cam assembly (72) is normally held away from the cam-actuating gear (55) by the

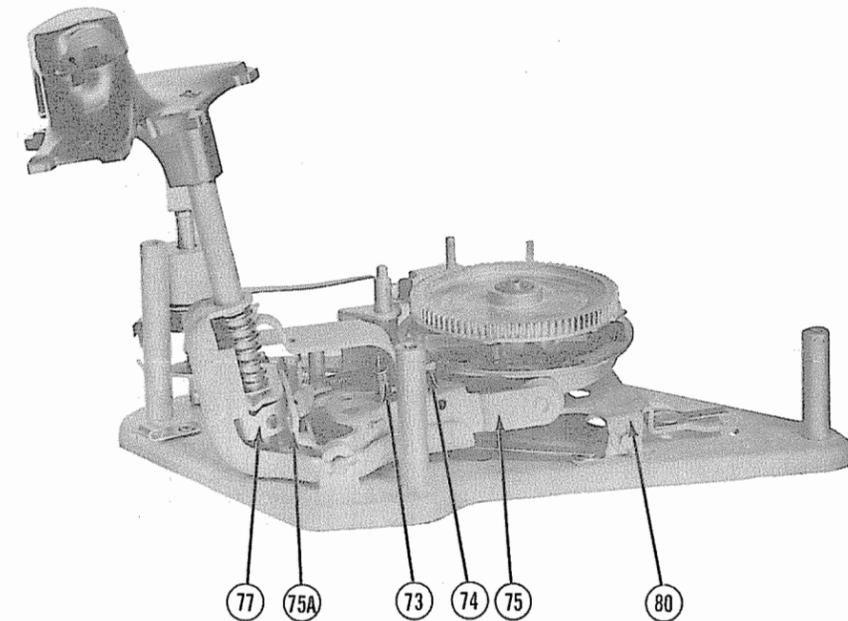


Figure 5

ward or back, as though the needle pressure were too light.

1. Check the needle tip. The standard tip will be especially likely to jump grooves of a microgroove record. Be sure the "microgroove" tip is used for either 33-1/3 or 45 RPM microgroove records.

2. Chipped or damaged needle.

3. Tight pickup cord.

#### Records Will not Drop to Turntable -

1. Selector post out of adjustment:

(a) Remove turntable and insert 1/4" "Spintite" wrench through hole in baseplate; then turn the adjustment screw (74) in a clockwise direction.

NOTE: After making this adjustment, replace the turntable and play several records. The records should drop to the turntable when the pickup arm is positioned over the arm rest. Also, observe the automatic shutoff on completion of the last record. If the mechanism does not shut off, the record support is positioned too close to the spindle. Turn the adjustment screw (74) counterclockwise and recheck the adjustment.

#### Pickup Arm Does Not Set Down on 10" Record -

1. 10-inch setting lever (75A) bent:

(a) If the finger on the 10-inch setting lever is bent, the 10-inch lock lever (75B) may not be pivoted so as to engage the raising disc.

#### LUBRICATION

Lubrication applied at the time of manufacture is usu-

ally sufficient for a long period of time; however, should it become necessary to relubricate, due to extreme conditions of dust, heat, excessive wear, or the replacement of parts, the mechanism should be cleaned with carbon tetrachloride and lubricated as follows:

Use No. 10 oil (apply with small oil can or medicine dropper):

1. Motor bearings.

2. Pickup arm shaft (7). Apply one drop each to the bottom bearing point and bracket hole through main baseplate.

3. Ball bearing assembly (28).

4. Idler wheel felt.

A Non-Fluid Lubricant (apply with small brush):

1. Idler wheel link.

2. Turntable shaft stud.

3. pickup arm hinge pins.

4. Knife edge of pickup arm raising lever (84).

5. Main cam bearing. It is necessary to remove the sub-plate assembly to lubricate this bearing.

6. Teeth of main cam actuating gear (55).

7. Track of main cam (72).

8. Teeth of large and small idler gears.

9. Raising lever bracket bearing surface.

other until the needle rests above the lead-in groove of the record.

