

MODEL RK44

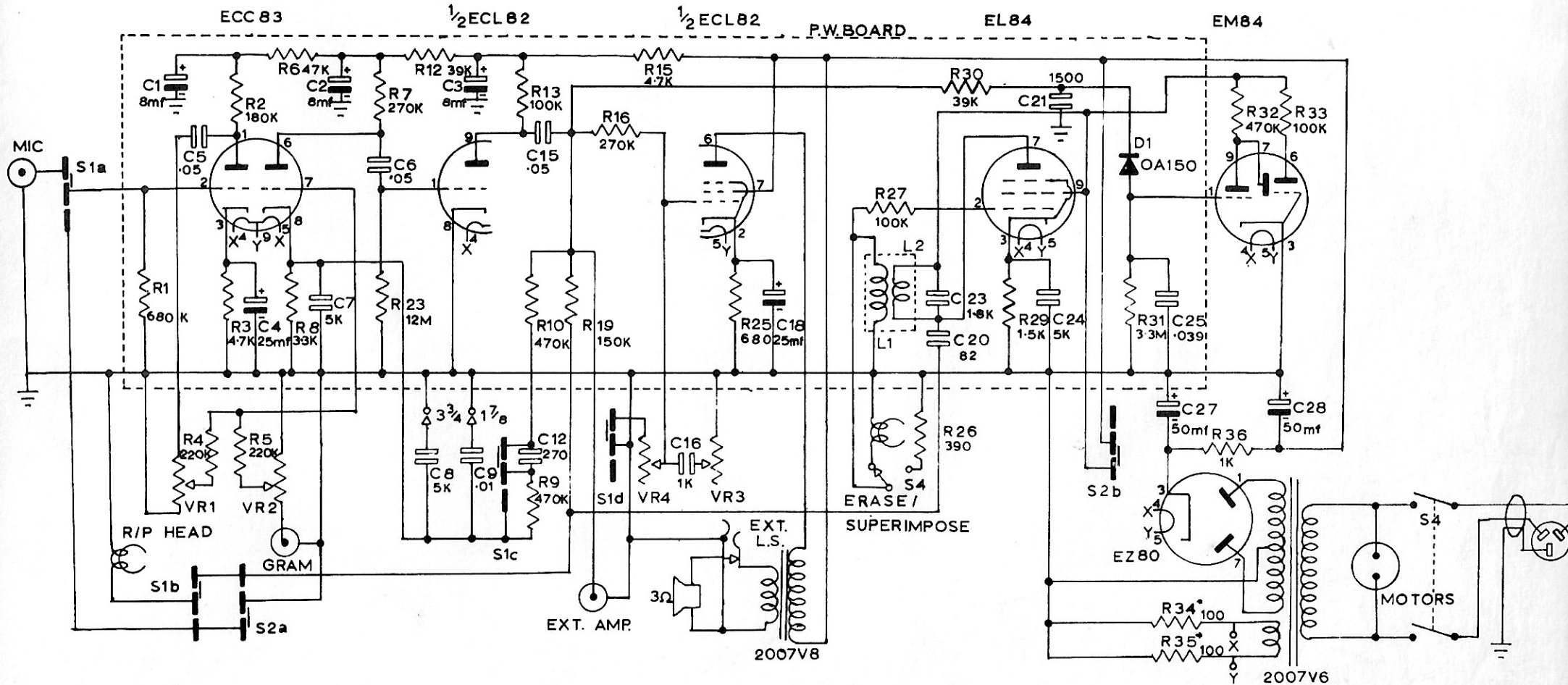


MOTOK

TAPE RECORDER

AWA MODEL RK44

A61



S1 AND S2 SHOWN IN RECORD POSITION

L1=227 mmH
L2=6.71 mH

*ON P.W. BOARD

MOTOR SWITCHING
NOT SHOWN

FIG. 1.

