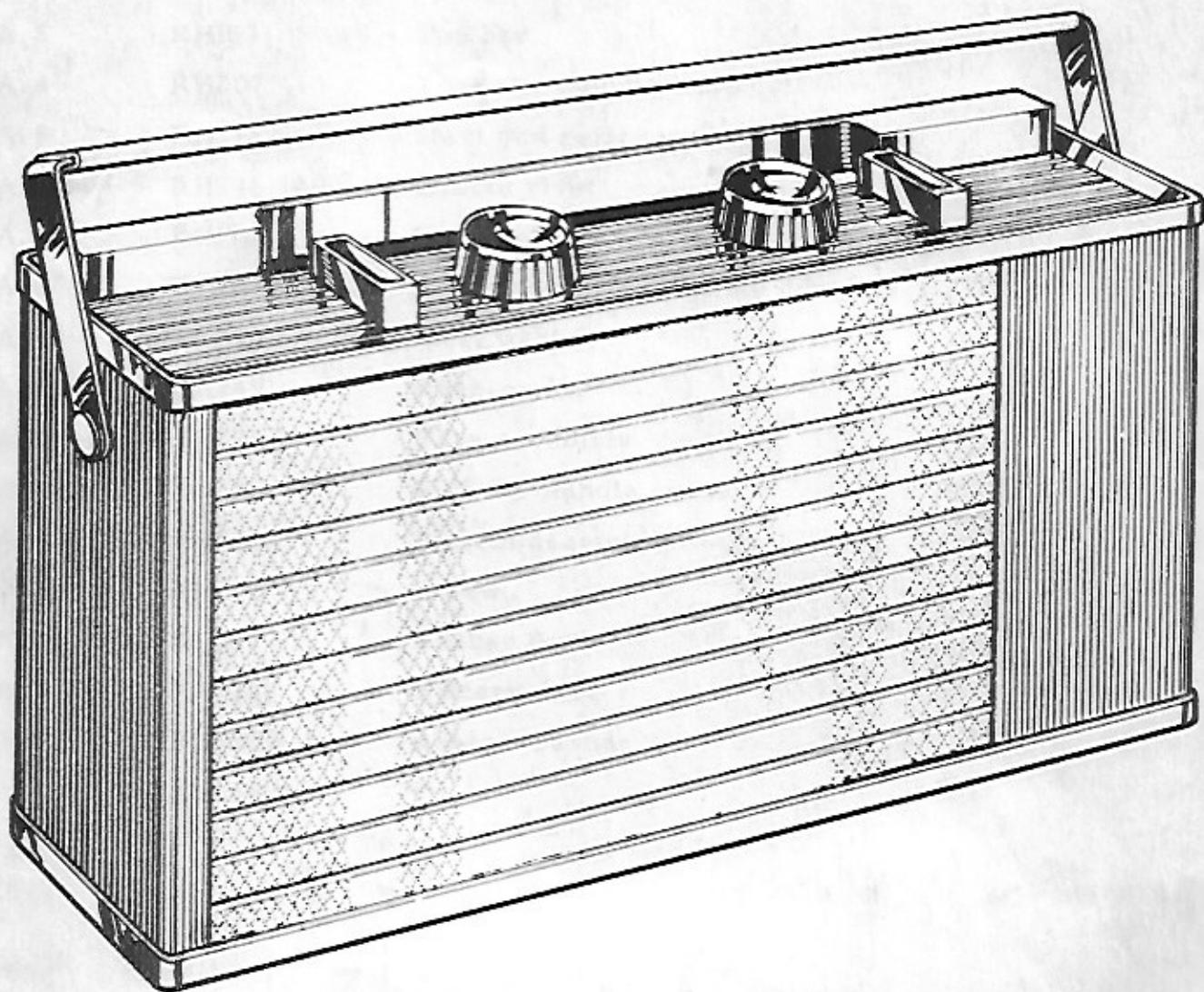


DISCATRON



SERVICE MANUAL

The world's most revolutionary record player.

