NORTH AMERICAN DYNATROL TRANSMITTER

THE DYNATROL TRANSMITTER is a simple one tube transmitter designed to give maximum range with minimum power drain. This transmitter is small and compact and easily held in one hand since it weighs less than three pounds and only has a 4 ft. antenna.

This transmitter uses a highly efficient pentode circuit and has sufficient output to control the model as far as it can be seen. The output circuit is completely isolated from the crystal circuit which results in minimum crystal current and minimum affect from hand capacity. A 0-25 milliamp meter is included for tuning purposes and can also be used to monitor the life of the batteries.

This transmitter also features the printed circuit which means that the electric wiring is printed on an insulating base. The printed circuit results in stable uniform operation of the transmitter. The output tank coil is also printed and the antenna tapped directly into this coil which gives stable output power.

INITIAL OPERATING INSTRUCTIONS

The first step in the operation of this unit is to connect the power supply. For the A supply use a Burgess 2D 1-1/2 volt battery, or equivalent, and for the B supply use two Eveready #457 67-1/2 volt batteries, or equivalent, connected in series. All battery leads are supplied with proper battery plugs and snaps to fit these batteries. A small jumper is supplied with battery snaps to connect the two B batteries in series. Insert the batteries in the case and push the ON-OFF switch to the ON position. When the key button is pushed the milliamp meter should read approximately 20 milliamps. With the key button depressed, rotate the tuning condenser until a dip is indicated on the meter. The meter should dip to approximately 15 milliamps. Either a metal or insulated screwdriver may be used to adjust the tuning condenser since the rotor plate of this condenser is grounded. If a metallic screwdriver is used, be sure it is non-magnetic, since a magnetized screwdriver will affect the reading of the meter. It can be determined whether or not the screwdriver is magnetic simply by touching the glass plate on the meter directly over the needle. If the screwdriver is magnetic the meter will deflect.

Connect the antenna to the ceramic insulator on top of the case and again tune the meter for a dip. The transmitter is now ready for field use and can be operated hand held or placed on the ground and operated with a remote keying switch simply by plugging this switch into the remote jack.

For those who are beginning in radio control and are not familiar with tuning characteristics of transmitters, it is recommended that they use a field strength meter as an additional aid in tuning the transmitter. This meter indicates the actual radiated power of the transmitter and should read maximum when the meter on the transmitter is tuned for a dip. A field strength meter is also useful in field operations for determining the output power of the transmitter directly rather than making a range check with the transmitter which is time consuming.

FIELD OPERATION

When operating in the field it is only necessary to turn on the transmitter and retune the tuning condenser for a dip in the milliamp meter at the beginning of the days operation. The transmitter is more than stable enough to maintain its tuning during the days operation. The transmitter will more than likely maintain its tuning from day to day but, in order to be sure, it is recommended to check the tuning before beginning a days flying. The transmitter should be tuned with the antenna connected and in the position it will be used, that is, either held in the hand or on the ground. If it is used with a remote keying switch it should be tuned with this switch connected.

MAINTENANCE

All resistors, condensers, and RF chokes in this transmitter are operating far below their maximum ratings and should last practically indefinitely if they are not damaged by mishandling. The crystal current is very low due to the fact that its circuit is isolated from the output circuit, therefore it should have a very long life.

If reasonable care is used in handling the transmitter the only maintenance that will be required will be the replacement of A and B batteries and occasional replacement of the 3A4 vacuum tube.

The batteries recommended for use with this transmitter will supply sufficient power for 25 to 30 hours of continuous operation. During normal flying the transmitter will only be on 10 to 15 minutes at a time, therefore these batteries will power the transmitter for many days of operation.

The 3A4 vacuum tube is also operated below its maximum ratings and therefore should have the life guaranteed by the tube manufacturer or more.

The following steps are listed as an aid for trouble shooting the transmitter should any trouble occur:

1. Meter current jumps to a high value of 15 to 20 milliamps when keyed and slowly drops off to 10 to 12 milliamps or lower, no dip indicated on the meter when the transmitter is tuned.

   Remedy: Replace A battery.

2. Milliamp meter indicates low reading of 10 to 13 milliamps when keyed and very small dip indicated when the transmitter is tuned.

   Remedy: Replace B battery.

3. Meter indicates very low reading of 1 to 10 milliamps when the transmitter is keyed.

   Remedy: Replace A batteries. If this does not correct the trouble, replace the 3A4 tube.

4. A very high reading of 20 to 25 milliamps indicated when transmitter is keyed and no dip indicated when the transmitter is tuned.

   Remedy: Replace 3A4 vacuum tube.

5. Meter reads 0 when transmitter is keyed.

   Remedy: Replace A battery, if this does not correct the trouble replace the 3A4 vacuum tube. If neither of these steps correct the trouble, check for broken leads or broken connections from the printed circuit base to the batteries.

" DYNATROL " TRANSMITTER COMPONENTS

DESCRIPTION	STOCK #	PRICE
Filament Condenser	T101	.30
Screen Condenser	T101	.30
Plate Condenser	T101	.30
Antenna Condenser	T101	.30
Grid Condenser	T102	.30
Grid Resistor	T104	.20
Screen Resistor	T105	.20
R.F. Choke-Dual	T106	.75
Parts Card containing 4-T101's, T102, T104, T106	T145	2.25
Tuning Condenser	T103	1.50
Crystal-fundamental 9085 KC, triples to 27.255 megacycles	T107	4.95
3A4 Tube	T108	1.20
Miniature 7 pin Printed circuit tube socket	T109	.35
0-25 Milliamp Meter	T110	2.75
Miniature Key Switch SPST	T111	1.35
On, Off Snap Switch SPST	T112	.48
Open Circuit Jack	T113	.59
Ceramic Antenna Mount	T114	.75
Rubber Gromet	T115	.05
A Battery Plug	T116	.05
B + Battery Snap	T117	.07
B - Battery Snap	T118	.07
42 Inch Collapsible Antenna	T125	2.25
Case Cover	T127	1.75
Case Body	T128	2.75
Set of Crystal Socket Pins (2)	T135	.10
Set of #2 Sheet Metal Screws for case cover (4)	T136	.05
Instruction Sheet	T140	
Assembly Sheet	T141	
Special Printed Circuit Solder	T144	.10
Printed Circuit Base	T146	3.75
Cable Set (1 Ft. lengths of black, white, red, and blue wire and cable clamp)	T147	.25
Set of # 4/40 Binding Head Screws and Nuts (2)	T148	.05

NORTH AMERICAN MODEL PRODUCTS, INC. - Box 31 - 9802 Warwick Rd., Warwick, Va.