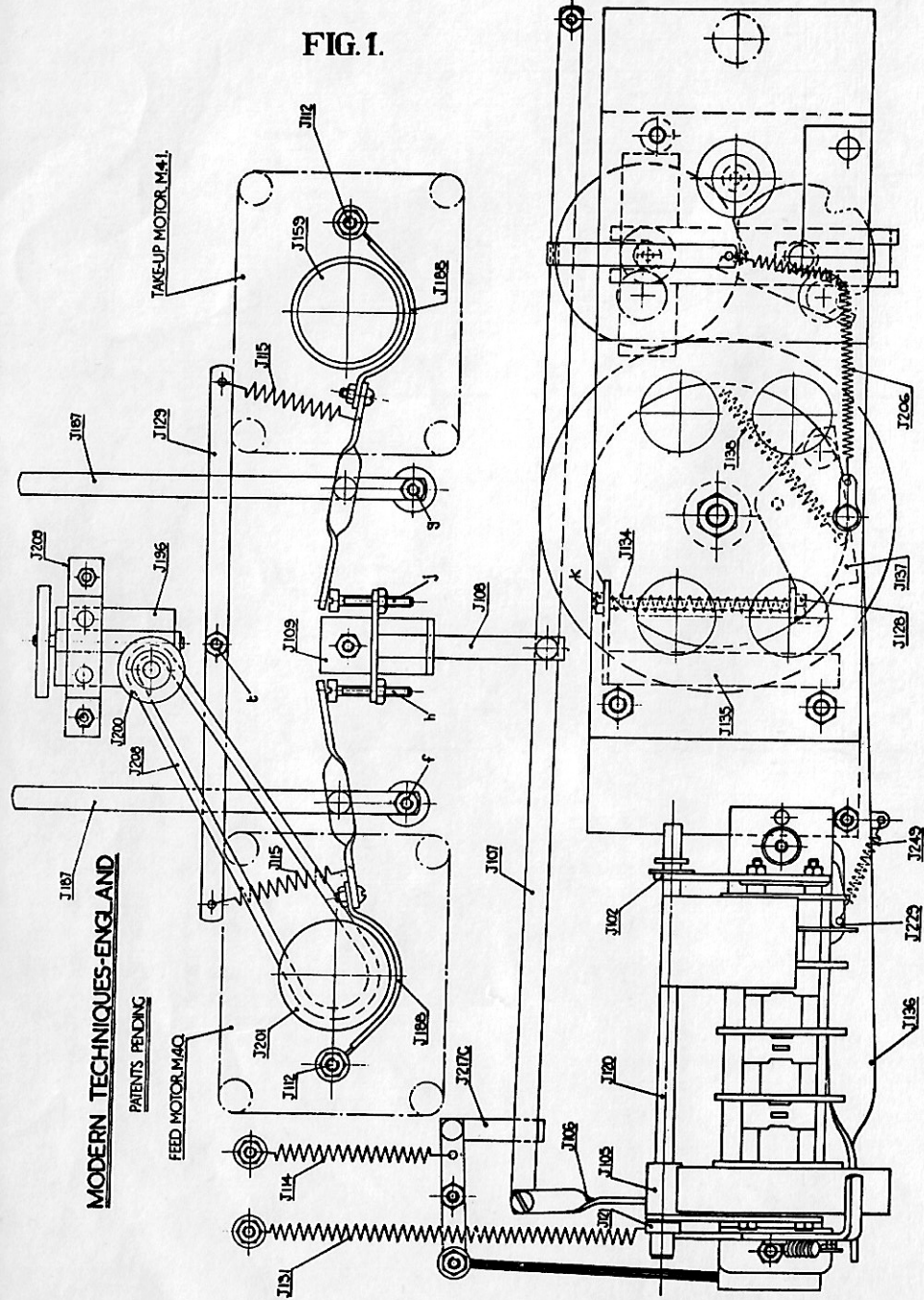


FIG. 3.

