

Information Concerning and Directions for Putting the COMBINATION ATTACHMENT On the Edison Home Phonograph

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THE Combination Attachment for the Edison Home Phonographs, Models A and B, comprises a complete new main shaft, assembled with cylinder and driving pulley, special differential gear clutch, screw sleeve and retaining collar, which take the place of the old main shaft, cylinder and pulley. There is also a special pivot, carrying a small gear to take the place of the back center, and a small collar which is to be placed on the back rod between the diaphragm arm bearings and which limits the distance the diaphragm arm is to travel to the right. This collar is to prevent the thread of the feed nut from coming into contact with the thrust collar which serves to hold the screw sleeve in proper place and which also serves as a stop to limit the drop of the cylinder shaft.

GENERAL REFERENCE TO THE ATTACHMENT PARTS

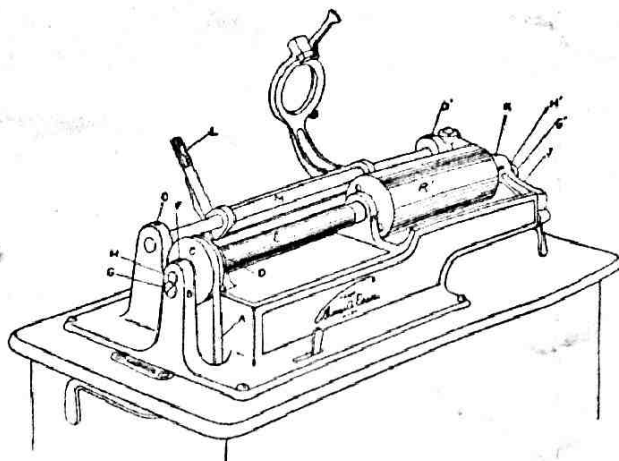
[The following references to the Attachment are intended to explain in a general way the method of putting it on. The detailed instructions, with reference cuts, are given on the following pages.]

The operation of the combination shaft is very simple; the driving pulley is fitted up with a revolving stud, carrying two small gears, one being one-half the diameter of the other; the larger of these two gears engaging with the stationary pivot gear, and the smaller gear engaging with another gear fastened to the hub of the sliding clutch casing. If this clutch casing is pulled out toward the feed screw, the cylinder proper will run 160 revolutions per minute, but the screw sleeve, being operated through the small train of gearing just described, will revolve half the number, or 80 revolutions per minute, feeding the diaphragm arm, or reproducer, at the rate of 200 threads per inch, in place of 100 threads per inch. When the clutch is in this position, the machine will play the four minute record, and the diaphragm arm should carry the Model H Reproducer, which is fitted with a new style sapphire point that can be used with the four minute record only. If it is desired to play the standard, or two minute record, the Model C Reproducer must be used, and the clutch casing must be pushed to the left into the recess in the driving pulley. In pushing this clutch casing to the left, the small gears will become disengaged and the two pins fastened to the face of the clutch casing will engage with two holes in the driving pulley, thereby clutching the feed screw sleeve to the driving pulley, with the result that the feed screw sleeve will run the same speed as the driving pulley and cylinder.

In applying this new attachment, the first thing to do is to remove the old main shaft by taking off the driving pulley and limit collar and pulling the feed screw through the center lug. Care should be taken that this thread is not damaged while being taken out, as we shall not be able to make use of it if the thread is injured. Then remove the back center and put in its place the special pivot having the little cog wheel.

Since the phonograph was put on the market, several slight changes have been made on the body casting, and there may be some castings which require a little chipping or filing before these combination attachments can be applied.

DIRECTIONS FOR PUTTING ON THE COMBINATION ATTACHMENT



EDISON HOME PHONOGRAPH WITHOUT ATTACHMENT

IN taking out the old main shaft and putting in the new combination attachment, the following instructions should be followed:

Take out reproducer and turn arm backward, as shown in cut.

Take off belt (A) and hang it over back lug (B).

Take off pulley (C), also collar (D).

Take out main, or cylinder, shaft (E).

Loosen small set screw (F). Unscrew adjusting screw (G) about $\frac{3}{16}$ ".

Take out back center (H) and put in new pivot (Z), gear toward the right.

The machine is now ready to attach the combination parts, photograph of which is shown below.

(1) Loosen set screw (Y) in face of pulley (X) and pull off pulley (X) and clutch casing (W) and lay these parts down on a clean piece of paper or cloth.