6. Complete the change cycle and place the pick-up arm on the arm rest. If necessary, bend the tongue of the pickup raising disc (91) closer to, or away from, the baseplate post until the pickup arm is positioned over the arm post. In this position, the raising lever (84) should engage the outer notch of the raising disc (91) during the change cycle when the arm is moved to its most outward position.

7. Check the adjustment by placing a stack of records on the turntable and running the changer through several change cycles; at the same time, observe the landing of the needle. Any minor adjustment may be made by the eccentric adjusting screw (5A).

#### Record Selector Post Angle -

The record selector post (9) should be adjusted so that the curve of the shelf matches the curve of the record:

1. To adjust the angle of the selector post (9), turn the post to the 10-inch position.

NOTE: Make sure that the boss on the collar (77) is facing the 10-inch selector lever and that the set screws in the collar are engaged in the off-center holes in the shaft (9).

2. Place a 10-inch record on the spindle, allowing it to rest on the spindle step and the record shelf.

3. With a No. 8 Bristol wrench in each of the set screws in the collar (77), alternately loosen one and tighten the other until the record selector post angle is correct.

NOTE: Be sure that both set screws are tight at the completion of the adjustment.

#### Automatic Trip Clutch Friction -

The clutch collar (95) supplies enough weight (Friction) to the trip arm (94) to operate the trip mechanism. No oil or grease should be used on the clutch mechanism as this may prevent the clutch mechanism from operating properly; however, should foreign material, oil, or grease come in contact with the trip clutch mechanism, clean the parts with carbon tetrachloride.

### TROUBLES

#### Changer Fails to Cycle When Reject Button is Pressed -

1. Wire on trip lever (51) may be bent, thereby not contacting finger (56A) of trip and roller (56) when trip lever (51) is actuated by "Reject" button.

2. Trip pawl on main cam (72) binding or broken, resulting in the pawl not engaging the ratchet teeth of the gear (55).

#### Changer Fails to Trip at End of Record -

1. Automatic trip arm (94) bent, thereby not contacting the velocity trip and roller assembly (56):

(a) Straighten trip arm (94) so that it will engage the turn-down tab (56B) (see Figure 4).

2. Turn-down tab on velocity trip (56) bent up, resulting in the trip arm (94) passing under the trip (56).

3. Check the velocity trip and roller assembly (56) for binding.

4. Check for binding or broken trip dog on main cam (72).

5. No velocity lead-in groove or eccentric groove in the center of record.

#### Continuous Tripping -

1. Check manual trip lever (51) for binding.

2. Roller on velocity trip lever (56) broken.

3. Too much clearance on hook (56D) of trip (56):

(a) The trip hook (56D) should be adjusted for about 1/64" clearance from the bottom of the main gear (55). Too much clearance may cause the cam pawl to bounce past the hook and re-engage with the main gear (55), causing the mechanism to continue to cycle.

(b) If the clearance between the lip (56C) on the velocity trip (56) and the edge of the main cam (72) is too small, it will prevent the hook (56D) from engaging the cam pawl. Adjust the clearance between the lip (56C) and the main cam (72) so that it will be within 1/64" when the roller is contacting one of the protrusions on the actuating gear (55).

#### Changer Fails to Shut Off -

1. Check the spindle (3) and no-record lever (80) to be sure they move up and down freely.

2. Hook (80B), on the no-record lever (80), fails to engage the raising disc (91):

(a) With no records on the turntable, trip the mechanism and rotate the turntable clockwise, by hand, until the pickup arm swings out over the arm rest. Check the hook (80B) to see if it drops behind the raising disc (91). Adjust, if necessary, by bending hook (80B) until it will engage the end of the cut-out section of the raising disc (91).

3. Check finger (80A) to see if it is free to drop past the bracket (78A) when there are no records on the turntable. If the bracket (78A) does hold the no-record lever (80) in a raised position when the changer is out of cycle, remove the turntable and adjust screw (74) until there is enough clearance for the no-record lever (80) to drop past the bracket (78A).

4. The formed arm (54A) of the automatic shut-off lever (54) bent and will not engage the ear on the raising lever when the pickup arm is lowered to its rest position.

