Shibuya Hoppmann™

Model FT Series Centrifugal Feeder

FT-40-RD, FT-50-RD and FT-60-RD ANSI/Metric Installation & Maintenance Manual

Refer all servicing to qualified personnel.

This manual is intended for use by qualified mechanics and electricians who install or service the Hoppmann FT-40-RD, FT-50-RD and FT-60-RD Centrifugal Feeders.

Use this manual for the FT-40-RD, FT-50-RD and FT-60-RD ANSI or Metric style Centrifugal Feeders, cold rolled steel or stainless steel, single or dual drive systems, manufactured after October, 1996.

Record your serial plate information here for future reference

Model Number	Serial Number/Date

First Edition, Version 5, All Rights Reserved.
Copyright 2014 by Shibuya Hoppmann Corporation.

Duplication of this manual, in whole or in part, requires prior written consent from Shibuya Hoppmann Corporation.

Headquarters
7849 Coppermine Dr.
Manassas, VA
20109
540.829.2564 t
800.368.3582 t
540.829.1726 f

Sales
1445 Brookville Way
Suite F
Indianapolis, IN 46239
317.322.0754 t
800.368.3582 t
317.322.0794 f

Manufacturing
291 Dillard Road
Madison Heights, VA
24572
434.929.4746 t
800.543.0915 t
434.929.4959 f

www.ShibuyaHoppmann.com | publications@ShibuyaHoppmann.com

Quick Start

About this Manual

Assumptions

This manual is written for qualified mechanics and electricians who install or service the Hoppmann FT-40-RD, FT-50-RD and FT-60-RD Centrifugal Feeders. All procedures in this manual should be performed by qualified personnel.

➲ References in this manual may not apply to your centrifugal feeder. In some cases, your direct supplier may have modified or replaced some of the standard components of the feeder on which these procedures are based. In such cases, you may need to slightly modify these procedures. If you are unsure which standard components of your FT-40-RD, FT-50-RD or FT-60-RD feeder (if any) have been changed, consult your direct supplier's documentation.

Models Covered

This manual covers all FT-40/50/60-RD models in ANSI or Metric, stainless steel, single or dual drive. If you are unsure which model you have, locate the inventory number on the serial plate of the feeder.

Caution Symbols & Messages

Caution symbols and messages in this manual call attention to hazardous voltages, moving parts and other hazardous conditions. Please understand what the different warning labels and indicators refer to and how to avoid possible injury and/or damage to personnel and equipment.

The exclamation point caution symbol denotes possible personal injury and/or damage to the equipment.

The lightning bolt caution symbol denotes possible personal injury and/or damage to the equipment from electrical hazards.

Equipment Improvements & Document Revisions Notice

Shibuya Hoppmann Corporation continually improves its products, and reserves the right to change or discontinue specifications and designs shown in this manual without notice and without incurring obligation. Shibuya Hoppmann Corporation has made every effort to verify the information contained in this manual, but reserves the right to correct any error at the time of the manual's next revision. 12.2014.

What to Do First

As-Built Documentation

This manual does not contain as-built documentation. As-built documentation is provided by your direct supplier. If you purchased your tooled feeder directly from Shibuya Hoppmann, you will automatically receive this information in your System Operations Manual.

Tools You Will Need

The FT-40-RD, FT-50-RD and FT-60-RD feeders are offered in both ANSI and metric versions. For maximum compatibility, ANSI units are classified as "soft ANSI" construction, meaning that metric threads and hardware are used throughout. Both metric and ANSI units require metric tools for repair or adjustment. If your direct supplier tooled your feeder with (SAE) hardware, you will need standard tools as well.

If the feeder has been tooled by your direct supplier, any part of the feeder that touches your product has been tooled for your product. Avoid making any adjustments to the tooling, moving the tooling could adversely affect the performance of your tooled feeder.

Terms and Definitions

Term	Equivalent Term, Definition or Abbreviation
Feeder	Centrifugal Feeder, Sorter, Bowl, Unscrambler, Orienter, Rotary
"FT"	Feeder Tangential
"-RD"	Rigid Disc
Tooling	Mechanical and optical devices used to help orient products in the feeder bowl. May include: sensors, height qualifiers, wipers, air jets, etc.

Table of Contents

Chapter Name		Page
Quick Start	About this Manual	2
	What to Do First / Terms and Definitions	3
	Table of Contents	4
1		
Feeder Description and Specifications	Overview of the FT-40-RD, FT-50-RD and FT-60-RD Feeders	7
	Specifications of the FT-40-RD	8
	Specifications of the FT-50-RD	10
	Specifications of the FT-60-RD	12
	Figures:	
	Figure 1-1. Typical FT-Series Dual Drive Feeder–Exploded View	6
	Table 1-1. FT-40-RD Performance and Electrical Specifications	8
	Figure 1-2. FT-40-RD Top and Side Views	9
	Table 1-2. FT-40-RD Dimension Specifications	9
	Table 1-3. FT-50-RD Performance and Electrical Specifications	10
	Figure 1-3. FT-50-RD Top and Side Views	11
	Table 1-4. FT-50-RD Dimension Specifications	11
	Table 1-5. FT-60-RD Performance and Electrical Specifications	12
	Figure 1-4. FT-60-RD Top and Side Views	13
	Table 1-6. FT-60-RD Dimension Specifications	13
2		
Safety Precautions	Safety Precautions	15
	Operating and Maintenance: Do's and Don'ts	15
3		
Installation & Start-Up	Included in this Chapter	17
	Unpacking, Inspection and Registration	17
	Physical Setup	17
	Starting the Feeder for the First Time	18
	How to Set Proper Bowl Speed	19
	Running Product for the First Time	20
	General Tips	20
	Figures:	
	Figure 3-1. Measuring and Changing Bowl Speed	19
4		
Preventive Maintenance	General Cleaning	21
	Speed Reducer Maintenance	21
	Reducer Seals Replacement	21
	Inspect/Replace Motor Brushes	22
	Idler Assembly Maintenance	21
	Idler Assembly Maintenance	23

Chapter Name		Page
4		
Preventive Maintenance	Chains and Sprockets Lubrication	24
	Inspect Chain Tension	24
Figures:		
	Figure 4-1. DC Motor Brushes with Gasketed Cover Removed	21
	Figure 4-2. Typical FT-Series Centrifugal Feeder Idler Assembly	24
	Figure 4-3. Bowl Drive Chain Tension - Typical DC Motor	25
5		
Repair and Troubleshooting	Refinishing, Replacing or Adjusting the Bowl	27
	Refinishing a Standard Bowl	27
	Replacing a Standard Bowl	28
	How to Set Bowl Run-Out	28
	Speed Reducer: Replacement	29
	Drive Nomenclature	32
	Major Bearing Replacement	34
	If Product Jams: General Tips	36
	Troubleshooting Charts	36
	Figures:	
	Figure 5-1. Measuring Bowl Gap When Replacing Standard Bowl	27
	Figure 5-2. Motor Key/Shaft	30
	Figure 5-3. FT-40/50 and FT-60 Single Drive Assembly	31
	Table 5-1. Single and Dual Drive Nomenclature	32
	Figure 5-4. Typical Single Drive Sprocket and Drive Chain Locations	33
	Figure 5-5. Typical Dual Drive Sprocket and Drive Chain Locations	33
	Figure 5-6. Typical Spindle Assembly	32
	Figure 5-7. Disc Drive Bearing Housing Assembly	35
	Figure 5-8. Rim Housing Assembly	35
	Figure 5-9. Housing and Bearing Assembly	36
6		
Replacement Parts	Replacement Parts	39
	FT-40-RD Single and Dual Drive Replacement Parts List	40
	FT-50-RD Single and Dual Drive Replacement Parts List	42
	FT-60-RD Single and Dual Drive Replacement Parts List	42
	Figures:	
	Figure 6-1. Sample Serial Plate	39
7		
Warranty	Warranty	45

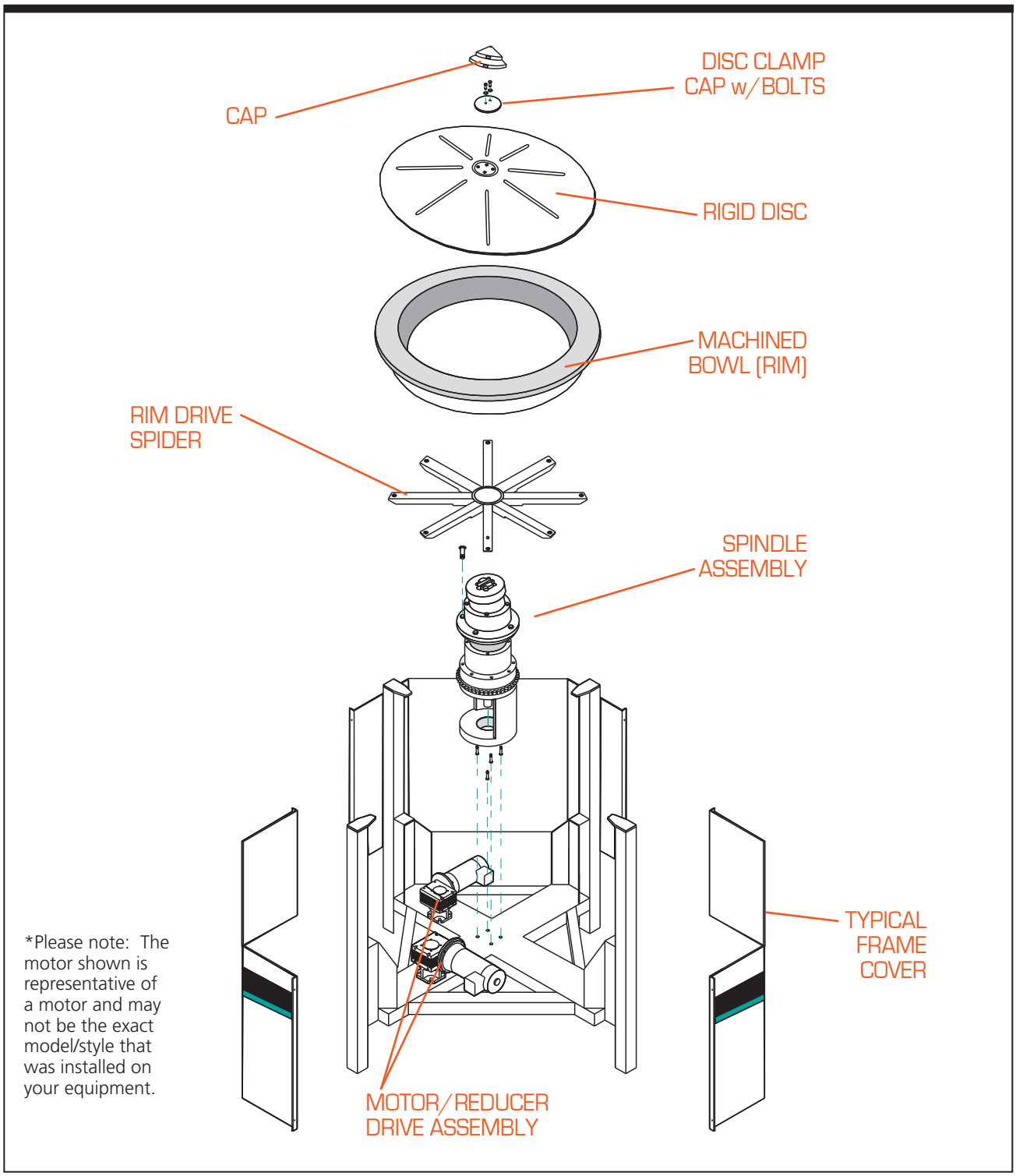

Figure 1-1. Typical FT-Series Dual Drive Feeder - Exploded View

Feeder Description & Specifications

1

Overview of the FT-40, FT-50 and FT-60-RD

Thank you for purchasing a Hoppmann Centrifugal Feeder. Hoppmann feeders are easy to use, easy to maintain and easily handles your product quietly and rapidly.

Function

Each centrifugal feeder unscrambles, orients and feeds product. (Refer to Figure 1-1 for an exploded view of the FT-40/50/60-RD feeder). The delivery rate varies depending on product characteristics. The feeder easily interfaces with Shibuya Hoppmann's prefeeders, accumulating conveyors and assembly equipment. (See to Figure 1-2 for the FT-40-RD product specifications, Figure 1-3 for the FT-50-RD and Figure 1-4 for the FT-60-RD product specifications.)

