Owner's and Service Manual
for the FOREDOM
Dental Engine

Models: 39B, 73B, 940W,
General

Your FOREDOM allcord engine has been manufactured to high standards of precision and performance and will give you many years of service if properly used and maintained.

When you receive your engine be sure to locate and identify all the parts, components and accessories you ordered before discarding the packing materials.

Installation for Model 73B

Insert the allcord arm into the hole provided in the motor base. Be sure that the arm is positioned over the motor. Tighten the winged screw to secure the arm in the base.

Next, attach the handpiece to the arm. Then thread the belt over the pulleys starting at the motor pulley. For maximum handpiece speed use the large section of the motor pulley and the small section of the handpiece pulley (if your handpiece has a dual pulley).

Now adjust the belt tension by unscrewing the knurled nut on the allcord arm and sliding the smaller section of the arm up or down to increase or decrease tension. The correct tension is achieved when the belt is tight enough so that it doesn't slip but not so tight that it slows down the motor. When the right tension is obtained tighten the knurled nut. This adjustment should be checked frequently because all belts have a tendency to stretch with use. Cotton belts will shrink and expand with variations in temperature and humidity.

Finally, attach the foot operated, solid state motor speed control to your engine and plug it into a convenient power source.

Installation for Model 940W

Model 940W is illustrated in Figure 1. to the right. Assemble the base and stand first. Refer to Figure 1. for identification of components. You will find the three casters, with three bolts and three lock washers, in a separate bag or box. Fasten the casters with the bolts provided, being sure to put a lock washer on each bolt before inserting the bolt. A 1/2" wrench is required to tighten the bolts.

You will notice that there are two tube sections for the stand: the lower tube section L is threaded on both ends, the upper tube section U, on one end only.

Screw the knurled ring N on one end of the lower tube section L so that the beveled edge will be up when the tube is inserted into the base. Place the chrome plate shell on top of base R and insert the lower tube section L through the shell and screw it firmly into the base. Then turn the knurled ring N down tightly on shell.

Next, screw sleeve K onto the lower tube section and then screw the upper tube section U into sleeve K. Set the motor support down over the top of the upper tube section.

Attach the handpiece and belts following the same instructions given for Series 73B.

Installation for Model 39B

The wall bracket and swing arm should be securely attached to a wall. Remove the collar, set the motor support pin into the hole at the end of the swing arm, and then replace the collar and tighten with the set screw. Insert the allcord arm into the hole in the support on top of the motor with the arm positioned over the
molot. Now tighten the winged screw securing the arm.
Attach the handpiece and belts following the same instructions given for Model 73B.

Operation
To operate your FOREDOM engine, merely step on the foot control. A variable speed control gives you motor speeds up to 19,000 RPM. Various pulley combinations as described above can increase or decrease handpiece speed ranges.
A reversing switch is provided on the motor.
CAUTION: Never reverse the motor while it is running. Always allow it to come to a complete stop before reversing.
The allcord arm may be set at various angles by moving it at point D. Because this adjustment is not made very often, your engine is shipped with the friction washer drawn up tight. It may be loosened to suit individual.
Service
The following service can and should be done by the user:
1. Cleaning and lubrication
2. Replacement of motor brushes
3. Replacement of belts
4. Replacement of handpiece collets.

Cleaning and Lubrication
Your FOREDOM engine should be kept as free of dust and dirt as possible. Always keep oil off exposed surfaces as this tends to collect dirt. All engine belts produce lint which should be wiped off of the engine periodically and the belt should be changed when it becomes frayed.
The motor, which is ball bearing, requires no lubrication. Lubrication is required on the two large pulleys on the arm, however, the four small pulleys are ball bearing and require no oil.

For lubrication instructions on your handpiece see FOREDOM Instruction No. 1202.

Replacement of Motor Brushes
The motor brushes should be checked periodically for wear. When new, they are approximately 3/4” long. They should be replaced when they have worn to 1/4”. To remove the brushes, simply unscrew brush cap B (see Figure 1.). When replacing them be sure that the contour of the brush matches the armature. Always unplug the engine when changing brushes.

Replacement of Belts
Replacement of belts is covered in the installation instructions above.

Replacement of Handpiece Collets
See FOREDOM Instruction No. 1202. for replacement of handpiece collets. Other service and repairs should be done only by a competent repairperson or shop. Your dealer can help you select one or arrange to have your FOREDOM equipment returned to the factory. Factory repairs are made promptly and at reasonable cost. If it is not convenient to arrange for service through your dealer you may send your equipment directly to the factory marked: “Attention: Service Dept.” Estimates on any repair are given promptly when requested.

IMPORTANT: When ordering spare parts please be sure to give all the data on the name plate on the motor.

Recommended List of Spare Parts
The following parts and supplies are recommended as spares to keep on hand to ensure continuous operation of your Models 73B, 39B and 940W FOREDOM engines:

1 Engine Belt, 98” long, part AC-98
1 Pair Motor Brushes, part 119P
1 FOREDOM Handpiece and Pulley Oilier, part 10005