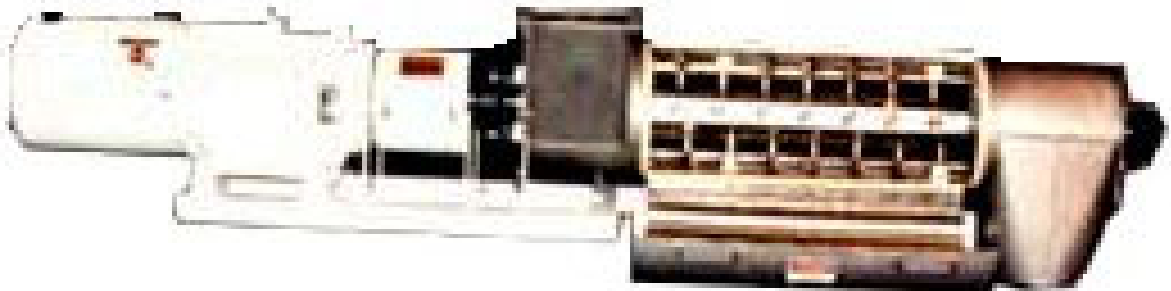


# INSTALLATION/OPERATION AND MAINTENANCE MANUAL

DO NOT OPERATE THIS MACHINE WITHOUT  
FIRST READING THIS MANUAL COMPLETELY



## CONTINUOUS MIXERS



MODEL: \_\_\_\_\_

SERIAL NUMBER: \_\_\_\_\_

2 Sammons Court, Bolingbrook, IL 60440  
Main: 630.759.9595 Fax: 630.759.6099  
[www.prater-sterling.com](http://www.prater-sterling.com) [info@prater-sterling.com](mailto:info@prater-sterling.com)

## Introduction

This manual contains complete instructions for the installation, operation, and maintenance of Prater equipment. Reliable operation, safety, and long service life of this equipment depends on 3 important considerations:

- A. The care exercised during installation.
- B. The quality and frequency of maintenance and periodic inspection.
- C. A common sense approach to its operation.

## Safety

Safety is basic, and must be considered through all facets of the operation and maintenance on any mechanical device. Using proper tools and methods can prevent serious accidents, which might result in serious injury to you or your fellow workers.

Proper operating procedures and safety precautions are listed throughout this manual. Study them carefully and follow instructions; insist that those working with you do the same. Almost all accidents are caused by someone's carelessness or negligence

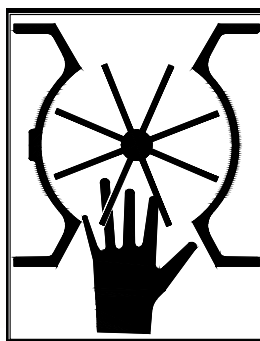
The precautions listed may not necessarily be all-inclusive and others might occur to the user, which are peculiar to a particular operation or industry. In addition, nearly all employers are now subject to the Federal Occupational Safety and Health Act of 1970, as amended, which require that an employer be kept abreast of the myriad of regulations, which will continue to be issued under its authority.

At all times – this equipment must be operated in accordance with the instructions and precautions in this manual and on the caution plates attached to the equipment. Only persons completely familiar with the instructions and precautions in this manual should thoroughly understand these instructions and precautions before attempting to operate this equipment

**FAILURE TO OBSERVE AND FOLLOW THE PRECAUTIONS MAY RESULT IN SERIOUS PERSONAL INJURY OR PROPERTY DAMAGE.**

## SAFETY CHECKLIST

- **ALWAYS** operate Rotary Airlock Feeder in accordance with instructions in this manual.
- **ALWAYS** have a clear view of unit loading and unloading points and all safety devices.
- **ALWAYS** allow unit to stop naturally. **DO NOT** attempt to artificially brake or slow motion of unit.
- **KEEP** area around unit, drive and control station free of debris and obstacles.
- **AVOID** poking or prodding into unit openings with bar or stick
- **DO NOT** open inspection doors while unit is in motion.
- **DO NOT** use the Rotary Airlock Feeder for processing of material other than the specific application for which it was designed.
- **NEVER** work on unit and related components unless electric power and motor drive have been locked out and tagged. The National Electrical Code requires a manually operable disconnect switch located within sight of motor, or a controller disconnecting means capable of being locked if not within sight of the motor.
- **NEVER** operate unit without guards and all safety devices in position and functioning.
- **NEVER** put your hand near, on, or in the inlet or outlet of the airlock while it is operating or stalled.



## INTRODUCTION

This manual has been prepared to assist in the installation, operation and maintenance of your Prater Mixer. Please consult this manual before beginning installation, and review it occasionally to insure the best results from your operation.

Carefully following the instructions listed for installation, operation, safety, and maintenance will keep operating costs down and profits up.

**UPON RECEIPT:** Inspect all equipment. List on the bill of lading or freight bill any shipping damage, and have the driver sign, for possible claim against delivering carrier. It will be the receiver's obligation to file such claim.

**INSTALLATION:** Be sure the installation crew or millwrights are aware of installation requirements. If they have any questions or are unsure of proper procedures, the matter should be clarified to avoid improper installation.

**CHECK UNIT  
FOR START UP:** After installation is complete, carefully inspect all work before installation crew leaves to see that all instructions have been properly followed.

**INSTRUCT  
OPERATING  
PERSONNEL IN:** Proper operating procedure  
  
Safety procedures  
  
Proper maintenance

**OPERATION &  
MAINTENANCE:** Compliance with the instructions listed in this manual will keep your mixer in top operating condition at the lowest possible cost. This instruction manual should be available at all times to personnel working on the mixer.

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SECTION I: INSTALLATION

1.1 INSTALLATION/MECHANICAL

The mixer body, rotor shaft and motor were assembled and pre-aligned at the factory on a fabricated steel frame.

Mixer shaft and mixing paddles were balanced for minimum vibration at operating speed.

The mixer frame should be mounted to a suitable base with fasteners that will allow for level installation and will not cause deflection in the mixer frame.

A flexible gasket should be installed on both the inlet and discharge flanges of the mixer when connected to rigid transition pieces, for material entry and discharge to reduce harmonic vibration during starting and stopping of the mixer.

SECTION I: INSTALLATION

1.2 INSTALLATION/ELECTRICAL - MIXER

To operate the mixer, 230 -460V/3PH/60HZ power should be supplied to the main circuit disconnect located in the motor starter enclosure.

If your MX mixer has been supplied with a frequency inverter for rotor speed variation, field wiring should also be supplied on the inverter for motor connections.

NOTE: Follow rotation arrow on mixer body for proper motor wiring.

SECTION I: INSTALLATION

1.3 INSTALLATION/ELECTRICAL - PUMP PACKAGE (IF SUPPLIED)

A variable speed D.C. control drive and D.C. motor, coupled to a rotary gear pump, have been supplied for liquid binder addition to the mixer.

Connect a 115V/10/60Hz voltage source to the pump enclosure to operate the pump package.