MANUFACTURED UNDER LICENCE TO DISCATRON UK LTD

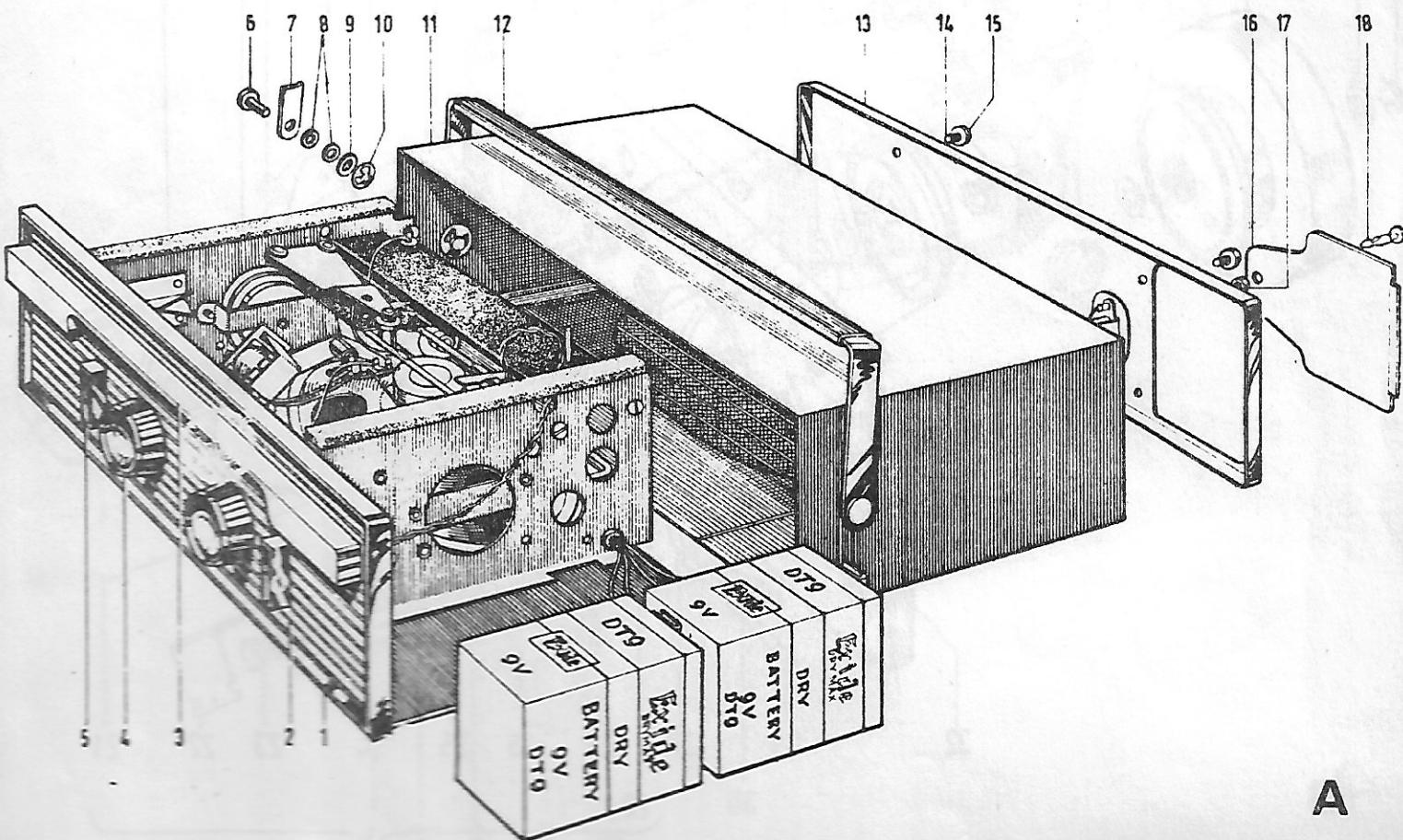
PATENT NOS 144398 - 145363 - 145364

By Dominion Radio & Electrical Corporation Ltd.

Huia Road, Otahuhu, N.Z.