(2) Loosen set screw (V) in retaining collar (U). Be careful and do not mistake the screw holding the angular clip for the set screw (V). The angular clip must not be detached from collar.

The point of set screw (V) fits into a depression in shaft (T) and it must be unscrewed enough to clear the surface of the shaft.

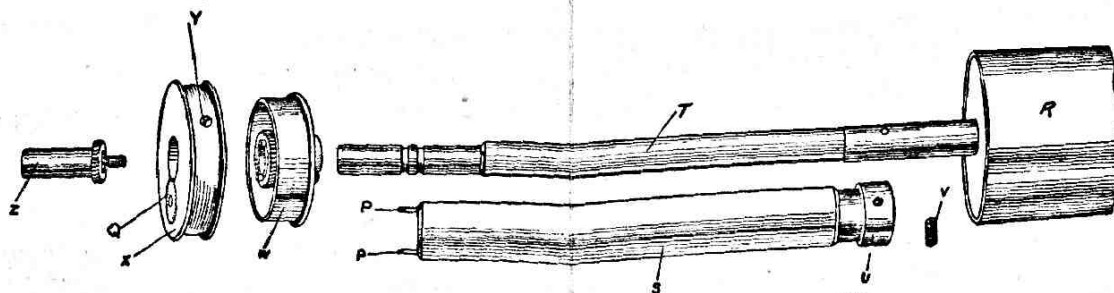
(3) Pull collar (U) and screw sleeve (S) off the cylinder shaft (T). In taking hold of screw sleeve (S) hold retaining collar (U) between the thumb and forefinger of your left hand and take hold of cylinder (R) with right hand and turn shaft in collar while pulling it off, and take paper tube off the screw (S).

(4) Put pulley (X) and clutch casing (W) together and place pulley (X) on new center, or pivot (Z). This places the clutch casing to the right. Make sure that the small gear (Q) in the pulley is on the top side and in mesh with the gear on pivot (Z).

(5) Grasp screw sleeve (S) with left hand, holding the thrust collar (U) in position on the end with thumb and forefinger, being careful that the small inside projection of the collar fits into the circular groove at the end of screw sleeve (S).

(6) Place screw sleeve (S) in its final position by inserting the driving pins (P and P¹) into the two grooves of the clutch casing (W) and continue to hold in this position with left hand.

(7) With right hand grasp cylinder (R) and pass its shaft (T) through the hole in the casting (B¹). Continue it through retaining collar (U) and through the hole in screw sleeve (S) until it reaches the clutch casing (W).



NEW ATTACHMENT PARTS FOR EDISON HOME PHONOGRAPH

(8) To make shaft enter the clutch casing and pulley, it is best to hold these parts in left hand and turn cylinder shaft with the right while pushing it in; the same turning should be done when retaining collar is to pass over shaft.

(9) To line the shaft up with the holes in the clutch casing (W) and belt pulley (X), through both of which it must pass, move screw sleeve (S) and retaining collar (U) with left hand to the right against casing (B').

(10) Next grasp belt pulley (X) and clutch casing (W) with thumb and forefinger of left hand and locate the end of the cylinder shaft in the hole of the clutch casing (W). Force shaft to the left, being sure that driving pins (P and P') re-enter slots in the clutch casing (W). Also see that shaft enters hole in belt pulley. Again grasp retaining collar (U) and screw sleeve (S) with thumb and forefinger of left hand (the right hand is still grasping the cylinder) and force retaining collar (U) and screw sleeve (S) against casing (B').

(12) Still holding cylinder with right hand, catch belt pulley (X) and clutch casing (W) again with thumb and forefinger of left hand. Now force cylinder to the left and belt pulley and clutch casing to the right until main shaft rests on main shaft center (Z).

