

PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	11X558	Spindle	40	11X539	Speed Selector Arm
2	50P221	Retainer for Turntable	41	46P134	Tension Spring - Idler Link
3	11X550	Record Ballast Arm and Index Finger Assembly	42	41P576	Clutch Weight
	11X549	Record Ballast Arm	43	11X547	Set-Down Disc Assembly
4	42X218	Index Finger Arm	44	46P225	Tension Spring - Set-Down Disc
5	24P048	Index Finger Cushion	45	46P017	Tension Spring for Cam Lever and Bracket
6	49X123-X	Pickup Arm	46	11X546	Cam Lever and Bracket-Comp.
7		Cartridge Mounting Bracket	46A	45P921	Cycle Stop Arm
8		Cartridge	47	25P439	"C" Washer for Speed Selector Arm
9	21X283	Pickup Arm Hinge	48	25P046	Fiber Washer
10		Pickup Arm Set-Down Adjustment Screw	49	45P935	Velocity Trip Arm
11	42P219	Housing	50	11X540	Speed Selector Link and Hub
12	11X386	Pickup Arm Counter Balance	51	23P009	Felt Washer - Velocity Trip
13	11X385	Pickup Arm Shaft	52	11X552	Pickup Arm Raising Disc
14	11X138	Turntable	53	11X542	Reject Trip Lever
15	41P333	Shoulder Screw	54	41P747	Shoulder Screw for Speed Selector Arm
16	47P024	Idler Gear - Large	55	46P219	Tension Spring - Trip Lever
17	45P342	Coupler	56	11X032	Main Actuating Gear
18	47P023	Idler Gear - Small	57	25P363	Motor Mounting Grommet
19	25P284	Washer	58	41P592	Motor Mounting Sleeve
20	25P269	Washer - Bearing Race	59	25P367	Motor Mounting Washer
21	11X058	Turntable Bearing	60	26P110	Motor Mounting Screw
22	41P414	Turntable Stud	61	17X481	Drive Wheel Mounting Plate and Cam
23)	50P125	Idler Wheel Retaining Clip	62	17X467	Motor and Top Bridge Assembly
24	25P030	Felt Washer	63	25P030	Felt Washer for Speed Selector Arm
25	11X366	Idler Wheel	64	32P054	A. C. Switch
26	25P046	Fiber Washer	65	25P343	Washer for Main Cam Assembly
27		Baseplate	66	25P342	"C" Washer for Main Cam Assembly
28	45P191	Stop Bracket for Pickup Arm	67	25P083	Washer for Main Cam Assembly
29	49P099	Pickup Arm Rest	68	11X545	Main Cam Assembly
30	46P226	Compression Spring - Reject Button	69	11X320	Velocity Trip
31	49X135	Reject Button	70	11X553	Pickup Arm Raising Lever
32	24P004	Needle Pad	71	46P022	Tension Spring - Raising Lever
33	42X217	Speed Selector Lever	72	46P221	Tension Spring - Raising Lever
34	25P447	"C" Retainer for Reject Button	73	45P909	Spindle Actuating Lever
35	25P289	Cup Washer - Spindle Mounting	74		Sub Frame
36	25P403	Lock Washer - Spindle Mounting	75	50P204	Spindle Retaining Clip
37	26P687	Nut - Spindle Mounting			
38	25P284	Washer			
39	25P222	Lock Washer			
	45P921	Cycle Stop Arm			
	26P046	Nut			

PHOTOFACT* Folder



WEBSTER-CHICAGO
MODEL 100

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GENERAL INFORMATION

The Webster-Chicago Model 100 is a three-speed, single-post changer designed to play automatically up to a one-inch stack of 7", 10" or 12" records at speeds of 33-1/3, 45 or 78 RPM. The pickup arm will return to its rest position after completing the last record. The turntable will continue to rotate until the speed-selector lever is moved to the nearest "Off" position. The idler wheel is also pulled away from the motor shaft when the speed-control lever is in an "Off" position, eliminating the possibility of a flat spot developing on the rubber wheel. Two "Off" positions are available for ease of operation. Manual operation is also provided to play warped, home recordings, or records that do not have lead-in or tripping grooves.