Operation

Step 1—The Feeder Accepts Your Product. Every feeder accepts product from a separate bulk supply hopper or prefeeder. Product drops randomly, a few at a time, onto a rigid disc.

➲ It is recommended that you carefully meter product into the bowl a few parts at a time, rather than emptying, in bulk, directly into the feeder bowl. Once the feeder has received parts, it should start delivering singlulated parts almost immediately.

Step 2—The Feeder Loads and Qualifies Your Product. Product is metered into the bowl, dropping onto the rigid disc, and loaded onto the rim for singulation and qualification. The rim moves the product past mechanical, pneumatic and/or optical qualifiers. Improperly oriented product is rejected, and returned to the reservoir area of the bowl for recirculation.

Step 3—The Feeder Delivers Your Product. Next, product moves off the rim and out of the centrifugal feeders, in proper orientation, for delivery to downstream operations.

Specifications of the FT-40-RD

Standard Features

The FT-40-RD is standard with stainless steel exterior construction, an FDA approved ABS vacuum formed disc, and a Teflon® hard-coated anodized aluminium bowl.

Optional Features

The FT-40-RD feeder can be easily integrated with polycarbonate covers (safety covers), washdown motor(s), a dual motor drive system, and a variety of controllers and operating systems.

Specifications

Please refer to the tables below for FT-40-RD specifications:

Performance Specifications	ANSI	Metric
Maximum Bowl Linear Speed (@ Rim ID) [1]	255 feet/min	78 meters/min
Vertical Bowl Runout (Maximum)	0.020"	0.500mm
Vertical Disc Runout (Maximum)	0.100"	2.500mm
Electrical Specifications	**DC**	**AC**
Motor Size	1/2hp	1/2hp
Motor Frame Size	56C	56C
Supply Voltage	90 Volts	230/460 [3]
RPM	1750	1750
Power Usage	6 Amps	3 Amps

Table 1-1. FT-40-RD Performance Specifications and Electrical Specifications

[1] Maximum speed is not the operating speed. This is provided as a reference value only.

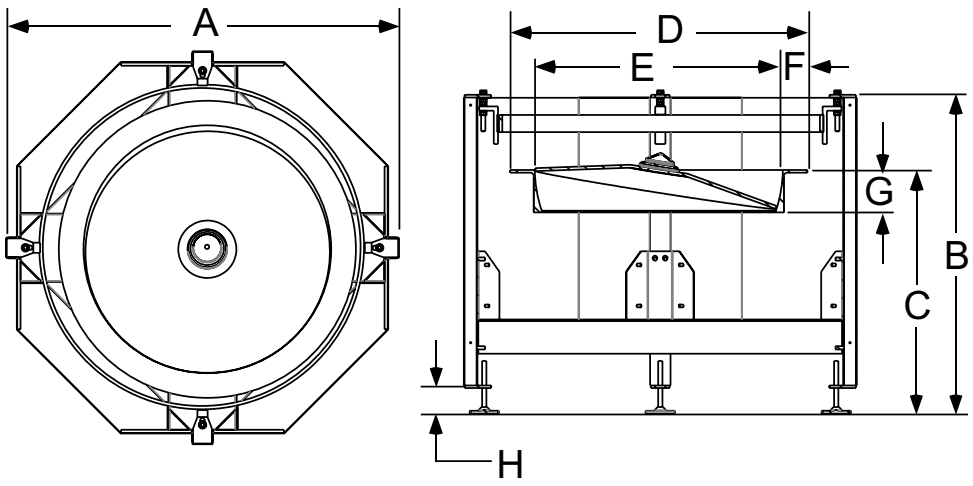

Figure 1-2. FT-40-RD Side and Top Views

Dimension Specifications		ANSI	Metric
A	Outer Wall Diameter	59"	1499mm
B	Overall Height	47" ± 1.5"	1194 ± 38mm
C	Discharge Height	36" ± 2"	914 ± 51mm
D	Bowl Outside Diameter	43.46"	1104mm
E	Bowl Inside Diameter	36.25"	921mm
F	Rim Width	3.61"	92mm
G	Bowl Depth	5.40"	137mm
H	Level Foot Adjustment (Height)	5" ± 2.5"	127 ± 64mm
Disc Diameter		35.75"	908mm
Disc–Bowl Gap		0.040"	1.02mm
Overall Weight (Untooled)		≈ 850 lbs.	≈ 385 kg

Table 1-2. FT-40-RD Dimension Specifications

Specifications of the FT-50-RD

Standard Features

The FT-50-RD is standard with stainless steel exterior construction, an FDA approved ABS vacuum formed disc, and a Teflon® hard-coated anodized aluminium bowl.

Optional Features

The FT-50-RD feeder can be easily integrated with polycarbonate covers (safety covers), washdown motor(s), a dual motor drive system, and a variety of controllers and operating systems.

Specifications

Please refer to the tables below for FT-50-RD specifications:

Performance Specifications	ANSI	Metric
Maximum Bowl Linear Speed (@ Rim ID) [1]	400 feet/min	102 meters/min
Vertical Bowl Runout (Maximum)	0.020"	0.500mm
Vertical Disc Runout (Maximum)	0.100"	2.500mm
Electrical Specifications	**DC**	**AC**
Motor Size	1/2hp	1/2hp
Motor Frame Size	56C	56C
Supply Voltage	90 Volts	208-230/460 [3]
RPM	1750	1750
Power Usage	8 Amps	3 Amps

Table 1-3. FT-50-RD Performance Specifications and Electrical Specifications

[3] Maximum speed is not the operating speed. This is provided as a reference value only.
[4] 3 Phase, 60 Hertz supply voltage for AC motor.

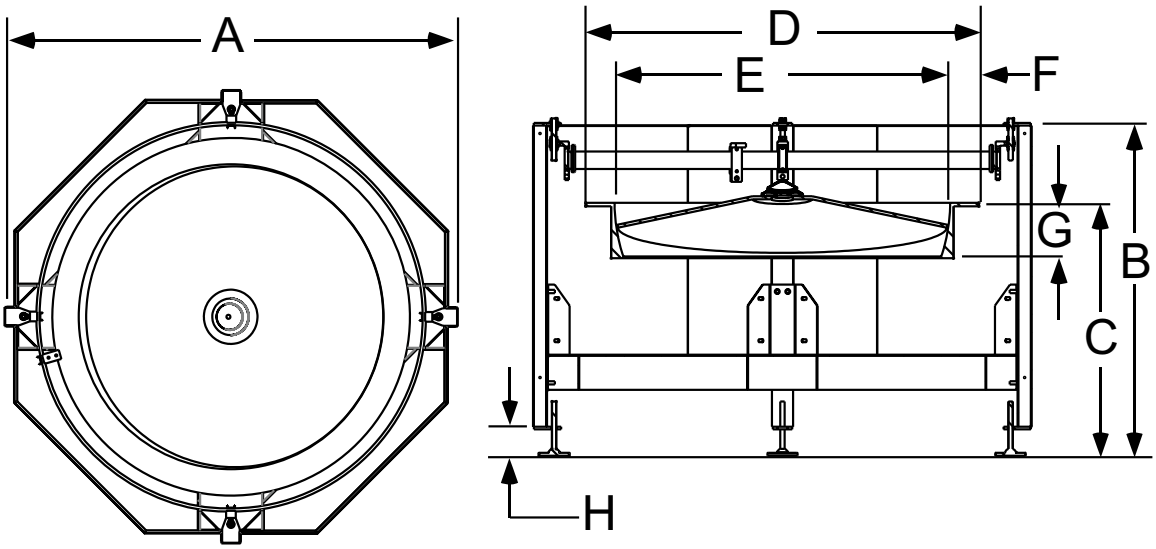

Figure 1-3. FT-50-RD Side and Top Views

Dimension Specifications		ANSI	Metric
A	Outer Wall Diameter	71"	1804mm
B	Overall Height	47" ± 1.5"	1194 ± 38mm
C	Discharge Height	36" ± 2"	914 ± 51mm
D	Bowl Outside Diameter	56"	1422mm
E	Bowl Inside Diameter	47.10"	1196mm
F	Rim Width	4.13"	105mm
G	Bowl Depth	7.10"	180mm
H	Level Foot Adjustment (Height)	5" ± 2.5"	127 ± 64mm
Disc Diameter		47.10"	1196mm
Disc–Bowl Gap		0.050"	1.27mm
Overall Weight (Untooled)		≈ 1050 lbs.	≈ 476 kg

Table 1-4. FT-50-RD Dimension Specifications

Specifications of the FT-60-RD

Standard Features

The FT-60-RD is standard with stainless steel exterior construction, an FDA approved ABS vacuum formed disc, and a Teflon® hard-coated anodized aluminium bowl.

Optional Features

The FT-60-RD feeder can be easily integrated with polycarbonate covers (safety covers), washdown motor(s), a dual motor drive system, and a variety of controllers and operating systems.

Specifications

Please refer to the tables below for FT-60-RD specifications:

Performance Specifications	ANSI	Metric
Maximum Bowl Linear Speed (@ Rim ID) [2]	500 feet/min	153 meters/min
Vertical Bowl Runout (Maximum)	0.010"	0.254mm
Vertical Disc Runout (Maximum)	0.125"	3.175mm
Electrical Specifications	**DC**	**AC**
Motor Size	3/4hp	3/4hp
Motor Frame Size	56C	56C
Supply Voltage	90 Volts	208-230/460 3 Phase
RPM	1750	1750
Power Usage	8 Amps	3 Amps

Table 1-5. FT-60-RD Performance Specifications and Electrical Specifications

[3] Maximum speed is not the operating speed. This is provided as a reference value only.
[4] 3 Phase, 60 Hertz supply voltage for AC motor.

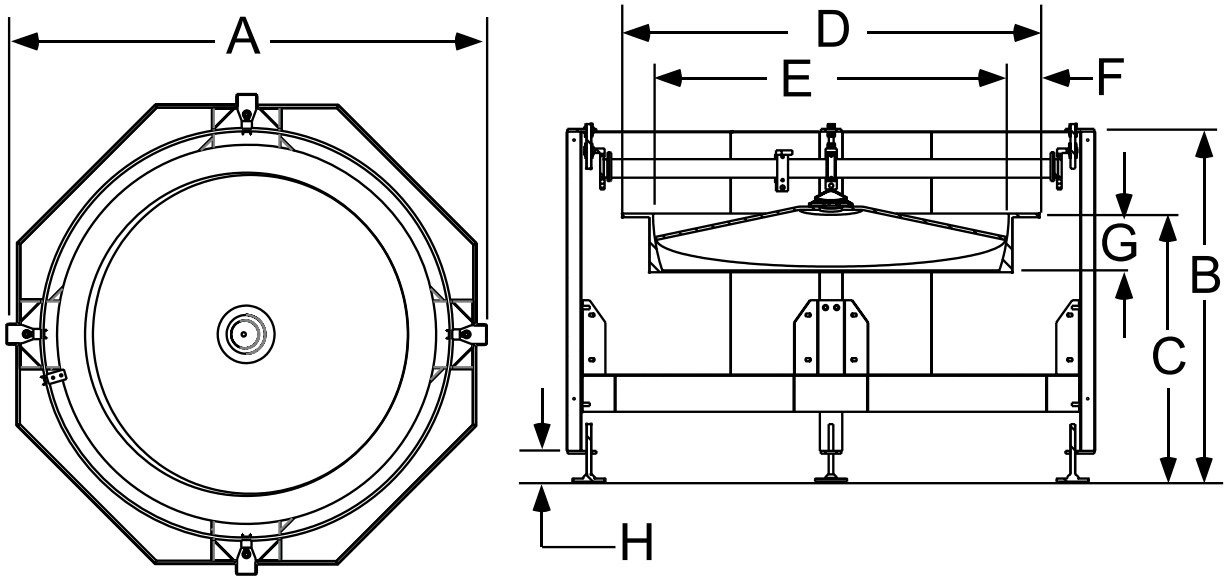

Figure 1-4. FT-60-RD Side and Top Views

Dimension Specifications		ANSI	Metric
A	Outer Wall Diameter	85"	2159mm
B	Overall Height	47" ± 1.5"	1194 ± 38mm
C	Discharge Height	36" ± 2"	914 ± 51mm
D	Bowl Outside Diameter	70"	1778mm
E	Bowl Inside Diameter	60"	1524mm
F	Rim Width	5"	127mm
G	Bowl Depth	9.13"	232mm
H	Level Foot Adjustment (Height)	5" ± 2.5"	127 ± 64mm
Disc Diameter		59.20"	742mm
Disc–Bowl Gap		0.060"	1.52mm
Overall Weight (Untooled)		≈ 1400 lbs.	≈ 635 kg

Table 1-6. FT-60-RD Dimension Specifications

Notes

Safety Precautions

2

Safety Precautions

Hoppmann Feeders are designed to be as safe as possible for operators. However, even well-built machines can be installed or operated in a hazardous manner. Safety precautions must be observed by users.

