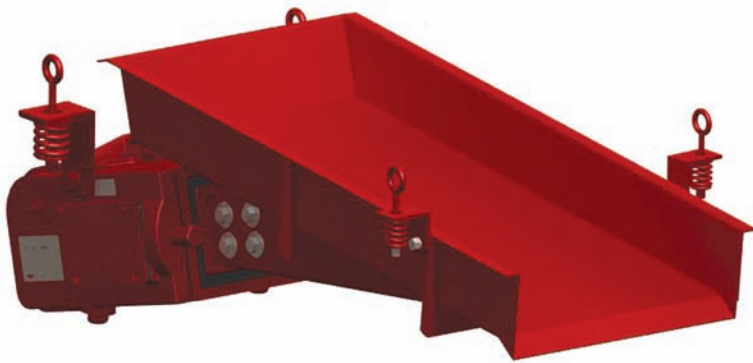




We put you first.
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Service Manual



Syntron®
Electromagnetic Vibratory Feeder
Model: FH-22-C

Syntron® Electromagnetic Vibratory Feeder

Model: FH-22-C

Spring Replacement

Parts List

Magnet Replacement

Operating Specifications

FMC Technologies Inc. reserves the right to make changes at any time, without notice and without any liability or other obligation on its part, in material, equipment, specifications and model. FMC Technologies also reserves the right to discontinue the manufacture and sale of models, and the parts and components thereof. For further detailed Information, contact FMC Corporation, Material Handling Equipment Operation.



Safety Instructions: Product safety labels must remain highly visible on the equipment. Establish a regular schedule to check visibility. Should safety labels require replacement contact FMC Technologies, Inc. Material Handling Solutions for an additional supply free of charge.

SPRING REPLACEMENT GUIDE

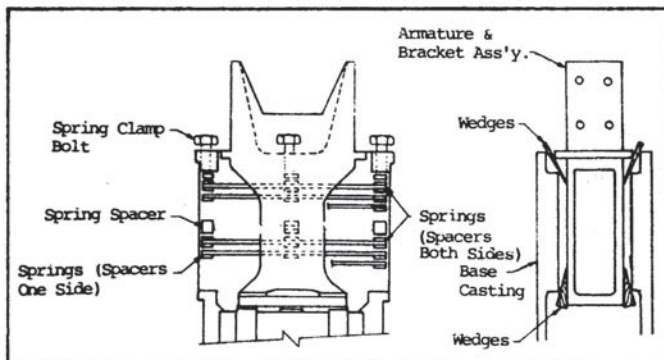


WARNING: Before performing any maintenance work the electrical supply must be disconnected at the safety disconnect switch.



CAUTION: If the trough must be removed to gain access to the spring clamping bolts, first provide a means of supporting the trough and drive unit. The trough can be removed by removing the mounting bolts located on the side of the wing plates.

1. Remove side covers (U), remove magnet cover (T). If the springs are replaced without separating the drive unit from the trough, slit the diaphragm (F) to gain access to install hardwood wedges.
2. Hold armature bracket in alignment with the base casting by driving hardwood wedges between the armature bracket (E) and the base casting (R). This will insure correct alignment of the replacement springs on the spring alignment bar (N).



3. Loosen the spring clamping bolts (J) enough to permit removal of the clamping blocks (K). If necessary, use penetrating oil.
4. With the clamp blocks removed the leaf springs (M & Q) can be removed and examined.
5. When installing springs, the spring with spacers on BOTH SIDES must be placed in the spring cavity last, the other springs will have a spacer on ONLY ONE SIDE. Insert these springs so the spacer side will contact the plain side of the

previously placed spring. If spring spacers (P) are used, replace them in their original position, then install the remaining springs, replacing the spring with spacers on both sides last.


6. With all springs installed and resting on the alignment bars (N) check alignment of armature bracket (E). The armature bracket should not be twisted within the base casting. The core and armature "pole faces" should be parallel to each other.

7. Replace the center clamp block (K) and torque center spring clamping bolt (J). Refer To torque specifications on page 7.
8. Replace the end clamp blocks (K) and tighten the end clamp bolts enough to hold the spring stack in position.
9. Torque end spring clamping bolts (J) alternately to equalize the pressure across the springs (780 ft. lbs.).
10. Remove wooden wedges and replace trough, if removed.
11. Adjust the air gap to .080 - .085". See the "Air Gap" section of Service Manual SM0570 or SM0572 for procedure. Replace covers (T & U).
12. Connect the power supply. After the unit has bee operating for several hours, check clamping bolts for tightness.



CAUTION: Never oil the spring assembly!