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

This material compiled and published by

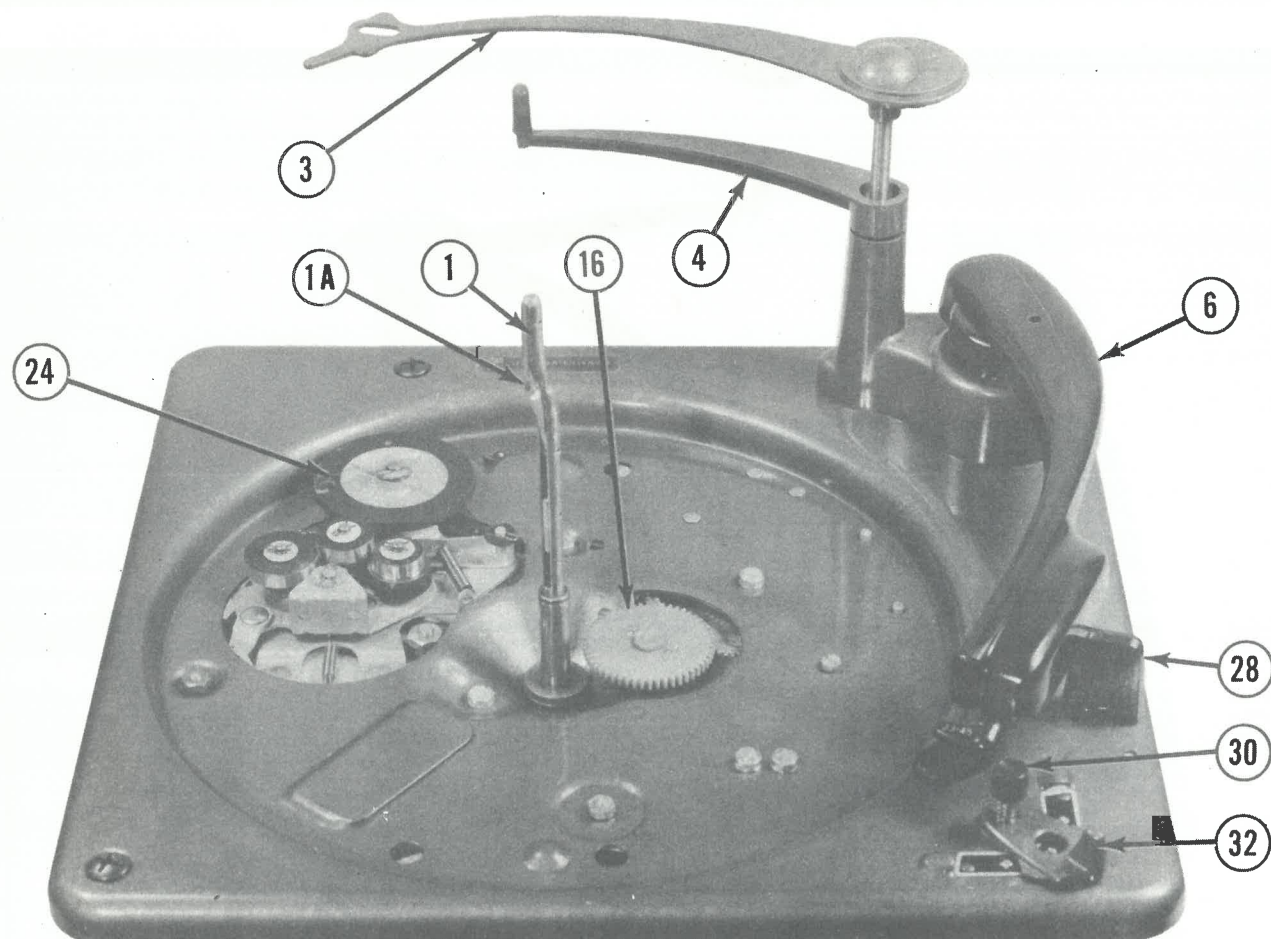
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DATE 6-51

SET 135

FOLDER 14



OPERATING INSTRUCTIONS

Automatic Operation -

1. Lift the record ballast arm (3) and swing it away from the spindle until it snaps into a locked position. The automatic index finger will also follow this outward movement.

