

How to Use This Manual

This manual provides detailed instructions for assembling IEC motors and motor adapters to low speed housings. Use the table of contents below to locate required information.

CAREFULLY FOLLOW THE INSTRUCTIONS IN THIS MANUAL FOR OPTIMUM PERFORMANCE AND TROUBLE FREE SERVICE.

Table of Contents

Assembly Instructions	Page 1
Assembly Procedure Identification	Page 1
Procedure M	Page 1
Procedure A	Page 2
Tightening Torques	Page 3
Approximate Oil Quantities	Page 3

Introduction

Credit for long service and dependable operation of a gear drive is often given to the engineers who designed it, or the craftsmen who constructed it, or the sales engineer who recommended the type and size. Ultimate credit belongs to the mechanic on the job who worked to make the foundation rigid and level, who accurately aligned the shafts and carefully installed the accessories, and who made sure that the drive received lubrication at prescribed intervals. The details of this important job are the subject of this manual.

WARNING: Consult applicable local and national safety codes for proper guarding of rotating members. Lock out power source and remove all external loads from drive before servicing drive or accessories.

Assembly Instructions

Refer to Table 1 for the appropriate assembly procedure (A or M) for the type of drive/motor combination being assembled.

TABLE 1 — Assembly Procedure Identification

DRIVE SIZE	Frame And Motor Adapter Sizes						
	63D (A)	71C (C)	80C (E)	90C (G)	100C (J)	112C (M)	132C (P)
03UC2	A	M	M				
03UC3	A	M	M				
04UC2	A	M	M				
04UC3	A	M	M				
06UC2		M	M	M	M	M	
06UC3	A	M	M				
06UC4	A	M	M				
06UC5	A	M	M				
07UC2			M	M	M	M	M
07UC3		M	M	M	M	M	
07UC4	A	M	M				
07UC5	A	M	M				
08UC4		M	M	M	M	M	
08UC5		M	M	M	M	M	
09UC4		M	M	M	M	M	
09UC5		M	M	M	M	M	

PROCEDURE M — Figure 3

1. Place low speed housing on workbench so that low speed shaft is facing down. If necessary, block housing so that it is stable and level as illustrated in Figure 1.
2. Remove high speed motor adapter from low speed housing as illustrated in Figure 2.
3. Clean mating surfaces of low speed housing, high speed motor adapter, and electric motor (Use Loctite 7070 Super Clean or equivalent). Check for and remove any burrs from mating surfaces.
4. Fill low speed housing with quantity of oil specified in Table 3, Page 3 — Approximate Oil Quantities.
5. Spray bore of high speed motor adapter with an anti-fretting compound (Dow Corning® G-n or equivalent).
6. Depending upon motor shaft diameter, either a plastic key or motor bushing will be furnished. Refer to the appropriate instructions following:

Plastic Key — If installed, remove the metal key from the motor shaft; this key will not be used.

For motor shafts with a closed ended full depth keyway (IEC motors), shorten plastic key to fit keyway. Note: plastic key should be the same length as the metal key previously removed.

Motor Bushing — Install metal key into keyway of motor shaft. Spray motor shaft with an anti-fretting compound (Dow Corning G-n or equivalent). Slide motor bushing onto motor shaft aligning key of shaft with keyway of bushing bore.

FIGURE 1

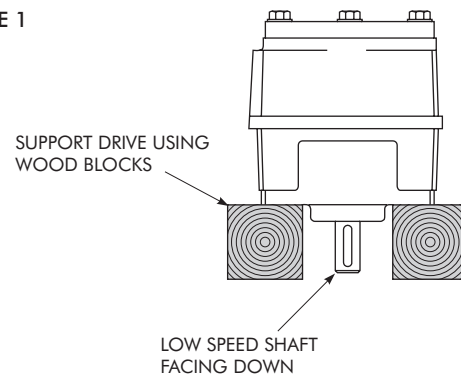
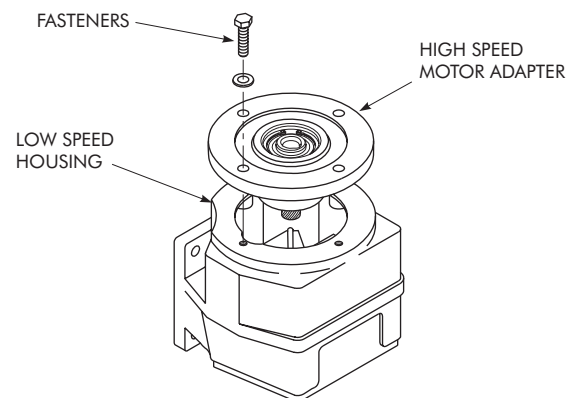


FIGURE 2



- Slide high speed motor adapter onto motor shaft aligning key of shaft with keyway of motor adapter bore as illustrated in Figure 3.

