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### SPECIAL NOTICE

You want the best results the Ultimate can give you. Avoid all possibility of starting wrong. Stop now and read these simple directions. They're well worth a careful reading, and perfect satisfaction will be your reward.

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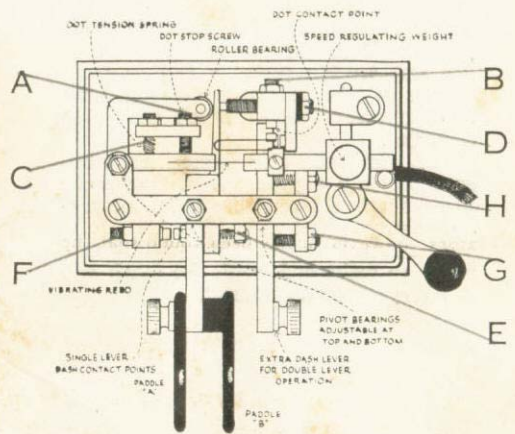
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**T**HIS IMPROVED MODEL  
ULTIMATE TRANSMITTER  
has been carefully tested and  
adjusted for the average opera-  
tor before leaving the factory.

It requires a few hours use to make a change from one transmitter to another, even though the machines are of the same design, especially if you have been using an instrument for several years. For this reason you are earnestly urged to use the factory adjustment for awhile and make an attempt to become accustomed to it, rather than start at once changing the adjustments.

The speed of the machine is controlled by the sliding weight on vibrating reed. Do not try to force the dots to a speed faster than that for which the weight is set. The closer in the weight is set, the faster the dots will come, but remember that the operator who gets off the most business is not necessarily the one who sends out the dots the fastest, but rather the one who sends the steadiest and who is broken the least. It will be found that with the weight set a little over half way out on the reed, the speed will be about right for the heaviest circuits.

## Correct Procedure for Adjusting the Improved Ultimate Transmitter



Machines are shipped from factory with both paddles on one lever for single lever use, but transmitter can be converted into double lever by removing left paddle and moving it to right hand lever.

### DASH ADJUSTMENTS For Single Lever Operation

First. Screw "D" brought in so that there is no lost motion between lever and

roller bearing. End of vibrating reed resting against stop post without undue pressure.

Second. Nut "E" with tension spring adjusted to tension desired by operator.

Third. Screw "F" regulating gap between dash contact points. Gap should be same as on ordinary telegraph key.

#### **DOT ADJUSTMENTS**

First. The dot stop screw, "A," regulates the distance the vibrator reed is to move in making its dots. This distance cannot be predetermined to suit all operators; however, it has been found that the gap should be about 1-32 of an inch.

Second. Hold paddle over as when making dots and move screw "B" in so as to just close the circuit after reed has stopped vibrating, after series of dots.

Third. Adjust tension spring against back of vibrating reed by moving screw "C" in or out so that it is just heavy enough to return the reed against the back stop without causing undue pressure on dot paddle.

These three adjustments are all that are necessary for the dot adjustments and if made correctly, transmitter should make dots continuously at average speed of five or six seconds.

#### For Double Lever Operation

First. Screw "G" brought in so that gap between dash contact points is same as on ordinary telegraph key.

Second. Screw "H" with tension spring adjusted to tension desired by operator.

#### GENERAL

When adjustments are made, tighten lock nut on each screw to hold in place.

Clean the points occasionally with very thin file.

When once adjusted to desired spring tension and movement of levers, do not make a change. One adjustment is as good as another when you become accustomed to the required swing of arm to accomplish each movement.

Keep the speed down so that you do not stumble and give vibrator time to swing.

If you are just learning to use a semi-automatic transmitter, use the weight far out on the reed and do not increase the speed until you can properly manipulate the paddles without stumbling.

Speed is acquired only after steady practice.

If you are an old-timer, experience should guide your speed on different circuits with many repeaters and telephone choke coils.

On duplex and quad circuits you are often requested to make transmitter lighter or heavier. While this may satisfy the distant operator temporarily, his satisfaction will be of short duration, as the real trouble probably lies in some change in line resistance between some two repeater stations, which should be corrected.

This semi-automatic transmitter, when once properly adjusted, should never be changed unless injured by a fall or maliciously tampered with.

In radio transmission a relay with heavy points to make and break the spark gap is a very necessary adjunct.

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