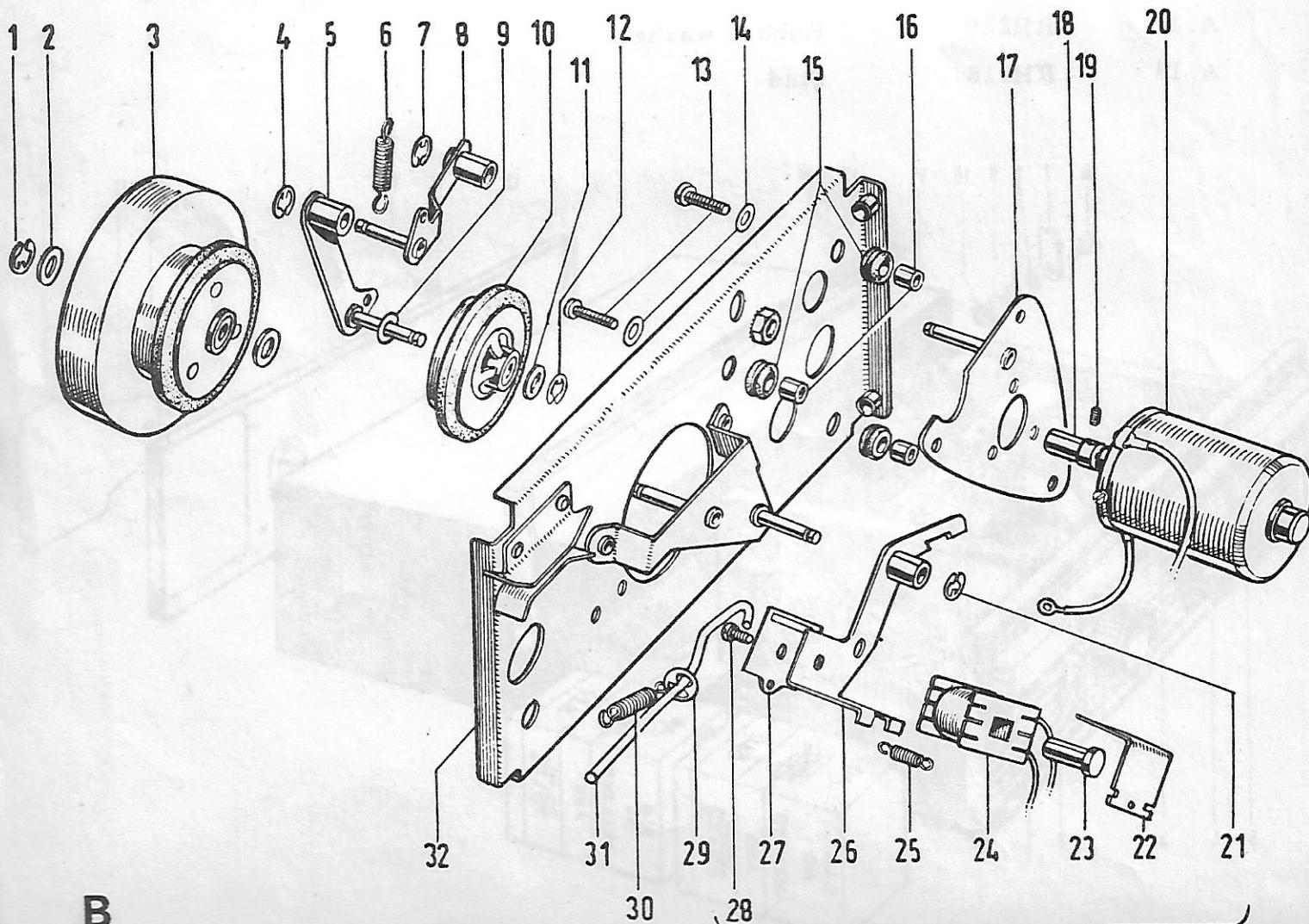
GENERAL ASSEMBLY

Illus. No.	Part No.	Description	No. required
A. 1	RH150	Case top	1
A. 2	RH154	Top trim	1
A. 3	RH153	Top bar	1
A. 4	RH207	Tone and volume knob	2
A. 5	RH116	Start and reject knob	2
A. 6	RH246	Handle rivet	2
A. 7	RH172	Handle	1
A. 8	RH247	Rubber washer - handle damping	4
A. 9	RH248	Steel washer	2
A. 10	RH249	Push-on fix	2
A. 11	RH274	Case assembly	1
A. 12	RH250	P. V. C. Handle cover	1
A. 13	RH275	Bottom assembly	1
A. 14	RH212	Screw	5
A. 15	RH221	Rubber feet	4
A. 16	RH152	Battery door	1
A. 17	RH220	Rubber washer	1
A. 18	RH218	Stud	1



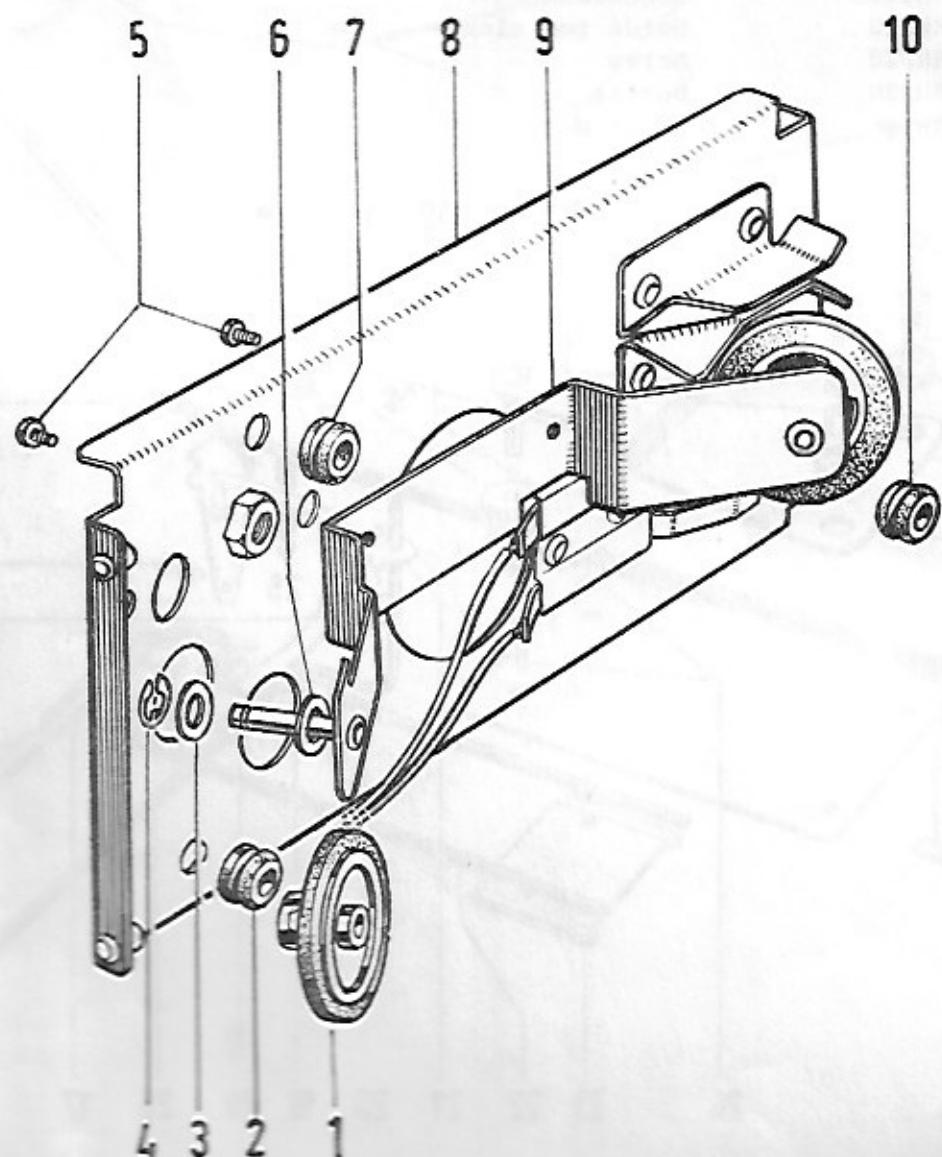
MOTOR SIDE CHASSIS ASSEMBLY AND FITTINGS

