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OPERATION AND MAINTENANCE INSTRUCTIONS

Model SFM - 7 3/4"

Conair Gatto Straw Flexing Machines

UGE023/0597

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Assembly Prints.....Enclosed

#D-SFM-168 - Feed Drum Assembly
#D-SFM-210 - Gear Box Assembly
#D-SFM-223 - Pusher Assembly
#D-SFM-229 - Mandrel Straw Load
#D-SFM-230 - Conveyor Assembly

Electrical Schedule #D-SFM-299.....Enclosed

Electrical Drive Manual.....Enclosed

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INTRODUCTION

The Conair Gatto Model SFM-7 3/4" Straw Flex Machines are designed to produce a corrugated section in a plastic drinking straw for a flexible elbow. The straw specifications should be as follows:

Inside Diameter - .230" to .232"
Wall Thickness - .0075" +/- .0005"
Length - 8 1/4" +/- .032" before flexing
7 1/2" after flexing

For best machine operation, an effort should be made in producing a good quality, straight straw.

GENERAL DESCRIPTION

The Conair Gatto Straw Flex Machine is a secondary off-line process which enables the manufacturer maximum versatility. The machine is designed with a production rate of flexing 630 straws per minute with capability of 830 per minute. The unit frame is of welded steel construction with removable side panels. The machine uses high speed steel and aluminum materials with sheet metal guards. The unit weights approximately 1,100 pounds with dimensions as follows:

Length = 62", Width = 22", Height = 60"

The outfeed conveyor measures 12" x 48"

OPERATION

The operator must load the straws to be flexed into the hopper. The hopper feed has a positive drive mechanism which feeds into a rotary multiple spindle arrangement for processing through the phases of heating, forming and finishing of the corrugated section. The straws are then picked up by an outfeed conveyor to move the flexed straw into a convenient collecting station for removal by the operator.

SET-UP

First remove crating from the machine and visually inspect the unit for any damage, loose nuts, bolts, etc. The unit must be carefully lifted and moved into position using a forklift or hi-lo machine. Once in position, the machine should be leveled to the floor.

Be certain that the "power on" switch is <u>off</u> and the power supply connector is of the proper voltage (same as listed on disconnect plug and machine panel), before connecting machine.

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CAUTION: The Conair Gatto Straw Flex Machine should not be operated for any long period of time at high speeds without straws. Damage to mandrels or die-segment or both, could result.

The primary machine controls are as follows:

Power-on switch, start button, stop button, jog button and speed potentiometer with turn dial, all of which are located on the control console.

The only other main control apparatus is the clutch handle which is located on the right side of the hopper assembly. There is also a safety interlock switch which will prevent the machine from operating without straws.

A temperature controller is to maintain proper temperature on die heaters.

CAUTION: The power-on switch should not be left on for hours at a time without the drive running. With the power switch ON, the field on the motor is constantly hot. If motor is not running, there could be excessive heat build-up and the motor damaged.

START-UP

Turn "Power-On" switch ON. Set controller to a pre-determined temperature. While die segment is heating, manually place straws in hopper. With the clutch handle in the disengaged position (to the right away from the operator). Jog machine slowly above 20%. This will allow the feed section of the hopper to fill. The operator should make sure the straws come down straight. If not, straws will jam-up on drum assembly.

Check to see that heat is up to pre-set temperature. Machine is now ready to run.

Slowly jog machine (about 20%) for about 10 revolutions of drum assembly. Approximately 20 to 30 seconds. This will allow mandrels that are not in direct contact with die to pre-heat. Then engage clutch handle (to the left, towards operator). Straws will now start feeding down to drum assembly. As soon as straws come in contact with safety switch (rear-bottom-left-side), machine will run automatic. Operator can now set machine to desired run speed.