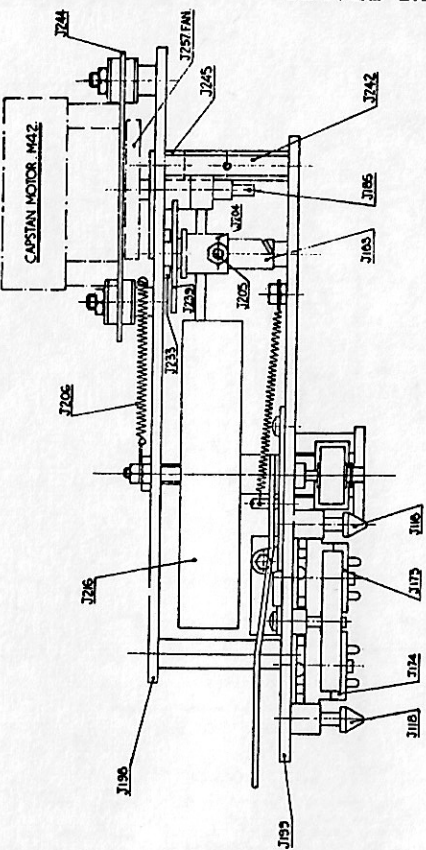


FIG. 2.

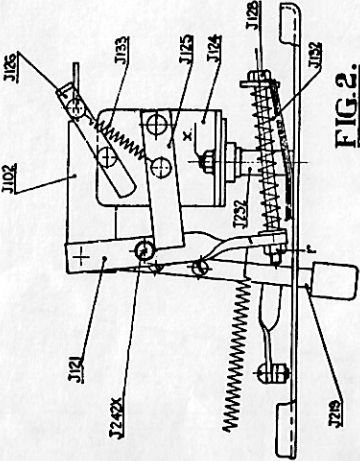
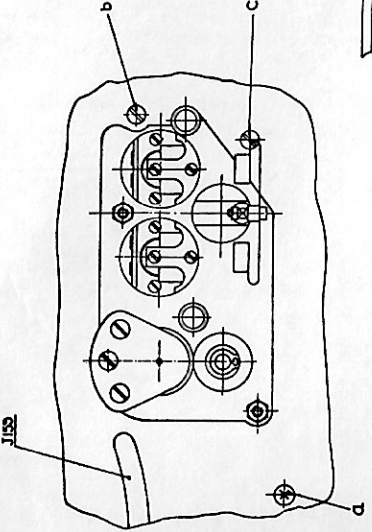


FIG. 4.



BRAKES -

As will be seen from Fig. 1 one end of each brake band is connected to the deck plate. The other end is connected to a brake swivel assembly J.187. The mounting strip of J.187 is screwed to the deck at one end (points f and g) and at the other end by transverse locking arm J.129. The nearer the swivel point is to the brake drum J.159 the sharper is the braking action.

To adjust brakes, press the STOP button and ensure adjusting screws h and j are well clear of the brake band brackets. Slightly slacken nuts f and g and remove transverse locking arm J.129 (screw at t). Now, adjust one brake at a time. Grip the appropriate spoolholder (J.159) and brake drum in one hand and rotate. At the same time move the end of the mounting strip (near where the transverse locking arm was) slightly to the left or right. It will be found that the braking action of the band on the drum will become weaker or stronger. Leave

strip at position desired. Repeat action for other brake. Tighten screws f and g and replace transverse locking arm J.129. It will be observed that the rotation of the spoolholder and brake drum in one direction will be virtually unaffected by the action of the brake band. This is due to the servo design of the brake to avoid tape spillage. The brake drum must therefore be rotated in the direction that is affected by the brake band. Check that the adjusting screws h and j are approximately 1/16" clear of the brake band brackets. If it is desired to remove brake at any time, this should be done by releasing the end attached to the deck and unscrewing the end attached to the appropriate swivel assembly J.187.

