

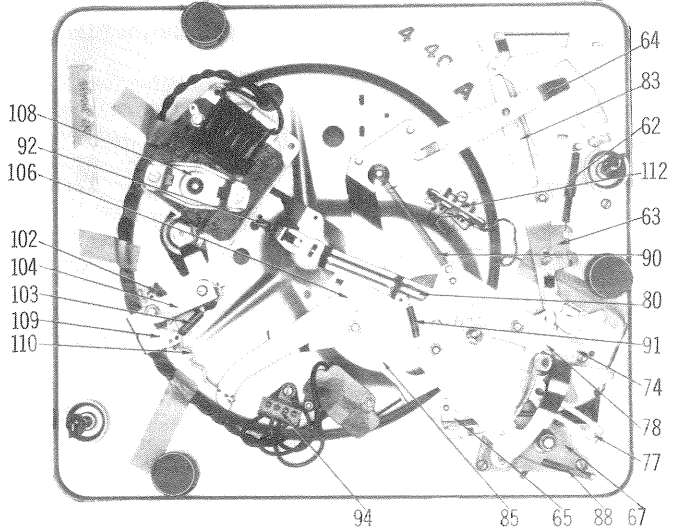
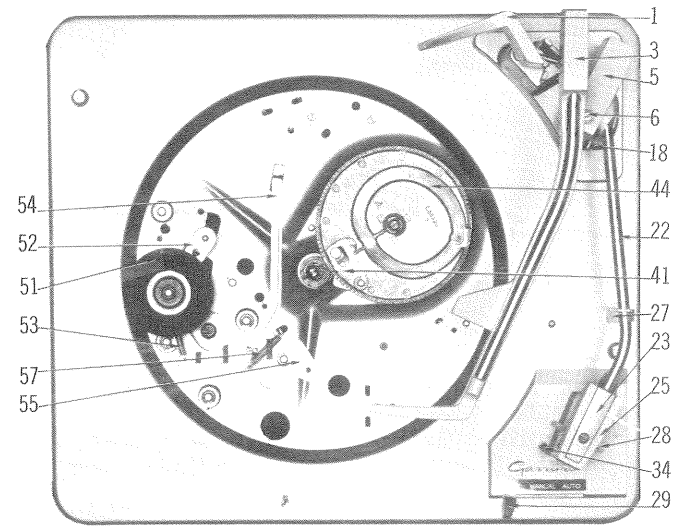
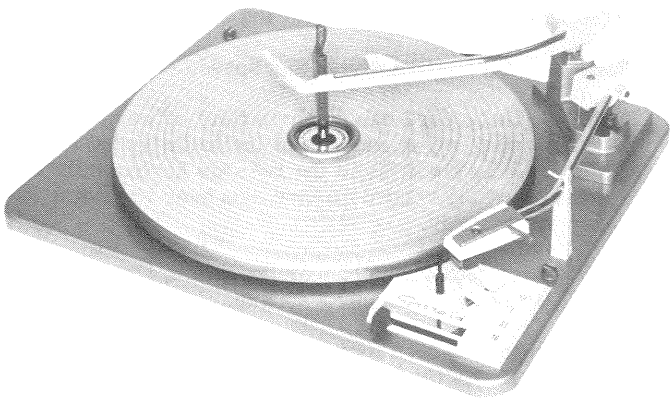
MECHANICAL PARTS LIST

