

RUSSCO ELECTRONICS MFG., INC.

INSTRUCTIONS FOR OPERATION OF 3 SPEED TRANSCRIPTION TURNTABLES

12" 4-pole and 12" synchronous

MODEL - CUE - MASTER

RUSSCO 12" tables are shipped completely assembled. Shipping materials such as blocks, cardboard, etc., should be removed and the table thoroughly checked for possible damage incurred in transit. If main table bearing is numbered, be sure this number is matched by number stamped on platter to insure correct matching. Connect 115V 60 cycle AC only to terminals marked in red.

INSTALLATION: The table should be solidly mounted to operating table or desk. **DO NOT USE SPONGE RUBBER OR OTHER RESILIENT MATERIAL BETWEEN TURNTABLE CHASSIS AND MOUNTING SURFACE!** This is especially important where reproducer arm is of such length that it cannot be mounted directly on the turntable chassis.

OPERATION AND ADJUSTMENTS: Turntable speed is controlled by 3 factors: (1) speed of motor in RPM (2) diameter of motor pulley (capstan) (3) diameter of inside rim of turntable. Diameter of idler has no effect on table speed, hence no speed change occurs as idler wears. Speed change is made by placing speed change arm in one of the three slots, top for 33-1/3, middle for 45, and bottom for 78 RPM. "Neutral" positions are provided between the slots, and when not in use the shift arm should be left in neutral position to prevent "flats" on the idler.

Each of the slots has an adjustable stop which limits the travel of the arm. While a slight change can be made in table speed by adjusting these slots, their purpose is to limit the pressure between motor pulley-idler and table rim. **INITIAL ADJUSTMENT IS AS FOLLOWS:** Screw in (clockwise) (45RPM) screw until motor ceases to drive table, then back out screw slowly until just enough pressure is applied to give satisfactory acceleration. Best results will be realized by using the least possible pressure consistent with adequate driving power. Too much pressure will cause undue wear on the idler, cause incorrect speed, and introduce vibration.

LUBRICATION: MAIN TURNTABLE SHAFT: Main turntable shaft should be wiped clean with clean lintless cloth and bearing well should be cleaned with cloth wrapped around wooden dowel to remove gummy deposits of dirt and oil. Relubricate by applying Grade 30 automotive oil. A small dab of Lubriplate should be applied to the ball on the end of the turntable shaft. This lubrication procedure should be followed every 3 months -- every month, if table is used in a 24 hour operation.

IDLER BEARING LUBRICATION: The idler bearing is made of oilite...a material consisting of small bronze particles pressed together with microscopic passages between them. These passages are impregnated with oil. This bearing material contains enough oil for several years of bearing life. Should the idler tend to become stiff on the shaft and not rotate freely, this would indicate that the bearing no longer has sufficient oil for lubrication. At this time the idler should be removed, the shaft and bearing wiped thoroughly with a clean lintless cloth and the bearing relubricated with a light oil such as 3 in 1 oil.

BODINE SYNCHRONOUS MOTOR: This motor is equipped with gits type oil cups located on the side of top and bottom bearing. The bearings on these are of the solid bronze sleeve type, equipped with a felt wick to carry oil to the shaft. Ordinary lubrication at two month intervals with a couple of drops of oil per bearing is sufficient. Grade #10 non-detergent oil is recommended.

GENERAL INDUSTRIES D-10 FOUR POLE MOTOR: This motor comes equipped with oilite bearings and ordinarily needs no lubrication attention during its life. If the turntable is located in an unusually hot location it is possible for the oil in these bearings to change viscosity to the point where the motor shaft will be so stiff that the motor will have trouble starting. Under these conditions the motor should be removed from the turntable, disassembled, and the bearing and shaft cleaned. The bearing then should be thoroughly saturated with a light oil such as 3 in 1. The motor then can be reassembled, reinstalled on table and table restored to further usage.

IDLER ADJUSTMENTS: Note that the motor is attached to its hanger with screws or bolts through elongated holes. If, due to wear, (reduction of diameter) of the idler, it becomes impossible to secure adequate driving power with the shift arm at the extreme left hand end of the speed selector slot, moving the motor toward the rim of the table will give correct driving pressure more toward the center of the speed change slot. If a new idler makes it impossible to obtain a "neutral," the motor is simply moved away from the table rim until a suitable arm position in the slot is obtained. Older tables did not include the slotted motor hanger, but the same effect can be obtained by moving the entire table toward or away from the shift arm.

IDLER DRIVING SURFACE: It is extremely important that the driving surface of the idler and the inside rim of the turntable be kept clean of oil or other contaminating substances. During the first few weeks of operation, the idler driving surface and the inside rim of the table should be cleaned with methyl alcohol at weekly intervals. No further attention should be needed unless these areas are subject to oil overflow from the idler due to over-lubrication. If the idler or table rim becomes contaminated with oil, the only satisfactory solution is to clean the table and idler thoroughly with hot water and detergent.