## SECTION II: START-UP & OPERATING INSTRUCTIONS

### 2.1 PRIOR TO START-UP- MIXER

Prior to start-up, make sure that no tramp metal or foreign objects are in the mixer. If necessary, the coupling guard can be removed and the mixer rotated by hand to ensure the mixer is free.

The mixer paddles have been pre-set at the factory but final adjustment of paddle angles for material flow, dwell time for mixing and discharge may be required during start-up or when liquid to solids ratio are changed.



## 2.2 PRIOR TO START-UP - PUMP PACKAGE (IF SUPPLIED)

The pump package for liquid addition to the mixer has three ball valves incorporated in the system.

### Inlet valve:

Used as an open-closed valve for liquid flow to pump

Shut-off position for liquid binder changes or replacement

Shut-off position of flow for pump replacement

SECTION II: START-UP & OPERATING INSTRUCTIONS

2.2 PRIOR TO START-UP- PUMP PACKAGE (CONTINUED)

Discharge valve:

Used as an open-closed valve for liquid flow to mixer  
Shut-off position for liquid binder calibration  
Shut-off position for pump replacement

Calibration valve:

Used in the open position and the discharge valve in the  
closed position for liquid binder calibration  
Normally closed during pumping operation  
Used in the open position and the discharge valve in the  
closed position for pump cleaning

Before any liquid is pumped to the mixer body, the pump  
should be pre-calibrated for the flow (liquid - solid  
ratio) required.

Inlet valve open, discharge valve closed, calibration valve  
open

SECTION II: START-UP & OPERATING INSTRUCTIONS

2.2 PRIOR TO START-UP - PUMP PACKAGE (CONTINUED)

A time sample should be taken. Increase speed of pump for increased flow to mixer.

After calibration, discharge valve should be in the open position with the calibration valve closed.

## SECTION II: START-UP & OPERATING INSTRUCTIONS

### 2.3 START-UP - MIXING

After a pre determined feed rate of dry material(s) has been set for continuous flow through the mixer and the binder pump set, the mixer can be started.

The dry material(s) should enter the mixer first and the liquid second to avoid a wet mix at start-up and excessive build-up of material on the body wall.

Stopping of the mixer should be accomplished by stopping the pump first and material flow second to help keep the mixer clean.

The mixer paddles were pre-set at a 45 degree pitch for material entry and conveying to the mixing section of mixer.

NOTE: The mixing section is located thru the binder port area.

Paddles in the mixing section have been retarded to a 5-10 degree pitch.

## SECTION II: START-UP & OPERATING INSTRUCTIONS

### 2.3 START-UP - MIXING (CONTINUED)

The last set of paddles are advanced parallel to the body for forced material discharge.

Should increased mixing time be required, the center set of paddles can be adjusted to a lesser angle and, if necessary, one or two of the discharge paddles retarded to increase dwell time.

Normal mixer speed is 1750 rpm; i.e. 60 Hz output frequency on the inverter (if supplied). This speed can be adjusted along with paddle pitch to insure proper mixing.

---

## SECTION II: START-UP & OPERATING INSTRUCTIONS

### 2.4 START-UP- PARTICLE AGGLOMERATION

Particle agglomeration or balling of materials can also be accomplished with the MX Mixer.

For this type of agglomeration, all or some of the paddles should be replaced with tapered fingers.

Depending upon the size of the agglomerate to be produced, the use of tapered fingers, paddles and rotor speed are the determining factor.

A trial and error method may be required to achieve the proper results.

## SECTION II: START-UP & OPERATING INSTRUCTIONS

### 2.5 OPERATION PRECAUTIONS

As stated in Sections 2.1 and 2.2, proper start-up and shut-down procedures should be observed to reduce any build up of material on mixer wall.

To insure proper mixing, a constant feed rate of dry components entering the mixer must be maintained.

Sporadic feed or slug feeding to the mixer will cause a non-homogeneous blend of dry to wet ratio and may also cause the mixer to run in an unbalanced state.

## SECTION III: LUBRICATION

### 3.1 SHAFT BEARINGS

Lubrication with a No. 2 consistency lithium base grease per lubrication guide listed below.

Abnormal bearing temperature may indicate faulty lubrication. Normal temperature may range from "cool to warm to the touch" up to a point "too hot to touch for more than a few seconds", depending on bearing size and speed, and surrounding conditions. Unusually high temperature accompanied by excessive leakage of grease indicates too much grease. High temperature with no grease showing at the seals, particularly if the bearing seems noisy, usually indicates too little grease. Normal temperature and a slight showing of grease at the seals indicate proper lubrication.

#### LUBRICATION GUIDE

##### Suggested Lubrication Period in Weeks

Hours Run per Day	1 to 250 RPM	250 to 500 RPM	501 to 750 RPM	751 to 1000 RPM	1001 to 1500 RPM	1501 to 2000 RPM
8	12	12	10	7	5	4
16	12	7	5	4	2	2
24	10	5	3	2	1	1



SECTION III: LUBRICATION

3.2 MOTOR SHAFT

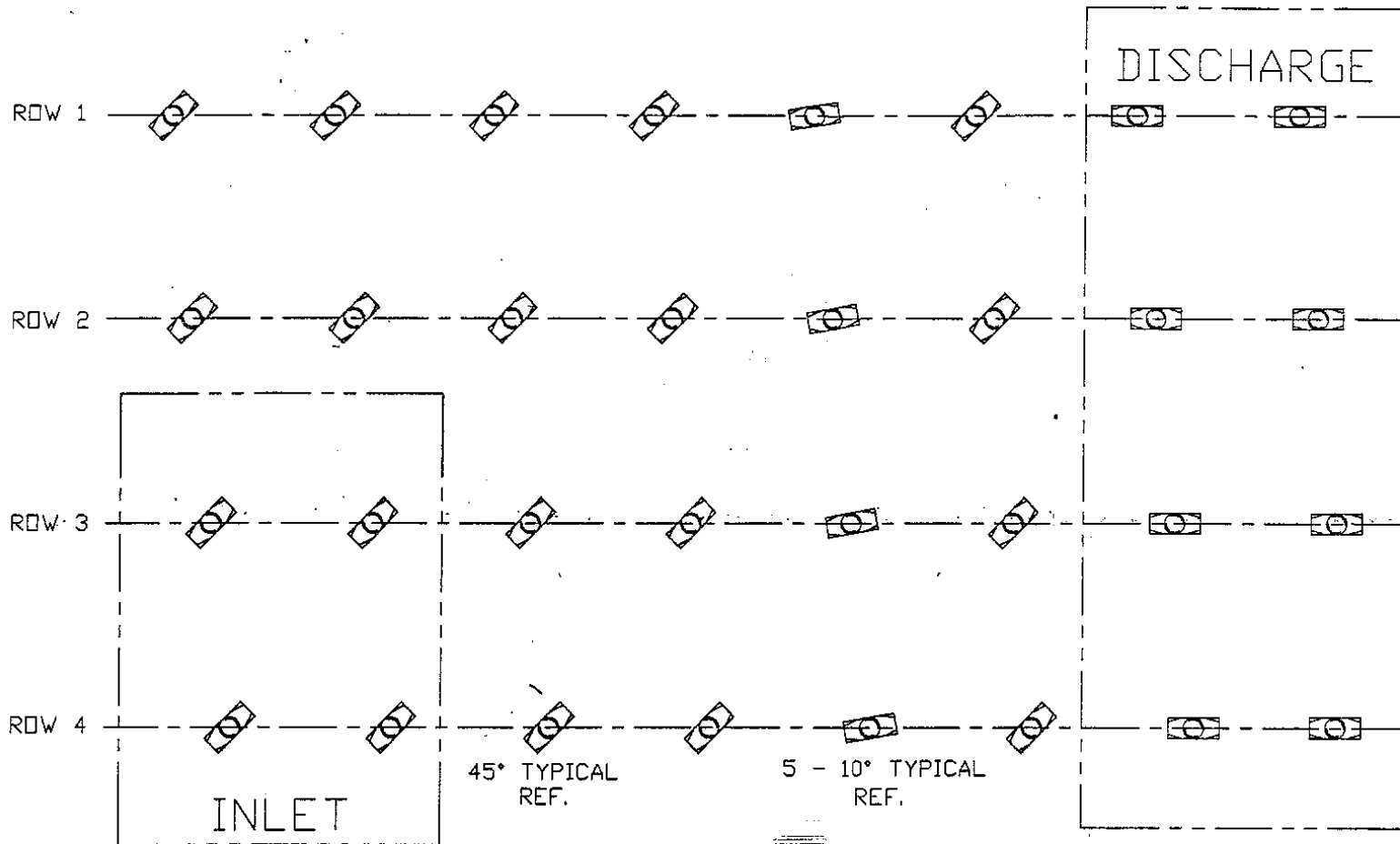
Lubricate with a No. 2 consistency grease on a weekly basis.  
Increase or decrease frequency as required.