	Ref. No.	Part No.	Description		Ref. No.	Part No.	Description
en,	1	58301	Selector Arm		58	44120	Transit Screw
	2	58953	Selector Arm Extension		59	41787	Spring Clip
	3	70402	Record Balance Arm		60	40695	Flat Washer
	4	70435	Record Balance Arm Trim		61	44125	Pickup Rest Mounting Screw
	5	70348	Pickup Body		62	41631	Return Spring
	6	40130	Lifting Screw		63	58327	Reject Lever
trol	7	44178	Pivot Screw		64	70405	Speed Control Lever Unit
	8	44178	Pivot Screw		65		Automatic Switch Lever
	9	44159	Pickup Arm Tube Mounting Scr.		66		Automatic Control Lever
	10	41693	Spring		67	58563	Lower Casting Assembly
	11	70354	Lifting Plate		68	44125	Mounting Screw
	12	59003	Pivot Screw		69	43813	Spring Clip
	13	44782	Stylus Pressure Spring		70	43200	Steel Ball
	14	70296	Spring Anchor		71	70329	Pickup Lever Unit
	15	41868	Circlip		72	41985	Friction Spring
	16	70361	Counterbalance Screw		73	58316	Collar
	17	70318	Pickup Bracket Assembly		74	58313	Auto Stop Link
	18	44180	Setdown Adjustment Screw		75	44133	Auto Stop Link Mtg. Screw
77).	19	40906	Nylon Pad		76	58343	Lifting Spindle
	20	44711	Overload Spring		77	58348	Friction Link
	21	40504	Washer		78	58958	Pickup Cam
	22	70295	Pickup Arm Tube		79	41787	Spring Clip
	23	70293	Pickup Head		80	58324	Release Lever
	24	44159	Pickup Arm Tube Mtg. Screw		81	40695	Washer
	25	70412	Pickup Head Extension		82	41787	Spring Clip
	26	70223	Upper Casting Assembly		83	70408	Control Lever Unit
	27	70356	Pickup Rest Assembly		84	41787	Spring Clip
	28	70407	Speed Control Knob		85	58310	Switch Lever
	29	70410	Control Knob		86	41787	Spring
	30	70395	Control Moulding		87	58303	Selector Lever
g (72)	31	41977	Transit Screw Clip		88	44706	Selector Spring
	32	70398	P. V. C. Tube		89	41095	Fixing Nut
	33	44781	Spring		90	44715	Index Spring
	34	70397	Brush		91	41998	Return Spring
	35	59820	Record Spindle Assembly		92	41759	Pawl Spring
	36	58011	Name Plate		93	59310	Amplok Insulator
	37	43834	Spindle Clip		94	59001	Amplok Plug
	38	40894	Thrust Washer		95	44154	Amplok Plug Mtg. Screw
	39	58229	Ball Race		96	58731	Switch Cover
ngs.	40	58749	Cushion Ring		97	44708	Lifting Spring
	41	58335	Trip Pawl		98	42526	Spring Washer
	42	41787	Spring Clip		99	41008	Nut
	43	41788	Spring Clip		100	41787	Spring Clip
	44	58330	Cam		101	43821	Spring Clip
	45	58331	Pivot Plate Unit		102	41848	Index Spring
	46	44129	Switch Mounting Screws		103	41848	Index Spring
	47	57422	Turntable Mat		104	58209	Support Bracket
	48	59834	Turntable Assembly		105	41787	Spring Clip
	49	43818	Spring Clip		106	58274	Speed Lever
	50	40826	Washer		107	43129	Motor Mounts
	51	58220	Idler Wheel		108	58640	Motor D35
	52	58215	Support Lever			58640/01	High Range Motor
	53	41992	Idler Wheel Tension Spring			58640/03	Low Range Motor
	54	58568	Tension Link			58640/05	Dual Range Motor
	55	58298	Tension Lever		109	58212	Index Bracket
	56	41787	Spring Clip		110	70218	Speed Cam
	57	41503	Tension Spring		111	58210	Adjusting Strip
					112	59611	Twin Phono Socket Assembly
					113	44126	Phono Socket Mtg. Screw

SET 805 FOLDER 7



TRADE NAME : Garrard Model A. T. 5L. M.  
SUPPLIER : For Current Address, see Annual Index  
TYPE SET : AC-operated, 4-speed Automatic Record Changer for playing 7-, 10-, or 12-inch records which may be intermixed if they are of the same speed.  
POWER SUPPLY : 110-120 Volts AC, 60 Cycles



GARRARD  
A.T.5L.M.

