

MECHANICAL PARTS LIST (CONT'D.)

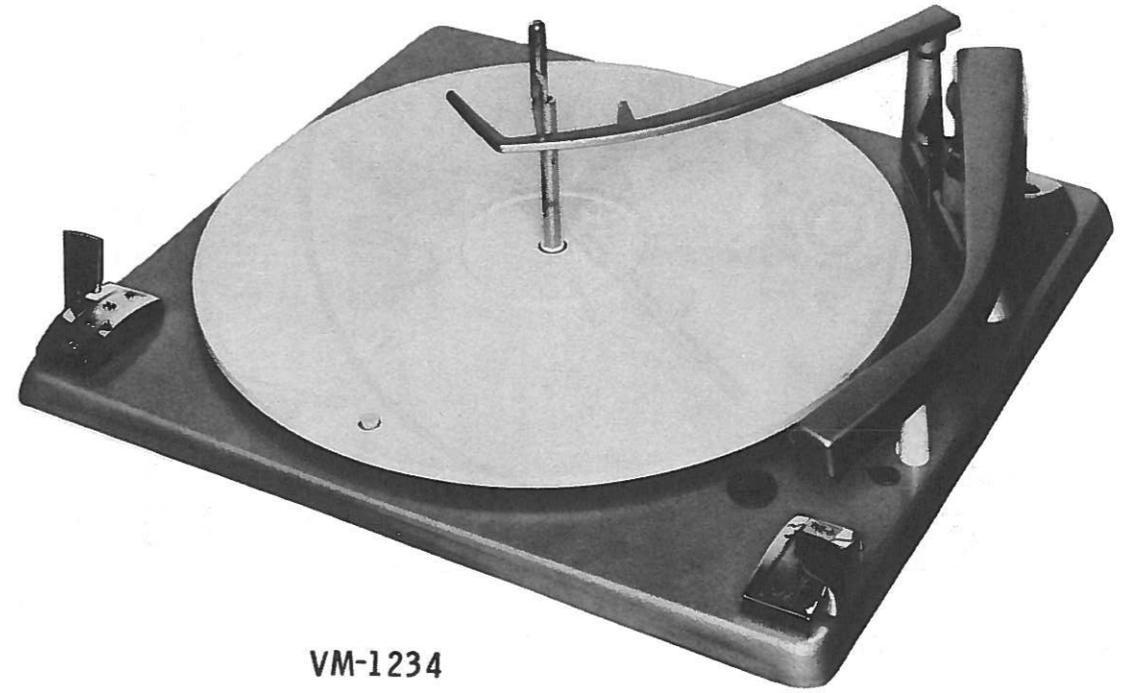
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
93	24433	Idler Tension Spring	96	24422	Spring, Tension (Some Models)
94	25447	Speed Bracket Assembly (Models 1234, 1244, 1254, 1264)	97		Control Bushing (Models 1235, 1245, 1255, 1265)
95	25275	Control Rod, Speed (Models 1234, 1244)	98		Control Lever Assembly, Speed, (Models 1235, 1245, 1255, 1265)
	25439	Control Rod, Speed (Models 1235, 1245)	99	18730	Shift Bracket (Some Models)
	20598	Control Rod, Speed (Models 1254, 1264)	100	20596	Shift Cam (Some Models)
	20597	Control Rod, Speed (1255, 1265)	101		Control Rod, Speed (Refer to 95)

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V-M MODELS 1234, 1235,
1244, 1245, 1254, 1255, 1264, 1265

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VM-1234

TRADE NAME	V-M Models 1234, 1235, 1244, 1245, 1254, 1255, 1264, 1265
MANUFACTURER	V-M Corp., 375 W. Main Street, Benton Harbor, Michigan
TYPE SET	AC Operated 4 Speed Automatic Record Changer

V-M MODELS 1234, 1235,
1244, 1245, 1254, 1255, 1264, 1265

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



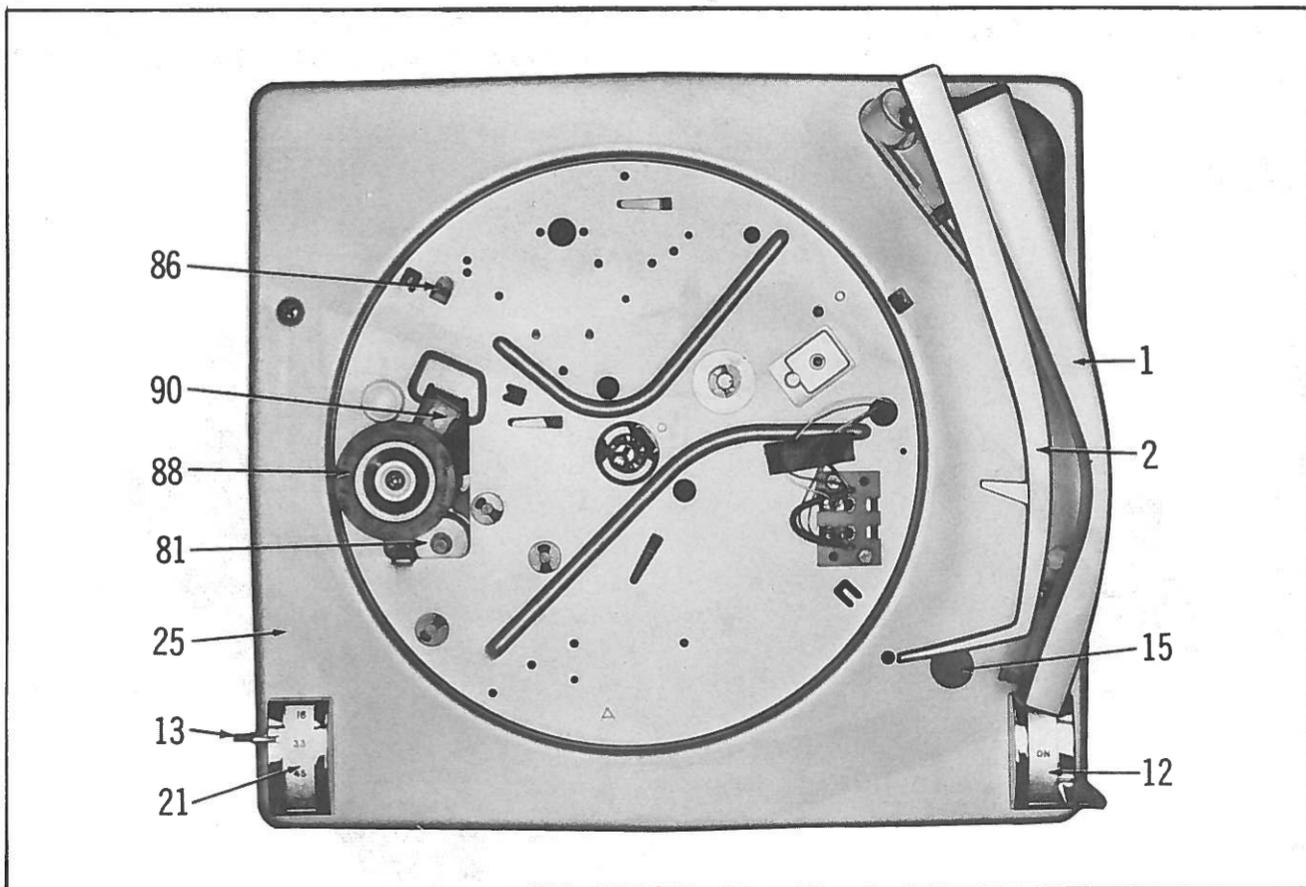
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MECHANICAL PARTS LIST (CONT'D.)