3.3 DRIVE COUPLING

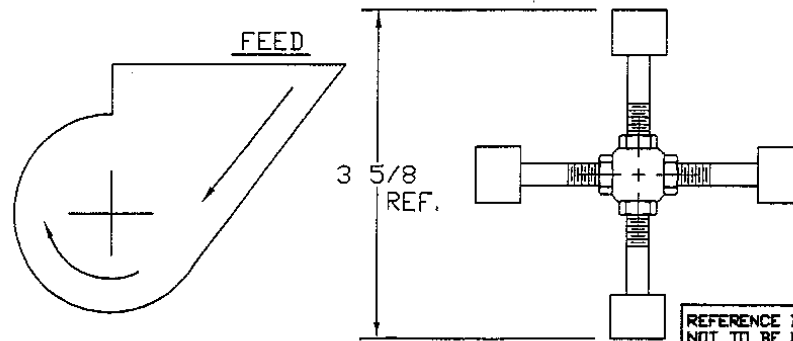
Lubricate in accordance with manufacturer's instruction.

MX 4-24 MIXER REPLACEMENT PARTS LIST

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	MOTOR	1
2	COUPLING	1
3	MIXER FRAME	1
4	MIXER BODY	1
5	BEARING	2
6	SEALS, MIXER SHAFT	2
7	MIXER SHAFT	1
8	COUPLING GUARD	1
9	MIXING PADDLE	32
10	PADDLE LOCK NUT	32



ALL PADDLES DIRECTLY OVER DISCHARGE TO BE PARALLEL WITH MIXER BODY FOR FORCED DISCHARGE OF PRODUCT.



NOTE:  
ANGULAR ADJUSTMENT OF PADDLES USUALLY REQUIRED AT STARTUP

REV	DESCRIPTION	DATE	BY
	<b>PRATER</b> 1515 S. 55TH COURT CHICAGO, IL 60650 THE ASSOCIATED PRATER COMPANIES		
MX 4-24 SHAFT ASSEMBLY			
DATE:	11-9-93	BY:	K.K.
SCALE:	3/8=1	APP:	
REFERENCE DRAWING ONLY NOT TO BE USED FOR CONSTRUCTION UNLESS CERTIFIED.			NUMBER: SILUG-0075-01

MX 6-24 MIXER REPLACEMENT PARTS LIST

ITEM	DESCRIPTION	QTY.
1	MOTOR	1
2	COUPLING	1
3	MIXER FRAME	1
4	MIXER BODY	1
5	BEARING	2
6	SEALS, MIXER SHAFT	2
7	MIXER SHAFT	1
8	GUARD, COUPLING	1
9	PADDLE, MIXING	24
10	NUT, LOCK	24

MX 8-24 MIXER REPLACEMENT PARTS LIST

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	MOTOR	1
2	COUPLING	1
3	MIXER FRAME	1
4	MIXER BODY	1
5	BEARING	2
6	SEALS, MIXER SHAFT	2
7	MIXER SHAFT	1
8	COUPLING GUARD	1
9	PADDLE	32
10	PADDLE LOCK NUT	32