SET 805 FOLDER 7

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206



The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. C819

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DATE 3 -66 SET 805 FOLDER 7

TROUBLE CHART

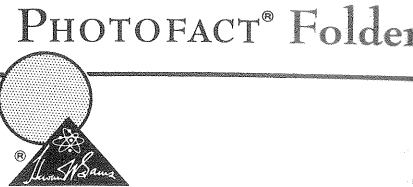
Symptom	Remarks
Turntable does not rotate when motor is running.	<ol style="list-style-type: none"> <li>Driving surface dirty or worn.</li> <li>Idle Tension Spring (53) weak, broken, or disconnected.</li> </ol>
Wow and Flutter	<ol style="list-style-type: none"> <li>Turntable bearing dirty or worn.</li> <li>Motor bearings dirty or worn.</li> <li>Driving surface dirty or worn.</li> </ol>
Does not shut off after last record has played or switches off without playing a record.	<ol style="list-style-type: none"> <li>Overarm Shaft (3) binding.</li> <li>Too much friction on Automatic Control Lever (66).</li> <li>Switch Lever (85) binding.</li> </ol>
Tone Arm lands too far in or out.	<ol style="list-style-type: none"> <li>Pickup arm setdown misadjusted.</li> <li>Nut (89) loose.</li> <li>Selector Arm (1) damaged.</li> </ol>
Erratic record selection.	<ol style="list-style-type: none"> <li>Nut (89) loose.</li> <li>Selector Spring (88) weak, broken, or disconnected.</li> <li>Friction Link (77) binding.</li> </ol>
Stylus jumps first few grooves of record.	<ol style="list-style-type: none"> <li>Stylus pressure too light.</li> <li>Worn or wrong stylus.</li> <li>Changer not level.</li> <li>Cartridge leads too tight.</li> <li>Too much friction in Friction Link (77).</li> </ol>
Pickup arm does not lower onto record.	<ol style="list-style-type: none"> <li>Lifting Spindle (66) binding.</li> <li>Pickup arm binding on pivot screws.</li> <li>Pickup arm height misadjusted.</li> </ol>
Pickup arm begins to lower then swings toward spindle.	<ol style="list-style-type: none"> <li>Pickup leads too tight.</li> <li>Lifting Spring (97) or Friction Spring (72) defective.</li> </ol>
Stylus does not track.	<ol style="list-style-type: none"> <li>Worn or wrong size stylus.</li> <li>Stylus pressure too light.</li> <li>Pickup arm leads too tight.</li> <li>Pickup arm binding.</li> </ol>
Rumble	<ol style="list-style-type: none"> <li>Dirt on Idler Wheel (51).</li> <li>Lack of lubricant on turntable bearings.</li> <li>Motor leads too tight.</li> <li>Faulty motor suspension.</li> </ol>
Interference when record is playing.	<ol style="list-style-type: none"> <li>Poor connections.</li> <li>Accumulation of lint on stylus.</li> </ol>
Motor does not run.	<ol style="list-style-type: none"> <li>Loose connection.</li> <li>Defective switch.</li> <li>Defective motor.</li> </ol>
Motor runs slow.	<ol style="list-style-type: none"> <li>Lack of lubricant.</li> <li>Motor bearings out of alignment.</li> </ol>
Records will not drop.	<ol style="list-style-type: none"> <li>Defective spindle.</li> <li>Return Spring (91) defective.</li> <li>Pawl Spring (92) defective.</li> </ol>
More than one record drops.	<ol style="list-style-type: none"> <li>Center hole in record too large.</li> <li>Spindle latch sticking.</li> </ol>
Stylus quits tracking when nearing center of record.	<ol style="list-style-type: none"> <li>Stylus pressure insufficient.</li> <li>Stylus worn.</li> <li>Pickup arm leads too tight.</li> <li>Pickup arm binding.</li> <li>Auto Stop Link (74) binding.</li> </ol>

MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	58301	Selector Arm	58	44120	Transit Screw
2	58953	Selector Arm Extension	59	41787	Spring Clip
3	70402	Record Balance Arm	60	40695	Flat Washer
4	70435	Record Balance Arm Trim	61	44125	Pickup Rest Mounting Screw
5	70348	Pickup Body	62	41631	Return Spring
6	40130	Lifting Screw	63	58327	Reject Lever
7	44178	Pivot Screw	64	70405	Speed Control Lever Unit
8	44178	Pivot Screw	65		Automatic Switch Lever
9	44159	Pickup Arm Tube Mounting Scr.	66		Automatic Control Lever
10	41693	Spring	67	58563	Lower Casting Assembly
11	70354	Lifting Plate	68	44125	Mounting Screw
12	59003	Pivot Screw	69	43813	Spring Clip
13	44782	Stylus Pressure Spring	70	43200	Steel Ball
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15	41868	Circlip	72	41985	Friction Spring
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17	70318	Pickup Bracket Assembly	74	58313	Auto Stop Link
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19	40906	Nylon Pad	76	58343	Lifting Spindle
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29	70410	Control Knob	86	41787	Spring
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31	41977	Transit Screw Clip	88	44706	Selector Spring
32	70398	P. V. C. Tube	89	41095	Fixing Nut
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34	70397	Brush	91	41998	Return Spring
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36	58011	Name Plate	93	59310	Amplok Insulator
37	43834	Spindle Clip	94	59001	Amplok Plug
38	40894	Thrust Washer	95	44154	Amplok Plug Mtg. Screw
39	58229	Ball Race	96	58731	Switch Cover
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56	41787	Spring Clip	110	70218	Speed Cam
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			112	59611	Twin Phono Socket Assembly
			113	44126	Phono Socket Mtg. Screw

SET 805 FOLDER 7

GARRARD  
A.T.5L.M.



TRADE NAME: Garrard Model A. T.

SUPPLIER: For Current Address

TYPE SET: AC-operated, 4-spe  
Changer for playing  
records which may  
are of the same spe

POWER SUPPLY: 110-120 Volts AC,

54  
52  
51  
53  
57  
55

108  
92  
106  
102  
104  
103  
109  
110

HOWARD W.



The listing of any available replacement p  
in any case a recommendation, warranty or  
& Co., Inc., as to the quality and suitability  
numbers of these parts have been compiled  
Howard W. Sams & Co., Inc., by the manu  
of replacement part listed. C819

OPERATING INSTRUCTIONS

Automatic Operation

1. Unfasten the tone arm from the rest post.
2. Select the correct stylus and speed.
3. Swing the record balance arm fully outward and place up to eight records of the same speed on the spindle shelf. Hold the records horizontally and swing the record balance arm over and down on the records.
4. To start automatic changer operation, move the Off/Manual/Auto control to Auto.

After playing all records, the tone arm will return to the rest post and the changer will automatically shut off.

Rejecting

A record may be rejected by moving the Off/Manual/Auto control to Auto.

CHANGE CYCLE

Starting a Change Cycle

As the Off/Manual/Auto control is moved toward Manual position, the tab on Switch Lever (85) depresses the switch plunger to close the On/Off switch, allowing AC line voltage to be applied to the record changer motor. Simultaneously, Switch Lever (85) slides Tension Link (54) toward the front of the changer. In turn, Tension Link (54) pivots Tension Lever (55), causing Idler Wheel Spring (53) to pull Idler Wheel (51) against the inside rim of the turntable and against the motor pulley. This starts the turntable rotating clockwise.

As the Off/Manual/Auto control is moved toward Auto position, Reject Lever (63) contacts and slides Auto Stop Link (74) toward the turntable hub. Auto Stop Link (74) moves Pivot Plate Unit (45) which moves Trip Pawl (41) into the path of the projection on the turntable hub.

Because the turntable is rotating clockwise, the projection on the turntable hub strikes Trip Pawl (41) and moves Cam (44) far enough to mesh with the teeth on the turntable hub. This action starts cam (44) rotating counterclockwise.

Pickup Arm Action and Record Pushoff

The roller on Pickup Cam (78) follows the groove in the bottom of Cam (44) to pivot Pickup Cam (78) toward the front of the changer. As Pickup Cam (78) pivots, Lifting Spindle (76) rides up an inclined surface on the pickup cam to lift the pickup arm. Next the pickup cam moves Release Lever (80) to actuate Record Spindle (35) which drops the bottom record onto the turntable.

