1-TYPE TIMERS
CONVERSION OF ASSOCIATED 51- AND 52-TYPE DRIVES FROM 5- TO 4-MINUTE OPERATION
PIECE-PART DATA AND REPLACEMENT PROCEDURES

1. GENERAL

1.01 This section covers the procedures for converting 51- and 52-type drives to obtain a 4-minute timing interval instead of a 5-minute timing interval.

1.02 Make-busy Information: Before making any replacement of the parts as covered herein, make the associated circuits busy in accordance with the approved methods.

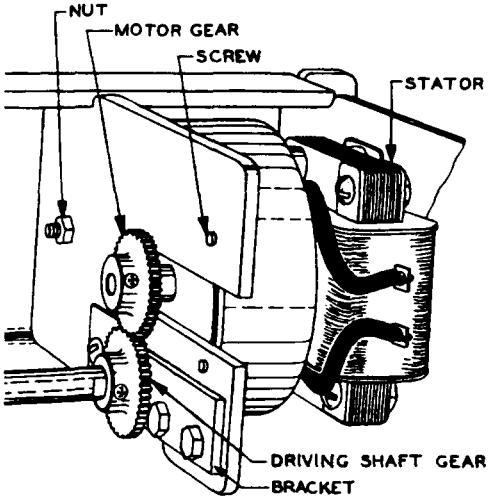

Fig. 1 - 51- and 52-type Drives

2. TOOLS AND MATERIALS

Code or Spec No.	Description
Tools	
417A	1/4- and 3/8-inch Hex. Open Double-end Flat Wrench
563A	90-degree Offset Screwdriver
564A	45-degree Offset Screwdriver
R-2653	No. 5 Bristo Setscrew Wrench
-	Soldering Copper
-	3-inch Cabinet Screwdriver
Materials	
P-11A851	Gear (Motor Gear)
P-11A852	Gear (Motor Gear)
P-11A853	Gear (Driving Shaft Gear)
KS-16066, L2	Stator

3. PROCEDURE FOR CONVERTING D-99004 AND NO. 51A DRIVES

3.01 Unsolder the leads to the motor coil terminals at the front of the motor and tag them for later identification. Loosen the nut of the rear motor mounting screw, using the No. 417A wrench. Remove the two front motor mounting screws, using the Nos. 563A and 564A offset screwdrivers. Remove the motor and spacer by sliding them forward. Remove the gear from the motor shaft after loosening the setscrews, using the R-2653 wrench. Remove the screws holding the stator, using the 3-inch cabinet screwdriver. Remove the nameplate, spacers, and stator. Mount a KS-16066, List 2 stator on the shaft so that the shading coils are in the position shown in Fig. 2. Remount the nameplate and spacers, using the two screws furnished with the stator. Securely tighten the stator, using the 3-inch cabinet screwdriver. Obliterate the KS-7780 marking on the motor, and stamp KS-16066, List 1. Mount the motor and spacer by placing the slot in the motor plate and spacer under the head of rear motor mounting screw, and slide the motor and spacer toward the rear. Take care that the spacer is properly located between the motor and the mounting plate. Insert the two front motor mounting screws, making them finger tight.

3.02 Remove the drive shaft bracket adjacent to the motor and all intermediate brackets, using the No. 417A wrench. Remove the drive shaft with its associated pinions and gear. Loosen the drive gear setscrew, using the R-2653 wrench. Remove the gear. Mount the P-11A853 gear (driving shaft gear) loosely on the shaft and remount the shaft and brackets.

3.03 Place the P-11A852 gear (motor gear) on the motor shaft. Adjust the

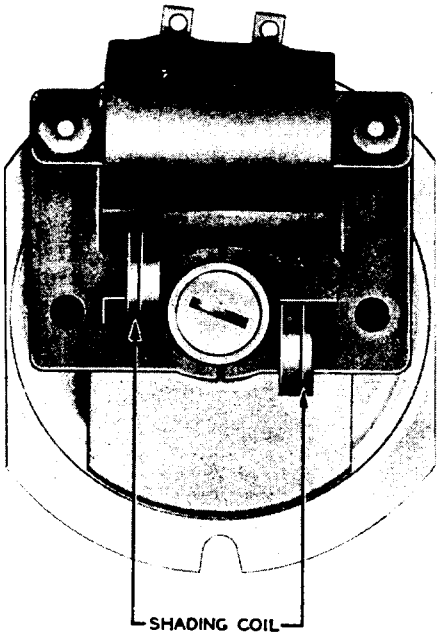

Fig. 2 - Position of Shading Coils

engagement of the motor and driving shaft gears as covered in the section covering this apparatus. Securely tighten the setscrews in the motor and driving shaft gears with the R-2653 wrench. Securely tighten the front motor mounting screws and the nut of the rear motor mounting screw. Resolder the leads to the proper terminals on the motor coil. Lubricate the gears as covered in the section covering the apparatus.

3.04 Obliterate the code marking on the mounting plate, and stamp 51C. Make sure that this marking is stamped on the same side as the removed marking.

4. PROCEDURE FOR CONVERTING NO. 52A DRIVES

4.01 Loosen the motor gear setscrews, using the R-2653 wrench. Remove the gear. Remove the drive shaft bracket adjacent to the motor and all intermediate brackets, using the No. 417A wrench. Remove the drive shaft with its associated pinions and gear. Loosen the driving shaft gear setscrew, using the R-2653 wrench. Remove the gear. Mount the P-11A853 gear (driving shaft gear) loosely on the shaft and remount the shaft and brackets.

4.02 Place a P-11A852 gear (motor gear) loosely on the motor shaft. Adjust the engagement of the motor and driving shaft gears as covered in the section covering this apparatus. Securely tighten the setscrews in the motor and driving shaft gears with the R-2653 wrench. Lubricate the gears as covered in the section covering the apparatus.

4.03 Obliterate the code marking on the mounting plate, and stamp D-179538. Make sure that this marking is stamped on the same side as the removed marking.

5. PROCEDURE FOR CONVERTING D-156125 AND NOS. 51B AND 52B DRIVES

5.01 Loosen the motor gear setscrew, using the R-2653 wrench. Remove the gear. Remove the drive shaft bracket adjacent to the motor and all intermediate brackets, using the No. 417A wrench. Remove the drive shaft with its associated pinions and gear. Loosen the driving shaft gear setscrew, using the R-2653 wrench. Remove the gear. Mount the P-11A853 gear (driving shaft gear) loosely on the shaft and remount the shaft and brackets.

5.02 Mount the P-11A851 gear (motor gear) loosely on the motor shaft. Adjust the engagement of the motor and driving shaft gears as covered in the section covering this apparatus. Securely tighten the setscrews in the motor and driving shaft gears with the R-2653 wrench. Lubricate the gears as covered in the section covering this apparatus.

5.03 Obliterate the code marking on the mounting plate, and stamp 51D for the obliterated 51B or D-156125, and stamp D-179539 for the obliterated 52B. Make sure that this marking is stamped on the same side as the removed marking.