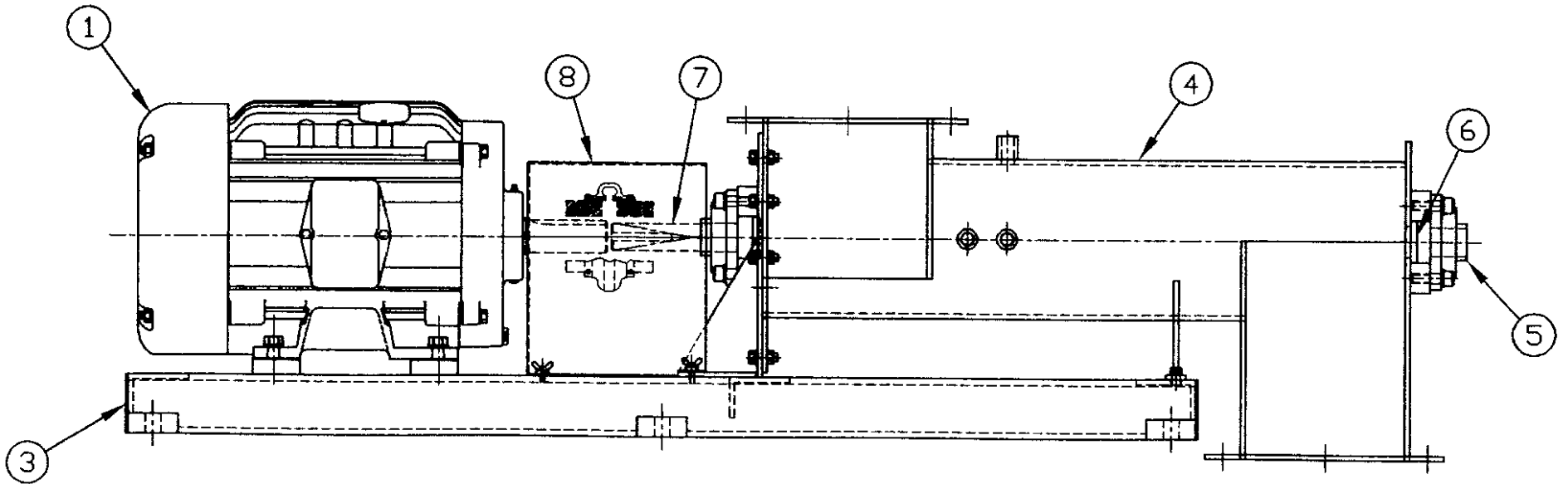
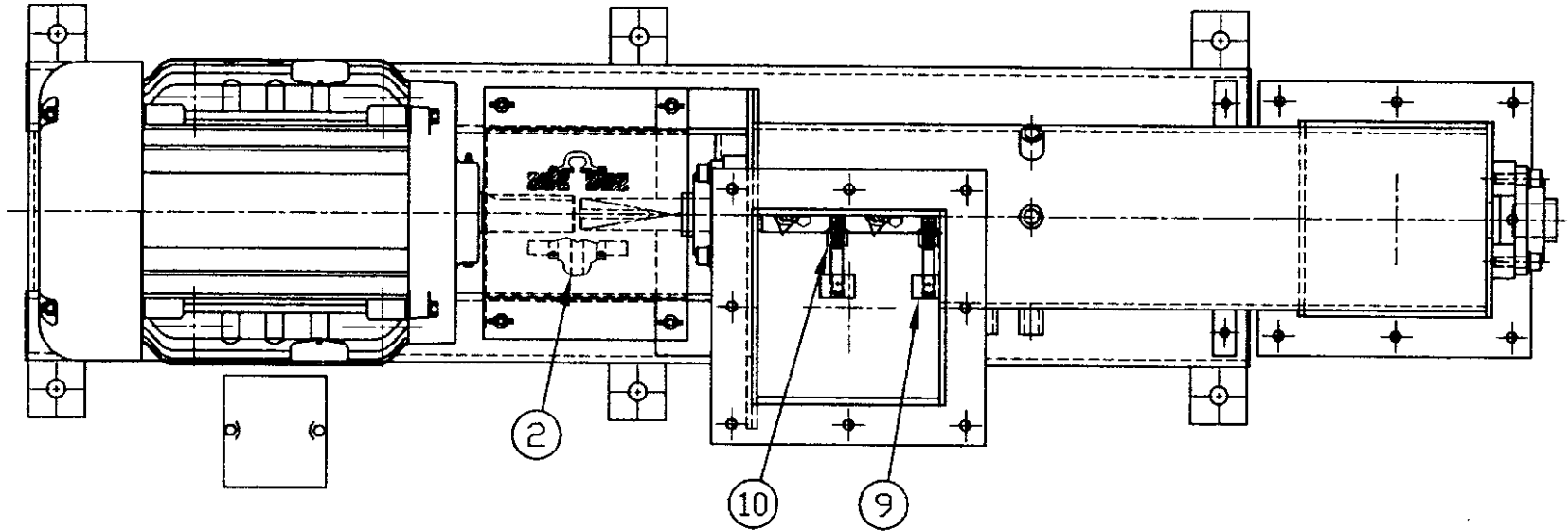
**Prater** 1515 S. 55TH COURT  
CICERO, IL. 60804  
THE ASSOCIATED PRATER COMPANIES

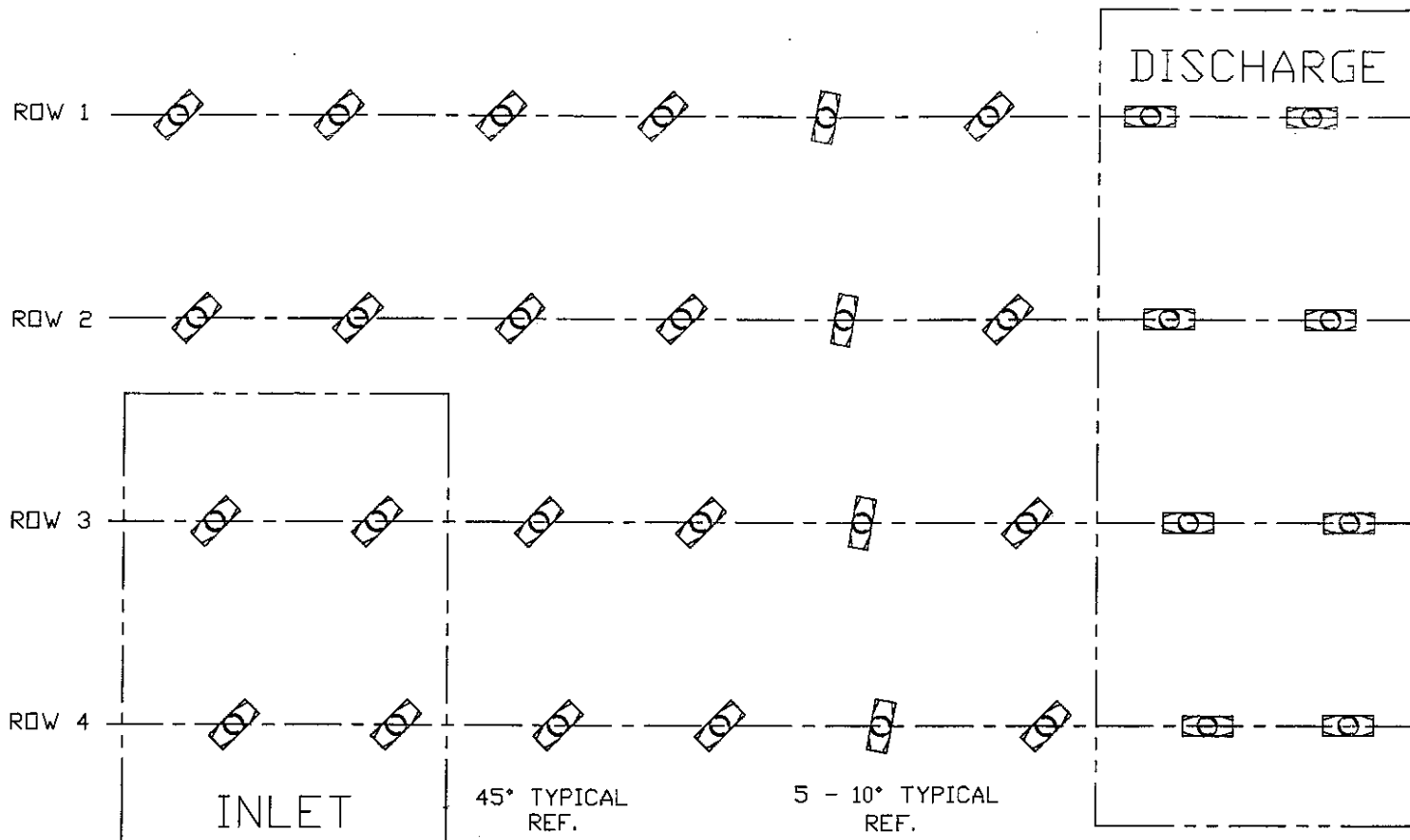
MX 8-24 REPLACEMENT PARTS

DATE: 12/16/98	BY: CJE	NUMBER: SK-3100-19	
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REV	DESCRIPTION	DATE	BY

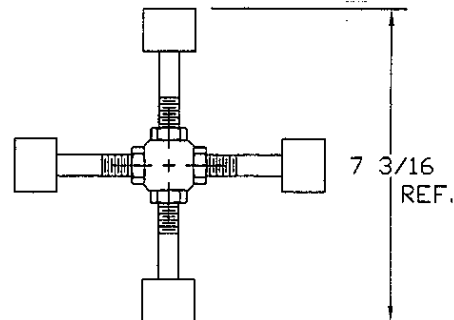
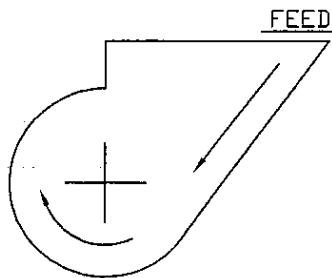
REFERENCE DRAWING ONLY NOT TO BE USED FOR  
CONSTRUCTION UNLESS CERTIFIED