5. Switch trip (50) missing the trigger on the switch assembly (49).

6. Faulty switch.

#### Slide-In or Needle Jumps Grooves -

Slide-in is where the needle will touch the first groove of the record properly but will jump the grooves for-

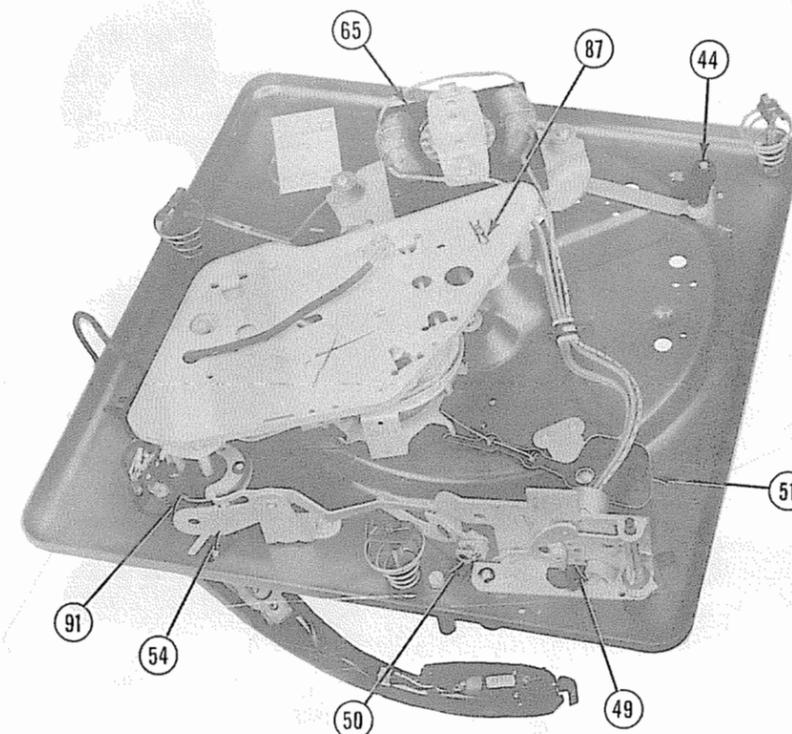


Figure 3

velocity trip and roller assembly (56). This assembly may be moved away manually by pressing on the "Reject" button (13), or automatically, when the pickup arm approaches the spindle at a rate greater than 1/8" per half revolution of the turntable. During normal playing of a record, the automatic trip arm (94) pushes against the velocity trip assembly (56); however, the projections on the cam actuating gear (55) push the velocity trip away from the tripping point, preventing the trip dog from being released.

When the trip dog is released by the fast lead-in of the pickup arm, the dog engages one of the ratchet teeth on the under surface of the cam actuating gear (55), causing the cam (72) to rotate with the gear.

As soon as the cam begins to rotate, the rocker arm roller (75) rides out of the cam detent. The pickup raising lever stud (84), following the cam groove, engages a notch on the raising disc (91), raising the pickup arm from the record and moving outward.

The rocker arm roller now travels down the incline of the cam (72), pivoting the selector post (9) forward, thereby selecting and dropping a record to the turntable. If the last record is dropped to the turntable, the spindle will raise due to the lack of weight being on it. This allows the no-record lever (80) to drop; however, its full travel is blocked by the finger (78A) which was moved under finger (80A) of lever (80) before the record was dropped to the turntable.

The stud on the raising lever (84) now swings the pickup arm in to the set-down point. When the record selector (9) is turned to the "10" position, pressure is applied to the raising lever (84) through spring (79), causing the raising lever to follow the outer edge of

the cam (72). Also, a lip on the selector lever collar (77) is in contact with "10" setting lever (75A); therefore, as the rocker arm moves forward, the "10" setting engages and moves the "10" latching lever (75B). As a result, the raising disc (91) engages the latching lever (75B) when the tone arm is moved inward. With this engagement, the raising lever (84) slips to engage the middle notch of the raising lever which, in turn, holds the pickup arm in position until it is lowered to the record. When the record selector is turned to the 7" setting, the boss on the collar (77) is turned away from the "10" setting lever (75A). This allows the raising lever (84) to stay in engagement with the outer notch on the raising disc (91). Due to the formation of the cam, the pickup arm will swing in, being positioned and lowered to the starting groove of a 7" record. For "12" set down, spring pressure is released from the raising lever, thereby allowing the raising lever stud to follow the inner edge of the cam which positions the pickup arm for "12" set down.