Illus. No.	Part No.	Description	No. required	Illus. No.	Part No.	Description	No. req.
B.1	RH209	Circlip	1	B.18	RH148	Motor pulley	1
B.2	RH234	Nylatron washer	2	B.19	RH213	Grub screw for pulley	1
B.3	RH264	Flywheel assembly	1	B.20	RH204	Motor	1
B.4	RH208	Circlip	7				
B.5	RH260	Straight jockey arm assembly	1	B.21	RH208	Circlip	7
				B.22	RH144	Armature latch	1
				B.23	RH145	Solenoid core	1
						Knock-out coil	1
B.6	RH236	Spring	1	B.24	RH203	Spring	1
B.7	RH208	Circlip	7	B.25	RH240		1
B.8	RH261	Cranked jockey arm assembly	1			Latch assembly	1
B.9	RH233	Nylatron washer	6	B.26	RH266	Armature plate	1
B.10	RH265	Jockey wheel assembly	1	B.27	RH155	Screw	5
				B.28	RH212	Push-on fix	1
				B.29	RH217	Spring	1
B.11	RH233	Nylatron washer	6	B.30	RH237		1
B.12	RH208	Circlip	7			Reject rod	1
B.13	RH230	Screws - self tapping	5	B.31	RH147	Motor side chassis	1
B.14	RH232	Washers	5	B.32	RH263	assembly	
B.15	RH222	Rubber grommet	3				
				B.33	RH276	Latch & Knock-out coil assembly	1
B.16	RH108	Bushes for grommet	3				
B.17	RH262	Motor plate assembly	1				