**CONFIDENTIAL**





ALL PADDLES DIRECTLY OVER DISCHARGE TO BE PARALLEL WITH MIXER BODY FOR FORCED DISCHARGE OF PRODUCT.



NOTE:  
ANGULAR ADJUSTMENT OF PADDLES USUALLY REQUIRED AT STARTUP

**CONFIDENTIAL**

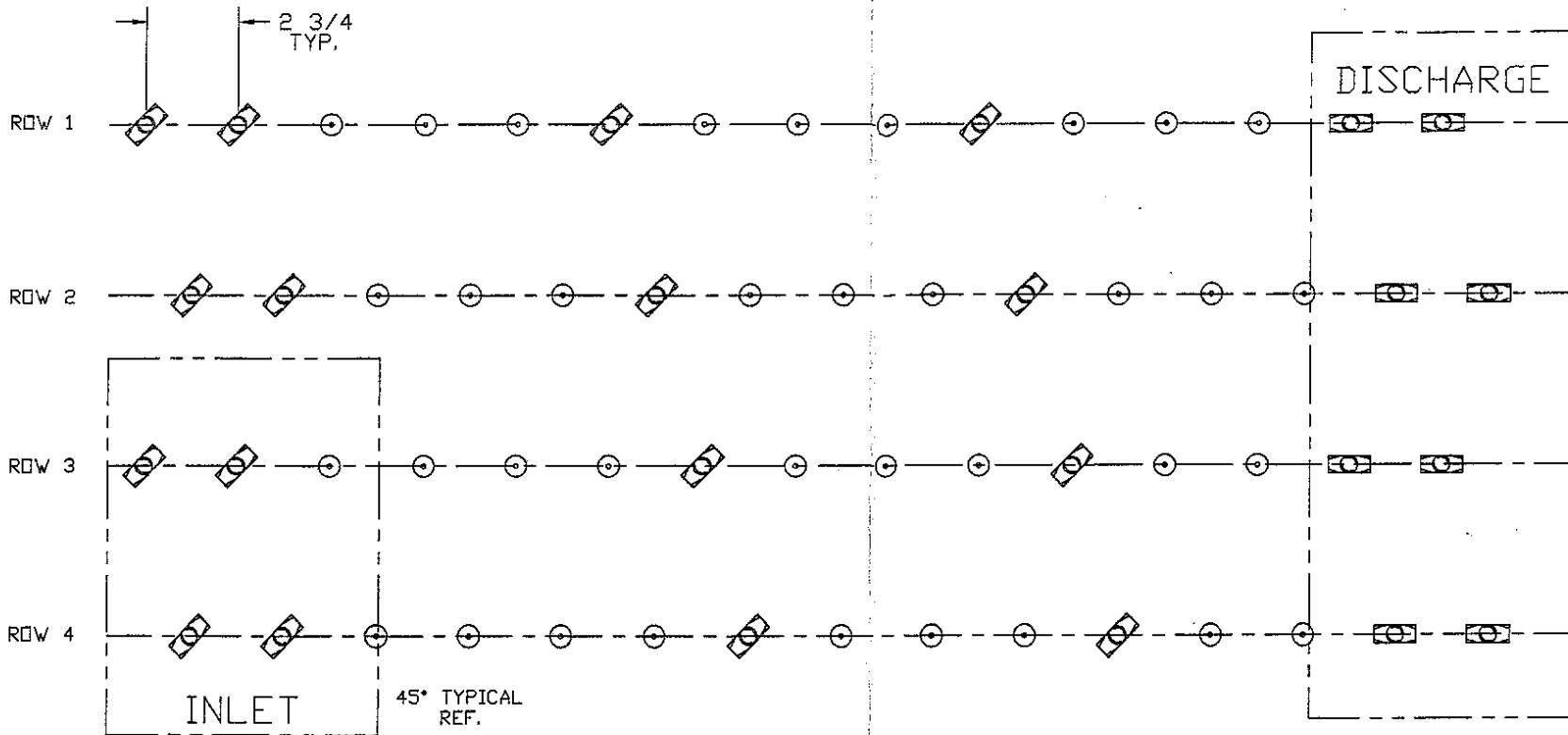
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<b>PRATER</b> 1515 S. 55TH COURT CHICAGO, IL 60650 THE ASSOCIATED PRATER COMPANIES			
MX 8-24 PADDLE ALIGNMENT			
DATE: 2-16-94		BY: K.K.	NUMBER:
SCALE: 3/8=1		APP:	ILUI-0011-01

REFERENCE DRAWING ONLY  
NOT TO BE USED FOR  
CONSTRUCTION UNLESS  
CERTIFIED.

MX 8-36 MIXER REPLACEMENT PARTS LIST

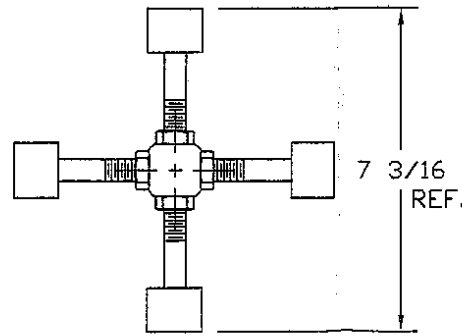
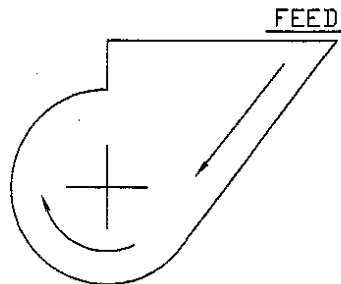
<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	MOTOR	1
2	COUPLING	1
3	MIXER FRAME	1
4	MIXER BODY	1
5	BEARING	2
6	SEALS, MIXER SHAFT	2
7	MIXER SHAFT	1
8	COUPLING GUARD	1
9	PADDLE	24
10	PIN	36
11	PADDLE LOCK NUT	60





ALL PADDLES DIRECTLY  
OVER DISCHARGE TO BE  
PARALLEL WITH MIXER  
BODY FOR FORCED  
DISCHARGE OF PRODUCT.