MAGNET REPLACEMENT

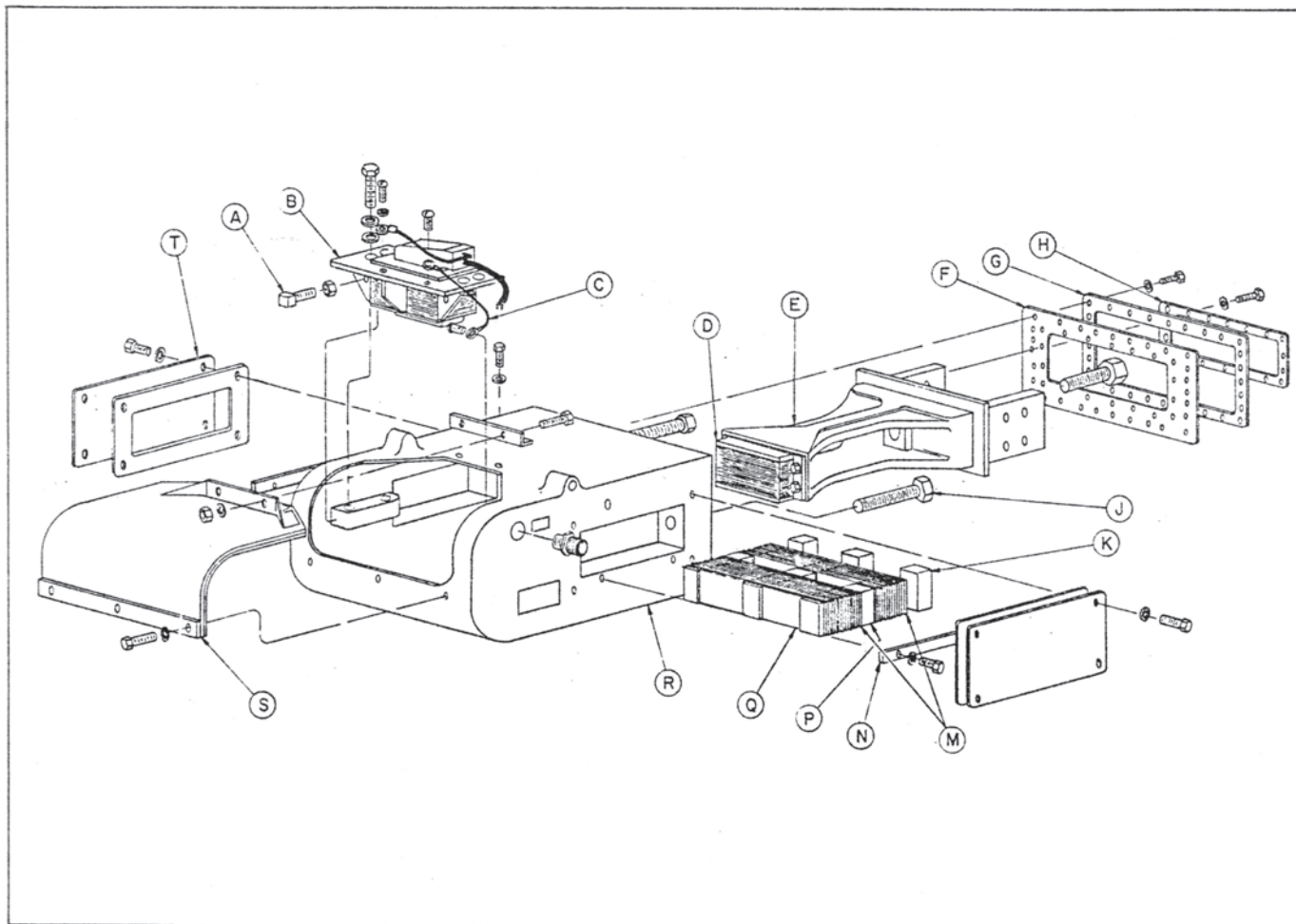
 **WARNING:** Before performing any maintenance work, the electrical power supply must be disconnected at the safety disconnect switch.

1. Remove back cover (T).
2. Loosen hex nut on set screw (A) and remove set screws.
3. Disconnect cable assembly from the power supply, loosen cable grip entering base casting (R) and pull cable through cable grip into the base casting.
4. Remove the four (4) core clamping bolts from magnet assembly (B).
5. While carefully removing the magnet assembly, check for the presence of shims between the magnet and base casting. Any shims must be replaced in original locations to ensure pole face alignment. If magnet is replaced, it may be necessary to shim for proper pole alignment.



CAUTION: The magnet assembly weighs approximately 35 pounds

6. Observe the location of washers used connect the ground wire.
7. Connect the green ground lead to replacement magnet at its original location. Be sure to locate the shakeproof lockwasher between the terminal and the core.
8. Replace magnet into the base casting using all original shims at the same locations. Replace magnet mounting bolts.
9. Close air gap so that pole faces of magnet and armature are in contact. Snug down the clamping bolts to hold the core in place to offer some resistance when turning in the set screws to adjust the air gap. Check from both top and bottom that core and armature faces are parallel. Eliminate any gap by using shims between magnet and mounting lugs on the base casting.
10. Insert cable through cable grip and reconnect cable leads to the power supply. Ensure ground connection between core and base casting is securely connected.
11. Adjust air gap to .080 - .085". See "The Air Gap" section of Service Manual No. SM0570 or SM0572 for procedure.
12. Torque the magnet bolts, refer to page 7.
13. Replace the cover (T).
14. Check trough stroke – maximum allowable is .050".