CAUTION: Prior to fastening high speed motor adapter to electric motor, check whether clearance is available to insert motor adapter to low speed housing fasteners into motor adapter mounting holes. If not, slide motor adapter away from motor and install motor adapter to low speed housing fasteners and copper washers at this time. Slide motor adapter back against motor.

Align mounting holes of high speed motor adapter with threaded holes of electric motor. Secure high speed motor adapter to electric motor using fasteners with copper washers. Torque fasteners to the value specified in Table 2, Page 3 — Tightening Torques.

- Apply liquid gasket material (Loctite® 518, Falk Part # 2918376) furnished to flange face of low speed housing as illustrated in Figure 5, Page 3. *Caution:* This step must be followed to prevent leakage.
- Determine the appropriate position that motor's conduit box must be in once motor is assembled to low speed housing. Align mounting holes of high speed motor adapter with threaded holes of low speed housing while assembling motor/adapter assembly to low speed housing. Refer to Figure 3.

Secure motor/adapter assembly to low speed housing using fasteners with copper washers. Torque fasteners to the value specified in Table 2, Page 3 — Tightening Torques.

PROCEDURE A — Figure 4

- Place low speed housing on workbench so that low speed shaft is facing down. If necessary, block housing so that it is stable and level as illustrated in Figure 1, Page 1.
- Remove high speed motor adapter from low speed housing as illustrated in Figure 2, Page 1.
- Clean mating surfaces of low speed housing, high speed motor adapter, and electric motor (Use 7070 Loctite Super Clean or equivalent). Check for and remove any burrs from mating surfaces.
- Fill low speed housing with quantity of oil specified in Table 3, Page 3 — Approximate Oil Quantities.
- Spray bore of high speed motor adapter with an anti-fretting compound (Dow Corning G-n or equivalent).
- Install metal key into keyway of motor shaft. Spray motor shaft with an anti-fretting compound (Dow Corning G-n or equivalent). Slide motor bushing onto motor shaft aligning key of shaft with keyway of bushing bore.
- Slide high speed motor adapter onto motor shaft aligning key of shaft with keyway of motor adapter bore as illustrated in Figure 4.

FIGURE 3

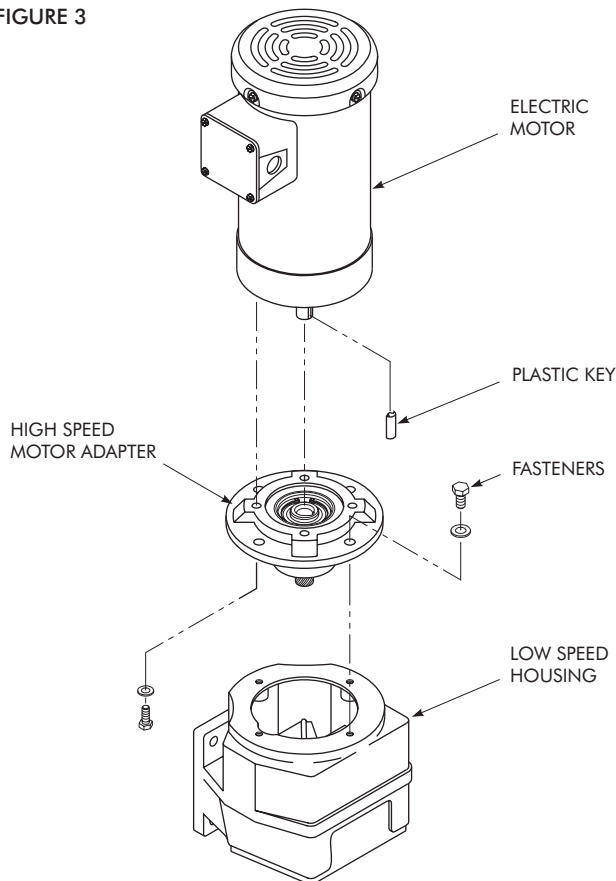
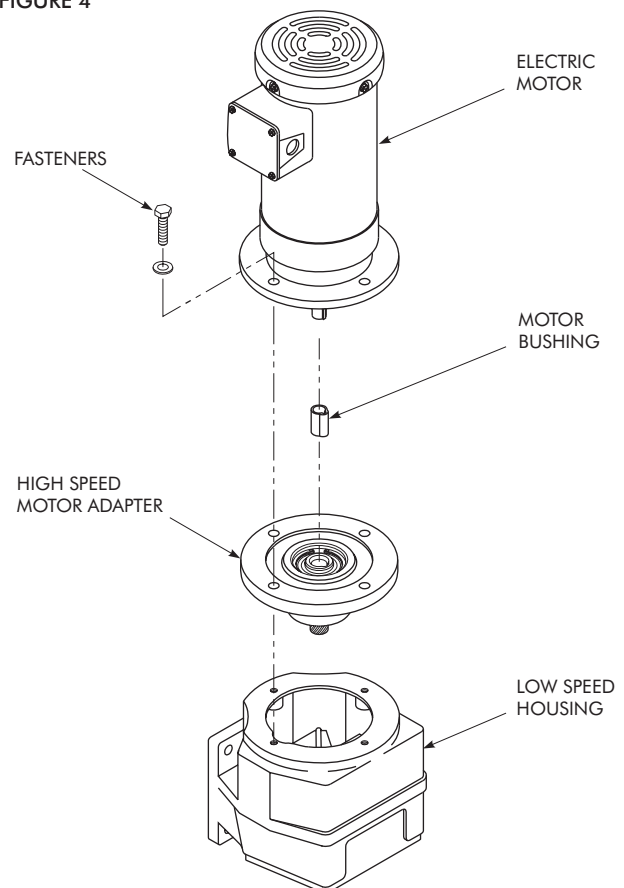