As the cam continues to turn, the raising lever stud moves up the incline in the cam groove, lowering the pickup arm to the record. At the same time, the rocker arm roller rides up its incline, returning record selector (9) to its normal position.

The hook on the velocity trip (56) catches the trip dog on the cam, disengaging it from the main gear (55). The rocker arm roller drops into the detent of the cam, thus completing the change cycle.

#### AUTOMATIC SHUTOFF

When the last record is dropped to the turntable and the change cycle is completed, the no-record lever (80) is allowed to drop to its lowest position. Upon com-

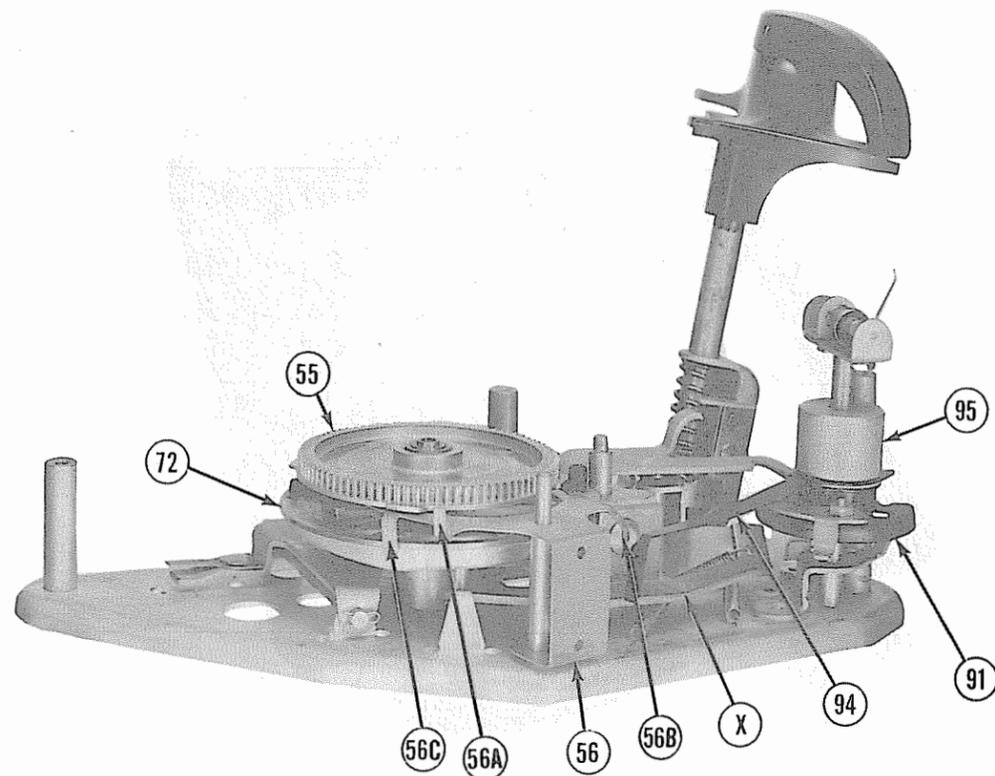


Figure 4

pletion of the last record, the mechanism is tripped, starting a new change cycle; however, during this cycle, the inward movement of the pickup arm is prevented by the engagement of the no-record lever (80) with the raising disc (91). The pickup arm and raising disc are now lowered in this position, causing a finger on the raising disc to contact the automatic shut-off lever (54) which, in turn, trips the switch assembly, shutting off the changer.

#### ADJUSTMENTS

##### Pickup Arm Height -

The vertical movement of the pickup arm height is controlled by the angle of the pickup arm raising lever (84). Correctly adjusted, the needle should clear the top record of a 1-inch stack of records by approximately 1/16". To correct the height, make the following adjustment:

1. Place a 1-inch stack of 10-inch records on the turntable.
2. Press the "Reject" button (35) and rotate the turntable clockwise, by hand, until the needle approaches the stack of records.