The pickup arm set-down position for 7-, 10-, and 12-inch records is determined by the position of Selector Arm (1) and Selector Lever (87).

When a 7-inch record drops to the turntable, the diameter of the record is such that it does not

Stopping

Move the Off/Manual/Auto control to Off. The motor will stop with the tone arm remaining on the record. Restart by moving the control to Manual. The same record will continue playing.

Manual Operation

1. Unfasten the tone arm from the rest post.
2. Select the correct stylus and speed.
3. Place a record on the spindle and lower it to the turntable. Swing the record balance arm back to the center.
4. Move the Off/Manual/Auto control to Manual.

After playing the record, the tone arm will return to the rest post and the changer will automatically shut off.

strike Selector Arm (1). Consequently, the 7-inch notch in Selector Lever (87) engages with the selector lever stop pin. The shaft on Selector Arm (1) is thus positioned to engage the 7-inch step on Pickup Lever (71).

When a 10-inch record drops to the turntable, the edge of the record moves Selector Arm (1). This in turn pivots Selector Lever (87) far enough for the 10-inch notch to engage the selector lever stop pin. The shaft on Selector Arm (1) is thus positioned to engage the 10-inch step on Pickup Lever (71).

When a 12-inch record drops to the turntable, the edge of the record moves Selector Arm (1) far enough to allow the 12-inch notch on Selector Lever (87) to engage the selector lever stop pin. The shaft on Selector Arm (1) is thus positioned to engage the 12-inch step on Pickup Lever (71).

At this moment, Pickup Cam (78) starts to pivot toward the rear of the changer because of the roller on Pickup Cam (78) following the groove in the bottom of Cam (44). As Pickup Cam (78) pivots rearward, Friction Link (77) moves the pickup arm toward the spindle. The pickup arm stops when either the 7-, 10-, or 12-inch step on Pickup Lever (71) engages the shaft of Selector Arm (1).

As Pickup Cam (78) continues to pivot rearward, Lifting Spindle (76) rides down the inclined surface of the pickup cam to lower the stylus into the lead-in groove of the record. The rear edge of Pickup Cam (78) now contacts the shaft of Selector Lever (1) and pushes it clear of Pickup Lever (71), allowing Pickup Lever (71) and the pickup arm to move freely as the stylus follows the record groove.

Velocity Trip

The faster inward movement of the pickup arm upon entering the trip groove at the end of the record actuates the velocity trip mechanism to initiate another change cycle.

While a record is playing, the pickup arm moves slowly, carrying Auto Stop Link (74) toward the spindle. Before the end of the record is reached, Auto Stop Link (74) comes in contact with Pivot Plate Unit (45) which moves Trip Pawl (41) toward the turntable hub. On each revolution of the turntable, the projection on the turntable hub "pushes" Trip Pawl (41) outward to prevent a premature change cycle.

When the stylus enters the record lead-out groove, the pickup arm accelerates rapidly and Trip Pawl (41) is moved far enough to definitely engage the projection on the turntable hub. The contact between Trip Pawl (41) and the turntable hub projection gives the necessary push for the teeth in Cam (44) to engage the teeth on the turntable and initiate a change cycle.

Automatic Shutoff

When the last record drops, Record Support Arm (3) drops and Automatic Switch Lever (65) falls into the cutout in the shaft of the record support arm. After the last record plays, the changer again goes into a change cycle and the pickup arm is moved to a position directly over the rest post. Automatic Switch Lever (65) is pulled against the 7-inch step of Pickup Lever Unit (71) by its tension spring, preventing the pickup arm from moving in over the record.

As Pickup Cam (78) approaches the end of its travel, it contacts and moves Automatic Switch Lever (65) away from Pickup Lever Unit (71). This action causes the cutout in the front of Automatic Switch Lever (65) to pull the pin on Switch Lever (85) away from the tab on Control Lever (83), allowing Switch Lever (85) to pivot toward the front of the changer and release the switch plunger. This actuates the On-Off switch to remove power from the motor.