TOP VIEW OF MECHANISM WITH TURNTABLE REMOVED

PREPARING FOR OPERATION

Shipping Bolts

Before placing the changer in operation, it must be floated freely on the suspension springs. To float the changer, turn the two shipping bolts clockwise until the bolt heads are tight against the base plate.

Leveling The Changer

The record changer should be essentially level to operate properly. Place a level on the turntable. Place shims under the springs to level the changer.

OPERATING INSTRUCTIONS

Loading

1. Pull record support arm (2) straight up until it clears the spindle and swing it to the right as far as it will go.
2. Place records on spindle so that the bottom record rests on the spindle shelf. Hold records in place, swing record support arm back toward the spindle, and lower it on top of the records.

Starting

1. Set speed control and stylus selector to the proper position for the records to be played.
2. Move OFF-ON-REJ control to REJ and release. The changer will automatically play and change each record, shutting itself off after the last record has been played.

Rejecting

To reject a record at any time while the changer

is operating, move the OFF-ON-REJ control to the REJ position.

Unloading

Lift the record support arm straight up and swing it to the right as far as it will go. Using both hands, place the fingers under the bottom record edge and lift the stack straight up and off the spindle.

Manual Operation

To play records manually, lift the record support arm clear of the spindle and swing it to the right. Move OFF-ON-REJ control to the REJ position and release. The changer will cycle and the tone arm will set down on the rest post while the turntable continues to rotate. The changer is now ready for manual operation. Select proper speed and stylus. Place a single record on the turntable and set the tone arm gently on the record. When the record has been played, the changer will cycle automatically, returning the tone arm to the rest post. The record can then be removed to turn the power off.

Ref. No.	Part No.	Description	Ref.No.	Part No.	Description
16	5573	Rest Post	54	9849	Screw, Slide Mounting
17	6049	Spindle Assembly	55	25668	Record Support Guide Assembly
18	6877	Bearing Washer	56	25215	Wire Hold-Down Spring
19	6876	Turntable Bearing	57	6897	Record Support Shaft (Models 1234, 1235, 1244, 1245)
20	6168	Mounting Bolt		25712	Record Support Shaft (Models 1254, 1255, 1264, 1265)
21	25270	Speed Lever Housing (Models 1234, 1244)	58	2957	Lever, 12" Selector
	25269	Speed Lever Housing (Models 1254, 1264)	59	14951	Spring, 12" Selector Lever
22	25771	Hinge Spring	60	16807	Shift Lever
22A	24638	Adjusting Spring	60A		Shift Lever Spring
23	25864	Speed Knob (Models 1235, 1245)	61	16808	Pin, Shift Lever
	16504	Speed Knob (Models 1255, 1265)	62	2925	Spring, Reset Lever (Models 1234, 1235, 1254, 1255)
24	6244	Mounting Bolt Clip		24689	Spring, Reset Lever (Models 1244, 1245, 1264, 1265)
25	22822	Baseplate	63	20886	Reset Lever
26	25447	Reject Bracket Assembly (Models 1234, 1244, 1254, 1264)	64	2579	Spring, 7" Lever (Models 1234, 1235, 1254, 1255)
27	14593	Control Housing Retainer (Models 1234, 1244, 1254, 1264)		24021	Spring, 7" Lever (Models 1244, 1245, 1264, 1265)
28		Nut		2581	7" Lever (Models 1234, 1235, 1254, 1255)
29	26795	"C" Washer		26650	7" Lever (Models 1244, 1245, 1264, 1265)
30			65	2581	7" Lever (Models 1244, 1245, 1264, 1265)
31	25274	Retraction Rod (Models 1234, 1244)		6966	Shut-Off Lever Assembly
	25437	Retraction Rod (Models 1235, 1245)	67	9663	Spring, Shut-Off Lever
	23834	Retraction Rod (Models 1254, 1264)	68	16817	Spring, Retard Lever
	23835	Retraction Rod (Models 1255, 1265)	69	22744	Gear Assembly
32	14246	Reject Rod (Models 1234, 1244)	70	2569	Trip Lever Assembly
	6919	Reject Rod (Models 1235, 1245, 1255)	71	2585	Spring, Escape Lever
	20598	Reject Rod (Models 1254, 1264)	72	24020	Slide Detent Spring
	20597	Reject Rod (Model 1265)	73	14420	Ejector Bracket Assembly
33	25433	Reject Spring (Models 1234, 1244)	74	26792	"C" Washer
	25866	Reject Spring (Models 1235, 1245, 1254, 1255, 1264, 1265)	75	22739	Spring, Trip Pressure
34	6916	Control Bushing (Models 1235, 1245, 1255, 1265)	76	5339	Pawl Lever
35	7114	Reject Control Lever (Models 1235, 1245, 1255, 1265)	77	5338	Spring, Trip Pawl
36		Reject Spring (Refer to 33)	78		Motor Mounting Bracket
37	25280	Frame Assembly	79	19800	Amplok Housing
38	21338	AC Switch	80	6884	Spindle Bell
39	26812	Control Shaft Assembly	81	25450	Motor Assembly, 110V 60 Cycle, Alliance
40	24073	Frame Mounting Screw		25451	Motor Assembly, 90V 60 Cycle, Alliance
41	24805	Return Spring (Models 1234, 1235, 1244, 1245, 1254, 1255)	82	5022	Motor Assembly, 110V 60 Cycle, GI, (Alt. For 25450)
	9533	Return Spring (Models 1264, 1265)	83	24742	Motor Assembly, 90V 60 Cycle, GI, (Alt. for 25451)
42	6405	Locator and Bushing Assembly		20762	"C" Washer
43	15450	Finger and Shaft Assembly			Safety Spring (Models 1234, 1235, 1244, 1245)
44	19153	Retard Assembly	84	6874	Safety Spring (Models 1254, 1255, 1264, 1265)
45	9557	Retard Lever	85	25434	Push Rod, Spindle Actuating
46	9510	Anti-Skate Spring	86	24418	Shift Slide (Some Models)
47	9509	Lift Pin Spring	87	2952	Slide Washer (Some Models)
48	26792	"C" Washer	88	24428	Spacer (Some Models)
49	4656	Trip Link (Models 1234, 1235, 1244, 1245)		22915	Idler Wheel, (Models 1234, 1235, 1244, 1245)
	25707	Trip Link (Models 1254, 1255, 1264, 1265)			Idler Wheel (Models 1254, 1255, 1264, 1265)
50	24801	Slide Assembly	89	3974	Fibre Washer
51	26792	"C" Washer	90	20558	Idler Arm Assembly
52	9849	Screw	91	25432	Compression Spring
53	26810	Washer	92	20716	Yoke
			92A		Idler Wheel Adjustment Screw (Part of 90)