NOTE:  
ANGULAR ADJUSTMENT OF PADDLES  
USUALLY REQUIRED AT STARTUP



**CONFIDENTIAL**

REV	DESCRIPTION	DATE	BY
<b>PRATER</b> 1515 S. 55TH COURT CHICAGO, IL 60650 THE ASSOCIATED PRATER COMPANIES			
MX 8-36 PIN/PADDLE ALIGNMENT			
REFERENCE DRAWING ONLY NOT TO BE USED FOR CONSTRUCTION UNLESS CERTIFIED.	DATE: 6-21-95	BY: K.K.	NUMBER: ILUI-0041-01
	SCALE: 3/8=1	APP: <i>[Signature]</i>	

MX 12-24 MIXER REPLACEMENT PARTS LIST

ITEM	DESCRIPTION	QTY.
1	MOTOR	1
2	COUPLING	1
3	MIXER FRAME	1
4	MIXER BODY	1
5	BEARING	2
6	SEALS, MIXER SHAFT	2
7	MIXER SHAFT	1
8	GUARD, COUPLING	1
9	PADDLE, MIXING	32
10	NUT, LOCK	32

# Instructions for Installation and Maintenance

SIZES 20 thru 140  
SIZES 1020 thru 1140

## STEEFLIX COUPLINGS

Horizontal and Vertical

### Type T10

Subject to change without notice

428-110

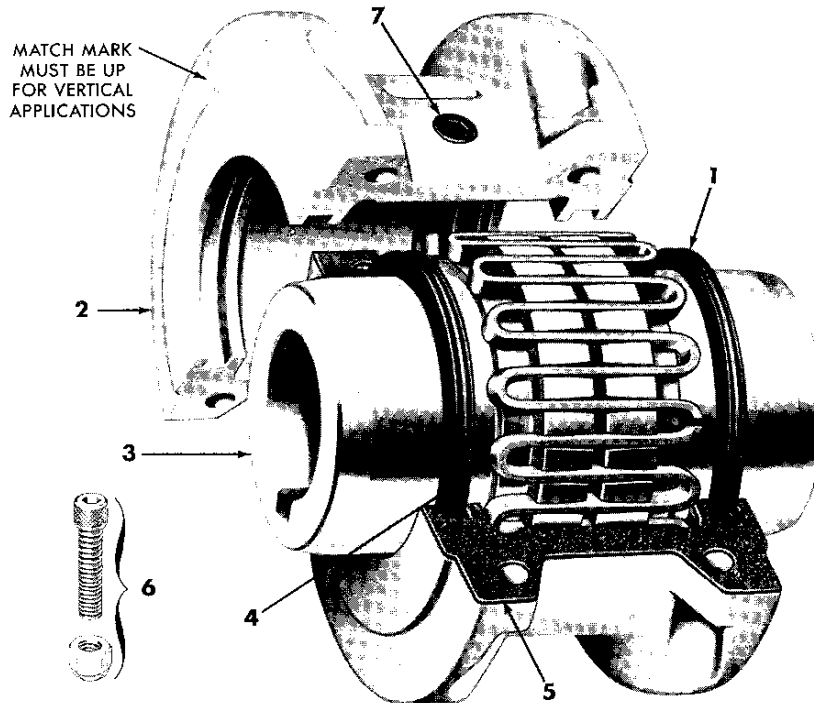
SERVICE MANUAL

March 1988

Supersedes 3-85

PAGE  
1

## TYPE T10 STEEFLIX COUPLING PARTS



### PART NUMBERS

1. Seal (T10)
2. Cover (T10)
3. Hub (Specify bore and keyway)
4. Grid
5. Gasket (T10)
6. Fasteners (T10)
7. Lube Plug

WHEN ORDERING SPARE PARTS, SPECIFY COUPLING SIZE AND TYPE AS SHOWN ON COUPLING COVER

**INTRODUCTION**—This manual applies to Sizes 20 thru 140T10 and 1020 thru 1140T10 Falk Steelflex Tapered Grid Couplings. Unless otherwise stated, information for Sizes 1020 thru 1140 applies to Sizes 20 thru 140 respectively, e.g. 1020 = 20, 1100 = 100, etc. These couplings are designed to operate in either the horizontal or vertical position without modification. However, for vertical applications, the match mark shown above, must be up. The performance and life of the couplings depend largely upon how you install and service them. Carefully follow the instructions in this manual for optimum performance and trouble free service.

**PARTS IDENTIFICATION**—All coupling parts have identifying part numbers as shown above. Parts 3 and 4 (Hubs and Grids), are the same for both T10 and T20 couplings; all other coupling parts are NOT INTERCHANGEABLE between Types T10 and T20. Parts are interchangeable between Sizes 20 and 1020, 30 and 1030, etc., but do not use orange grids in place of blue grids. However, blue grids may be used in place of orange grids. When ordering parts, always SPECIFY SIZE and TYPE shown on the COVER. Sizes 80 thru 140T10 covers have been manufactured with two and three ribs; DO NOT mix these cover halves.

**LUBE FITTINGS**—Cover halves have  $\frac{1}{8}$  NPT lube holes. Use a standard grease gun and lube fitting as instructed in Step 6 on Page 2.

**LIMITED END FLOAT**—When electric motors, generators, engines, compressors and other machines are fitted with sleeve or straight roller bearings, limited axial end float kits are recommended for protecting the bearings. Falk Steelflex couplings are easily modified to limit end float; refer to Manual 428-820 for instructions.

**LUBRICATION**—Adequate lubrication is essential for proper operation of the coupling. Refer to Table 1 on Page 2 for the amount of lubricant required. It is recommended that the coupling be checked once a year and lubricant added if required. For extreme or unusual operating conditions, check more frequently.

**LONG TERM GREASE (LTG)**—Steelflex couplings initially lubricated with Falk LTG will not require re-lubrication until the connected equipment is stopped for servicing. Refer to Manual 428-010.

### CAUTION

Consult applicable local and national safety codes for proper guarding of rotating members. Observe all safety rules when installing or servicing couplings. During assembly, seal keyways of oil lubricated couplings.

**LUBRICANT SPECIFICATIONS**—Refer to Manual 428-010 for recommended lubricants. The following specifications apply to lubricants for Falk couplings which are lubricated annually and operate within ambient temperatures of 0° to 150°F (-18° to +66°C). For temperatures beyond this range, consult the Factory.

**Dropping Point**—300°F (149°C) or higher.

**Consistency**—NLGI No. 2 with worked penetration value in the range of 250 to 300.

**Separation and Resistance**—Low oil separation rate and high resistance to separation from centrifuging.

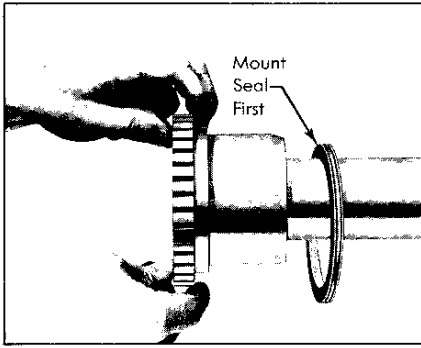
**Liquid Constituent**—To possess good lubrication properties . . . equivalent to a high quality, well refined petroleum oil.