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PUSHER ASSEMBLY

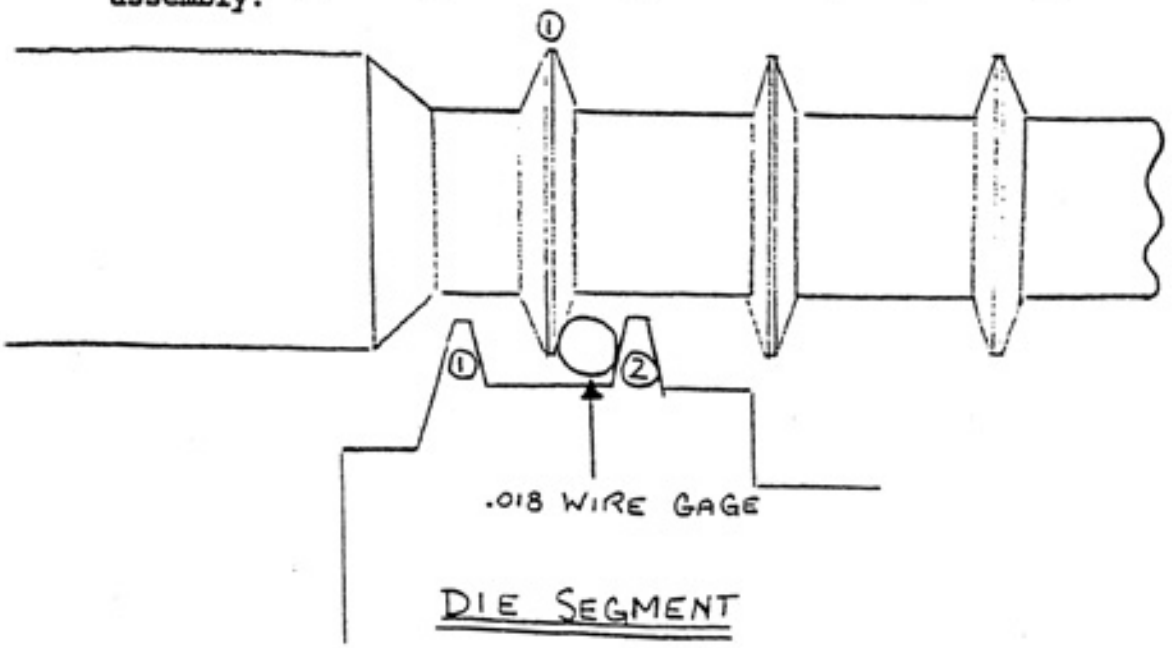
(DSFM-223)

Mandrel Replacement

C A U T I O N !

Disconnect electrical power to this machine and make sure all machine motion has stopped before servicing.

Remove housing to bushing assembly, Item 26. Then hold collet, Item 19, with a 1/2", open-end wrench and loosen black octagon tightening nut, item 11. Mandrel can now be removed by sliding out. Insert new mandrel and rotate assembly by hand. This is done by rotating timing belt pulley on motor. Care should be taken when mandrel is approaching die that fins do not match. See illustration. When mandrel is seated on die assembly, insert wire gauge between first fin on mandrel and second fin on die segment, wire gauge should just fit with no excessive clearance. Lock mandrel in place by tightening black octagon nut. Replace housing and bushing assembly.



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CARTRIDGE HEATER REPLACEMENT

C A U T I O N - Disconnect electrical power to this machine before servicing.

The heaters do not operate independently. There are eight cartridge heaters controlled by one controller. Each cartridge heater has its own AMP meter. If any heater should malfunction, it can be checked by its own AMP meter.

Example: If a heater is bad, the amp meter on the same line will not register any amp load. It will read zero. Double check with power off by checking continuity on 2 leads of heater.

To replace a heater, a certain number of mandrels have to be removed to provide a reasonable working area. Each heater is locked tight with a 10-32 buttonhead screw. Remove screw, remove heater, disconnect appropriate wires. Rewire new heater, reset in reamed hole and lock in with screw. Make sure new wiring is taped and insulated. Turn power back on. Amp meter should now register proper amp load. Replace mandrels and reset proper fin clearance.