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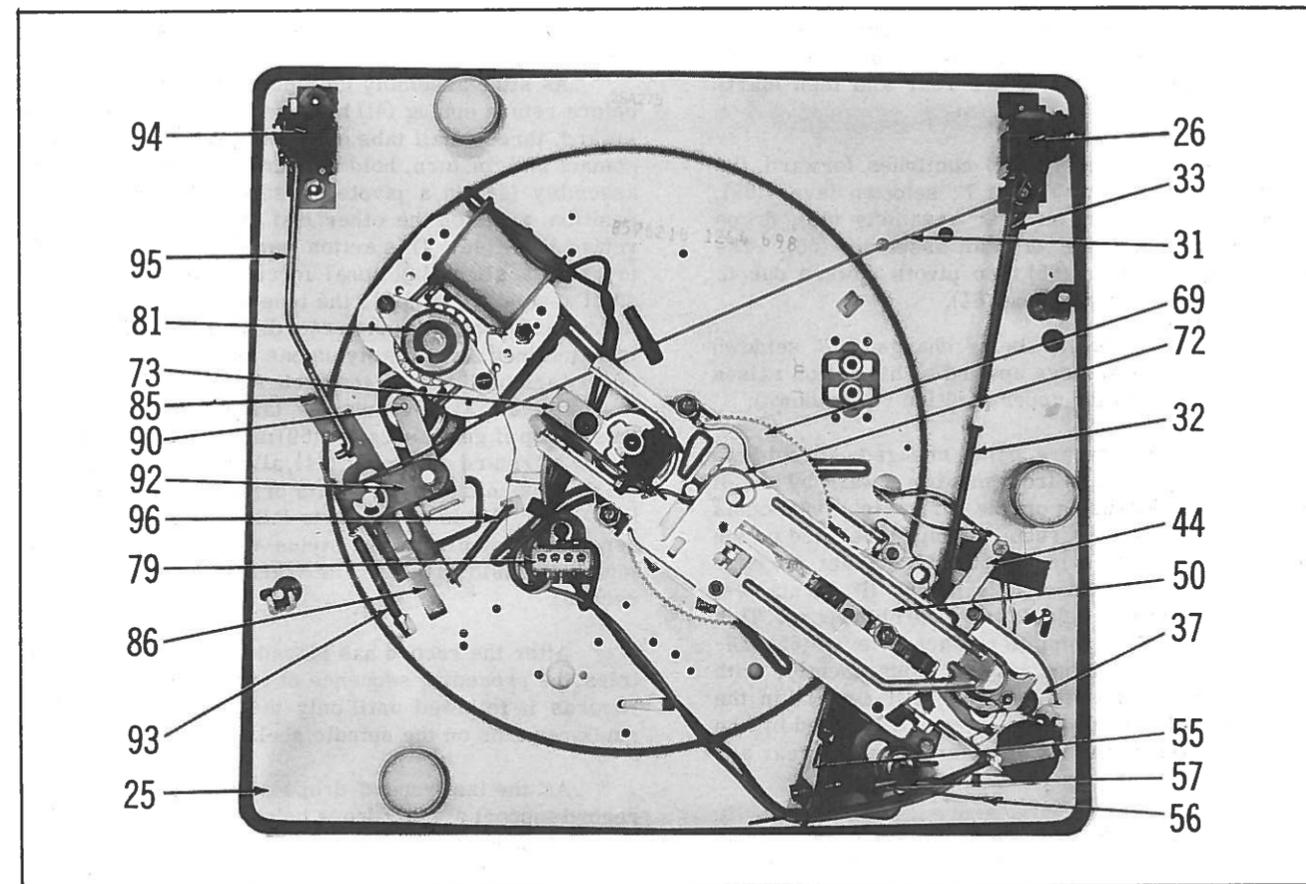
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TROUBLE CHART (CONT'D.)