ADJUSTMENTS

Height

The pickup arm height is adjusted by turning Screw (6) located in the rear top surface of the pickup arm. The height should be adjusted so the stylus point is 3/4 inch above one record on the turntable mat as the arm returns to its rest.

Stylus Set-down Position

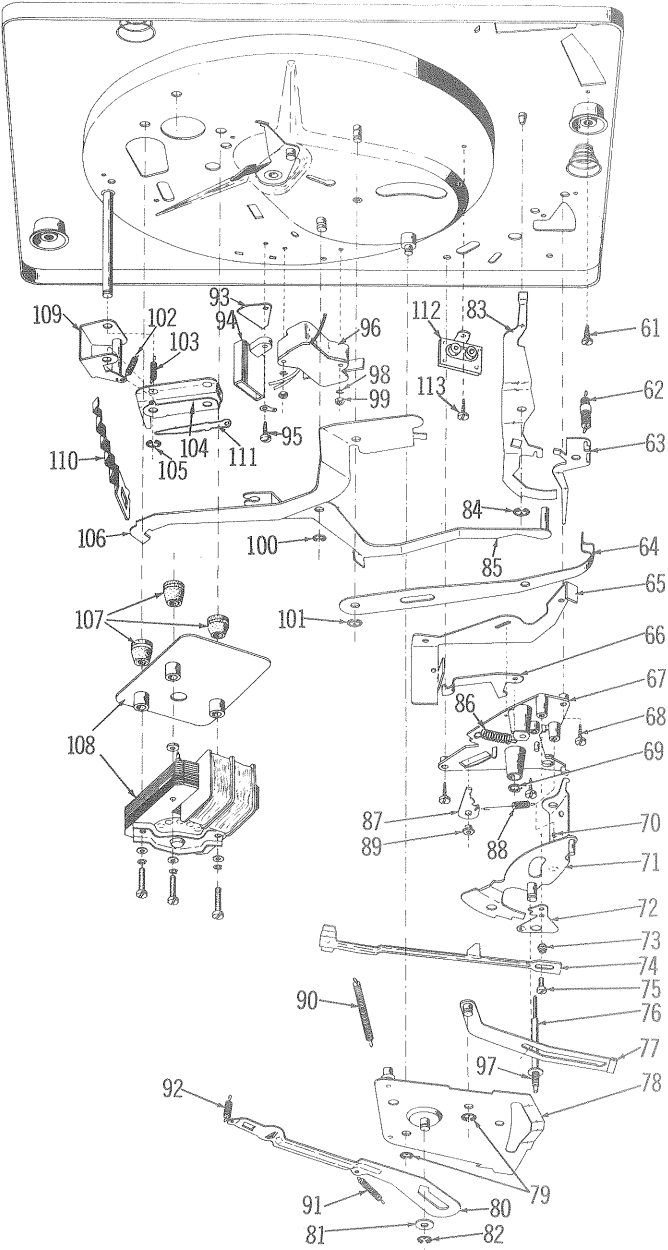
The stylus set-down position is adjusted by turning Screw (18). Clockwise rotation moves the arm in and counterclockwise rotation moves the arm out.

Stylus Pressure

The stylus pressure is adjusted by turning Screw (16). Adjust the pressure to that recommended by the cartridge manufacturer.

LUBRICATION

The motor, turntable, and idler wheel bearings are of the oil-retaining type and rarely need lubricating. When the need for oil is apparent, remove the turntable and lubricate these bearings with a fine grade oil. Carefully remove all traces of surplus oil, especially from the motor pulley, idler wheel tire, and the inside turntable rim.



TRUCTIONS

Stopping

Move the Off/Manual/Auto control to Off. The motor will stop with the tone arm remaining on the record. Restart by moving the control to Manual. The same record will continue playing.

Manual Operation

1. Unfasten the tone arm from the rest post.
2. Select the correct stylus and speed.
3. Place a record on the spindle and lower it to the turntable. Swing the record balance arm back to the center.
4. Move the Off/Manual/Auto control to Manual.

After playing the record, the tone arm will re- turn to the rest post and the changer will automatically shut off.