Turn Off Power and Air. Before performing maintenance on the machine, ensure that power and air cannot be accidentally turned back on. Padlock and clearly tag the main electrical and pneumatic disconnect(s) before adjusting or replacing changeover parts or performing maintenance. Lockout/tag-out procedures are covered in United States Code of Federal Regulation (CFR) Title 29 Part 1910.147, "The Control of Hazardous Energy."

Dress Appropriately! Reduce the risk of injury from moving parts by securing loose sleeves and other clothing. Do not wear loose jewelry or neckties near the feeder. Wear safety glasses or other protective eye wear when servicing the feeder.

Install Safety Guards! Make sure the feeder remains safe to operate. Be sure all safety guards have been installed before returning the feeder to normal operation. Safety guards on the Centrifugal Feeder include any guards (which protect the operator from the moving bowl spider, sprockets and chains). Before feeder operation, secure all safety covers. Most safety covers are electrically interlocked, and will prevent the machine operation if disengaged.

Avoid Moving Parts. Never place anything in the machine except the handled part(s) for which it was designed. Never put your hands, tools, or other objects into the machine.

Operating & Maintenance: Do's & Don'ts

Don't Give the Feeder Too Much Product. Do not overfill the feeder, because it may jam or lose rate. Bulk product should be metered into the feeder. Allow only enough product into the feeder to keep the line running at the required rate.

Don’t Run the Feeder Too Fast. Do not run the bowl faster than the linear feet per minute recommended by your direct supplier. If you do, the orientation qualifiers can not do their job as efficiently, and the feeder may jam or lose rate.

Don’t Adjust Air Jet Flow Controls. It is okay to adjust the main air regulator to its correct setting for your installation. However, air jets and their individual flow controls have all been carefully preset to work with your product; they should never need adjustment. If you move air jets or adjust their individual flow controls, the feeder may jam or lose rate.

Do Perform Preventive Maintenance. To keep the feeder running without unexpected repairs and resulting downtime, regularly perform the preventive maintenance procedures in Chapter 4.

Do Carefully Replace Any Tooling You Remove. To gain access for repairs, you may need to remove tooling. Because Shibuya Hoppmann and your dealer or OEM have no control over such activities, they can not be responsible for any tooling you remove. **Carefully document the position of any tooling before you begin.** If you fail to replace all tooling exactly as it was, you may create difficult and time consuming problems.

Don't Operate the Feeder Near Flammable Gas, Vapor or Dust. Do not install a feeder in these conditions unless you install additional, approved explosion-proof or dust ignition-proof enclosures. Without such additional enclosures, normal sparking of the brushes inside the motor could ignite flammable gas, vapor or dust.

Do Replace Failed Bearings in the Spindle Assembly. The spindle assembly should only be taken apart to replace a failed bearing. Follow the procedures in Chapter 5 for bearing replacement.

Installation & Start-Up

3

Included in this Chapter

Follow, in order, each section of this chapter to install any fully tooled FT-40/50/60-RD feeder. For your convenience, Table 1-2, Table 1-5 and Table 1-8 in Chapter 1, show electrical specifications for your feeder and suggested wiring.

Unpacking, Inspection and Registration

Step 1— Inspect and Unpack the Crate. Remove packing materials from sensors, tooling and moving parts. Make a visual check to be sure parts have not come loose during shipping. If you find any concealed damage, call the shipping carrier and your direct supplier immediately. **Do not attempt to fix the problem yourself unless told to do so by your direct supplier.**

Step 2—Record Serial Numbers. For future reference and assistance in ordering parts, record on the front of this manual the feeder's model and serial number.

Physical Setup

You should refer to as-built drawings (not part of this manual) for electrical, pneumatic and equipment layout specifications.

Step 1—Position the Feeder. Place the feeder as shown on the equipment layout drawing provided by your direct supplier.

Step 2—Level the Feeder. Level the machine by adjusting the leveling feet. Tighten the locknuts on the leveling feet.

Step 3—Connect the Output Device. Check that product can move smoothly from the exit of the feeder to your output device (deadplate, conveyor, gravity track or powered rollers, for example). Check that product will not jam or lose their orientation as they move to the output device.

Step 4—Position the Prefeeder. Now place your bulk supply hopper, or prefeeder, into position. Follow the equipment layout drawing provided by your direct supplier, or the feeder may not operate correctly. If you are providing and integrating a prefeeder, continue reading the step below. If your direct supplier is providing and integrating both your feeder and prefeeder, skip to Step 5.

If you are supplying your own prefeeder, you are responsible for:

- Providing and installing the feeder's bowl level switch so it can control the flow of your prefeeder.
- Setting the timing delay for the feeder's bowl level switch.
- Correctly positioning the prefeeder. Generally, the prefeeder should discharge product to fall on the rigid disc, halfway between the center of the bowl and the outside diameter. Take a handful of product and drop them from the chute of your prefeeder into the feeder. Avoid dropping product so that it bounces up off the rigid disc onto the rim of the bowl, which could knock off product that are already loaded. You may need to position the prefeeder again, if necessary, once the feeder is running.

Step 5—Connect Electrical Supply and Air. Connect your feeder to electrical supply and compressed air (if applicable).

Starting the Feeder for the First Time

Step 1—Secure Safety Covers. Before turning on power and air, make sure safety covers are in place and that you are dressed appropriately for safety.

Step 2—Check for Rubbing Parts. Turn the feeder bowl by hand. In the unlikely event that you hear any unusual noises, discontinue immediately and check in and around the bowl for any foreign objects causing the noise (for example, check between the backup ring and the rim of the bowl.)

Step 3—Turn on Power and Air. Turn on the feeder's power. If applicable, turn on the feeder's main air regulator.

How to Set Proper Bowl Speed

Ask your direct supplier for the actual speed at which the bowl should rotate. For reliability, set the bowl to match that speed.

- You will need a hand-held tachometer (analog or digital) with a surface speed wheel indicator (see Figure 3-1).
- This procedure is performed with power on and the feeder operating. If your direct supplier has installed a cover over the bowl, you will need to open it before proceeding.

Step 1—Turn on Feeder. Turn on the feeder and run it without product.

Step 2—Set Bowl Speed. To set bowl speed, place hand-held tachometer (with surface speed indicator attachment) on the inner wall of the moving bowl, at its most upper inside diameter. Adjust bowl speed until bowl is moving at correct number of linear feet per minute (FPM).

- If you have only one drive motor installed (standard) you can ignore the rigid disc speed, which changes proportionally as the bowl speed changes.

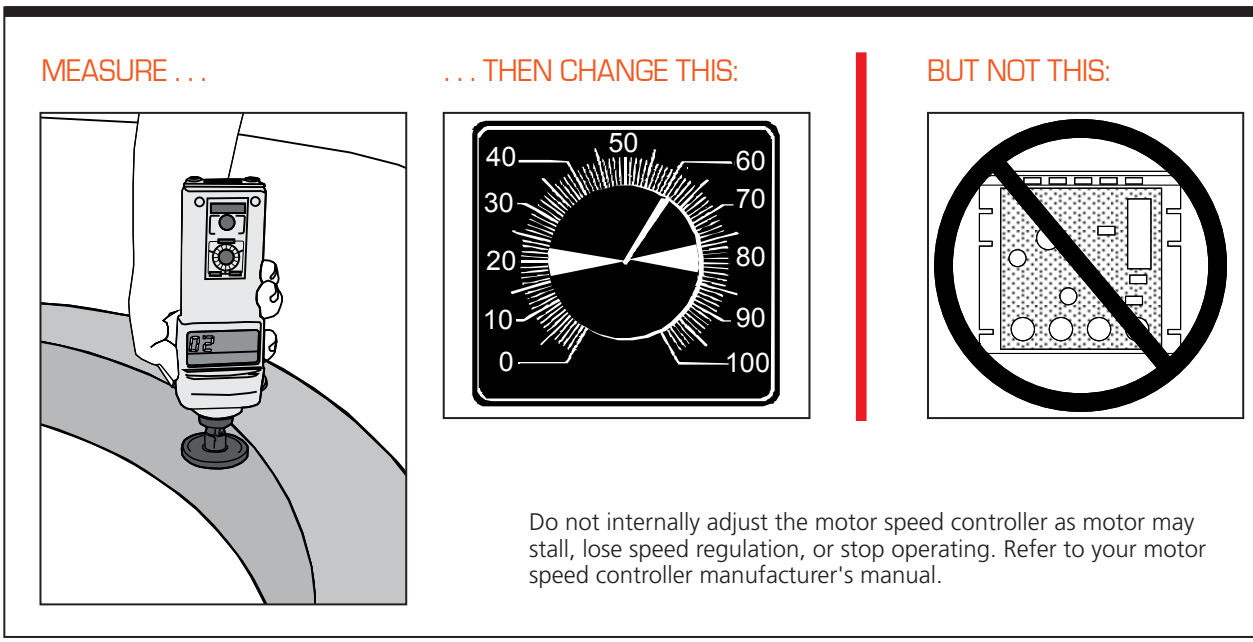

Figure 3-1. Measurement and Changes to Bowl Speed

➲ If your feeder has dual drive motors installed, after you complete the procedure to set the bowl speed (see previous step), measure the disc speed in RPM at the center of the disc using your hand held tachometer with the appropriate attachments.

Step 3—Record New Settings. Turn off the feeder. Mark dial plate with new setting and remove any old marks.

Running Product for the First Time

Step 1—Verify Changeover Setup. If your feeder is tooled to run multiple parts, ensure the feeder is set up for the product you want to run.

Step 2—Inspect Product at Exit. Inspect the exit of the feeder. If product is exiting the feeder properly oriented, at the required rate and without jamming, then installation is complete. Otherwise, continue with Step 3. Do not adjust the flow controls on air jets.

Step 3—Verify Prefeeder Speed. Normally this step is completed by your direct supplier. However, if you are separately providing and integrating the prefeeder, you will have to set the prefeeder's speed. To do this, turn the prefeeder's speed control all the way down, then turn on the feeder.

➲ Slowly (you may need to take several minutes) raise the prefeeder's speed control until enough parts exit the feeder to keep the line running at the required rate. **Excessive output may overload the feeder and reduce its output.**

General Tips

➲ After your feeder is set up and running, observe the flow of product at each transition point. Later, if a problem occurs, observe these transition points to help pinpoint the cause.

➲ Listen to the way the feeder sounds when it is running properly. If it suddenly sounds different, investigate why.

Preventive Maintenance

4

General Cleaning

Outer Frame & Tooling

The Shibuya Hoppmann Model FT-40/50/60-RD Centrifugal Feeder is not intended for wash down use. If you need to clean the outer frame, the rim of the bowl, the rigid disc or tooling, use mild, non-abrasive household cleaners. Cycle the machine as necessary so that all areas are cleaned. Next, use a clean cloth dampened only with water. Immediately wipe any damp surface with a dry cloth.

Clean Safety Covers

If your feeder has any attached polycarbonate safety covers, we suggest using a clean cloth, lightly dampened, to clean the material. While polycarbonate is extremely strong, it scratches easily, and can be fogged even by mild non-abrasive cleansers.

Tip

To minimize scratches on polycarbonate safety covers, use a mild automobile polish and/or a microfiber cloth or chamois cloth.

Avoid using abrasive cleansers, strong cleaning solutions or industrial solvents on the outer frame, the rim of the bowl, the rigid disc, tooling or safety covers, as they may be permanently damaged.