Symptom	Cause	Remedy
	9. Ten-inch feeler button stuck or jammed in turntable hole. (On models with 11" turntable only.	9. Check button and its return spring for freedom of movement in and out of turntable hole. Remove any obstruction, burrs, or dirt which might impede button. Also make sure button spring is mounted properly.
Changer does not cycle when record has been played.	1. No finishing trip groove on record. 2. Trip link (49) bent out of shape. 3. Trip pawl defective. 4. Trip lever (70) defective. 5. Bent finger and shaft assembly (43).	1. Check record for trip groove in center of record. Some old records do not have these grooves. 2. Replace trip link (49). 3. Replace gear assembly (69). 4. Replace trip lever (70). 5. Straighten or replace assembly (43),
Stylus does not track across record properly.	1. Stylus may be clogged by accumulation of lint, or worn. 2. Finger and shaft assembly (43) not disengaging from locator and bushing assembly (42) when cycle is completed. 3. Finger and shaft assembly (43) binding in tone arm bearing. 4. Pickup leads too tight.	1. Clean or replace stylus. 2. There should be a 1/32" clearance between finger and shaft assembly (43) and locator and bushing assembly (42) when changer is not in cycle. 3. Clean or replace finger and shaft assembly (43). 4. Give the pickup leads enough slack to allow tone arm to move freely across the record.
Stylus jumps off record edge after setting down.	1. Tab on gear assembly (69) bent out, causing retard assembly (44) to move retard lever (45) back.	1. Straighten tab on gear assembly (69) or replace gear assembly.
Wow or flutter.	1. Motor shaft bent. 2. Flat spot on idler wheel (88). 3. Warped turntable (4).	1. Replace motor (81). 2. Replace idler wheel (88). Check to see that idler wheel is disengaged from motor shaft when control knob is in the OFF position. 3. Replace turntable (4).

MECHANICAL PARTS LIST

Ref. No	Part No.	Description	Ref.No.	Part No.	Description
1	25267	Tone Arm	12	25269	Reject Lever Housing (Models 1234, 1244)
2	25460	Tone Arm (Flip-over cartridge)		25270	Reject Lever Housing (Models 1254, 1264)
3	14245	Record Support Arm	13	25271	Control Lever (Models 1234, 1244)
4	7892	Turntable Mat (9")		24324	Control Lever (Models 1254, 1264)
	14785	Turntable Mat (11")	14	20852	Reject Knob (Models 1235, 1245)
5	25442	Turntable Assembly (9")		23564	Reject Knob (Models 1255, 1265)
6	26659	Turntable Assembly (11")	15	15296	Needle Protector (Models 1234, 1235)
7	4327	Lift Pin		24200	Needle Protector (Models 1244, 1245)
8	14498	Keps Nut		23839	Needle Protector (Models 1254, 1255)
9	24240	Safety Spring		23840	Needle Protector (Models 1264, 1265)
	4339	Safety Plate			
	23941	Hinge Arm (Models 1234, 1235, 1244, 1245)			
	2479I	Hinge Arm (Models 1254, 1255, 1264, 1265)			
10	25255	Screw, Hinge Arm			
11	26808	Thrust Washer			



BOTTOM VIEW OF MECHANISM

Change Cycle

Observe the change cycle operation while manually rotating the turntable. The following description can then be readily followed and the function of each part more easily understood.

This changer has a velocity-trip changer mechanism. The change cycle is started by the faster inward motion of the tone arm when the stylus enters the lead-out groove at the end of a record. Only records having a fast-finishing lead-out groove will operate this trip.

The tone arm (1) and finger and shaft assembly (43) are connected so that they move in unison. As the tone arm nears the end of a record, finger and shaft assembly (43) pushes trip link (49) thus engaging and pivoting trip lever (70). As trip lever pivots, pawl lever (76) pivots with it and carries the trip pawl towards the turntable hub. While the record is still playing, the slight, inward motions of the trip pawl are not sufficient to cycle the mechanism because, on each revolution of the turntable, the wiping contact by the hub projection moves the trip pawl back.

When the stylus enters the lead-out groove, the trip pawl is moved far enough and fast enough to definitely engage the projection on the turntable hub. This moves gear assembly (69) enough to mesh with the teeth on the turntable hub, causing gear assembly (69) to start rotating in a counterclockwise direction. This action starts the lateral travel of the slide assembly (50). Slide assembly is moved toward the rear of the changer by an eccentric mounted pin on the gear assembly (96). This pin rides in the cross slot in slide assembly (50).

As the slide begins to move, lift pin (5) rides up the inclined surface on the rear of slide assembly (50) raising the tone arm. At the same time, finger and shaft assembly (43) is pushed upward by lift pin spring (47) causing the two formed dimples in the finger and shaft assembly to engage the two holes in locator and bushing assembly (42). This action controls the movement of the tone arm during the change cycle.

Slide assembly (50) continues to move away from the spindle until the formed tab on the rear of the slide pushes against locator and bushing assembly (42) causing the tone arm to move out over the rest post (16).

A tab on the front of the slide assembly (50) now contacts ejector bracket assembly (73) causing it to move spindle push rod (84) upward. This action causes the record pusher in the spindle assembly (17) to drop the next record to the turntable.

Simultaneously, the trip pawl on top of gear assembly (69) contacts and moves along the curved finger of retard assembly (44). After the trip pawl leaves the finger of retard assembly (44), trip lever assembly (70) comes in contact with the trip link guide rivet. This moves the trip pawl into the trip position again. However, before the change cycle is completed trip lever assembly (70) is reset by tab located near the cross slot in slide assembly (50). This action simultaneously resets the trip pawl.

Just before the trip pawl contacts the curved finger of retard assembly (44), the cam surface of the large tab on top of gear assembly (69) moves reset

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lever (63) into its midposition (10" setdown), where it is held by 12" selector (58). During this time, slide assembly (50) continues to the rear and then starts forward.

As slide assembly (50) continues forward, the cam surface of the tab end of 7" setdown lever (65), which is riding on top of gear assembly (50), drops into the large opening of gear assembly (50). The other end of 7" lever (65) then pivots upward due to the action of 7" lever spring (64).

If 7" records are being changed, 7" setdown lever (65) is free to move upward. This action raises reset lever (63) to the upper position (7" setdown).

If 10" records are being changed, 7" setdown lever (65) is prevented from moving upward by one of two methods, depending on the turntable. On models having 9" turntables, a rubber bumper mounted on the end of the 7" setdown lever (65) will contact the edge of the 10" record. On models having 11" turntables, feeler button will be held down by the 10" record. This will cause turntable ramp to contact 7" lever (65) preventing lever (65) from rising. Consequently, with either turntable, reset lever (63) will remain in the midposition (10" setdown) as originally placed by the camming action of the large tab on top of the gear assembly (69).

