

How To Get The Most From Your Electric Motors

■ **Lubrication.** Too much lubricant is a major cause of premature motor failure. Excess grease is eventually forced out of the bearing housings and begins dripping on the motor windings, resulting in early winding failure. Overlubrication also can reduce bearing life and motor efficiency.

To lubricate standard-duty motors, follow the original manufacturer's specifications. Begin by cleaning the grease fitting and removing the drain plug. After adding the new grease, run the motor for about an hour before reinstalling the drain plug. This purges excess grease without damaging the windings. If the motor manufacturer's lubrication specifications are not available, follow these recommendations.

Table 1. Lubrication Guide

RPM	Frame Range	Type Of Service	
		8 Hours/Day	24 Hours/Day
3600	I43T-256T	*	*
	284TS-286TS	6 months	2 months
	324TS-587US	4 months	2 months
1800	I43T-256T	*	*
	284T-326T	4 years	18 months
	364T-365T	1 year	4 months
	404T-449T	9 months	3 months
	505U-587U	6 months	2 months
1200 and below	I43T-256T	*	*
	284T-326T	4 years	18 months
	364T-449T	1 year	4 months
	505U-587U	9 months	3 months

* Bearings in these motors often cannot be relubricated. They should be replaced at least every 5 years for 8 hour/day service, or every 2 years for 24 hour/day service.

■ **Cleaning.** It is extremely important to keep air passages clean so that the motor can dissipate the heat it develops. The cooling fins of totally enclosed, fan-cooled motors must also be kept free of dirt and debris, because they are the only means of dissipating heat from these machines. To assure proper cooling, make certain nothing prevents sufficient amounts of fresh air from reaching the motors.

■ **Insulation Resistance Testing.** One of the most useful tests for determining when to remove a motor from service for overhaul and/or rewinding is the insulation resistance test. To be effective, this test must be conducted at regular intervals, typically annually. The results must also be recorded for comparison with future readings. This is known as "trending." If the results show a downward trend, the test should be performed more frequently.