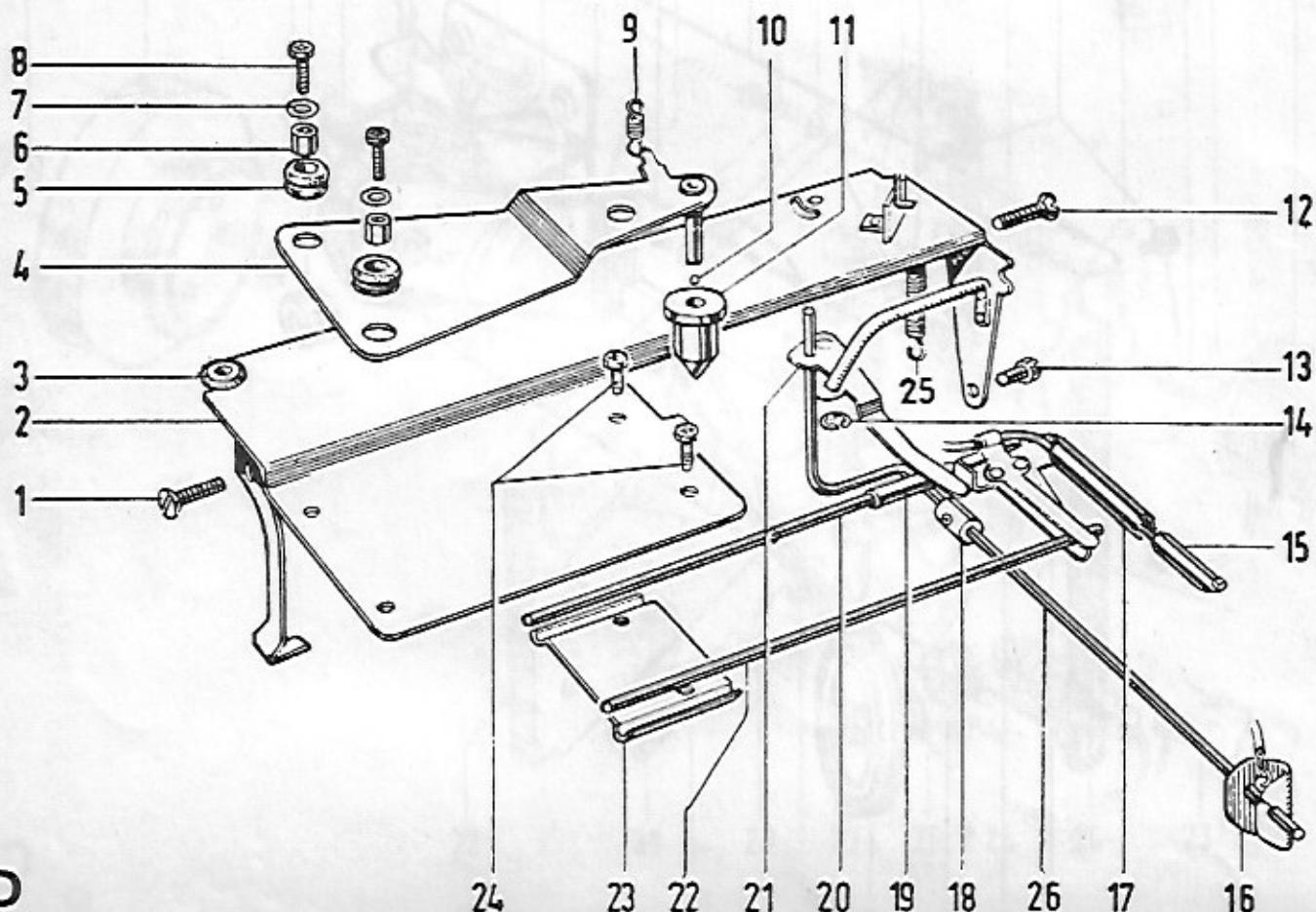
IDLER SIDE CHASSIS ASSEMBLY FITTINGS

Illus. No.	Part No.	Description	No. required
C.1	RH269	Idler wheel assembly	2
C.2	RH223	Grommet	3
C.3	RH233	Nylatron washer	6
C.4	RH208	Circlip	7
C.5	RH229	Self-tapping screws	4
C.6	RH233	Nylatron washer	6
C.7	RH223	Grommet	3
C.8	RH267	Idler side chassis assembly	1
C.9	RH268	Idler bracket assembly	1
C.10	RH223	Grommet	3