**Inactive**—Must not corrode steel or cause swelling or deterioration of synthetic seals.

**Clean**—Free from foreign inclusions.

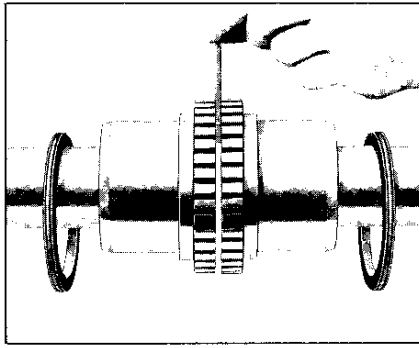
**INSTALLATION**—Only standard mechanics tools, wrenches, a straight edge and feeler gauges are required to install Falk Steelflex couplings. Coupling Sizes 1020 thru 1090 are generally furnished for CLEARANCE FIT with set screws. Sizes 1100 and larger are furnished for an INTERFERENCE FIT without set screws. Heat hubs with interference fit in an oil bath to a maximum of 275°F (135°C) to mount. The oil flashpoint must be 350°F (177°C) or higher. Refer to Page 2 for detailed mounting instructions.

# INSTALLATION OF TYPE T10 STEELFLEX TAPERED GRID COUPLINGS



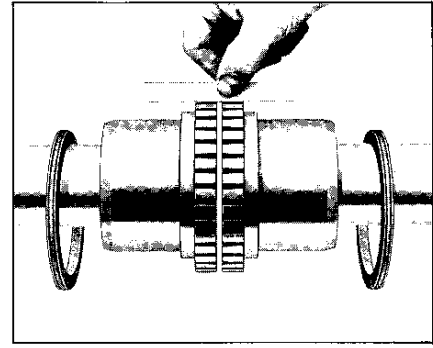
## 1 MOUNT SEALS AND HUBS

Lock out starting switch of prime mover. Clean all metal parts using a non-flammable solvent. Lightly coat seals with grease and place on shafts BEFORE mounting hubs. For vertical couplings, seal keyway to prevent leakage. Mount hubs on their respective shafts so the hub face is flush with the end of its shaft. Tighten set screws when furnished. Heat interference fit hubs as instructed on Page 1.



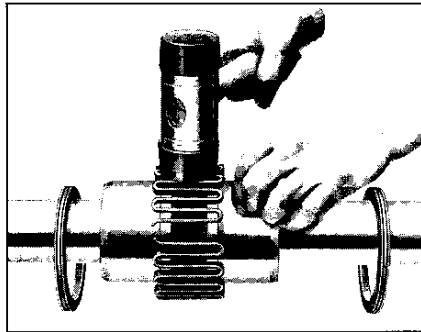
## 2 GAP & ANGULAR ALIGNMENT

Use a spacer bar equal in thickness to the gap specified in Table 1. Insert bar, as shown above, to same depth at 90° intervals and measure clearance between bar and hub face with feelers. The difference in minimum and maximum measurements must not exceed the ANGULAR limit specified in Table 1.



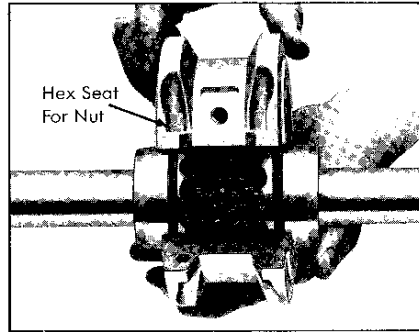
## 3 OFFSET ALIGNMENT

Align so that a straight edge rests squarely (or within the limits specified in Table 1) on both hubs as shown above and also at 90° intervals. Check with feelers. The clearance must not exceed the OFFSET limit specified in Table 1. Tighten all foundation bolts and repeat Steps 2 and 3. Realign coupling if necessary. NOTE: Use a dial indicator for more accurate alignment.



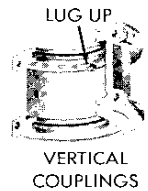
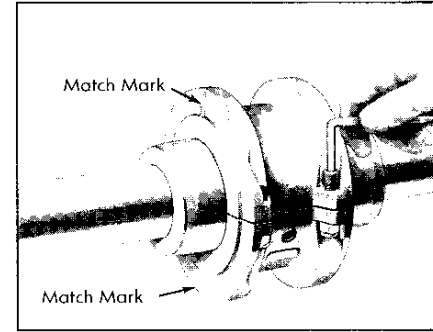
## 4 INSERT GRID

Pack gap and grooves with specified lubricant before inserting grid. When grids are furnished in two or more segments, install them so that all cut ends extend in the same direction; this will assure correct grid contact with non-rotating pin in cover halves. Spread the grid slightly to pass over the coupling teeth and seat with a soft mallet.



## 5 PACK WITH GREASE AND ASSEMBLE COVERS

Pack the spaces between and around the grid with as much lubricant as possible and wipe off excess flush with top of grid. Position seals on hubs to line up with grooves in cover. Position gaskets on flange of lower cover half and assemble covers so that the match marks are on the same side (see above). If shafts are not level (horizontal) or coupling is to be used vertically, assemble cover halves with the lug and match mark UP, or on the high side. Secure cover halves with fasteners and tighten to torque specified in Table 1. (Note that Sizes 1020 thru 1070 have a self-locking feature for the stop nuts.) CAUTION: Make certain lube plugs are installed before operating.



SIZE	Gap	Installation Alignment Limits		Cover Bolt Torque (lb-in)	Allow. Speed (rpm)	Lube Wt (lb)
		Offset (Max)	Angular (Max)			
1020T	.125	.006	.003	100	4500	.06
1030T	.125	.006	.003	100	4500	.09
1040T	.125	.006	.003	100	4500	.12
1050T	.125	.008	.004	200	4500	.15
1060T	.125	.008	.005	200	4350	.19
1070T	.125	.008	.005	200	4125	.25
1080T	.125	.008	.006	200	3600	.38
1090T	.125	.008	.007	200	3600	.56
1100T	.188	.010	.008	260	2440	.94
1110T	.188	.010	.009	260	2250	1.1
1120T	.250	.011	.010	650	2025	1.6
1130T	.250	.011	.012	650	1800	2.
1140T	.250	.011	.013	650	1650	2.5

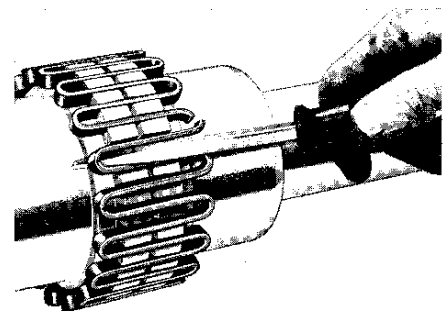
\* Refer to bulletin for maximum bores and Engineering 427-108 for reborring instructions.

Flexible couplings are designed to accommodate changes in operating conditions. Coupling life expectancy between initial alignment and maximum operating limits is a function of load, speed and lubrication. Application requirements in excess of twice the OFFSET and/or four times the ANGULAR limits shown, must be referred to Falk for review.