"Dusty" Applications

If your parts generate dust or particulate when handled, you'll need to clean the feeder as often as necessary. For such parts, remove the dust from the top surface of the rim of the bowl and the disc with a portable vacuum cleaner or dry compressed air.

Speed Reducer Maintenance

The speed reducer comes with factory installed synthetic lubricants and is lubricated for life and it does not require regular venting. If you have installed a different reducer, please refer to that manufacturer's recommendations for lubrication.

Reducer Seals Replacement

The speed reducer uses seals which may need to be replaced. Follow the steps below to replace the seals on the reducer:

Step 1—Remove the Worn Seal. Remove the worn seal without damaging the shaft surface of the seal bore. This can be done by drilling a .062 diameter hole in the seal casing (being careful not to drill into the bearing behind the seal). Screw a #10 sheet metal screw into the hole and pry out the seal.

Step 2—Clean the Seal Bore of Sealant. Make sure that the seal bore is free of debris and old sealing compound.

Step 3—Cover Keyways. Before installing the new seal, use electrical tape to cover any keyways on the shaft to prevent seal lip damage.

Step 4—Grease Seal Lips. Grease the seal lips with bearing grease, and apply a sealant to the seal bore.

Step 5—Replace Seal. Slide the seal into the shaft being careful not to fold the inner lip over on any shaft steps.

Step 6—Press Seal into Bore. Press the seal into its bore with a sleeve that presses on the seal casing, being careful to keep the seal square in its bore.

Inspect/Replace Motor Brushes

The following procedure applies only to DC motors and should be performed only by qualified personnel.

Step 1—Gain Access. Before gaining access to the feeder motors, disconnect power and air. **Completely lock and tag out the feeder.** Remove feeder guards and covers as needed to gain access to the motor. Then remove the motor brush access covers.

Step 2—Clean the Motor. Clean the motor by blowing into the open access hole with compressed air.

Step 3—Replace Brushes. Lift the brush spring from the end of the brush (see Figure 4-1). Remove the brush connector, withdraw the brush and inspect the length. To prevent motor damage, brushes should be replaced when or before they reach a length of 0.575" (15 mm). New brush length is 1.03" (26 mm). Reverse procedure to replace brush. Replace motor access and feeder covers. Connect power and air. Initial and date the Maintenance Log.

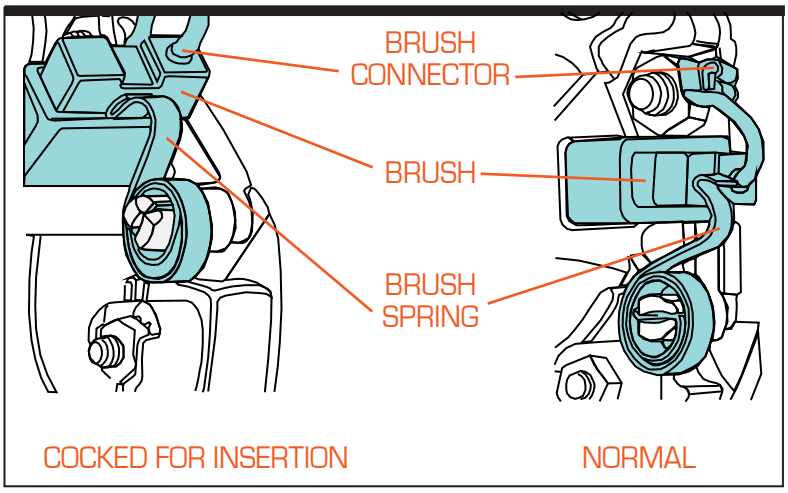

Figure 4-1. DC Motor Brushes with Gasketed Cover Removed

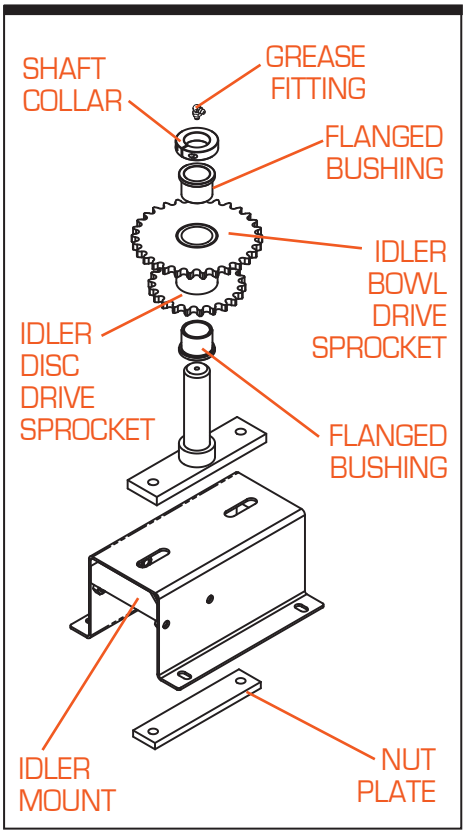

Figure 4-2. Typical FT-Series Centrifugal Feeder Idler Assembly

Idler Assembly Maintenance

It is recommended you grease the idler assembly, for both the metric and ANSI single drive models, every six (6) months after installation. Note the order of assembly (see Figure 4-2).

Figure 4-2 shows a typical FT-Series idler assembly. If your idler assembly is substantially different, please contact Shibuya Hoppmann for information on your style idler assembly.

Chains and Sprocket Lubrication

On all FT-40/50/60-RD feeders, grease the disc and rim drive chains and sprockets every six months, or every 1000 operating hours, whichever comes first.

- Before beginning, disconnect power and air. Remove the exit cover and exit support assembly to gain access to the feeder. Lock and tag out the feeder.
- Use standard Moly grease, Lubriplate #3000 (NLGI Grade 2) or the equivalent. Turn the bowl by hand to expose all the links of the bowl drive chains. Use a brush to apply grease to the sprockets and the chains.

Inspect Chain Tension

Step 1—Gain Access. Improper chain tension wears out sprockets and chains. When lubricating or performing other maintenance tasks, inspect the tension of the chain. If you have not already done so, disconnect power and air, and remove the exit cover and the exit support assembly to gain access. Lock and tag out the feeder.

Step 2—Inspect Drive Chain. Midway between the sprockets, grasp the chain and move it back and forth. You should not be able to move it more than 1" in either direction. If it moves more than 1", adjustment is required (see Figure 4-3.) If an adjustment is needed:

- For single drive feeders: Loosen the idler, adjust the motor and re-tension the idler.
- For dual drive feeders: Adjust the motor/reducer mounting plate for each motor by moving the reducer back and forth as necessary.

Step 3—Check for Parallel Sprockets. Check that each set of sprockets is parallel to within 1/32" (0.8 mm). If not parallel, realign to within the above specification.

Step 4—Replace Guards and Covers. Replace guards and covers and connect power and air.

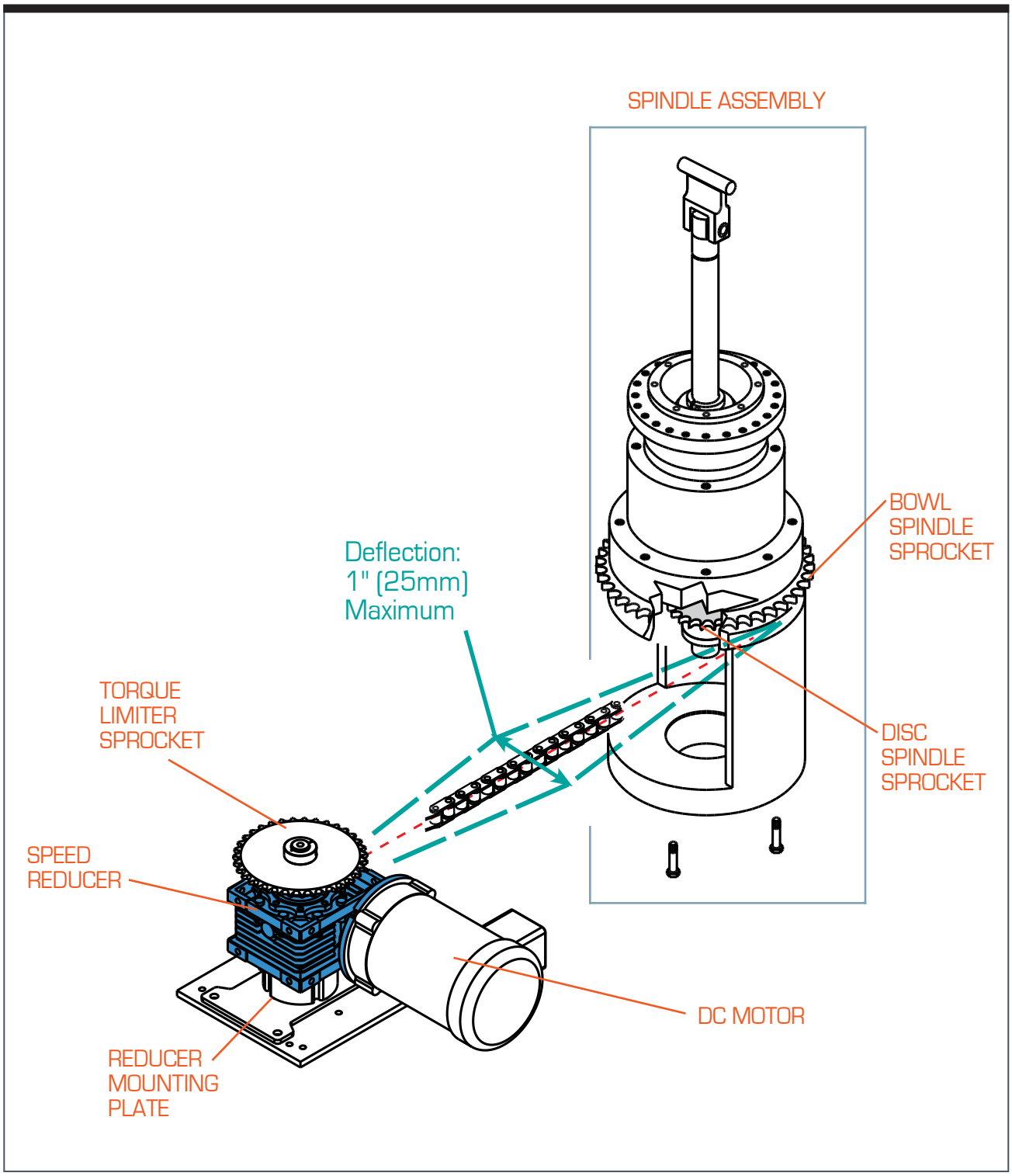

Figure 4-3. Bowl Drive Chain Tension -Typical DC Motor

Notes

Repair and Troubleshooting

5

Refinishing, Replacing or Adjusting the Bowl

Before making substantial changes to your feeder (refinishing the bowl, removing or replacing the bowl, etc.), please check with your supplier or Shibuya Hoppmann Corporation. At times it may be necessary to remove parts of the system (tooling, air jets, safety covers, etc.), and you may need to document locations in order to put them back in their proper order for correct feeder function.

Refinishing a Standard Bowl

If the standard Teflon® hardcoat aluminium bowl becomes damaged in a way that adversely affects the feeder performance the bowl may be refinished.

- If the damage is slight, re-coating with commercial hard coat by a professional metal refinisher may correct the problem.
- Machining must be done in such a way that bowl runout is restored to original tolerances, or the feeder may not operate correctly.
- If machining enlarges the inner diameter of the bowl, you may need to replace the disc with a larger one (custom-sized) from your direct supplier. If you do not obtain a larger disc, the gap between the disc and the inner diameter of the bowl may pinch or snag product (see Figure 5-1).