INTERLOCK:

The action of the interlock mechanism has already been described. If, due to dismantling or any other reason, adjustment is required, move interlock assembly J.124 (fig.2) to the position where correct action occurs by slackening nut "x" (fig.2) positioning assembly and re-tightening nut "x".

FLYWHEEL & CAPSTAN:

With idler wheel at disengaged position, flywheel should rotate freely when spun. At the same time there should be no perceptible side play when the flywheel is gripped firmly between finger and thumb. If adjustment is required, slacken retaining nut and adjust allen set screw at point "z" (fig.5). Tighten retaining nut. It is important to ensure that the outer rim of the flywheel and idler wheel is free from grease. If grease is inadvertently applied, wipe off immediately and coat with french chalk.

3-SPEED ASSEMBLY, (INCLUDING RUBBER IDLER WHEEL)

Should it be necessary at any time to replace the rubber idler wheel, this can easily be accomplished by releasing spring J.206 (fig.1) from the tag on sub-assembly unit and it will be found that the whole idler wheel complete with its idler stem slide and slide clip can be removed. The idler wheel and mounting assembly can then be removed from the idler stem slide J.233. The idler wheel sub-assembly is shown in fig.4 comprised of idler locating bush J.189A, idler wheel and oilite bush J.258, two P.T.F.E. washers and a circlip. To replace reverse the action of dismantling. Should it be desirable to alter the height slightly of the 3-step pulley J.185, this can simply be accomplished by slackening the grub screw on the side of the pulley placing to correct height and re-tightening.

PAUSE CONTROL:

Should it be necessary to replace the cord linkage between the pause assembly J.217C (fig.1) and the actuating arm J.136 a new cord should be fitted following the path of the original and its length adjusted until correct action occurs. Ensure that the cord at the linkage control end passes through the special fibre washer before being tightened to ensure the action of tightening does not cut through the cord.

REVOLUTION COUNTER:

Should the revolution counter be suspect of deflect in any way first check for freedom of action of the plastic return wheel against deck plate, for should the wheel be inadvertently touching the deck plate at any point intermittent action of the revolution counter will occur.

MOTORS:

These are fitted with self-oiling bearings and no maintenance should be necessary. If in the course of time it is desired to re-charge the felt discs surrounding the bearings, a very light mineral grade oil should be used.

PRESSURE PADS:

Should it be necessary to re-adjust the felt pad setting, recording tape should be looped round the record head and RECORD button depressed (without mains connected to the deck). The pressure the pad is applying to the tape to the record head can then be easily felt by moving the tape with the fingers. The pad should have the minimum pressure consistent with maintaining intimate contact of the tape against the head GAP. Adjust pad as necessary. It is essential the pressure of the pad be not excessive else wow may result. Remove tape from record head and loop round erase head. Repeat procedure as for record head.

SPOOL CARRIERS:

Should it be desired to raise or lower this part J.159, adjustment can be made by slackening the two screws at the base of the carrier, adjusting to height and then re-tightening.

HEART:

If it is desired for any reason to dismantle the complete "heart" shown in fig.3 the following procedure should be adopted:-

- (a) Remove stiff nut from transmission rod J.128 which joins actuating arm J.121 and arm J.136. Remove transmission rod J.123 and spring J.132.
- (b) Disconnect all wires to capstan motor.
- (c) Remove cord link from actuating arm J.136 to pause linkage J.217C.
- (d) Remove five screws attaching sub assembly unit to main deck plate. (The decorative top cover plate must, of course, be removed.)

The "heart" is now free.