2. Place up to a 1" stack of any one size of records on the spindle (1). Hold the records parallel to the turntable and swing the record ballast arm back to the spindle, allowing it to drop in position on top of the records. The indexing arm will stay in the outward position until the change cycle is started, at which time it moves in to contact the edge of the records.

3. Rotate the needle tip selector to the correct position for records being played.

4. Move the speed-selector lever (32) to the proper speed.

5. Push down on the "Rej." button (30) and release. This puts the changer into automatic operation, thus playing the entire stack of records.

To Reject a Record -

To reject any record while playing in the automatic position, push down on the "Rej." button.

Manual Operation -

1. To play records manually, lift the record

ballast arm (3) and swing it outward; the index arm (4) will move outward with the ballast arm.

2. Turn the needle-selector knob to the correct position.

3. Move the speed-control lever (32) to the correct speed.

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

5. To stop the mechanism at any time, turn the speed-selector lever (32) to an "Off" position.

CHANGE CYCLE

As the pickup arm moves toward the center of the record, it carries the velocity trip arm (49) with it through the frictional condition set up by the clutch weight (42); this holds the trip arm against the pickup arm raising disc (52), which is fastened to the pickup arm shaft (13). The trip arm gradually approaches the velocity trip lever (69) and, upon contact, carries the lever with it. However, the main cam actuating gear (56) has four equally spaced projections on its circumference which strike the velocity trip roller as the gear revolves. This forces the velocity trip arm (49) and the velocity trip lever (69) back away from the tripping point. This does not affect the pickup arm because of the friction clutch. When the needle enters the eccentric groove of the record, the velocity trip arm (49) moves at such speed that it carries the velocity trip lever (69) to the tripping point between the projections on the main gear. This releases the actuating pawl (68A)

the hook end (H) of the trip lever (69) from engaging the trigger.

Adjust the clearance between the lip (L) and the main cam (68) to be within 1/64" when the roller is contacting one of the protrusions on the actuating gear (68).

Records Fail to Drop -

1. Spindle out of adjustment (see "Spindle Adjustment").

More than One Record Drops at a Time -

1. Center hole in records too large.

2. Spindle slide (1A) not fully down. If the spindle slide (1A) is not all the way down, more than one record may drop at a time. Check the slide to see that it is free and does not bind at any point.