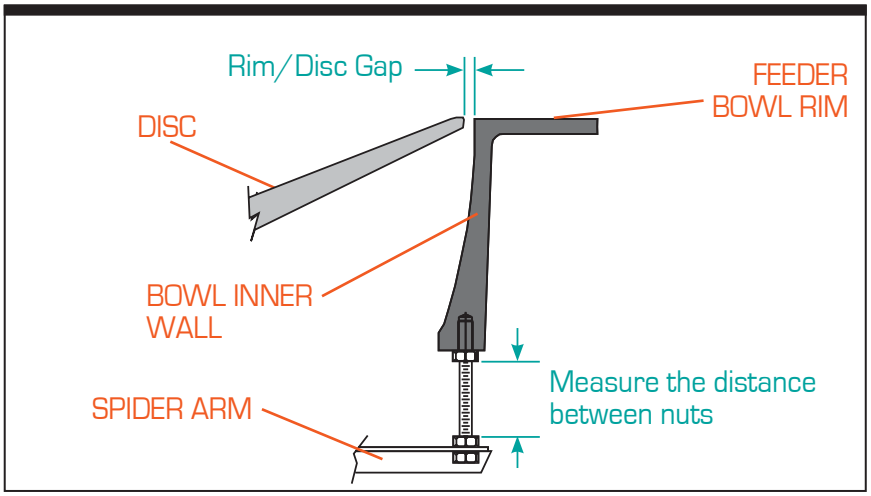

Figure 5-1. Measuring Bowl Gap When Replacing Standard Bowl

Replacing a Standard Bowl

To remove and replace the feeder bowl, follow the steps on the following pages.

➲ Before beginning, remove the prefeeder, the tooling and the disc of the feeder bowl.

Step 1—Measuring and Removing the Bowl. Measure the height between the bottom of the bowl, and the top of the spider arm (where the threaded rod connects the two parts - see Figure 5-1). Loosen and remove the bottom nut on the spider arm (on each of the eight (8) arms) and remove the bowl - pulling it up and away from the feeder.

Step 2—Replacing the Bowl. Put the new or refinished bowl in place, then set it to the correct height, ± 0.03" (0.8 mm) as you measured in Step 1.

Step 3—Bowl Runout. Refer to "To Set Bowl Runout" in the next section of this Chapter.

Step 4—Replace Disc and Check Covers. Replace the feeder disc and make sure all covers are in place before running the feeder.

How to Set Bowl Runout

Bowl runout needs to be reset if the bowl has been removed. **Adjust runout with power off and bowl drive chain disengaged.**

Step 1—Gain Access. Disconnect power and air. Remove any frame covers. Lock out and tag out the feeder.

Step 2—Remove Bowl Drive Chain. Remove the master link. Disconnect the bowl drive chain from the bowl spindle sprocket.

Step 3—Adjust Vertical Runout. Attach a dial indicator to the inside of any upper frame support. Set the indicator contact point

vertical on the rim of the bowl, up to 1/4" (6 mm) from the bowl's upper inside diameter (ID). Loosen jam nuts and locknuts above and below each arm of the bowl spider one arm at a time. Repeat as often as necessary while checking runout. Do not tighten jam nuts until Step 4.

Step 4—Adjust Horizontal Runout. Move the indicator contact point horizontal on the rim of the bowl, up to 1/4" (6 mm) from the bowl's upper ID. Gently tap the bowl's ID with the palm of your hand or a rubber mallet. Tighten locknuts and jam nuts by hand firmly but not forcibly. Inspect vertical runout and adjust again if necessary. Continue alternating between horizontal and vertical runout until both are within specification.

Step 5—Check Exit. Ensure that proper relationship still exists at transition between rim of bowl and output device (deadplate, conveyor, gravity track, or powered rollers, etc.).

Step 6—Check Backup Ring Clearance. Ensure that proper, as-tooled gap still exists between bottom of backup ring and rim of the bowl. (Feeders for most products are tooled with approximately 1/8" gap, but for some small products the gap is less; consult your as-built documentation for specifications.) At the upper frame support, adjust the tooling ring up or down, if necessary.

Step 7—Replace Chain & Covers. Install bowl drive chain. Inspect chain tension (refer to Figure 4-3). Replace covers and re-connect power and air.

Speed Reducer: Replacement

Follow these instructions to replace the speed reducer with its direct replacement.

Step 1—Gain Access. Disconnect power and air. Remove the exit covers. Lock out and tag out the feeder to avoid any accidental starting of the feeder.

Step 2—Remove Motor. Remove mounting bolts and then remove motor from the speed reducer, leaving wiring intact. Set motor safely aside in a secure position.

Step 3—Remove Old Speed Reducer. Remove the mounting bolts on bottom of the reducer mounting brackets. Slide the speed reducer towards the center of the feeder, and remove the chain. Completely remove the speed reducer assembly.

Step 4—Reducer Installation. Remove the sprocket(s), any spacers, torque limiter (if applicable) and the mounting brackets from the older reducer, and install on the new reducer.

Step 5—Assemble Output Shaft. The output shaft on the speed reducer comes as a separate kit. If replacement is required, clean both contact surfaces before assembly and apply any appropriate anti-seize compound to avoid oxidation (rust) and possible seizing of parts. Slide the sprocket(s) down onto the reducer output shaft. You will need to adjust the height of the sprocket(s) to match the heights of the corresponding sprocket(s) on the spindle assembly (see Figure 5-3 on the following page regarding the order). Tighten setscrew. The speed reducer used in the feeder is lubricated for life with synthetic lubricant and requires no filling before use.

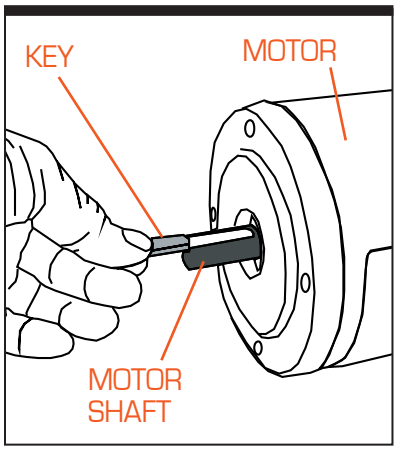

Figure 5-2. Motor Key/Shaft

Step 6—Install New Speed Reducer. Install new reducer assembly back into the feeder and reattach the two nut plates, securing the assembly to the frame. **Do not tighten the bolts yet.**

Step 7—Install Motor. Install the key to the motor shaft and coat the shaft with anti-seize compound (see Figure 5-2). Insert the motor shaft into the speed reducer. Rotate the motor to the correct position and firmly secure to flange with four hex-head cap screws. Do not allow the motor to "hang" unsupported before fully seated in the reducer to avoid damaging the reducer input seal. If the motor does not readily seat itself, check to see if the key has moved.

Step 8—Adjust. Reattach drive chain and re-tension, checking sprocket alignments and wiring to insure no damage has occurred. Tighten the nut plate bolts to the frame.

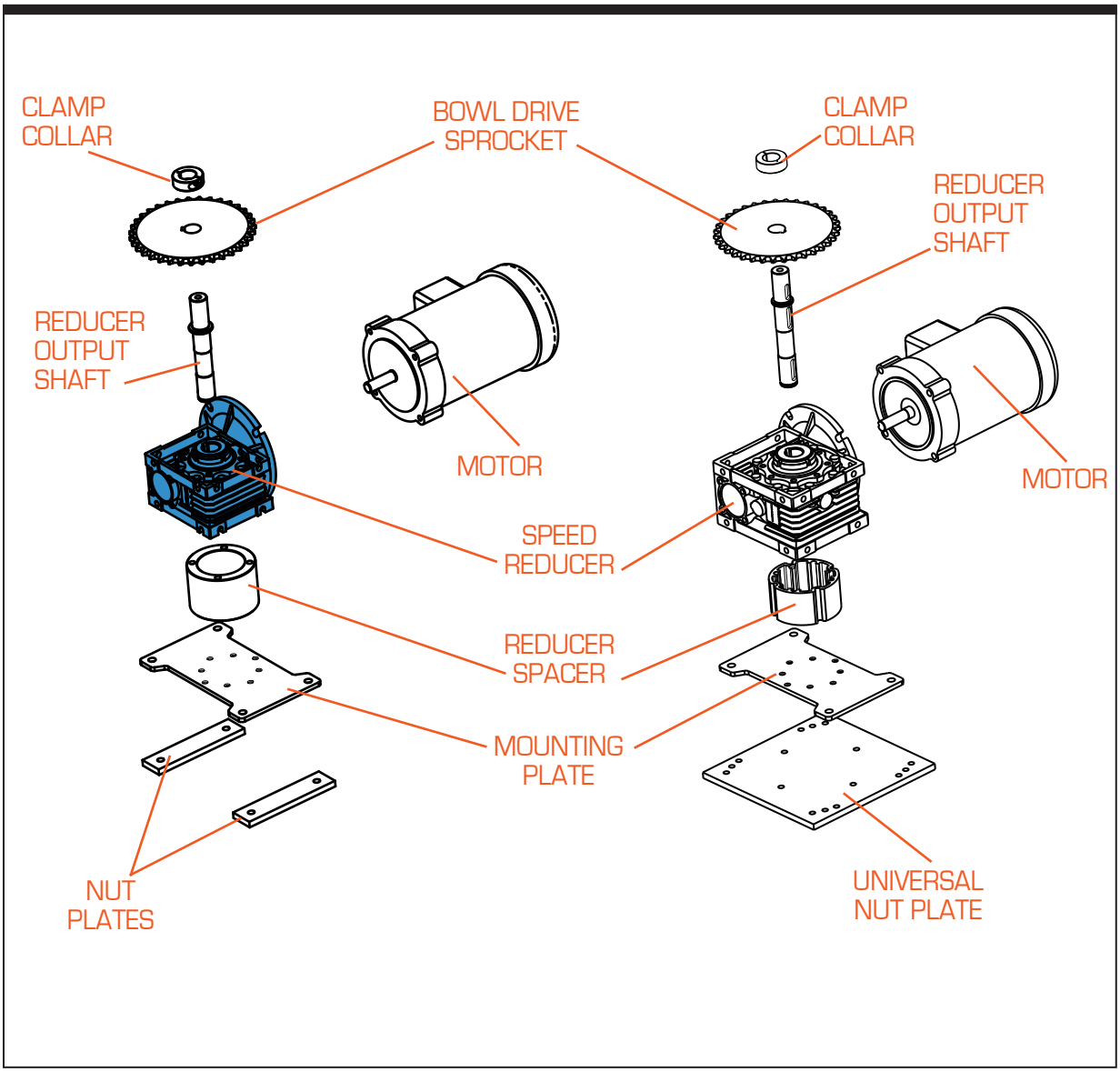

Figure 5-3. Typical FT40/50-RD Single Drive Assembly (Left) and FT-60-RD Single Drive Assembly (Right)

Step 9—Inspect After Installation. During the speed reducer's break-in period, it may run hotter than normal. **Nevertheless, for maximum life, do not allow the speed reducer to operate continuously above 225°F at the gear case (for AC motors used in Europe, it is customary to use 60°C maximum)**. In the event of overheating, check for overloads or high ambient temperatures. Keep shafts and vent plugs clean to prevent foreign particles from entering the speed reducer. Periodically inspect all bolts to make sure they are not loose.