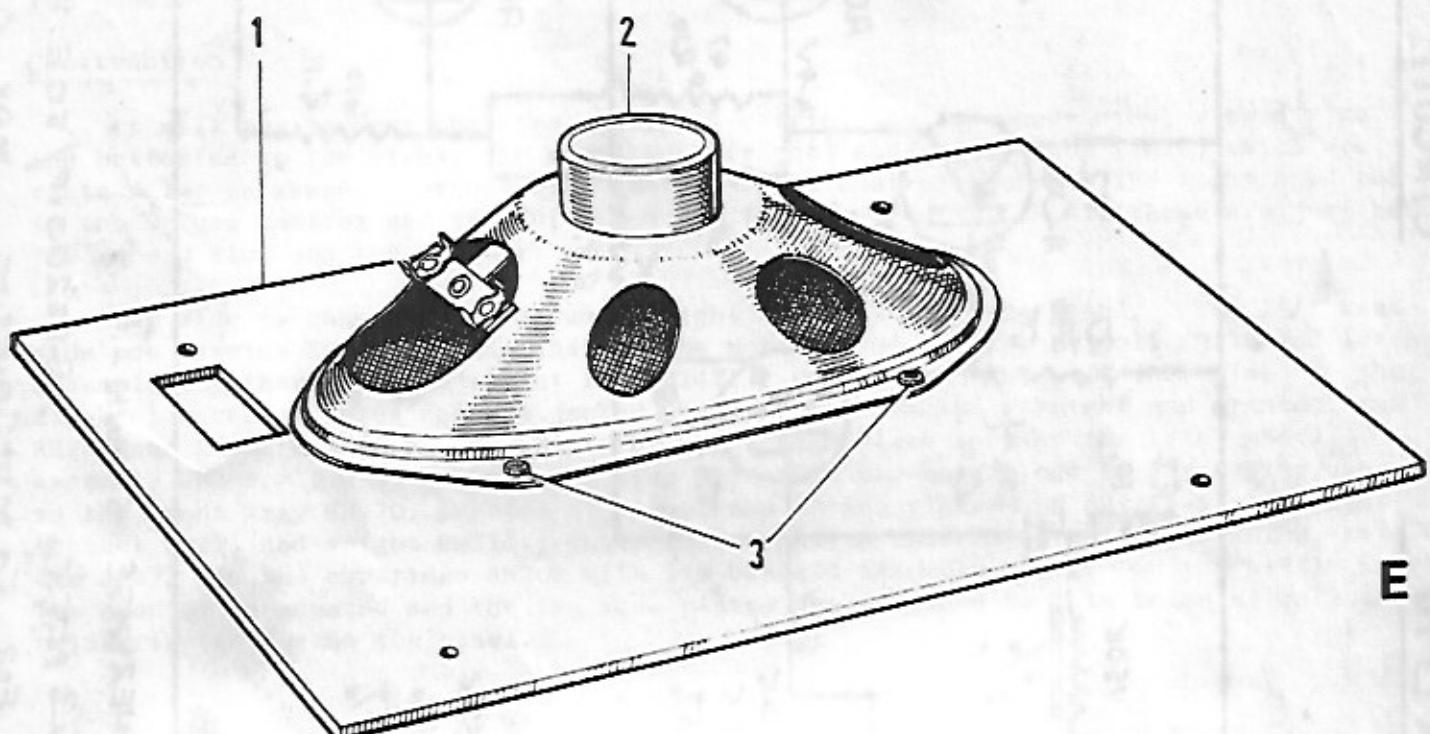
FRONT TRAY ASSEMBLY AND FITTINGS

Illus. No.	Part No.	Description	No. required
D.1	RH210	Screw	2
D.2	RH270	Front tray assembly	1
D.3	RH223	Grommet	3
D.4	RH271	Spigot bracket assembly	1
D.5	RH223	Grommet	3
D.6	RH107	Bush for grommet	2
D.7	RH232	Washer	5
D.8	RH230	Screw	2
D.9	RH239	Spring	1
D.10	RH235	Ball	1
D.11	RH115	Centre spigot	1
D.12	RH210	Screw	2
D.13	RH211	Screw	1
D.14	RH208	Circlip	7
D.15	RH202	Cartridge	1
D.16	RH121	Moving contact	1
D.17	RH272	Cartridge bracket assembly	1
D.18	RH117	Start rod bush	1
D.19	RH125	Nylatron sleeve	1
D.20	RH158	Guide rod	1
D.21	RH273	Return arm assembly	1
D.22	RH159	Reaction rod	1
D.23	RH113	Guide rod clamp	1
D.24	RH229	Screw	4
D.25	RH238	Spring	1
D.26	RH119	Start Rod	1