When a 12" record drops to the turntable, the record strikes the 12" record selector (58) and pivots it toward the rear of the changer. This action disengages the end of reset lever (63) from the edge of 12" selector (58) and permits reset lever (63) to drop into the recess at the bottom of 12" selector (58). Reset lever (63) then engages the bottom step of locator and bushing assembly (42) positioning the tone arm for 12" setdown.

As slide assembly (50) moves forward, the formed tab on the rear of the slide moves clear of the locator and bushing assembly (42) and finger and shaft assembly (43) which are still locked together. This action permits return spring to move tone arm inward until one of the three setdown steps in locator and bushing assembly (42) contacts reset lever (63), stopping the inward travel of the tone arm directly above the point of landing. The tone arm is then lowered to the lead-in groove of the record as lift pin (5) rides down the incline on the rear of slide assembly (50). As pressure is released from lift pin spring (47), finger and shaft assembly (43) and locator and bushing assembly (42) separate, permitting the tone arm to track freely across the record.

Occurring simultaneously with the action described in the preceding paragraph is an additional feature of this changer known as the "anti-skate" or retard action. This feature slightly retards the inward motion of the tone arm until after the stylus has been lowered to the lead-in groove of the record and until just before the change cycle is completed. This prevents the stylus from jumping or skating across the lead-in groove and makes sure that the lead-in groove will smoothly move the stylus into the music grooves.

The "anti-skate" or retard action takes place as follows:

As slide assembly (50) moves forward, and just before return spring (41) begins to move the tone arm inward, three small tabs on top of gear assembly (69) contact and, in turn, hold the curved finger of retard assembly (44) in a pivoted position. In this pivoted position, a tab on the other end of the finger blocks retard lever (45). This action causes retard lever (45) to exert a slight frictional force against finger and shaft assembly (43) while the tone arm is being moved inward and lowered to the record. This retarding force is maintained after the stylus has been set down on the record and until just an instant before the change cycle is completed. At this time, the last of the three small tabs on top of gear assembly (69) moves past the curved finger of retard assembly (44), allowing retard spring (68) to return the finger to its original position. Retard lever (45) is now free to follow finger and shaft assembly, permitting the stylus to advance smoothly into the music grooves and track freely across the record.

After the record has played and the mechanism trips, the preceding sequence of cycling and playing of records is followed until only the last record of the stack remains on the spindle shelf.

As the last record drops to the turntable, the record support arm (2) drops below the shelf on spindle (17), and the lower end of record support arm shaft (57) contacts the stop arm on record support guide assembly (55). The stop arm in turn applies pressure to shut-off lever (66). At this moment, slide assembly (50) is in its outermost position (away from spindle), and the other end of shut-off lever (66) is forced against escape lever, preventing shut-off lever (66) from lowering further.

As slide assembly (50) returns to the out-of-cycle position, the end of the shut-off lever (66) slides off escape lever, permitting the end to extend down through the slot in slide assembly (50). By this time, locator and bushing assembly (42) has rotated too far to be blocked by shut-off lever (66), and the tone arm is permitted to land on the record.

After the last record has played, the mechanism again goes into cycle. When slide assembly (50) has reached its outermost position, the force applied to shut-off lever (66) from record support shaft (57) causes the end of shut-off lever (66) to extend through the slot in slide assembly (50). The other end of shut-off lever (66) rises and prevents locator and bushing assembly (42) from rotating. This action positions the tone arm directly over tone arm rest post (16).

As slide assembly (50) moves back toward the spindle, trip link (49) pushes control shaft assembly (39), actuating AC switch (38) and shutting off the power. As slide assembly (50) returns to the out-of-cycle position, lift pin (5) rides down the inclined surface of the slide, lowering the tone arm to the rest post (16).

In manual play, when the record support arm (2) is raised and rotated to the extreme right, it re-

TROUBLE CHART (CONT'D.)

Symptom	Cause	Remedy
Changer does not shut off after last record has played.	<ol style="list-style-type: none"> 1. Record support arm (2) binding. 2. Shut-off lever (66) binding. 3. Defective AC switch (38). 	<ol style="list-style-type: none"> 1. Clean record support arm shaft (57) or replace if bent. 2. Straighten or replace shut-off lever (66). 3. Replace switch (38).
Record does not drop when changer cycles.	<ol style="list-style-type: none"> 1. Spindle push rod (84) broken or bent. 2. Bent or worn spindle (17). 3. Ejector bracket (73) loose. 4. Ball bearing (80) missing. 	<ol style="list-style-type: none"> 1. Replace spindle push rod (84). 2. Replace spindle (17). 3. Tighten bracket (73). 4. Replace ball bearing (80).
Two records drop at once.	<ol style="list-style-type: none"> 1. Hole in record too large. 2. Spindle guide binding; not in lowest position. 	<ol style="list-style-type: none"> 1. Check the diameter of the hole in the record. An over-size hole will allow two records to drop at once. 2. Clean and straighten spindle guide or replace spindle if necessary.
Stylus does not set down on 10" record in proper position.	<ol style="list-style-type: none"> 1. Tone arm not properly adjusted. 2. Tone arm finger and shaft (43) binding. 3. Improperly operating 7" lever (65) and 12" record selector lever (58). 4. Stylus bent. 5. Broken 12" selector spring (59). 6. Bent locator and bushing assembly (42). 7. Bent finger and shaft assembly (43). 8. Rubber bumper missing. (On models with 9" turntables only.) 	<ol style="list-style-type: none"> 1. Refer to "Adjustments". 2. File off burrs and rough surfaces. Polish and lubricate shaft. 3. Observe the operation of these parts while manually rotating turntable through cycle. Free any binding parts. Replace defective parts. 4. Replace stylus. 5. Replace spring (59). 6. Straighten or replace. 7. Straighten or replace. 8. Replace rubber bumper.
Stylus does not set down on 12" record in proper position.	<ol style="list-style-type: none"> 1. Diameter of 12" record under-size. 2. Tone arm not properly adjusted. 3. Binding of finger and shaft assembly (43). 4. Reset lever spring (62) broken. 5. Loose or broken 12" record selector spring (59). 6. Binding of 12" record selector (58). 7. Bent locator and bushing assembly (42). 	<ol style="list-style-type: none"> 1. Use only standard size records. 2. See "Adjustments". 3. Clean and polish shaft and lubricate with light oil. 4. Replace spring (62). 5. Replace spring (59). 6. Clean out dirt and straighten if bent, or replace. 7. Straighten or replace assembly (42).
Stylus does not set down on 7" record properly.	<ol style="list-style-type: none"> 1. Weak or broken 7" setdown lever spring (64). 2. Tone arm not properly adjusted. 3. Loose 7" setdown lever screw. 4. Seven-inch setdown lever (65) hitting frame or baseplate where it goes through hole in frame. 5. Reset lever (63) bent. 6. Seven-inch setdown lever (65) does not fall into opening in main gear. 7. Bent locator and bushing assembly (42). 8. Bent finger and shaft assembly (43). 	<ol style="list-style-type: none"> 1. Replace spring (64). 2. See "Adjustments". 3. Tighten lever screw. 4. Straighten or replace lever (65). 5. Straighten or replace reset lever (63). 6. Replace lever (65). 7. Straighten or replace assembly (42). 8. Straighten or replace assembly (43).