Drive Nomenclature

Please refer to Figure 5-4, Figure 5-5 and Figure 5-6 for a review of the drive systems on Hoppmann FT-40/50/60-RD Centrifugal Feeders (both single and dual drive versions). Sprocket and drive chain information is listed in Table 5-1 below:

Drive Particular	FT-40-RD Single Drive	FT-50-RD Single Drive	FT-60-RD Single Drive	FT-40-RD Dual Drive	FT-50-RD Dual Drive	FT-60-RD Dual Drive
Bowl Drive Spindle Sprocket	48 Teeth	48 Teeth	48 Teeth	48 Teeth	48 Teeth	48 Teeth
Bowl Drive Reducer Sprocket	42 Teeth	35 Teeth	35 Teeth	42 Teeth	35 Teeth	35 Teeth
Disc Drive Spindle Sprocket	30 Teeth	30 Teeth	30 Teeth	30 Teeth	30 Teeth	30 Teeth
Disc Drive Reducer Sprocket	n/a	n/a	n/a	24 Teeth	26 Teeth	26 Teeth
Upper (Bowl) Drive Idler Sprocket	30 Teeth	30 Teeth	30 Teeth	n/a	n/a	n/a
Lower (Disc) Drive Idler Sprocket	22 Teeth	22 Teeth	22 Teeth	n/a	n/a	n/a
Bowl Drive Chain (#50)	63.125" L 101 Links	63.125" L 101 Links	63.125" L 101 Links	49.375" L 79 Links	49.375" L 79 Links	49.375" L 79 Links
Disc Drive Chain (#50)	39.375" L 63 Links	39.375" L 63 Links	39.375" L 63 Links	39.375" L 63 Links	40.625" L 65 Links	40.625" L 65 Links

Table 5-1. Single and Dual Drive Nomenclature

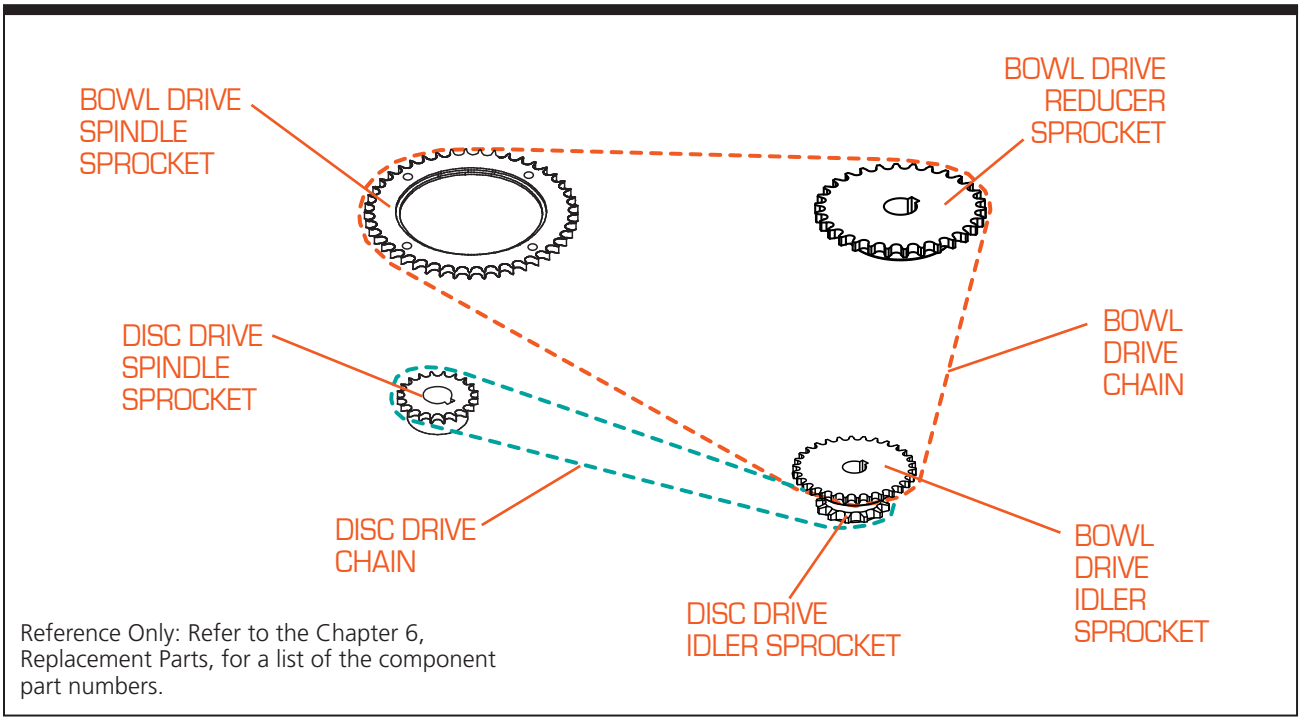

Figure 5-4. Typical Single Drive Sprocket and Drive Chain Locations

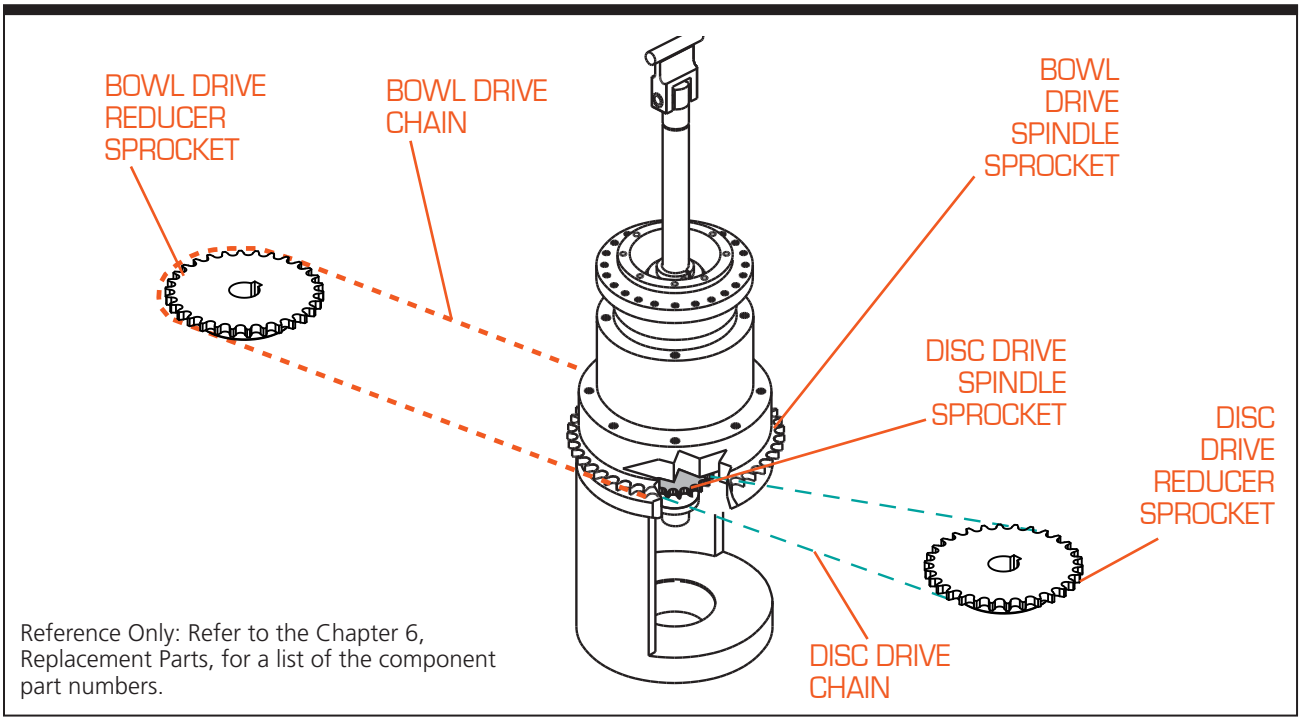

Figure 5-5. Typical Dual Drive Sprocket and Drive Chain Locations

Major Bearing Replacement

Major bearings in Hoppmann feeders are the upper and lower disc shaft spindle bearings, the upper and lower rim support spindle bearings and the disc support bearing (see Figure 5-6, Figure 5-7, Figure 5-8 and Figure 5-9 on the following pages). All major bearings except the disc shaft spindle bearings are identical.

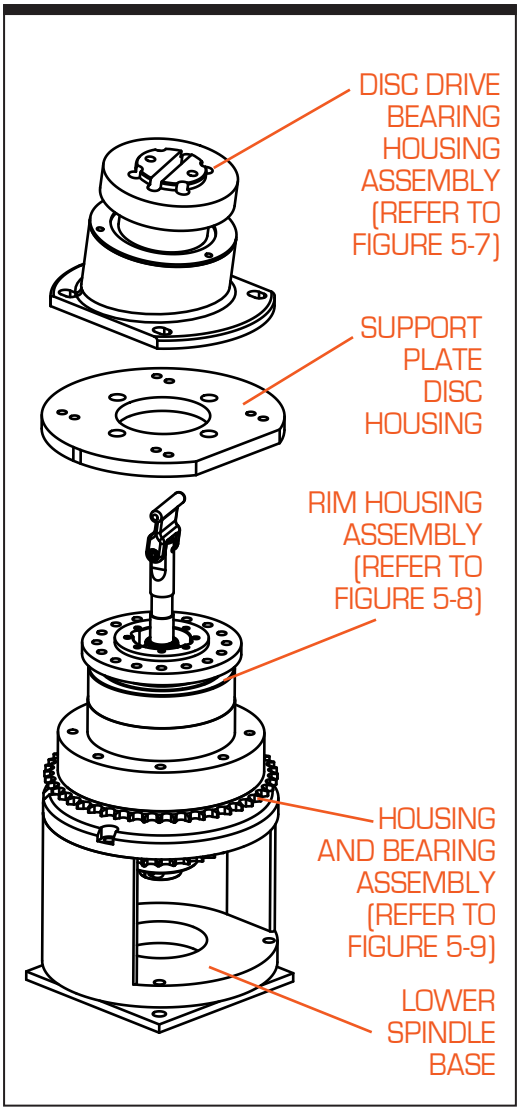

Figure 5-6. Typical Spindle Assembly

Major Bearing Replacement Cautions:

- Eliminate other possible problems before attempting bearing replacement, as substantial disassembly of the feeder is required. Carefully note position of any tooling you remove before you begin. Keep chains clean and dry after removal.
- Most major bearings in the feeders are pre-loaded to prevent play. To prevent binding or excessive free play in the bowl, ensure that all bearing housings and the bearings themselves are clean and free of external grease, dirt, nicks or burrs prior to reassembly. If you accidentally damage critical surfaces of the housings, you may need to replace the entire spindle assembly as a unit.
- Install only 100% identical replacement bearings. In the unlikely event that the bowl will not turn, or that there is play in the bowl when you are done, you may need to replace the spindle assembly as a unit, or contact Shibuya Hoppmann Corporation for assistance.
- To maintain accuracy and prevent play in the bowl, replace both bearings of a pair at the same time. Do not replace only one.
- Do not swap housings (such as the disc shaft spindle bearing housing) from one FT feeder to another, as critical surfaces may have been custom-machined for zero play in the bowl.