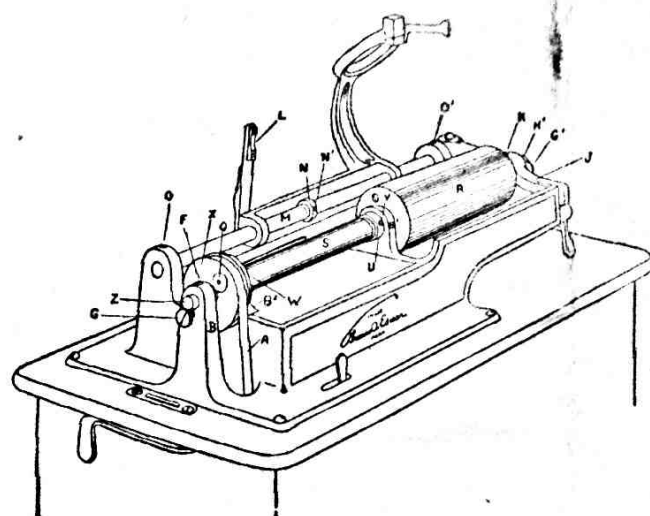
(13) Returning to retaining collar (U) with thumb and forefinger of left hand, turn cylinder with right hand until the small hole in its shaft is in line with the retaining collar set screw (V). Then push thrust collar to the right and tighten its set screw (V). It is of the utmost importance that point of set screw fits correctly in spot in shaft.

(14) Close swing arm (J) and relieve the set screw (K) and adjusting screw (G'). Now adjust this swing arm center (H') so that the retaining collar (U) does not come in contact with the lug casting (B'). There should be sufficient space so that there is no danger of this collar rubbing against the lug (B'). Then push in the pivot (Z) on left hand side of machine up against the shaft into the center and tighten the pivot set screw (F) and set up the pivot stop screw (G). It is very important that this adjustment is made correctly. The two points to be kept in view are that the retaining collar (U) must be clear of the lug (B'), and the shaft must have a very

slight end play between centers, just sufficient to make sure that it does not bind between the centers. If so adjusted, the shaft will spin around freely.

(15) Note carefully whether the clutch casing (W) revolves entirely clear of body at point marked (B'). If it touches at any point on body some chipping or filing is necessary.

(16) Locate the belt pulley in proper position. Its position is correct when the gear of the main shaft center projects just enough beyond the left side of the pulley to be noticed. To accomplish this, push pulley to left or right as needed. Tighten belt pulley set screw



EDISON HOME PHONOGRAPH WITH ATTACHMENT.

(Y), main shaft pivot set screw (F) and adjusting screw (G).

(17) Put the belt (A) on the belt pulley (X). Raise the cover of the machine and see that the belt is also on the inside driving pulley.

(18) To place the small collar (N) on back rod (M), loosen set screws (O and O'), slide rod to the left until you are able to slide collar (N) on back rod (M) between

the bearings of the diaphragm arm. Then slide back rod to the right, to its original position and fasten it in the bearing lugs with set screws (O and O¹).

(19) Lower reproducer arm to playing position. Slide arm to right until feed nut (L) is against retaining collar (U). Hold in this position and move collar (N) on back rod (M) as far to the left as it will go and tighten its set screw (N¹).

(20) The machine is now equipped to play either the regular style two-minute or the Amberol, or four-minute Record.

SPECIAL NOTICE

On the Model C Machines for New York State, in addition to the above, there is furnished one cylinder shaft bushing and set screw, which is to take the place of the one with which the machine was originally equipped. It will be necessary to remove the old bushing and to replace it by the new bushing. To remove the old bushing, unscrew the set screw in the lug (B¹) as shown on the above drawing. This will allow the shaft to be removed according to the instructions given above for the Model A and B Machines. In replacing the old shaft by the new combination shaft, it will be necessary of course to insert the new bushing in the lug (B¹) and tighten up screw in the same manner as it was tightened on the old bushing.

IMPORTANT

The Model H Reproducer will *not* play the Standard or Two-Minute Record, and the Model C Reproducer *will not* work with the new Amberol, or Four-Minute Record. To use the wrong reproducer is apt to injure the Record.

The Model C Reproducer is clearly marked "Model C" on the top side of the overhanging weight, and the Model H Reproducer is clearly marked 'Model H 4 Minute' on the same place on the overhanging weight of the speaker.

In changing reproducers, care should be taken that the reproducer is placed in its proper position. In taking the reproducer out, the diaphragm arm should be lifted up from the straight edge; then the set screw on the reproducer arm should be unscrewed, and the reproducer lifted out, the lower side of the reproducer to come out first, allowing the overhanging weight to follow through the center of the opening. When putting in the reproducer, the overhanging weight should be passed through the opening first, and the cup will then enter the seat. Extreme care should be exercised in placing the small slot in the outer rim of the reproducer cup over the small pin which will be found in the upper edge of the seat in the reproducer arm. The reproducer should be pushed down, and the knurl-headed screw tightened.

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