3. Exceptionally thin records.

Slide-In or Needle Skips Grooves -

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

2. Chipped or damaged needle.

3. Tight pickup cord.

4. Needle pressure too light (see "Needle Pressure Adjustment").

Stalls During Cycle -

1. Grease or oil on turntable rim or rubber drive surfaces of the motor assembly. Clean with carbon tetrachloride.

2. Spindle out of adjustment (see "Spindle Adjustment").

3. Check for low line voltage.

LUBRICATION

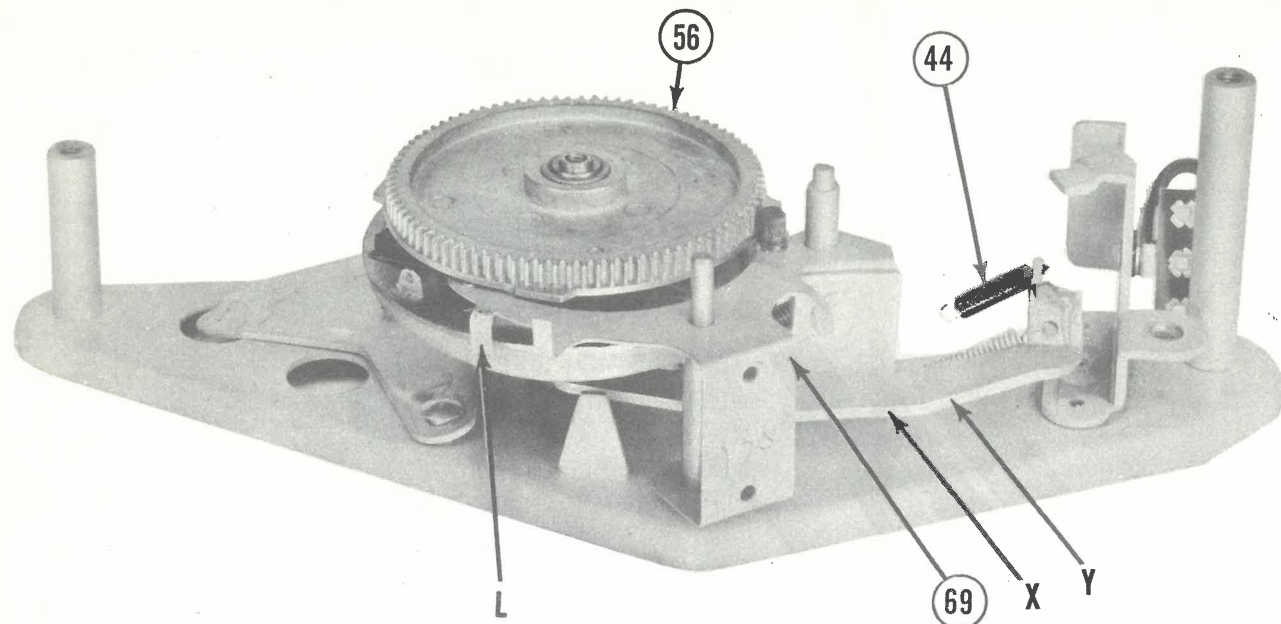
Lubrication applied at the time of manufacture is usually sufficient for a long period of time. However, should it become necessary to relubricate, due to extreme conditions of dust, heat, excessive use, or the replacement of new parts, the mechanism should be cleaned with carbon tetrachloride and lubricated as follows:

A - No. 10 Oil (apply with small oil can or medicine dropper).

1. Motor bearings.
2. Pickup arm shaft (13).
3. Ball bearing assembly (21).
4. Idler wheel felt.

B - Non-Fluid Lubricant (apply with small brush).

1. Idler wheel link.
2. Turntable shaft stud (22).
3. Pickup arm hinge pins.
4. Knife edge of pickup arm raising lever (70).
5. Teeth of main cam actuating gear (56).
6. Track of main cam gear (68).
7. Teeth of large (16) and small (18) idler gears.
8. Raising lever bracket bearing surface.
9. Spindle adjusting nut at bottom.



groove of the record, check to see if the raising lever (70) engages the 10" notch of the raising disc (52). If it is not engaged, loosen screw "W" (see Figure 3). Then move the pickup arm so that the raising lever will engage the 10" notch. Now move the stop disc (52B) until it touches the 12" index adjusting ear (43B); then tighten the screw.

12. If, after this adjustment has been made, the set-down point is still off, use two No. 6 Bristol wrenches and adjust the screws until the pickup arm is properly positioned. These two screws have pointed ends which fit into the "Off center" holes in the shaft (13). This adjustment should also be correct for 12" records.

Spindle Adjustment -

If the spindle push-off finger fails to release a record, turn the spindle adjusting nut (75) (see Figure 3) 1/4 turn counterclockwise out of the spindle to make the spindle actuating rod slightly longer. If the bottom record still does not drop, continue turning the adjusting nut counterclockwise, 1/4 turn at a time, until the record is pushed off.

CAUTION: If the actuating rod is turned out too far, the cam (46) will not be able to complete its motion and the changer will stall in cycle. When a change cycle has been completed, there should be very slight play at both ends of the rocker lever (73).