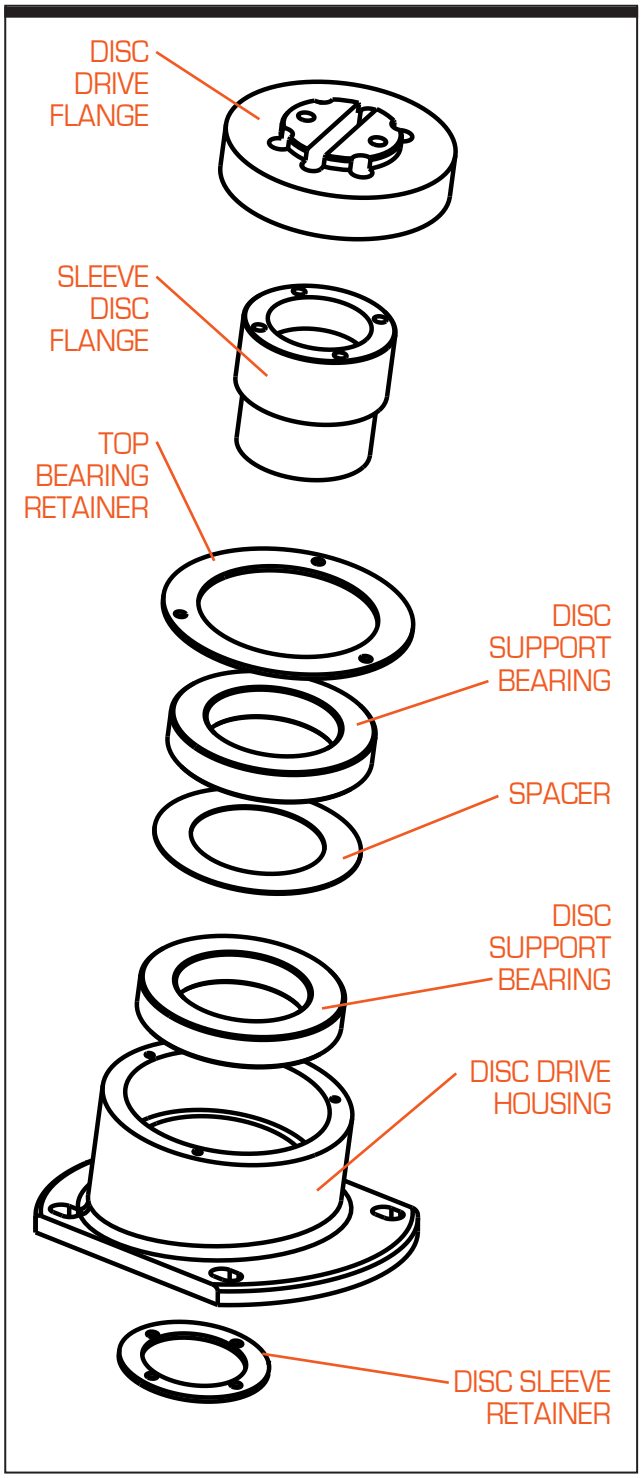

Figure 5-7. Disc Drive Bearing Housing Assembly, Exploded View

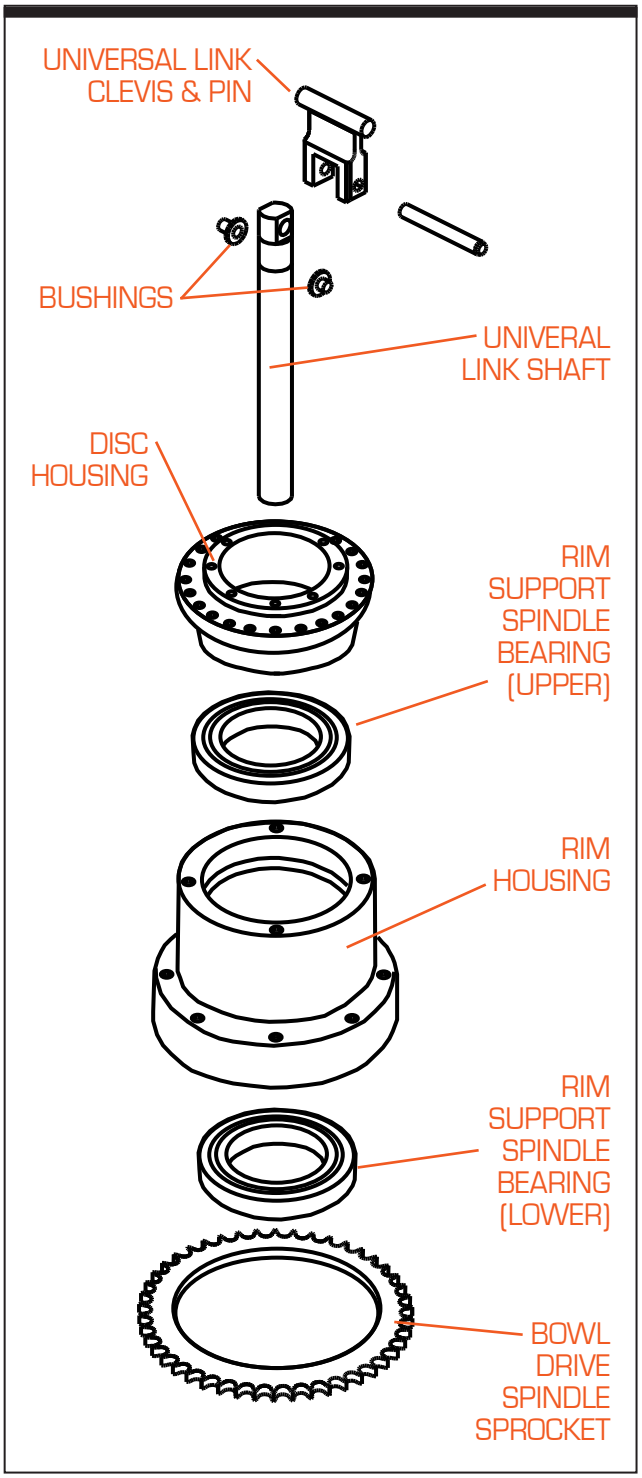

Figure 5-7. Rim Housing Assembly, Exploded View

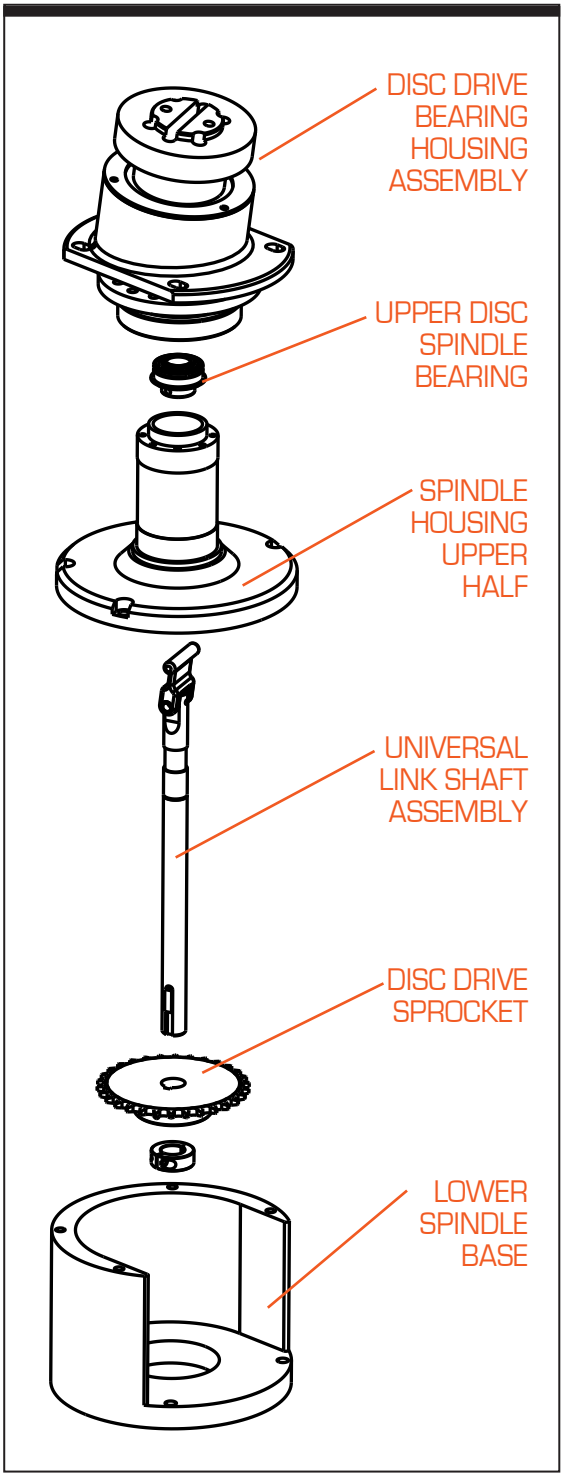

Figure 5-9. Housing and Bearing Assembly - Exploded View

If Product Jams: General Tips

Step 1—Inspect The Feeder. If product jams repeatedly, review the following:

- Is your prefeeder's delivery rate excessive? (The prefeeder should deliver only enough product to the feeder to keep the line running at the required rate.)
- Is the feeder's bowl speed set incorrectly?
- Is there a changeover procedure you have overlooked?
- Is the feeder's main air regulator set incorrectly?

Step 2—Inspect Your Product. After checking the feeder, check to see if your product has changed since the last batch:

- Are they larger? Smaller? A different shape? A different material? Different color? Different quality?
- If you are orienting freshly molded product, have you made a change in how they are released from the mold? (Are they hotter, drier or stickier, for example?)
- Finally, if your product has changed, or if you cannot isolate why your product is jamming, contact your direct supplier for assistance.

Troubleshooting Charts

Refer to the troubleshooting charts on the following pages which detailing common problems and possible solutions.

Troubleshooting		
Problem	Possible Cause	Solution/Action
Feeder won't run at all.	Power is off, or the feeder has been disconnected.	Turn the power on or reconnect power to the feeder.
	Downstream machinery is completely full.	Clear downstream machinery.
	Motor speed controller internal setting changed or defective.	Check the setting and/or replace the motor speed controller and the horsepower resistor.
	Trim pot settings have changed.	Re-calibrate to the motor speed controller manufacturer's specifications.
	Motor is defective.	Replace the motor. Refer to the Replacement Parts in Chapter 6.
Feeder rim or disc does not turn.	Parts jammed in the feeder.	Disconnect power. Locate and remove the jammed part(s). Restart the feeder.
Rate is too low – Parts exit the feeder correctly.	Feeder is "starved" for parts.	Correctly set the prefeeder rate.
		Make sure there are sufficient parts in the prefeeder hopper.
	Feeder is overloaded.	Check the prefeeders speed. Check the prefeeder's time delay relay. Check the bowl level sensor in the feeder.
	Feeder rim speed is incorrect.	Check that the rim speed is set correctly.
Rim, bowl and/or disc jerks when moving.	Motor speed controller internal setting changed or defective.	Check the setting and/or replace the motor speed controller and the horsepower resistor.
	Trim pot settings have changed.	Re-calibrate to the motor speed controller manufacturer's specifications.
	The drive chain is too loose or too tight.	Adjust the drive chain tension. Refer to Chapter 4 for correct setting information.

Troubleshooting		
Problem	Possible Cause	Solution/Action
Rim and disc turn, but parts do not exit properly. Parts continue to jam in the feeder.	The motor speeds are incorrectly set.	Correctly set the rim speed and prefeeder rate.
		Make sure there are sufficient parts in the prefeeder hopper.
	Air is not on to the feeder.	Check the air pressure at the main air pressure regulator. Check to make certain the correct flow is set. Adjust as needed.
	Incorrect (wrong) parts are being run.	Verify that the feeder is correctly set up to run this specific part.
	Parts are different.	Check to make sure the feeder is tooled for this part. See if there are differences in the part (ie: stickier, hotter, etc.)
	Tooling or air jets need adjustment.	Refer to your Systems Operation manual or contact your direct supplier.
Cannot adjust the motor speed high enough.	Motor speed controller internal setting changed or defective.	Check the setting and/or replace the motor speed controller and the horsepower resistor.
	Trim pot settings have changed.	Re-calibrate to the motor speed controller manufacturer's specifications.
	The drive chain is too loose or too tight.	Adjust the drive chain tension. Refer to Chapter 4 for correct setting information.
Surface of the parts is scuffed up or dirty.	Particulate (dust, dirt, etc.) is in the feeder.	Clean the feeder (refer to Chapter 4, Preventive Maintenance, for routine cleaning).
	Parts are already scuffed.	Check upstream equipment.

Replacement Parts

6

Replacement Parts

Replacement parts lists for the Hoppmann FT-40-RD, FT-50-RD and the FT-60-RD Centrifugal Feeders are listed on the following pages. When ordering replacement parts, please reference the model name and number of your feeder located on the serial plate (see Figure 6-1). This helps in making sure you receive the correct replacement parts.

If you received a customized Shibuya Hoppmann system, please refer to your system's Operation Manual when ordering spares, as your system may have been altered.

Having the serial number in addition to the part number you wish to order will help us to accurately assist you in getting the correct parts. You may order your feeder's spare parts directly from Shibuya Hoppmann by email, phone or fax (see the contact information listed below).

Shibuya Hoppmann Spares and Service Department

- **Email**: Spares@Hoppmann.com
- **Phone**: 540.829.2564 (1.800.368.3582)
- **Fax**: 540.829.1726
- **Mail**: Shibuya Hoppmann Corporation
  Attn: Spares Department
  7849 Coppermine Drive
  Manassas, VA 20109 USA
  www.ShibuyaHoppmann.com

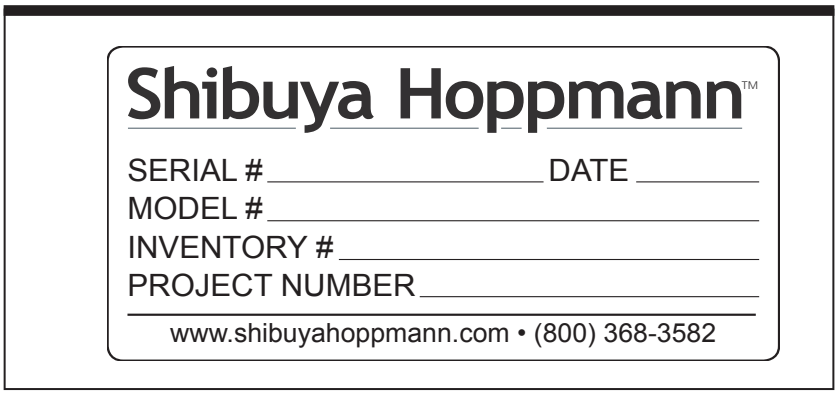

Figure 6-1. Sample Serial Plate (2014)

Critical FT-40-RD Replacement Parts - Single Drive		
Part Number	**Description**	**Qty.**
NMRL500040	AC/DC Drive: Speed Reducer, T/L, 40:1, 56C	1
MOTRPM0102	DC Drive: 1/2hp DC Motor, 90VDC	1
MOTRAC0050-M	AC Drive: 1/2hp AC Motor, 230/460 (Motovario)	1
MOTRAC0050	AC Drive: 1/2hp AC Motor, 230/460 (Baldor)	1

FT-40-RD Centrifugal Feeder - Single Drive		
Part Number	**Description**	**Qty.**
BRNGASSY01	Bearing Insert, 25mm Cylindrical	2
BRNGBALL07	Ball Bearing, Double Seal	4
SPKTMB5030	Sprocket, 25mm Bore, SS/KW	1
FT500800	Bowl Drive Sprocket	1
FT500M9006	Disc Drive Flange	1
FT500Z1001-01	Weldment, Idler Sprocket (With Bushings)	1
CHANCS5063	#50 Chain, 63 Links, 39.375" Long	1
CHANCS5101	#50 Chain, 101 Links, 63.125" Long	1
SPKTM54225	Sprocket, 50BS42 x 25mm Fin Bore	1
MFT500900	*Idler Sprocket, FT40/50, #50, 30 Teeth (Former Style)	1
MFT501000	*Idler Sprocket, FT40/50, #50, 22 Teeth (Former Style)	1

Please note that this list may not apply to all variations of your feeder. Please refer to your serial plate for additional information, and provide the serial number information to the Customer Service Representative when requesting spares.