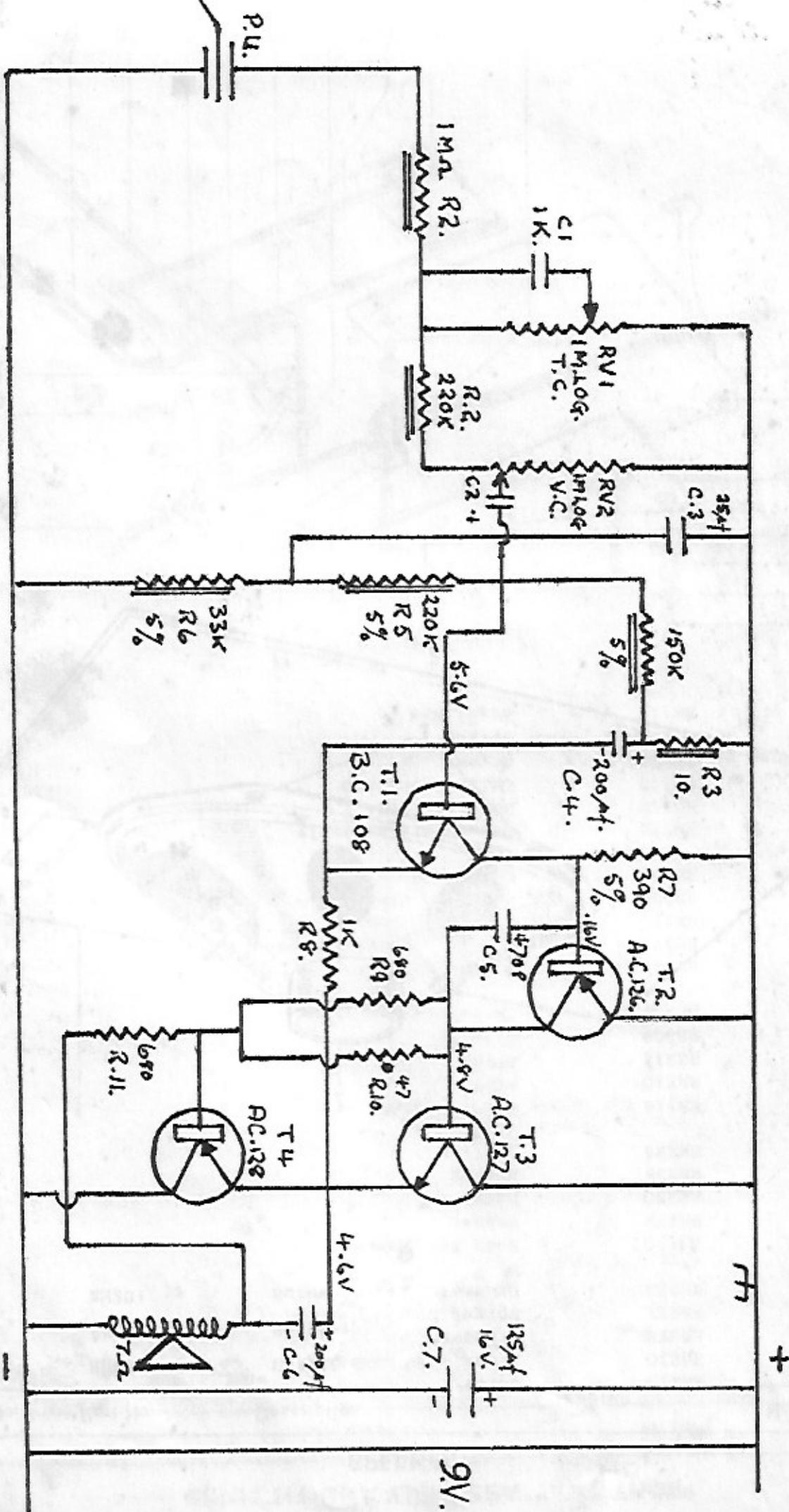
SPEAKER

Illus. No.	Part No.	Description	No. required
E.1	RH157	Baffle	1
E.2	RH206	Speaker	1
E.3	RH231	Screw	6



DISCUTRON

CIRCUIT DIAGRAM.



N.B. ALL RESISTORS 10% UNLESS OTHERWISE SHOWN.

LOW NOISE TYPE:  N.T.C.

B832001P/50E.

SENSITIVITY = .318 V. I. P. FOR 50 MW. OUTPUT. MAX O.P. = 860 M.W.

DRAWN 13.1 67

SERVICING INSTRUCTIONS FOR THE "DISCATRON" DE-LUXE
TRANSISTORISED, BATTERY OPERATED RECORD PLAYER.

The entire operating mechanism and control gear is carried on a baffle board, two side chassis plates and the top tray assembled as a complete unit, with batteries, and housed within the main case.

To release the unit from the case, first remove the battery door from the bottom tray; it is held by a quick-release fastener to which a quarter turn should be applied by means of a coin or screwdriver. Leave the fastener in the door, it is retained by means of a rubber washer on the inside. Through the aperture thus exposed, the batteries may be withdrawn, the leads being long enough to permit their removal. Next, undo the four screws which secure the four feet to the bottom tray; the rubbers will come away with the screws and should, of course, be taken care of. Withdraw the bottom tray and then extract the mechanism, easing the case free carefully from the top panel.

Construction

It will now be seen that the top panel carries, on its upper side, viewed with the batteries to the right, the start knob (right) and reject knob (left) which are rectangular in shape, together with the two round control knobs. The right hand one is the volume control and the left hand one the tone control. All these are just below the record slot and the top bar.

Two side or chassis plates run at right angles to the top panel. The left hand side one carries RH263, on the inside, the motor RH204, knock-out coil RH276 and latch assembly together with the reject rod RH147. On the outer side of this plate is the flywheel assembly RH264 and the jockey wheel RH265 with the straight and cranked arms RH260 and RH261 and spring RH236. The right hand plate carries the idler wheel assembly RH269. Bridging these two side plates at the bottom end is a pressing, known as the Front tray RH270, pivoted at either end to the plates and carrying the spigot bracket RH271 and spigot RH115, guide and re-action rods RH158 start rod RH159, return arm RH273 and the cartridge RH202 with its bracket assembly RH272. On the baffle board the speaker is mounted and the two side plates are attached to this board as well as being riveted to the top panel.

DISMANTLING THE DISCATRON

Amplifier RH200

Should there be a fault in the amplifier, it may be removed at this stage without any further dismantling. In the event of a general dismantling being undertaken, it may be as well, at this point, to remove the amplifier to give freer access to other parts. Take off the two control knobs which are held to their spindles by grub screws. Withdrawal of the knobs exposes two locknuts - one behind each knob - and with these removed, the amplifier panel may be tilted, the leads being sufficiently long for this purpose. Unsolder the leads from the panel and lift the amplifier clear.

Front Tray Assembly RH270

Unhook the spring attached to the right hand corner of the tray and to the corner of the idler chassis plate. Unsolder the leads from the tag board on the top of the tray, take out the screw retaining the start rod to the tray pivot leg and remove the two screws on which the tray assembly is pivoted to the chassis members. Tilt the tray and, very carefully, disengage the trip foot from the latch assembly. See that the leads are not strained while withdrawing the tray and, for further dismantling, unsolder the lead from the re-action rod.

On top of the front tray is the spigot bracket assembly RH271 which is held at its broad end to the tray by two screws passing through two bushed grommets. Remove these screws and take care of the washers beneath the screw heads; detach the spring from the other end of the bracket and lift the latter away. Hold the spigot RH115 which will be freed as the bracket is lifted clear and be sure that the 1/16in. ball at the bottom of the hole in the spigot is not lost.

Take out the two screws which secure the guide rod clamp plate RH113 to the front tray; free the leads from the tag board if this has not already been done, slide the cartridge bracket assembly RH272 from the rods. The Nylatron sleeve RH125 may be slid free if necessary and the return arm RH273 may be withdrawn from its pivot post below the top tray after removing its retaining circlip.

Points to watch on re-assembly are that the end of the guide rod which carries the cartridge bracket is snugly in the small locating notch formed for it in the tray pivot leg. Also, take care not to bend or otherwise damage the cartridge pressure leaf spring. To replace a cartridge at a time when it is desired not to dismantle the whole mechanism, slacken the two guide rod clamp screws, slide the rods inwards to obtain room to remove the stylus. Put in the new stylus and re-adjust the rods to their original position, use no oil on this assembly.