NOISE, HUM, RUMBLE: Many pickups are subject to hum caused by the magnetic field of a motor. Before installing pickup arm on table, it is wise to move the pickup head to various locations on the platter, with the motor operating but with the idler in "neutral." This should help in locating the mounting position of the arm which will cause the least hum. Noise is divided into two classes, mechanical and electrical.

Noise that can be heard without amplifier or pickup in operation, can usually be traced to its source by comparing the noise with the speed of the motor, idler or table itself. If noise is constant at all speeds it probably originates in the motor. If it increases with table speed but its frequency is greater than table speed, it can usually be traced to the idler. If the noise varies with table speed and has the same frequency, look for something on the table rim, such as oil, dirt or possibly a crack in the table casting. In the case of noise traced to the idler, look for dirt on idler driving surface, pits, or foreign material inbedded in idler driving surface. Check felt thrust bearing under idler to be sure idler is not riding directly on metal boss at bottom of idler shaft. Too much idler tension can cause idler to rise on its shaft and noise is heard as the idler contacts the idler retaining ring.

Any of the above conditions can also cause electrical rumble, and tracing it would be the same as tracing mechanical noise. One additional possibility is added, the case of rumble in the electrical reproduction, and this is wobble in the capstan. Rumble more or less constant at all table speeds can usually be traced to the capstan. Again, too much idler tension will aggravate rumble caused by an out of round or wobbly condition in the capstan, (motor pulley).

Noise is caused by "flats" in the idler will run out in a few minutes because of the "self-healing" nature of the neoprene used in the idlers. Put table in 78 RPM position and let run for a few min-

RUSS FRIEND AND ASSOCIATES , will be glad to assist in any problems in connection with operation or maintenance of the tables. To insure a minimum of delay, please give as much information as possible in connection with the problem, such as model number of table, date purchased, whether problem is new or of long standing, type of pickup and arm used, whether problem is different at different table speeds, whether it is only in evidence when idler is driving table, etc... The more information supplied, the easier it will be to provide suggestions to eliminate the difficulty.

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Phone 209/298-6838

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RUSSCO CUE MASTER TURNTABLE - PARTS AND PRICE LIST.

CM-1	Platter Complete with Bearing (Special Order) *	\$160.00
CM-2	Motor Hanger (Motor Support Casting)	24.00
CM-3	Shock Mounts (#2 Rating - 2 Required -Motor Support)	7.00
CM-4	Shock Mounts (#1 Rating - 1 Required - Motor Support)	7.00
CM-5	Idler Wheel	32.00
CM-6	Idler Thrust Washers (Two Required)	.50
CM-7	Idler Retaining Rings (Kit of 2 different Types Supplied)	.50
CM-8	3/8 Inch Diameter By 6 Inches Long (Steel Shift Shaft)	4.00
CM-9	Compression Spring for Shift Mechanism	4.00
CM-10	Extension Spring for Shift Mechanism.	4.00
CM-11	Pilot Lamp (120 Volt Neon wiht Internal Resistor)	6.00
CM-12	Switch SPST - ON-OFF (Locking Type/Lever)	6.00
CM-13	Turntable Chassis or Base (Special order) *	70.00
CM-14	Shift Plate / Name Plate	14.00
CM-15	Shift Mechanism (Special Order) *	32.00
CM-16	Shift Arm - Threaded 1/4 X 28 (Plated)	6.00
CM-17	Shift Knob.	7.00
CM-18	Nut, 1/4 X 28 (For above CM-16 Shift Arm)	.50
CM-19	Idler Shaft Assembly (Shafts for Idler Wheel with Bracket)	16.00
CM-20	Idler Adjusting Screws (Set of Three)	4.00
CM-21	Capstan (3 Step Type - May be Brass or Steel)	16.00
CM-22	Felt, Round , 12 Inch Diameter, Precut for Platter Top.	5.00
CM-23	Motor (Synchronous) (Sold only as a unit / Mounted as An Assembly on a CM-2 Motor Hanger With New CM-21 Capstan)	150.00
CM-24	DISCONTINUED	
CM-25	Start - Run Capacitor (For CM-23 Motor)	8.00
CM-26	Capacitor .1 Mfd. 400 Volt (Switch Click Filter)	2.00
CM-27	Resistor - 100 Ohms (For Click Filter Assembly on Switch)	1.00

* ITEMS MARKED AS A SPECIAL ORDER MAY HAVE TO BE MANUFACTURED
AND MAY TAKE SOME EXTRA TIME FOR DELIVERY.

Prices will be effective January 1, 1993.

Delivery Charges will be added and
Sales Tax where it is applicable.

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