FORM NO. 3323-344

TORO®

Needle Tine Head

MultiCore-by-Toro/ProCore Aerators

MODEL NO. 09720

INSTALLATION INSTRUCTIONS

Important Operating Tips

1. Needle tines perform best when creating a square hole pattern at relatively low to moderate PTO speeds. The first step is to select a tractor engine rpm that delivers approximately 315 PTO rpm. Typically, the tractor's tachometer will have a mark indicating 540 (rated) PTO rpm. To calculate what tractor engine rpm will deliver 315 PTO rpm, proceed as follows:

Desired (target) engine rpm = (315/540) x ("Tractor engine rpm @ rated 540 PTO rpm").
= .58 x (" ")
= ___

IMPORTANT: Do not operate needle tines near rated 540 PTO rpm. Tine damage and slotted holes in turf may occur.

2. Once the target engine rpm has been determined, select the tractor gear (or hydrostatic traction pedal/lever position) that most closely delivers .5 mph (.8 Km/hr) @ target engine rpm. At these settings, a relatively square 1.6" x 1.6" (40 mm x 40 mm) hole pattern will be produced.

   Note: Varying engine rpm in a specific gear (or hydrostatic traction pedal/lever position) will **NOT** change the hole pattern. This is because the aerator crank rpm and the ground speed change proportional to each other.

   Note: These are starting positions. Speed, aerator angle and tractor RPM may need to be adjusted to meet operating conditions. Refer to Aerator Operator's Manual for more operating tips. It is a good idea to record the optimum tractor engine rpm, gear, depth setting and aerator angle (or top link length) for future reference.

Preparing the Tractor

1. Park the tractor on a level surface and engage the parking brake.

2. Raise the aerator off of the ground and install the safety stand at the rear of the aerator. (Refer to the Aerator Operator's Manual.) Lower the aerator until the safety stand (extended position) contacts the ground.

3. Ensure that the PTO is disengaged. Turn the engine off and remove the key.

⚠ CAUTION

POTENTIAL HAZARD
- **If you leave the key in the ignition switch, someone could start the engine.**

WHAT CAN HAPPEN
- **Accidental starting of the engine could seriously injure you or other bystanders.**

HOW TO AVOID THE HAZARD
- **Remove the key from the ignition switch before you do any maintenance.**

4. If there are existing tine heads mounted on the machine, remove the fasteners securing the tine heads to the tine arms and remove the tine heads.

Note: The aerator must be equipped with the proper turf guards before using the needle-tine head. Refer to the Aerator Operator's Manual for turf guard requirements.

Installing Tine Heads

1. Insert (6) needle tines into holes in each tine head as shown in figure 1.

2. Slide (2) clamps over tines and onto mounting studs (Fig. 1).

3. Secure clamps to tine head with (4) lockwashers and nuts (Fig. 1). Torque the nuts to 60-70 ft-lb (85-95 N•m).

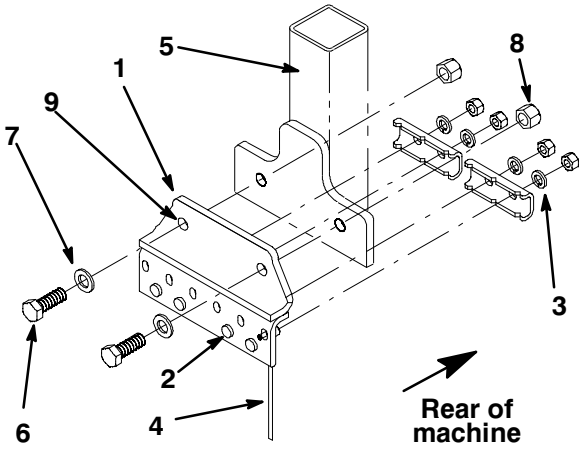

Figure 1

1. Tine head
2. Mounting stud
3. Lock washer
4. Tine
5. Tine arm
6. M16 x 45mm capscrew
7. Flat washer
8. Lock nut
9. Tine head mounting holes

4. Mount the tine heads to the tine arms with (2) M16 x 45mm capscrews, flat washers, and lock nuts (Fig. 1). Torque to 155-180 ft-lbs (205-245 N•m).

Note: If mounting the tine head to MultiCore Model No. 09697, 09698, or 09699, you will need parts listed in the table below which are not included in this kit. Press the spacers into the tine head mounting holes (Fig. 1) and use the fasteners stated in the table to mount the tine heads to the tine arms. Torque to 60-70 ft-lbs (85-95 N•m).

Part Number	Quantity	Description
100-7604	2	Spacer
33116-045	2	Capscrew
33096-00	2	Washer
33026-00	2	Lock nut