FIGURE 4

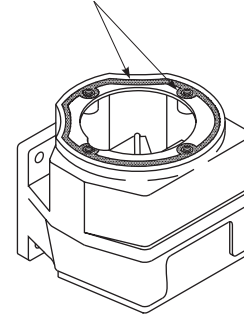


8. Apply liquid gasket material (Loctite 518, Falk Part # 2918376) furnished to flange face of low speed housing as illustrated in Figure 5. **Caution:** This step must be followed to prevent leakage.
9. Determine the appropriate position that motor*s conduit box must be in once motor is assembled to low speed housing. Align mounting holes of electric motor, high speed motor adapter and low speed housing while assembling motor/adapter assembly to low speed housing. Refer to Figure 4, Page 2.

Secure motor/adapter assembly to low speed housing using fasteners with copper washers. Torque fasteners to the value specified in Table 2 — Tightening Torques.

FIGURE 5

IMPORTANT: CIRCLE EACH FASTENER HOLE WITH A CONTINUOUS AND UNBROKEN BEAD OF LOCTITE 518 OR EQUIVALENT. THEN CONNECT EACH ADJACENT FASTENER HOLE WITH A CONTINUOUS AND UNBROKEN BEAD OF LOCTITE 518 (FALK PART #2918376) OR EQUIVALENT.


TABLE 2 — Tightening Torques (lb-in) ±5%
 DO NOT Lubricate Fasteners

Thread Dia. – UNC	Metal to Metal
.250-20	90
.3125-18	185
.375-16	330
.500-13	825
.625-11	1640
.750-10	2940

TABLE 3 — Approximate Oil Quantities — Liters ‡

Mounting Position	DRIVE SIZE											
	Double Reduction						Triple Reduction					
	03UC2	04UC2	06UC2	07UC2	08UC2	09UC2	03UC3	04UC3	06UC3	07UC3	08UC3	09UC3
1	.6	.6	1.7	2.8	4.6	10.5	.8	.9	1.8	3.0	6.4	11.5
2	.6	.6	2.2	4.3	7.3	12.7	.8	.9	2.6	5.2	7.3	12.7
3	.8	1.2	2.6	4.8	7.8	12.7	1.0	1.5	3.0	5.8	7.8	12.7
4	.8	1.2	2.9	5.8	7.1	12.7	1.0	1.5	3.6	7.4	7.1	12.7
5	.8	1.5	3.7	6.4	10.5	17.5	1.7	2.3	5.0	9.4	10.5	17.5
6	1.0	1.7	3.4	6.4	10.1	17.2	1.5	2.3	5.0	9.4	10.1	17.2
7	.6	.6	1.7	3.3	2.6	5.5	.8	.9	2.2	3.4	2.4	6.0
8	.8	1.4	3.1	6.3	9.5	16.0	1.7	2.1	5.0	10.0	9.0	16.0
9	1.0	1.6	3.6	6.8	10.5	17.0	1.5	2.1	5.0	9.0	10.0	19.0

OBTAIN QUANTITIES FOR REDUCTIONS BELOW BY COMBINING PRIMARY & SECONDARY (Separate Oil Sumps) QUANTITIES FROM ABOVE

DRIVE SIZE	Quadruple Reduction				Quintuple Reduction			
	06UC4	07UC4	08UC4	09UC4	06UC5	07UC5	08UC5	09UC5
Primary	04UC2	04UC2	06UC2	06UC2	04UC3	04UC3	06UC2	06UC2
Secondary	06UC2	07UC2	08UC2	09UC2	06UC2	07UC2	08UC3	09UC3

‡ Convert quantities using the following: Liters to US Gallons = liters x 0.26, Liters to Imperial Gallons = liters x 0.22, Liters to US Quarts = liters x 1.057.