TOSHIBA INTERNATIONAL CORPORATION
Industrial Division / Houston Motor Plant

Motor Operation Procedure

INDEX	MDS-O-0001
SHEET NO.	1 of 3
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SUPERSEDES	NEW
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REFERENCE USE ONLY WHEN ISSUED BY MOTOR MKTG.

Motor Lubrication

Dist: Mktg.
QC

1. SCOPE

To give recommended guidelines for electric motor relubrication.

2. START UP

Toshiba motors are properly greased at the time of manufacture. It is recommended that if a motor has been stored for a period of six months or more, it should be lubricated prior to starting (See Fig. 1) using a standard hand held grease gun.

Fig. 1

FRAME SIZE	QUANTITY of PUMPS
143 ~ 256	2 to 3 strokes
284 ~ 405	4 to 5 strokes
444 and Larger	6 to 10 strokes

It should be noted that grease leakage around the shaft hole could indicated over-packing. Excess grease should be purged out by operating the motor temporarily with the relief open.

Lubrication of electric motors should be done as a part of a planned maintenance program.

Before greasing, be sure fittings are clean and free from dirt. Always relubricate using grease that is fresh and free from contamination.

Toshiba motors may be equipped with an automatic grease relief fitting, grease plug or grease cover plate for the outlet.

It should be noted that it may be necessary to remove an automatic type fitting due to hardening of grease. Motors utilizing a grease plate may require the scraping out of old grease a minimum of once every two years.

3. STANDARD SERVICE

1. Select the proper service condition from Fig. 2.
2. Select the frequency and volume from Fig. 3.
3. Before greasing be sure fittings are clean and free from dirt.

3. STANDARD SERVICE (*-cont.)*

5. Remove relief plug or plate and using a low pressure hand held grease gun, pump the required amount of grease.

6. For Frames 143T to 365T allow motor to run for 20 to 30 minutes and for Frames 405T and larger allow motor to run for 30 to 60 minutes before replacing hardware.

7. Grease may not relieve from drain. Use volumes recommended to avoid overgreasing.

Fig. 2

SERVICE CONDITIONS	
Standard Duty	Eight hours per day; Light to normal loading; Clean condition, free from dust.
Severe Duty	24 hours per day; Light to normal shock loading, vibration; Exposure to dirt or dusty conditions.
Very Severe Duty	24 hours per day; High ambient; Normal to high shock loading, vibration; Dusty conditions; Confined mounting conditions

4. RECOMMENDED GREASES:

Confirm if the motor nameplate has specified the grease used.

Standard, Severe Duty and 841 motors greased at the factory will use:

Grease Name:	Chevron SRI
Manufactured By:	Chevron U.S.A., Inc.
Operating Ambient Temp.:	-30°C to 50°C

5. RECOMMENDED GREASES for STANDARD APPLICATIONS

Use the following greases listed for the given temperature range, unless otherwise shown by the motors grease nameplate:

Operating Ambient Temp. -30°C to 50°C	
Chevron SRI	Chevron U.S.A., Inc.
Exxon Unirex #2	Exxon Corp.
Exxon Polyrex	Exxon Corp.
Shell Dolium R	Shell Oil Co.
Polystar RB 2	Texaco

Fig. 3

SYNC. RPM RANGE	FRAME SIZE	TYPE OF SERVICE: STANDARD DUTY	SEVERE DUTY	VERY SEVERE DUTY
3600	143T-256T	8 Mos.	4 Mos.	1 Mo.
1800 ~ 900	143T-256T	30 Mos.	12 Mos.	4 Mos.
Bearing Size		Periodic Grease Amount		
6205/6206		3 Grams		
6207/6208/6305		5 Grams		
6306		10 Grams		
6308/6309		20 Grams		
3600	284T-365T	8 Mos.	4 Mos.	1 Mo.
1800 ~ 900	284T-365T	24 Mos.	12 Mos.	4 Mos.
Bearing Size		Periodic Grease Amount		
6211		10 Grams		
6309		20 Grams		
6310/6312		30 Grams		
6314		50 Grams		
3600	404T-447T	8 Mos.	4 Mos.	1 Mo.
1800 ~ 900	404T-447T	18 Mos.	8 Mos.	3 Mos.
Bearing Size		Periodic Grease Amount		
6216		20 Grams		
6313/NU317		30 Grams		
NU318/NU320		50 Grams		
6317/6318		80 Grams		
6320/6322/6324		80 Grams		
NU322/NU324		80 Grams		
NU328/NU2228		100 Grams		

NOTES:

1. When relubricating roller bearings divide the monthly service time by two.
2. See Fig. 2 for definitions of Service Conditions.
3. Gram quantity when using a typical low pressure hand grease gun equals (4 pumps = 5 grams)

6. RECOMMENDED GREASES FOR SPECIAL APPLICATIONS

The following greases are recommended for special applicaitons only and should be used only for motors specifically built for such conditions.

Minimum Ambient Temp. -60°C	
Beacon 325	Exxon Corp.
Maximum Ambient Temp. 90°C	
DOW Corning 44	DOW Corning Corp.
Exxon Unirex S2	Exxon Corp.

WARNING: In general it is not recommend to mix greases of different brands. The mixing of different types of thickeners may destroy the composition and physical properties of the grease. In the event that a different grease is required by the end user, the following steps can be taken. Using the instructions for lubrication, open grease outlet and purge the system as much as possible of the old or unwanted grease. Repeat this same operation after 1 week of service. Consult TOSHIBA/HOUSTON Engineering for further recommendations on grease compatibility.