BLUE = DC MOTOR (FT401RLDSA)
RED = AC MOTOR (FT401RLASA)
*FORMER STYLE IDLER ASSY.

Critical FT-40-RD Replacement Parts - Dual Drive

Part Number	Description	Qty.
NMRL500040	AC/DC Drive: Speed Reducer, T/L, 40:1, 56C	2
MOTRPM0102	DC Drive: 1/2hp DC Motor, 90VDC	2
MOTRAC0050-M	AC Drive: 1/2hp AC Motor, 230/460 (Motovario)	2
MOTRAC0050	AC Drive: 1/2hp AC Motor, 230/460 (Baldor)	2

FT-40-RD Centrifugal Feeder - Dual Drive

Part Number	Description	Qty.
BRNGASSY01	Bearing Insert, 25mm Cylindrical	2
BRNGBALL07	Ball Bearing, Double Seal	4
SPKTMB5030	Sprocket, 25mm Bore, SS/KW	1
FT500800	Bowl Drive Sprocket	1
FT500M9006	Disc Drive Flange	1
CHANCS5063	#50 Chain, 63 Links, 39.375" Long	1
CHANCS5079	#50 Chain, 79 Links, 49.375" Long	1
SPKTM54225	Sprocket, 50BS42 x 25mm Fin Bore	1
SPKTM52425	Sprocket, 50BS24 x 25mm Fin Bore	1

Please note that this list may not apply to all variations of your feeder. Please refer to your serial plate for additional information, and provide the serial number information to the Customer Service Representative when requesting spares.

BLUE = DC MOTOR (FT402RLDSA)
RED = AC MOTOR (FT402RLASA)

Critical FT-50-RD Replacement Parts - Single Drive		
Part Number	**Description**	**Qty.**
NMRL500040	AC/DC Drive: Speed Reducer, T/L, 40:1, 56C	1
MOTRPM0102	DC Drive: 1/2hp DC Motor, 90VDC	1
MOTRAC0050-M	AC Drive: 1/2hp AC Motor, 230/460 (Motovario)	1
MOTRAC0050	AC Drive: 1/2hp AC Motor, 230/460 (Baldor)	1

FT-50-RD Centrifugal Feeder - Single Drive		
Part Number	**Description**	**Qty.**
BRNGASSY01	Bearing Insert, 25mm Cylindrical	2
BRNGBALL07	Ball Bearing, Double Seal	4
SPKTMB5030	Sprocket, 25mm Bore, SS/KW	1
FT500800	Bowl Drive Sprocket	1
FT500M9006	Disc Drive Flange	1
FT500Z1001-01	Weldment, Idler Sprocket (With Bushings)	1
CHANCS5063	#50 Chain, 63 Links, 39.375" Long	1
CHANCS5101	#50 Chain, 101 Links, 63.125" Long	1
SPKTM53525	Sprocket, 50BS35 x 25mm Fin Bore	1
MFT500900	*Idler Sprocket, FT40/50, #50, 30 Teeth (Former Style)	1
MFT501000	*Idler Sprocket, FT40/50, #50, 22 Teeth (Former Style)	1

Please note that this list may not apply to all variations of your feeder. Please refer to your serial plate for additional information, and provide the serial number information to the Customer Service Representative when requesting spares.

BLUE = DC MOTOR (FT501RLDSA)
RED = AC MOTOR (FT501RLASA)
*FORMER STYLE IDLER ASSY.

Critical FT-50-RD Replacement Parts - Dual Drive

Part Number	Description	Qty.
NMRL500040	AC/DC Drive: Speed Reducer, T/L, 40:1, 56C	2
MOTRPM0102	DC Drive: 1/2hp DC Motor, 90VDC	2
MOTRAC0050-M	AC Drive: 1/2hp AC Motor, 230/460 (Motovario)	2
MOTRAC0050	AC Drive: 1/2hp AC Motor, 230/460 (Baldor)	2

FT-50-RD Centrifugal Feeder - Dual Drive

Part Number	Description	Qty.
BRNGASSY01	Bearing Insert, 25mm Cylindrical	2
BRNGBALL07	Ball Bearing, Double Seal	4
SPKTMB5030	Sprocket, 25mm Bore, SS/KW	1
FT500800	Bowl Drive Sprocket	1
FT500M9006	Disc Drive Flange	1
CHANCS5065	#50 Chain, 65 Links, 40.625" Long	1
CHANCS5079	#50 Chain, 79 Links, 49.375" Long	1
SPKTM53525	Sprocket, 50BS35 x 25mm Fin Bore	1
SPKTM52625	Sprocket, 50BS26 x 225mm Fin Bore	1

Please note that this list may not apply to all variations of your feeder. Please refer to your serial plate for additional information, and provide the serial number information to the Customer Service Representative when requesting spares.

BLUE = DC MOTOR (FT502RLDSA)
RED = AC MOTOR (FT502RLASA)

Critical FT-60-RD Replacement Parts - Single Drive		
Part Number	**Description**	**Qty.**
NMRL630040	AC/DC Drive: Speed Reducer, 40:1, 56C	1
MOTRPM0304	DC Drive: 3/4hp Motor, 90VDC	1
MOTRAC0075-M	AC Drive: 3/4hp AC Motor, 230/460 (Motovario)	1
MOTRAC0075	AC Drive: 3/4hp AC Motor, 230/460 (Baldor)	1

FT-60-RD Centrifugal Feeder - Single Drive		
Part Number	**Description**	**Qty.**
BRNGASSY01	Bearing Insert, 25mm Cylindrical	2
BRNGBALL07	Ball Bearing, Double Seal	4
SPKTMB5030	Sprocket, 25mm Bore, SS/KW	1
FT500800	Bowl Drive Sprocket	1
FT500M9006	Disc Drive Flange	1
FT500Z1001-01	Weldment, Idler Sprocket (With Bushings)	1
CHANCS5063	#50 Chain, 63 Links, 39.375" Long	1
CHANCS5101	#50 Chain, 101 Links, 63.125" Long	1
SPKTM53525	Sprocket, 50BS35 x 25mm Fin Bore	1
MFT500900	*Idler Sprocket, FT40/50, #50, 30 Teeth (Former Style)	1
MFT501000	*Idler Sprocket, FT40/50, #50, 22 Teeth (Former Style)	1

Please note that this list may not apply to all variations of your feeder. Please refer to your serial plate for additional information, and provide the serial number information to the Customer Service Representative when requesting spares.

BLUE = DC MOTOR (FT601RLDSA)
RED = AC MOTOR (FT601RLASA)
*FORMER STYLE IDLER ASSY.

Critical FT-60-RD Replacement Parts - Dual Drive

Part Number	Description	Qty.
NMRL500040	AC/DC Drive: Speed Reducer, Disc, 40:1, 56C	1
NMRL630040	AC/DC Drive: Speed Reducer, T/L, Bowl, 40:1, 56C	1
MOTRPM0102	DC Disc Drive: 1/2hp Motor, 90VDC	1
MOTRPM0304	DC Bowl Drive: 3/4hp Motor, 90VDC	1
MOTRAC0050-M	AC Disc Drive: 1/2hp AC Motor, 230/460 (Motovario)	1
MOTRAC0050	AC Disc Drive: 1/2hp AC Motor, 230/460 (Baldor)	1
MOTRAC0075-M	AC Bowl Drive: 3/4hp AC Motor, 230/460 (Motovario)	1
MOTRAC0075	AC Bowl Drive: 3/4hp AC Motor, 230/460 (Baldor)	1

FT-60-RD Centrifugal Feeder - Dual Drive

Part Number	Description	Qty.
BRNGASSY01	Bearing Insert, 25mm Cylindrical	2
BRNGBALL07	Ball Bearing, Double Seal	4
SPKTMB5030	Sprocket, 25mm Bore, SS/KW	1
FT500800	Bowl Drive Sprocket	1
FT500M9006	Disc Drive Flange	1
CHANCS5065	#50 Chain, 65 Links, 40.625" Long	1
CHANCS5079	#50 Chain, 79 Links, 49.375" Long	1
SPKTM53525	Sprocket, 50BS35 x 25mm Fin Bore	1
SPKTM52625	Sprocket, 50BS26 x 25mm Fin Bore	1

Please note that this list may not apply to all variations of your feeder. Please refer to your serial plate for additional information, and provide the serial number information to the Customer Service Representative when requesting spares.

BLUE = DC MOTOR (FT602RLDSA)
RED = AC MOTOR (FT602RLASA)

Notes

Warranty

7

Warranty

Shibuya Hoppmann Corporation warrants that each item of its own manufacture delivered hereunder shall, at the time of delivery and for a period of twelve (12) months thereafter, be free from defects in materials or workmanship; and if any such item shall prove to be defective in material or workmanship under normal intended usage and maintenance during the warranty period, upon examination by Shibuya Hoppmann Corporation, then Shibuya Hoppmann Corporation shall repair or replace, at its sole option, such defective item at its own expense; provided, however, that the owner shall be required to ship such defective item, freight prepaid, to Shibuya Hoppmann Corporation's plant in Madison Heights, Virginia. The warranty on components not manufactured by Shibuya Hoppmann Corporation, but a part of the feeder, is limited to the warranty provided by the original manufacturer of said components to the extent, and only to the extent, that such original manufacturer actually honors such warranty.

ALL WARRANTIES HEREUNDER ARE EXPRESSLY LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE ITEMS AS SET FORTH HEREIN, AND IN NO EVENT SHALL SHIBUYA HOPPMANN CORPORATION BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES BY REASON OF ANY BREACH OF WARRANTY OR DEFECT IN MATERIAL OR WORKMANSHIP. SHIBUYA HOPPMANN CORPORATION SHALL NOT BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ITEMS WHICH HAVE BEEN SUBJECTED TO NEGLECT, ACCIDENT OR IMPROPER USE, OR WHICH HAVE BEEN ALTERED BY OTHER THAN AUTHORIZED SHIBUYA HOPPMANN CORPORATION PERSONNEL.

THIS WARRANTY IS IN LIEU OF OTHER WARRANTIES, EXPRESS OR IMPLIED. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXCLUDED.

Shibuya Hoppmann™

Shibuya Hoppmann offers a wide selection of products:

- Hoppmann Centrifugal Feeders™
- Prefeeders
- Continuous Motion Assembly
- Placement Systems
- Fillers and Cappers
- Conveyors
- Product Handling Equipment
- Aseptic Filling Systems
- Labelers
- Decontamination Equipment
- Intermittent Motion Assembly
- Integrated Product Lines

Headquarters
7849 Coppermine Dr.
Manassas, VA
20109
540.829.2564 t
800.368.3582 t
540.829.1726 f

Sales
1445 Brookville Way
Suite F
Indianapolis, IN 46239
317.322.0754 t
800.368.3582 t
317.322.0794 f

Manufacturing
291 Dillard Road
Madison Heights, VA
24572
434.929.4746 t
800.543.0915 t
434.929.4959 f

FT Series_12.2014