PARTS LIST – VIBRATORY FEEDER MODEL: FH-22-C

ITEM	DESCRIPTION	QTY	PART NO.
A	Set Screw, Sq. Hd. , Cup Pt. (3/8"-16 x 1 1/2")	2	H0403200
	Hex Nut (3/8"-16)	2	H0103001
B	Magnet Assembly (230 V)	1	D-212245-C
	Magnet Assembly (460 V)	Only	D-212245-E
	Magnet Assembly (575 V)		D-212245-F
	Cap Screw, Hex Hd. Gr. 5 (5/8"-18 x 1 3/4")	4	H0318701
	H.S. Clipped Washer (5/8")	4	A-800097-2
C	Core Alignment Shims	2	A-34981-A
	Ground Jumper	1	B-192419-H
	Mach. Screw, Rd. Hd., Br. (1/4"-20 x 1 1/2")	2	H0204902
	Lockwasher, Ext. Tooth (1/4")	2	H0114904
D	Armature Assembly	1	A-118669
	Cap Screw, Soc. Hd. (3/8"-16 x 1 1/4")	4	H0421900
E	Armature Bracket Casting	1	C-57803-A
F	ΔDiaphragm	1	A-59132G
G	ΔDiaphragm Clamp (Base Casting)	1	B-28754
	ΔCap Screw, Hex Hd. (1/4"-20 x 3/4")	14	H0301201
	ΔLockwasher (1/4")	14	H0112801
H	ΔDiaphragm Clamp (Armature Bracket)	1	B-59130
	ΔCap Screw, Hex Hd. (1/4"-20 x 3/4")	10	H0301201
	ΔLockwasher (1/4")	10	H0112801
J	Spring Clamping Screw	3	A-59131
K	Spring Clamp Block	3	A-129010-C
M	End Leaf spring	2	A-129026
N	Spring Aligning Bar	2	A-129014
	Cap Screw, Hex Hd. (5/16"-18 x 5/8")	4	H0306601
	Lockwasher, Ext. Tooth (5/16")	4	H0113004
P	Spring Spacer Assembly	1	A-129015
Q	Leaf Spring Assembly	25	A-129025
R	ΔBase Casting	1	D-190286-3
	Base Casting	1	D-190286-5
	Cable Grip	1	0102X008
	Bracket	1	A-74118
	Cap Screw, Hex Hd. (3/8"-16 x 1")	2	H0310201
S	■Name Plate	1	A-97298
	Drive Screw, P.K. Ty U (#2 x 3/16")	4	H0430500
T	Magnet Cover Assembly	1	B-126476
	Cap Screw, Hex Hd. (5/16"-18 x 1")	3	H0307201
	Lockwasher (5/16")	3	H0113001
	Cap Screw, Hex Hd. (3/8"-16 x 3")	2	H0311401
	Hex Nut (3/8"-16)	2	H0103001
U	Lockwasher (3/8")	2	H0113201
	ΔSide Cover	2	A-75119
	ΔGasket	2	B-204543-1
	ΔCap Screw, Hex Hd. (5/16"-18 x 1")	8	H0307201
	ΔLockwasher (5/16")	8	H0113001

Δ Used on Dust-Tight Units Only

■ Do not remove or paint over safety labels. Should safety labels require replacement, contact FMC Technologies, Inc. Material Handling Solutions, Tupelo, MS 38802 1-800-356-4898 for an additional supply free of charge.

When ordering parts, please furnish all the information on the nameplate.

OPERATING SPECIFICATIONS

Maximum trough weight:	140 Lbs.
Trough stroke range: (Max. Trough Weight)	.050"
Minimum Natural Frequency:	4050 VPM (60 Cy)
*Maximum Current Rating: (nameplate)	10 Amps (230V/60 Cy) 5 Amps (460V/60 Cy) 4 Amps (575V/60 Cy)
Nominal Static Air Gap	.060"

TORQUE SPECIFICATIONS

ITEM	TORQUE VALUE DRY	TORQUE VALUE LUBRICATED
B	180 Ft-Lbs	130 Ft-Lbs
D	30 Ft-Lbs	23 Ft-Lbs
J	-----	780 Ft-Lbs

- When reading the current of the unit by using a tong meter, the meter reading must always be multiplied by a value of 1.7. A tong meter does not reveal the same current as stamped on the equipment nameplate due to the waveform characteristics of the feeder, when operating. Therefore, the 1.7 multiplier must be used. All current readings must be taken at the controller.

SM0549-082813



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