TRANSMISSION ROD J.128:

There are two transmission rods J.128 in the deck, one joining actuating arm J.121 and arm J.136 with spring J.132, adjusted by nut 'r' fig.2 and the other joining roller assembly plate J.137 and pad assembly slide J.135 with spring J.134, adjusted by nut 'k' fig.1. The

adjustments of the stiff nuts 'r' and 'k' are important for the correct operation of the unit. If for any reason the factory setting of the nuts has been disturbed, the following procedure should be adopted:-

- (a) Adjust nut 'k' so that approx. $\frac{1}{4}$ " of transmission rod protrudes.
- (b) Depress RECORD button and adjust nut 'r' until about $\frac{1}{32}$ " free play is present on transmission rod connecting J.121 and J.136.
- (c) Depress STOP button and check that the end of the RECORD button push rod is touching the push button flap assembly J.120. If it does not, it indicates that nut 'k' is too far up its transmission rod and it must be slackened.
- (d) Depress RECORD button and then depress STOP button and check felt pad assembly mounted on pad assembly slide J.135 springs back to its full extent. If it does not, it indicates that nut 'k' has not been screwed far enough on its transmission rod and it should be adjusted accordingly.
- (e) Depress RECORD button and check as per (b) if necessary re-adjust.
- (f) If adjustment has been necessary for (e) recheck (c) and (d).

GREASE:

Grease is used in the flywheel and capstan bearings and the rubber pinch wheel spindle. Should renewal at any time be desired replace with a high grade graphite type or, preferably, molybdenised type. Take great care to ensure no dust or dirt is mixed with the grease as this will affect the true running of the apparatus.

HEADS:

From fig.5, section D, an exploded view of the record head assembly, it will be noted the head is balanced on two precision diameter balls and by suitably screwing the two mounting screws, the gap line can be adjusted to a very fine degree of accuracy to enable the best possible results to be obtained from pre-recorded tape. If it is desired to misalign deliberately the head (possibly to obtain good playback reproduction from a tape recorded on another machine with a mis-aligned head), the record head can be tilted by slackening one of the mounting screws a little and tightening the other until the desired result is obtained. Take care not to over-tighten both screws.

The head surfaces must be kept clean and carbon tetrachloride can be used sparingly if necessary. Ensure that head surface is not scratched and only polished with a fine brush or very soft cloth. Take care no permanent magnet is placed close to the head or any D.C. passed through it (even from a motor).

ERASE VOLTAGE CHECK

All readings approximate

Switch to record.		
Anode of V4	= 150 Volts A.C.	(on 250 volt range)
Junction of C20/R20	= 65 Volts A.C.	(on 250 volt range)
Cathode of V4	= 16.5 Volts A.C.	(on 25 volt range)
C2 of V4	= 230 Volts D.C.	(on 1 K. volt range)
Across Erase Head	= 25 Volts A.C.	(on 100 volt range)
Across R/P Head	= 36 Volts A.C.	(on 100 volt range)
Junction C21/C22	= 35 Volts A.C.	(on 100 volt range)
G1 V4	= 27 Volts A.C.	(on 100 volt range)

H.T. RIPPLE (FOR HUM)

All readings approximate

Stop Button Down.	
Reservoir	4.6 Volt peak to peak
Smoothed	140 mV peak to peak
Junction R15/R12	= 10 mV peak to peak

CODING FOR WIRES LEADING FROM PRINTED CIRCUIT

A.	Head switch
B.	Microphone Input socket
C.	Majic eye
D.	Speed compensation switch (Junction of C8 and C9)
E.	Majic eye holder
F.	Majic eye holder
G.	Majic eye and then to earth tag at superimposition switch
H.	Superimposition switch (centre contact)
J.	P/B Switch wafer (R, U, B.)
K.	Junction of R4, R5 at volume control
L.	End tag of volume control (U, R, L.)
M.	Centre contact monitor control
N.	Ext. Amp socket
P.	Output transformer
Q.	Output transformer
R.	Heater source (Power pack)
S.	Heater source (Power pack)
T.	Majic eye (EM84) - Junction of R32, R33

RESISTORS Wattages quoted are at 40°C

R1	680K ohm .35w
R2	180K