Automatic Trip Clutch Friction -

The clutch collar (42) supplies enough weight to operate the trip clutch mechanism. No oil or grease should be used on the clutch mechanism as this may prevent the clutch from operating properly. However, if foreign material, oil or grease comes in contact with these parts, clean them with carbon tetrachloride.

Needle Pressure Adjustment -

1. Unsnap the pickup arm hinge (9) and raise the arm to a vertical position.

2. Insert a small steel rod in the hole of the spring mounting stud (12) (see "Exploded View"). Turn the mounting stud downward to increase, or upward to decrease the needle pressure.

CAUTION: A slight movement of the stud is usually enough. An accurate gauge is necessary to insure correct needle pressure. Most cartridges require 7 to 10 grams for proper tracking and best reproduction.

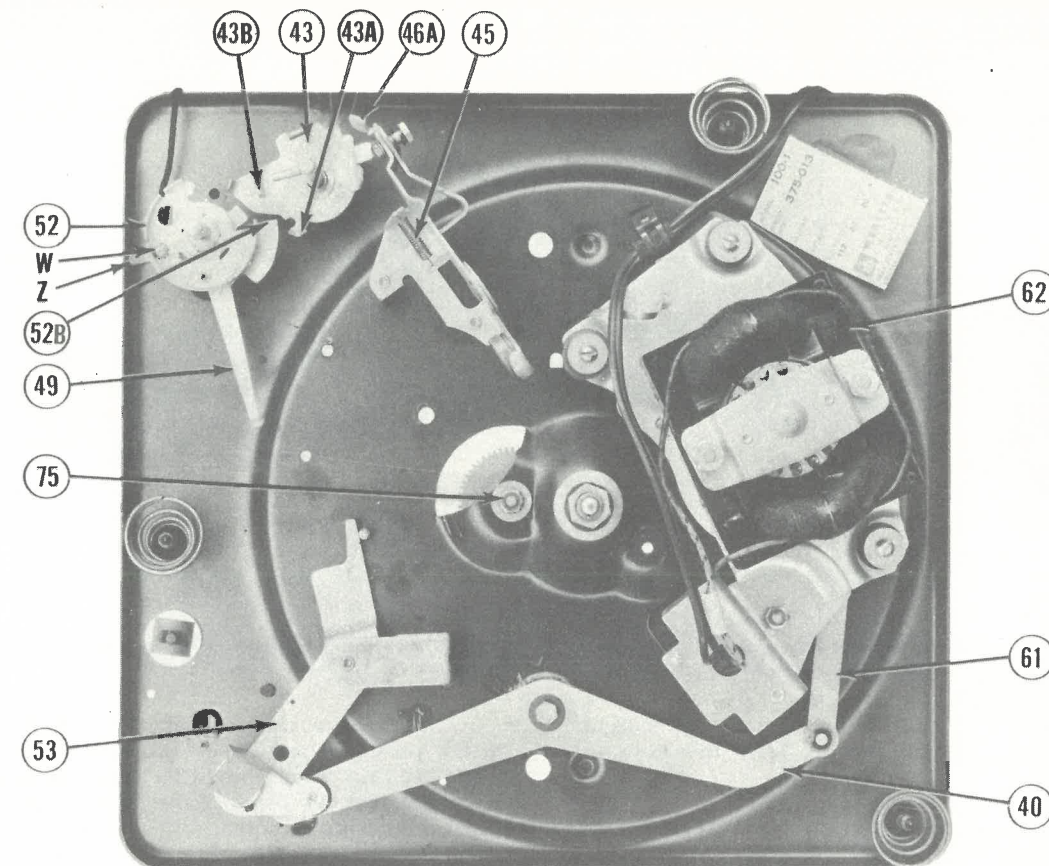
TROUBLES

Failure to Trip -

1. Velocity trip and roller (69) binding.
2. Trip dog (68A) on main cam binding.
3. Automatic trip arm (49) bent; therefore, the velocity trip and roller assembly (69) is not being contacted.
4. Turn down tab on velocity trip (69) which is bent up, thus allowing the trip arm (49) to pass under the trip (69).