YCLE

strike Selector Arm (1). Consequently, the 7-inch notch in Selector Lever (87) engages with the selector lever stop pin. The shaft on Selector Arm (1) is thus positioned to engage the 7-inch step on Pickup Lever (71).

When a 10-inch record drops to the turntable, the edge of the record moves Selector Arm (1). This in turn pivots Selector Lever (87) far enough for the 10-inch notch to engage the selector lever stop pin. The shaft on Selector Arm (1) is thus positioned to engage the 10-inch step on Pickup Lever (71).

When a 12-inch record drops to the turntable, the edge of the record moves Selector Arm (1) far enough to allow the 12-inch notch on Selector Lever (87) to engage the selector lever stop pin. The shaft on Selector Arm (1) is thus positioned to engage the 12-inch step on Pickup Lever (71).

At this moment, Pickup Cam (78) starts to pivot toward the rear of the changer because of the roller on Pickup Cam (78) following the groove in the bottom of Cam (44). As Pickup Cam (78) pivots rearward, Friction Link (77) moves the pickup arm toward the spindle. The pickup arm stops when either the 7-, 10-, or 12-inch step on Pickup Lever (71) engages the shaft of Selector Arm (1).

As Pickup Cam (78) continues to pivot rearward, Lifting Spindle (76) rides down the inclined surface of the pickup cam to lower the stylus into the lead-in groove of the record. The rear edge of Pickup Cam (78) now contacts the shaft of Selector Lever (1) and pushes it clear of Pickup Lever (71), allowing Pickup Lever (71) and the pickup arm to move freely as the stylus follows the record groove.

Velocity Trip

The faster inward movement of the pickup arm upon entering the trip groove at the end of the record actuates the velocity trip mechanism to initlate another change cycle.

While a record is playing, the pickup arm moves slowly, carrying Auto Stop Link (74) toward the spindle. Before the end of the record is reached, Auto Stop Link (74) comes in contact with Pivot Plate Unit (45) which moves Trip Pawl (41) toward the turntable hub. On each revolution of the turntable, the projection on the turntable hub "pushes" Trip Pawl (41) outward to prevent a premature change cycle.

When the stylus enters the record lead-out groove, the pickup arm accelerates rapidly and Trip Pawl (41) is moved far enough to definitely engage the projection on the turntable hub. The contact between Trip Pawl (41) and the turntable hub projection gives the necessary push for the teeth in Cam (44) to engage the teeth on the turntable and initiate a change cycle.

Automatic Shutoff

When the last record drops, Record Support Arm (3) drops and Automatic Switch Lever (65) falls into the cutout in the shaft of the record support arm. After the last record plays, the changer again goes into a change cycle and the pickup arm is moved to a position directly over the rest post. Automatic Switch Lever (65) is pulled against the 7-inch step of Pickup Lever Unit (71) by its tension spring, preventing the pickup arm from moving in over the record.

As Pickup Cam (78) approaches the end of its travel, it contacts and moves Automatic Switch Lever (65) away from Pickup Lever Unit (71). This action causes the cutout in the front of Automatic Switch Lever (65) to pull the pin on Switch Lever (85) away from the tab on Control Lever (83), allowing Switch Lever (85) to pivot toward the front of the changer and release the switch plunger. This actuates the On-Off switch to remove power from the motor.

ADJUSTMENTS

Height

The pickup arm height is adjusted by turning Screw (6) located in the rear top surface of the pickup arm. The height should be adjusted so the stylus point is 3/4 inch above one record on the turntable mat as the arm returns to its rest.