It is important when rebuilding the cartridge assembly that the leads from the cartridge to the tag board on the tray should form an easy, full sweep, lying in a semi-circle of approximately 2in. diameter. This will be determined somewhat by the length of the leads and these are carefully decided upon before leaving the manufacturers. Should new leads become necessary, their length should be copied from the originals.

Idler Wheel Assembly RH269

The strip carrying the two idler wheels may be detached after removing the two screws which secure it to the right hand chassis plate RH267. Each wheel is mounted on a short spindle on which it is retained by a circlip beneath which is a washer. As the wheel is withdrawn another washer between the wheel and the strip carrying the spindle will be noticed; take care of this and do not forget to replace it on re-assembly. The idler wheels are supplied complete with rubbers and push-on fixers and the parts should not be dismantled.

Motor, Jockey wheel, Flywheel, Latch assemblies

To remove the jockey wheel, unhook the small spring from the jockey arm and chassis plate; take off the two circlips retaining the straight and cranked jockey arms RH260, RH261, withdraw the arms and wheel. To release the jockey wheel, remove the retaining circlip and washer, then the wheel; note, again, that there is a second washer between the wheel and the arm. As in the case of the idler wheels, the jockey wheel is supplied complete with rubber and push-on fix and must not be dismantled.

Motor RH204

First, unsolder the red earth lead. Take out the three screws holding the triangular motor plate RH262 to the chassis plate RH263 and take care of the washers under the screw heads. Unsolder the black lead connection from the motor, remove the three self-tapping screws from the motor plate and the motor is free. The driving bush RH248 on the motor spindle may be removed after slackening the grub screw. Should a replacement motor be required, it will be supplied complete with suppression gear, but without the driving bush unless this, too, is specified.

Flywheel RH169

This is mounted on a spindle in a bracket riveted to the chassis plate and is removed simply by detaching the circlip and its washer, there is a second washer between the wheel and the plate. Again, the flywheel is supplied complete with the rubber, and must not be dismantled.

Latch assembly RH266

This is pivoted to the bracket the other side of which carries the flywheel. Remove the circlip from the pivot point, unhook the spring from the reject rod RH147 to the chassis, unsolder the lead from the coil RH203 to the speaker tag board, slide the assembly from the pivot and withdraw the reject rod inwards complete with the knob, unhook the rod from the latch. The armature latch RH144, solenoid core RH145, knock-out coil RH203, latch assembly RH266, and armature plate RH155 are all held together by a screw holding the solenoid core in place. On removal of this screw and detachment of the spring RH240, the whole can be taken apart.

Speaker RH205

This is held to the baffle board by four screws. Before removal, detach the remaining leads.

Chassis Plates RH102 and RH103

Should it become necessary to remove these, it may best be left to the manufacturer since dismantling and replacement without proper equipment may prove difficult.

Remove the top bar RH153 held by three self-tapping screws, then take off the ribbed, aluminium top trim which is held to the top plate by adhesive. Drill out the four rivets, two on either side, holding the chassis plates to the top plate; drill out four more rivets holding the chassis plates to the baffle.

Start Rod Assembly

When re-assembling the start rod RH119, place the tray RH270 in the playing or latched position; slide the start rod through the bush RH117 until it is holding the return arm RH273 against its stop on the tray; it should rest against this stop under slight tension. In this position, tighten the bush screw. It should be emphasised that if the initial tension on the arm is too great, there will be difficulty, when pressing the start knob, to achieve the correct position. If the tension is not great enough, vibration will occur to interfere with reproduction.

Re-assembly of all other parts except those to which attention has already been drawn, will present no difficulties, but care must always be exercised to avoid bending of the control rods or guide rods and the free movement of all working parts must also be assured.

SERVICE

Motor fails to start

Faulty battery

Switch making poor contact

Faulty motor

Broken battery lead

Automatic stop fails to operate

Accumulation of dirt on re-action rod contact or leaf spring contact

Broken lead

Crossed cartridge leads

Faulty knock-out coil

Amplifier battery voltage too low. (minimum, 6.5V)

Knock-out armature restricted in its movement

Reaction Rod incorrectly adjusted and not allowing contacts to make

Speed variation

Battery voltage too low

Driving rubber on flywheel greasy or otherwise fouled

Jockey wheel rubber in similar state. (Clean with methylated spirit)

Insufficient tension on centre spigot assembly spring

Idler wheels not running freely

Flywheel not running freely

Motor driving bush loose

Insufficient tension on jockey wheel spring

Lead astray obstructing path of record operating mechanism

Buckled record

Stylus fails to track

Dirt on guide rod. Clean with dry cloth, clean nylatron tube with a pipe cleaner or similar

Damaged sleeve on guide rod

Stylus pressure incorrect

Damaged stylus

Badly worn record

Leads to cartridge trapped or otherwise restricted

Tray fails to engage in playing position

Reject rod spring broken or dislodged

Badly worn latch pawl