Continuous Tripping -

1. Roller on velocity trip assembly (69) missing.
2. Too much clearance on hook (H) of trip (69) (see Figures 4 and 5).
 - (a) This hook should be adjusted for about 1/64" clearance from the bottom of main gear (56). Too much clearance may permit the cam pawl (68A) to bounce past the hook (H) and re-engage the cam (56), causing the mechanism to continue to cycle.
 - (b) If the clearance between lip (L) on the velocity trip lever (69) and the edge of the main cam (68) is too small, it will prevent



on the main cam assembly (68), allowing it to engage the main actuating gear (56) and drive it through the change cycle.

The main cam (68) has two cam surfaces on its lower side. The inside cam surface forms a track in which the stud of the pickup arm raising lever (70) rides. The outer cam surface actuates the cam lever (46) by means of the cam lever roller. As the cam rotates, the pickup arm raising lever pushes up on the pickup arm raising disc (52), lifting the pickup arm from the record. The stud of the pickup arm raising lever is now moved toward the center of the cam. As the raising lever moves, it engages a notch in the raising disc (52), moving the pickup arm out clear of the record stack. When the pickup arm stops at its most outward position, the raising lever (70) continues somewhat. By this action, the raising lever (70) engages the 7" set-down notch on the raising disc (52).

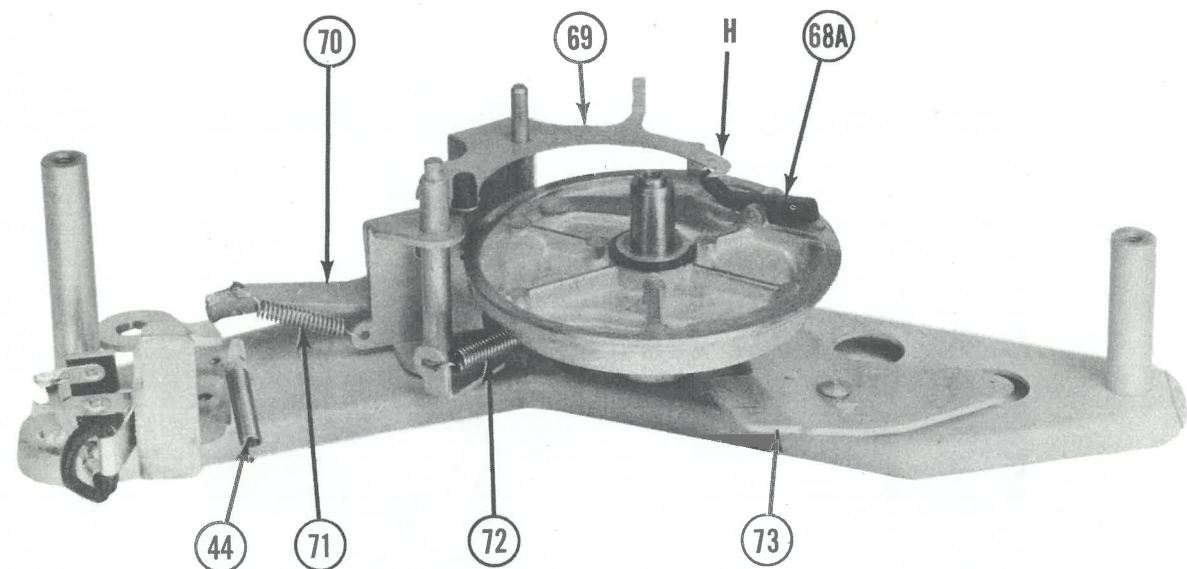
As the cam continues to rotate, the roller of the cam lever (46) moves up the incline of the cam (68), causing the arm of the lever (46) to engage the spindle actuating lever (73), which in turn actuates the spindle assembly (1) thus dropping a record to the turntable. At the same time the cycle stop arm (46A), Figure 3, contacts one of the notches in set-down disc assembly (43), which has been pre-set by the index finger arm (4) contacting the edge of the record. This operation indexes the pickup arm for proper set-down. With

continued rotation of the cam, the raising lever (70) swings the pickup arm inward until the stop disc (52B) on the raising disc engages the indexing ear (43B), see Figure 3.