**6 PERIODIC LUBRICATION**—Remove both lube plugs and insert lube fitting. Fill with recommended lubricant until an excess appears at the opposite hole. CAUTION: Make certain all plugs have been inserted after lubricating.

## COUPLING DISASSEMBLY AND GRID REMOVAL

Whenever it is necessary to disconnect the coupling, remove the cover halves and grid. A round rod or screw driver that will conveniently fit into the open loop ends of the grid is required. Begin at the open end of the grid section and insert the rod or screw driver into the loop ends. Use the teeth adjacent to each loop as a fulcrum and pry the grid out radially in even, gradual stages, proceeding alternately from side to side.



# Typical Lubricants Meeting Falk Specifications

**STEELFLEX COUPLINGS**

**428-010**

**All Types**

**SERVICE MANUAL**

**June 1988**

Subject to change without notice

Supersedes 3-84

## INTRODUCTION

Adequate lubrication is essential for satisfactory operation. This manual provides a list of typical lubricants and specifications for general purpose and long term greases.

The use of general purpose grease requires re-lubrication of the coupling at least annually. By initially using Falk long term grease (LTG), re-lubrication will not be required again until the connected equipment is stopped for servicing.

### LONG TERM GREASE (LTG)

The high centrifugal forces encountered in couplings separate the base oil and thickener of general purpose greases. Heavy thickener which has no lubrication qualities, accumulates in the grid-groove area of Steelflex couplings resulting in premature hub or grid failure unless periodic lubrication cycles are maintained.



Falk LTG was developed specifically for couplings. It resists separation of the oil and thickener. LTG is an extreme pressure grease manufactured to a NLGI #1 consistency. While in the container, the consistency changes to a NLGI #3. In working areas of couplings, such as the grid-groove area of Steelflex couplings, LTG is in a semifluid condition providing the necessary lubrication. In non-working areas near seals and gaskets, the consistency is comparable to NLGI #3.

Steelflex couplings initially lubricated with Falk Long Term Grease (LTG) will not require re-lubrication until the connected equipment is stopped for servicing. If a coupling leaks grease, is exposed to extreme temperatures, excessive moisture or experiences frequent reversals, more frequent lubrication may be required.

### USDA APPROVAL

LTG has the United States Department of Agriculture Food Safety & Inspection Service approval for applications where there is no possibility of contact with edible products. (H-2 rating).

### CAUTION

Do not use LTG in bearings.

### SPECIFICATIONS

**Ambient Temperature Range**— -40°F (-40°C) to 190°F (88°C).

**Minimum Base Oil Viscosity**—3300SSU (715cSt) @ 100°F (38°C).

**Thickener**—7.5% (lithium soap and polyethylene)

**Separation Characteristics (Proposed ASTM Centrifuge Test)**—K36=6/24, very high resistance to centrifuging.

**NLGI Grade (ASTM D-217)**—#1.

**Minimum Dropping Point**—225°F (108°C).

**Minimum Timken O.K. Load**—50 lbs.

**Additives**—Rust and oxidation inhibitors that do not corrode steel or swell or deteriorate synthetic seals.

**INSPECTION**—When connected equipment is serviced, disassemble the coupling and inspect for wear. Replace worn parts. Clean the grease from the coupling and repack with fresh LTG. Install coupling using new gasket as instructed in the appropriate installation manual.

### PACKAGING

**4 oz. Tubes**—Suitable for initial handpacking Size 1060T and smaller or Size 7F and smaller.

**14 oz. Cartridges**—For use in standard grease guns. Sufficient quantity to initially lubricate Size 1090T or 13F.

**35 lb. Pail**—Ideal for larger size couplings or many smaller sizes.

**380 lb. Drum**—For plants with central storage areas. A pump with a pressurized follower plate is required for dispensing grease.

Case lots of 150-4 oz. tubes and 24-14 oz. cartridges are also available.

## GENERAL PURPOSE GREASE

**Annual Lubrication**—The following specifications and lubricants for general purpose grease apply to Falk Steelflex couplings that are lubricated annually and operate within ambient temperatures of 0° to 150°F (-18° to 66°C). For temperatures beyond this range, consult the Factory.

If coupling leaks grease, is exposed to extreme temperatures, excessive moisture or experiences frequent reversals; more frequent lubrication may be required.

### SPECIFICATIONS

**Dropping Point**—300°F (149°C) or higher.

**Consistency**—NLGI #2 with worked penetration value in the range of 250-300.

**Separation and Resistance**—Low oil separation rate and high resistance to separation from centrifuging.

**Liquid Constituent**—Possess good lubricating properties—equivalent to a high quality, well refined, petroleum oil.

**Inactive**—Must not corrode steel or cause swelling or deterioration of synthetic seals.

**Clean**—Free from foreign inclusions.

### GENERAL PURPOSE GREASES MEETING FALK SPECIFICATIONS

Lubricants listed below are typical products only and should not be construed as exclusive recommendations.


Ambient Temperature Range	0°F to 150°F (-18°C to +66°C)	-30°F to 100°F* (-34°C to +38°C)
NLGI Grade	#2	#2
Manufacturer	Lubricant ♦	Lubricant ♦
Amoco Oil Co.	Amolith Grease #2	Amolith Grease #2
Ashland Petroleum Co.	Val-Lith EP #2	Val-Lith EP #2
Atlantic Richfield Co.	Litholene HEP 2	Litholene HEP 2
Chevron U.S.A. Inc.	Chevron Dura-Lith EP-2	Chevron Dura-Lith EP 2
Cities Service Co.	Citgo HEP-2	Citgo HEP-2
Conoco Inc.	EP Conolith #2	EP Conolith #2
Exxon Company, USA	Ronex MP	Ronex MP
Gulf Oil Corp.	Gulfcrown Grease #2	Gulfcrown Grease #2
E. F. Houghton & Co.	Cosmolube #2	Cosmolube #1
Imperial Oil Ltd.	Esso MP Grease H	Lotemp EP
Kendall Refining Co.	Kenlube L-421 Grease	Kenlube L-427 Grease
Keystone Div. (Pennwalt)	#81 Light	#84 Light
Mobil Oil Corp.	Mobilux #2	Mobilux #1
Phillips Petroleum Co.	IB & RB Grease	Philube IB & RB Grease
Shell Oil Co.	Alvania Grease #2	Alvania Grease #2
Standard Oil Co. (OH)	Factran #2	Factran #2
Sun Oil Company	Prestige 42	Prestige 42
Texaco Inc.	Marfak Hvy Duty #2	1917 Marfak All-Purpose Grease
Texaco Canada Inc.	Marfak HD2	Marfak AP
Union Oil Co. (CA)	Union Unoba #2	Union Unoba #2

\* For northern climate applications. For continuous operation at constant ambient temperatures less than 0°F or -18°C (for example, refrigeration systems) consult The Falk Corporation.

♦ Lubricants listed may not be suitable for use in the food processing industry; check with lube manufacturer for approved lubricants.



**FINE GRINDERS  
HAMMERMILLS  
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Main: 630.759.9595 Fax: 630.759.6099  
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