Stylus Set-down Position

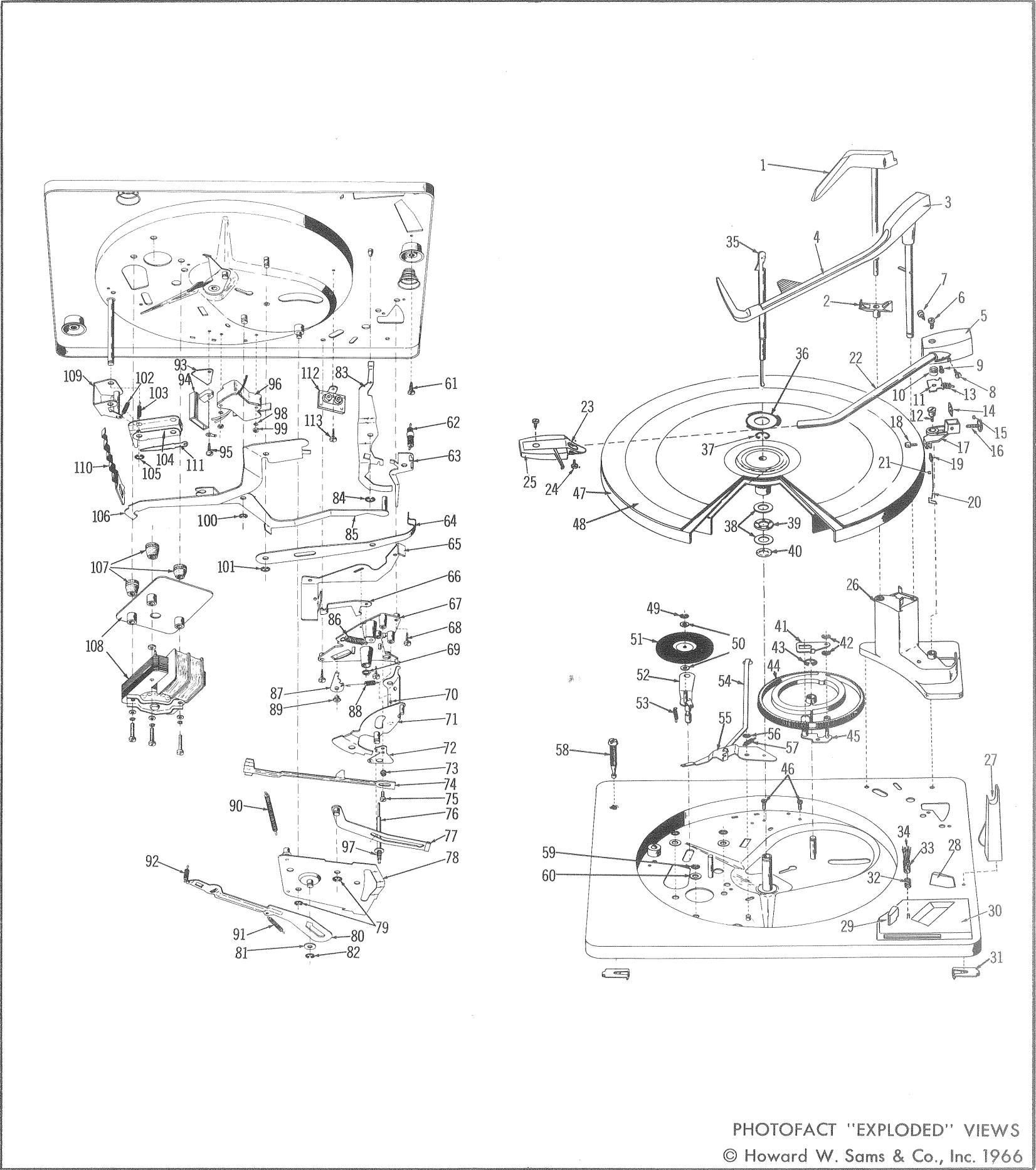
The stylus set-down position is adjusted by turning Screw (18). Clockwise rotation moves the arm in and counterclockwise rotation moves the arm out.

Stylus Pressure

The stylus pressure is adjusted by turning Screw (16). Adjust the pressure to that recommended by the cartridge manufacturer.

LUBRICATION

The motor, turntable, and idler wheel bearings are of the oil-retaining type and rarely need lubricating. When the need for oil is apparent, remove the turntable and lubricate these bearings with a fine grade oil. Carefully remove all traces of surplus oil, especially from the motor pulley, idler wheel tire, and the inside turntable rim.



PHOTOFACT "EXPLODED" VIEWS  
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