By this engagement, the raising lever (70) will slip to either the 10" or 12" notch on the raising disc, depending on which notch the cycle stop arm (46A) has engaged. The raising lever (70) is then set for 10" or 12" set-down. For 7" set-down, the raising lever (70) engages the 7" notch on the raising disc each time the tone arm swings to its maximum outward position, and the set-down disc assembly (43) is positioned by cycle change stop (46A) to the point where it does not interfere with the movement of the raising disc (52). The pickup arm is then moved in for set-down.

As the cam continues to rotate, the tone arm is lowered to the record and the cam lever (46) is returned to its normal position.

The hook on the velocity trip and roller assembly (69) catches the trip dog (68A), disengages the main cam (68) from the cam-actuating gear (56) at the end of the change cycle. When the last record is dropped to the turntable, the index finger arm (4) moves all the way in to the ballast arm which, in turn, rotates the set-down disc assembly (43). Therefore, after the last record is played and the change cycle is put into operation, the flange (52B) on raising disc en-



gages the finger (43A) of the set-down disc (43), preventing the pickup arm from moving in over the records. As a result, the pickup then comes to a rest on the arm rest (28). The motor continues to revolve until the selector lever (32) is moved to an "Off" position.

ADJUSTMENTS

Pickup Arm Height -

The vertical movement of the pickup arm is controlled by the angle of the pickup raising lever (70). Correctly adjusted, the needle should clear the top record of a one-inch stack of records by approximately $1/16''$.

1. Place a one-inch stack of 10-inch records on the turntable.

2. Press the "Reject" button (30) and rotate the turntable clockwise, by hand, until the needle approaches the stack of records.

CAUTION: Be sure the raising lever (70) engages the notch in the raising disc (52).

3. If the clearance between the needle and the top record is not approximately $1/16''$, adjust by holding the pickup arm raising lever (70) at point "X" and bending the "Y" as indicated in Figure 5.

CAUTION: Make all adjustment bends slowly, using slight, but firm, pressure. Be careful to bend only up and down, not across the lever. Be sure the set screws in the raising disc are not loose.

Needle Set-Down -

Normally, the needle set-down is adjusted by means of the eccentric adjustment screw (10) in the hinge (9). This screw may be reached through a hole in the top of the pickup arm. Turn this screw clockwise to index the needle toward the spindle, and counter-clockwise to index the needle away from the spindle.

Should further adjustment be necessary, proceed as follows:

1. Place a one-inch stack of 10-inch records on the turntable and check the pickup arm height - see "Pickup Arm Height." This adjustment must be made first, as bending the raising lever (70) may affect the set-down point.

2. Remove the records from the turntable and then place a 7-inch record on the spindle.

3. Replace the ballast arm (3) over the spindle, allowing it to come to a rest on the record.

4. Move the index arm (4) in to engage the record.

5. Turn the eccentric adjustment screw (10) to a neutral position.

6. Press on the "Rej." button, then rotate the turntable clockwise until the pickup arm is in its most outward position. In this position, the raising lever (70) should engage the 7" notch on the raising disc (52). This notch is the closest to the outside of the baseplate. If the raising lever (70) does not engage the 7" notch on the raising disc (52), bend ear "Z" of (52) so the ear just touches the stud of the sub-frame and forces the raising lever to engage the notch properly.