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LUBRICATION

Additional lubrication should not be required for the life of the changer. However, if the changer has had extreme usage, or if parts are replaced, lubricate as follows:

Apply Andok "B" or Texaco "Sta-Put" to:

1. Edges of all slots in slide assembly (50).
2. Outer edges of tines on forked end of slide assembly (50).
3. Lift pin cam surface on slide assembly (50).

4. Lower surface of locator and bushing assembly (42).
5. Inner surface of tab on rear of slide assembly (50).

Apply one drop of light mineral oil to:

1. Finger and shaft assembly (43).
2. Lift pin (5).
3. Top and bottom motor bearings.

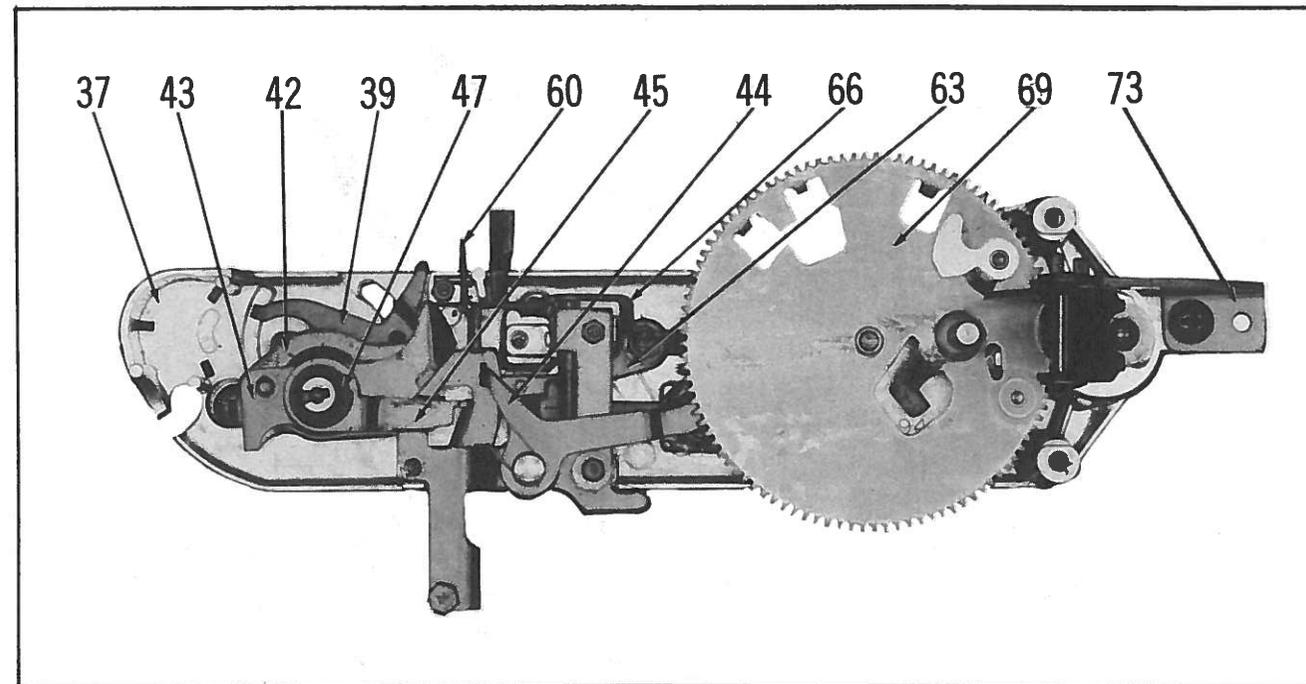
CLEANING

To insure maximum operating efficiency of the changer, accumulated dust and foreign matter should be removed from the changer regularly. Remove the

turntable and clean the inner drive surface of the turntable, the idler wheel (88), and the stepped motor shaft with a clean cloth dampened with alcohol.

TROUBLE CHART

Symptom	Cause	Remedy
Turntable does not rotate when control is moved to ON position.	<ol style="list-style-type: none"> 1. Defective AC switch (38). 2. Motor (81) defective. 3. Idler wheel tension spring (93) disconnected or broken. 	<ol style="list-style-type: none"> 1. Replace switch (38). 2. Replace motor (81). 3. Replace or reconnect idler wheel tension spring (93).
Changer does not cycle when control knob is moved to REJ.	<ol style="list-style-type: none"> 1. Reject rod (32) bent. 2. Trip pawl worn. 3. Trip link (49) binding. 	<ol style="list-style-type: none"> 1. Replace reject rod (32). 2. Replace gear assembly (69). 3. Free the trip link (49). Replace if necessary.
Tone arm strikes records when it rises, or to rest as it moves out.	<ol style="list-style-type: none"> 1. Tone arm height not properly adjusted. 	<ol style="list-style-type: none"> 1. See "Tone Arm Height" adjustment.
Turntable speed too slow.	<ol style="list-style-type: none"> 1. Turntable bearings (19) are dirty. 2. Idler wheel shaft dirty. 3. Weak motor (81). 	<ol style="list-style-type: none"> 1. Clean turntable bearings (19) with alcohol. Wipe dry and lubricate before replacing. 2. Clean idler wheel bearing and shaft. 3. Replace motor (81).
Turntable stalls during change cycle.	<ol style="list-style-type: none"> 1. Dirt and foreign matter in change mechanism. 2. Binding parts in change mechanism. 3. Oil on turntable drive surface, idler wheel, and motor shaft. 4. Defective motor (81). 	<ol style="list-style-type: none"> 1. Clean and lubricate all parts in change mechanism. 2. Observe change mechanism during change cycle. Straighten or replace any bent parts. 3. Clean these drive surfaces with soft cloth and alcohol. 4. Replace motor (81).
Changer continues to cycle.	<ol style="list-style-type: none"> 1. Reject spring (33) disconnected or broken. 2. Trip link (49) bent. 3. Pawl lever (76) or trip pawl binding. 4. Slide detent spring (72) broken or out of place. 	<ol style="list-style-type: none"> 1. Connect or replace reject spring (33). 2. Replace trip link (49). 3. Free pawl lever or replace gear assembly (69). 4. Place spring (72) back into position or replace spring.
Noise or rumble during playing of record.	<ol style="list-style-type: none"> 1. Motor grommets (102) defective. 2. Turntable bearings (19) dirty or out of round. 3. Turntable (4) bent. 4. Rubber idler wheel drive surface has hardened. 	<ol style="list-style-type: none"> 1. Replace motor grommets (102). 2. Clean and lubricate turntable bearings (19) or replace if necessary. 3. Replace turntable (4). 4. Replace idler wheel (88).