NOTE: Be sure the raising lever (84) engages the notch on the raising disc (91).

3. If the clearance between the needle and the top record is not approximately 1/16", adjust by bending the raising lever (84) at point (X) (see Figure 4).

CAUTION: Bend slowly, as only a slight change in the angle is required.

##### Set-Down Adjustment -

Normally, the set-down point is adjusted by turning the eccentric screw (5A) in the hinge (5) (see Exploded View). This screw may be reached through a hole in the top of the pickup arm. Turn this screw clockwise to index the needle in toward the spindle, and counter-clockwise to index the needle away from the spindle.

Should further adjustment be necessary, proceed as follows:

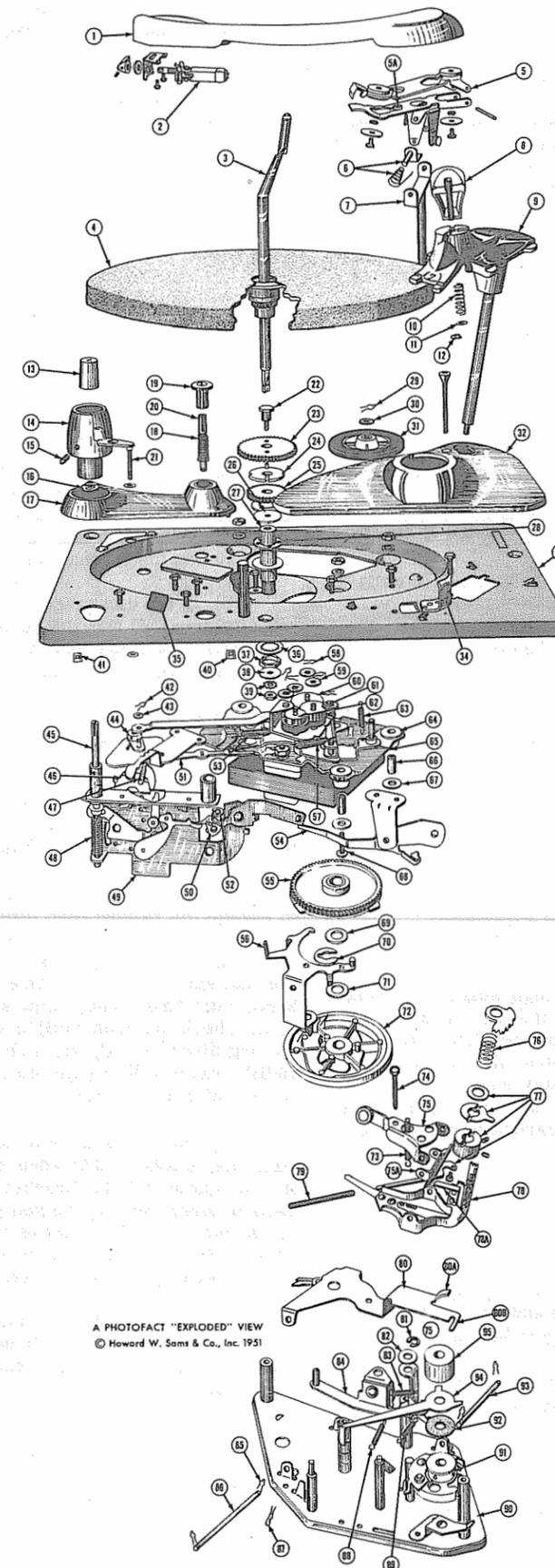
1. Turn the eccentric set-down adjustment screw (5A) to a neutral position.
2. Turn the record selector post (9) to the 10-inch position.
3. Place a 10-inch record on the turntable.

CAUTION: Check the raising disc (91) to see if it has worked loose on the pickup shaft (7). If the disc is loose, position it so that the cone-pointed set screws in the raising disc engage the off-center holes in the shaft.

4. Press the "Reject" button (13) and rotate the turntable clockwise, by hand, until the needle drops to within 1/8" of the record.

NOTE: Be sure the arm-raising lever (84) engages the notch in the raising disc (91).

5. The pickup arm may now be regulated by adjusting the two set screws in the raising disc (91). This is done by loosening one screw and tightening the



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