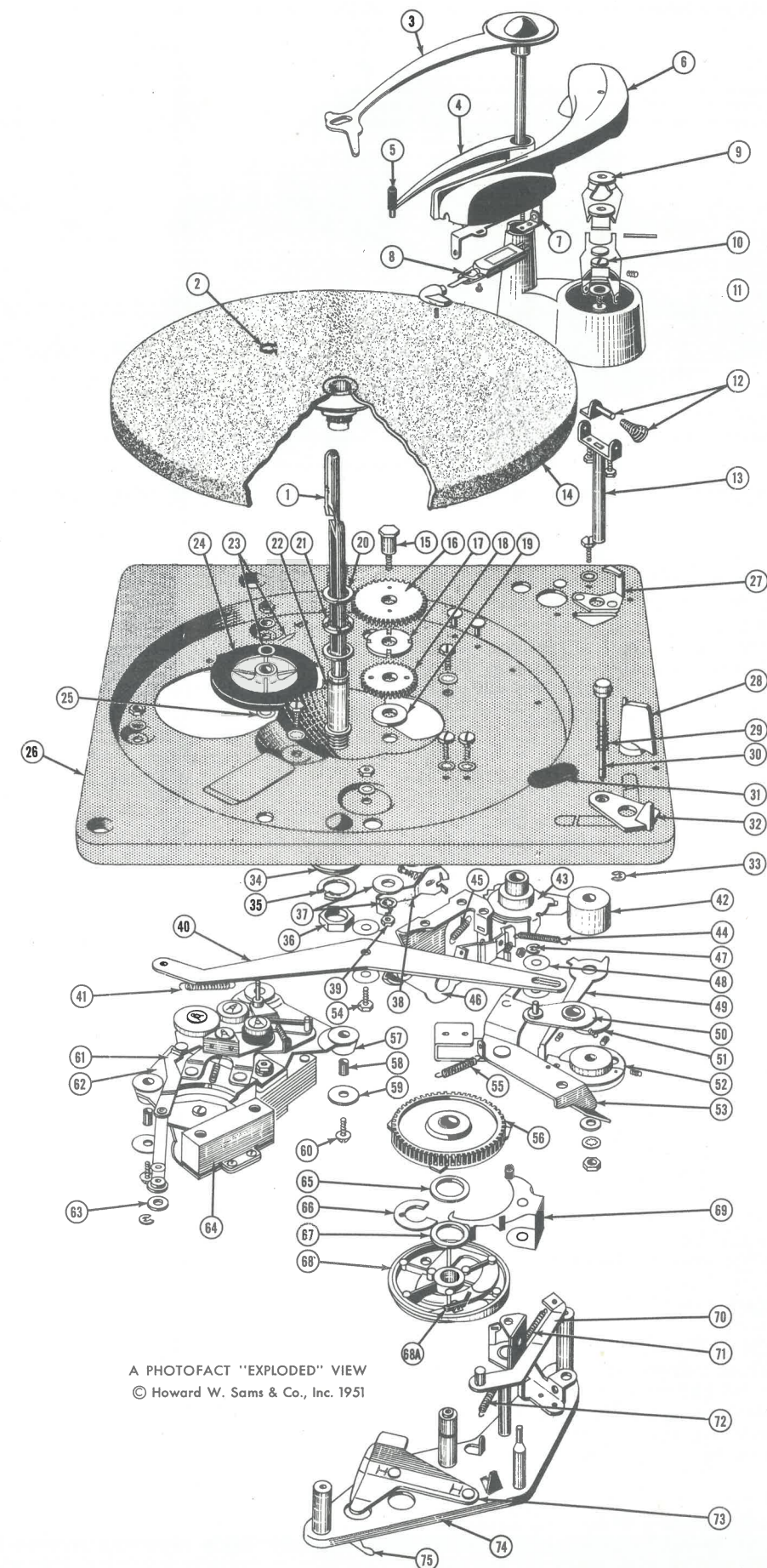
7. Complete the change cycle by rotating the turntable by hand.

8. Raise and place the pickup arm on its rest (28).

9. Remove the 7" record and place a 10" record on the spindle. Lower the arm ballast (3) and move the index arm (4) in against the record.

10. Press on the "Rej." button (30) and rotate the turntable, by hand, until the pickup arm starts to lower to the record.

11. If the needle is not above the starting



A PHOTOFAC "EXPLODED" VIEW
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