CYCLE MECHANISM

leases the pressure placed on shift lever (60) by record support guide assembly spring. When the changer cycles, shift lever spring (60A) moves shift lever (60) down far enough to keep locator and bushing as-

sembly (42) from turning; thus, each time the changer cycles, the tone arm will return to the rest post (as in automatic shut-off) but the motor will be left running.

ADJUSTMENTS

Stylus Setdown

The stylus setdown position is adjusted by turning adjustment screw (10) mounted on hinge arm (9). Stylus should set down near the center of the record lead-in groove. Use a 10" record to check setdown and adjust screw (10) if setdown is not correct. When 10" setdown is correct, 7" and 12" setdown will also be correct.

Tone Arm Height

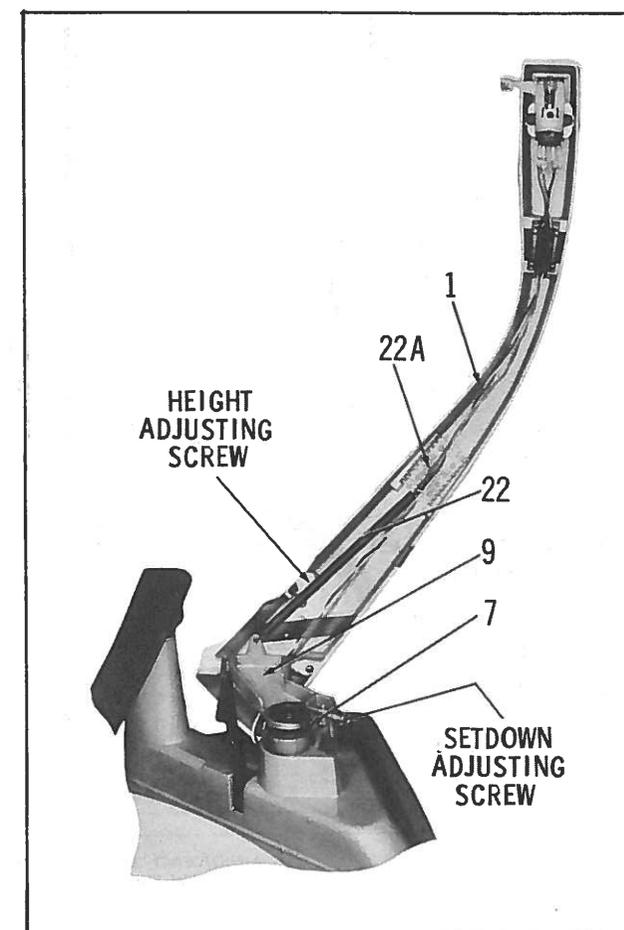
The tone arm height is adjusted by means of lift screw. To raise tone arm height, turn this screw counterclockwise. To lower tone arm height, turn screw clockwise. Adjustment should be made so that the tone arm lifts 1/4" above a 1 1/8" stack of records.

Stylus Pressure

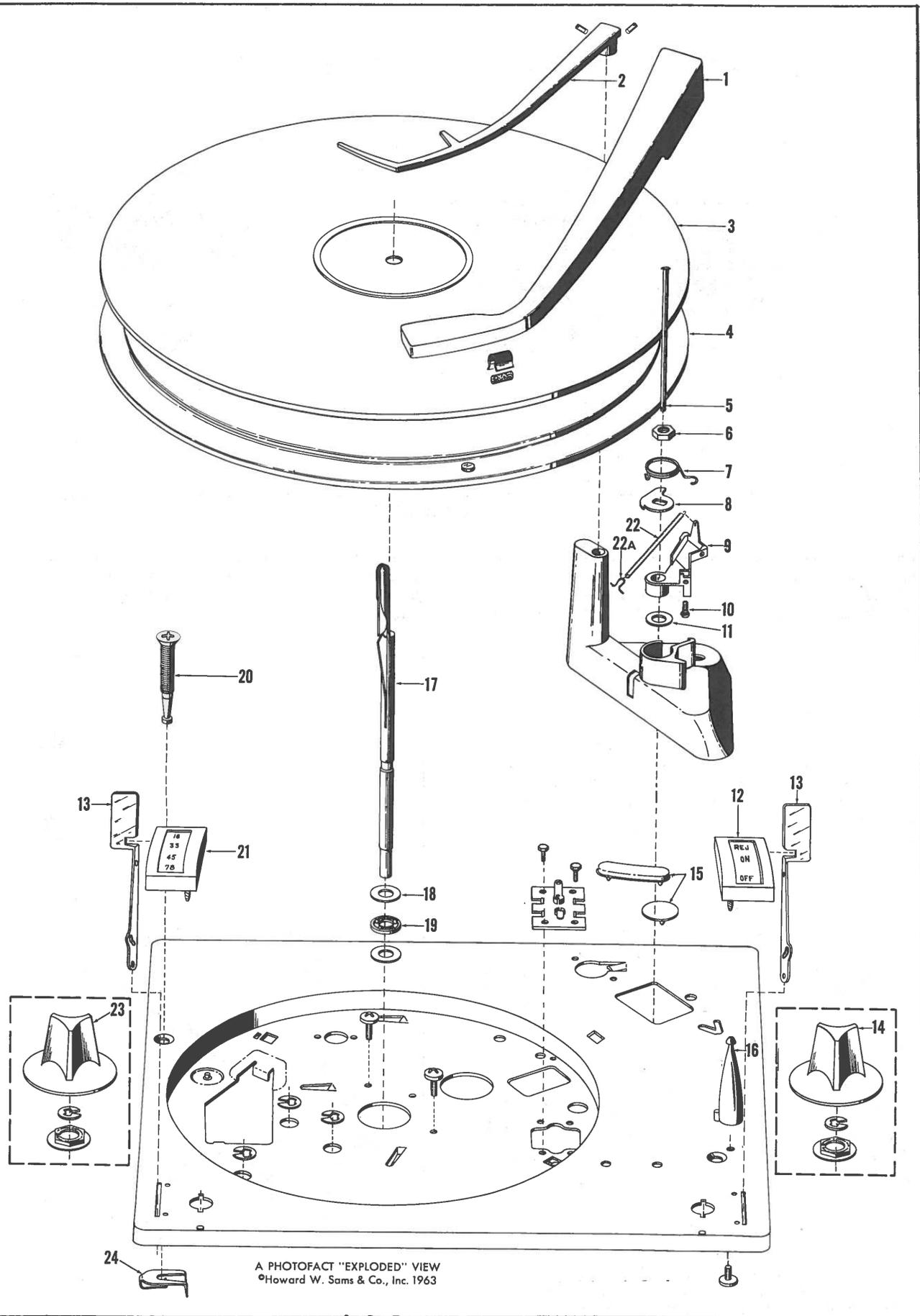
Stylus pressure is adjusted by placing weight adjusting spring (22A) in the slots on the underside of the tone arm which give the desired pressure. Move spring (22A) to a higher numbered position for less pressure, and to a lower numbered position for more pressure. Refer to stylus manufacturers specifications to obtain correct stylus pressure.

Idler Wheel Height

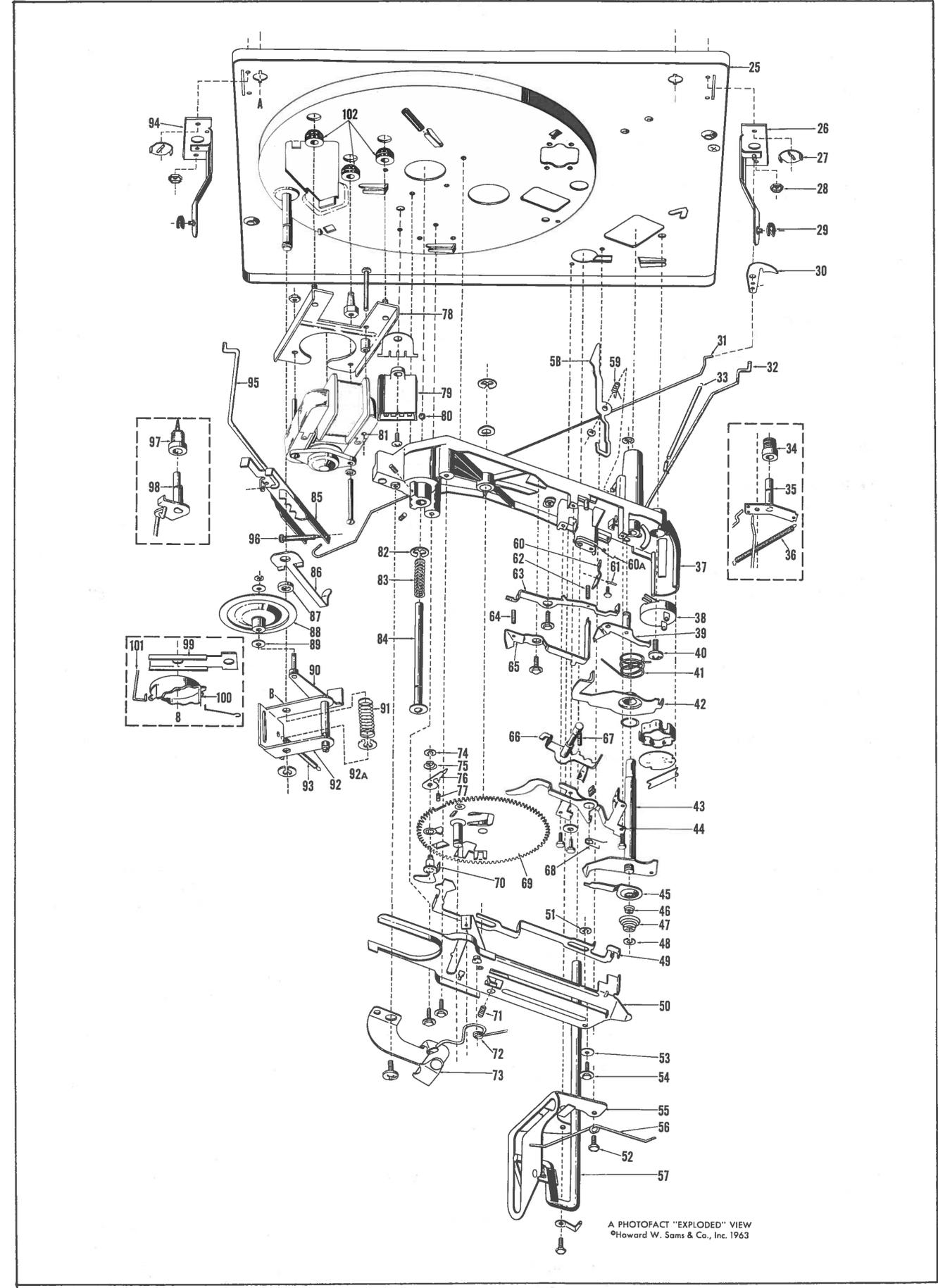
To adjust idler wheel height, place speed selector control in 33 1/3 rpm position. Turn idler height screw (92A) until edge of idler wheel is centered on 33 1/3 rpm step of motor drive shaft (second step from top).



UNDERSIDE OF TONE ARM
SET 646 FOLDER 10



EXPLODED VIEW OF PARTS ABOVE BASEPLATE



EXPLODED VIEW OF PARTS BELOW BASEPLATE