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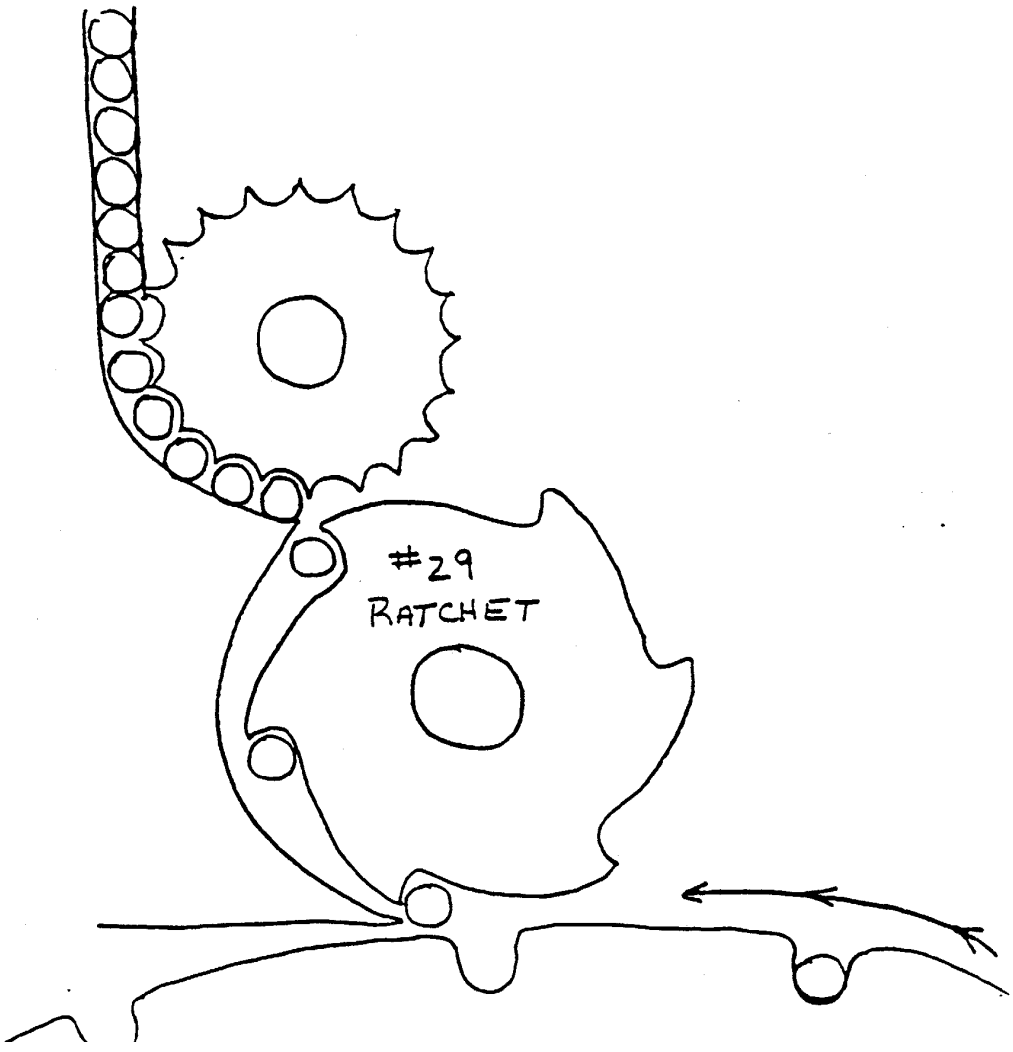
STRAW FEED TO DRUM TIMING
GEAR BOX ASSEMBLY - #D-SFM-210

This adjustment, if ever needed, is done by:

Holding Gear Shaft "7" at two milled flats at any one exact position. Then loosen 3/8" Socket Head Screw "4". Then advance, or back-off, gear shaft so that straw falls into groove on drum freely without hanging up on either front or back edge of groove. Again holding shaft firmly in this position, retighten 3/8" Socket Head Screw. When making this adjustment, the Ratchet "29", (see illustration) is either advanced or backed-off, for proper timing and alignment.



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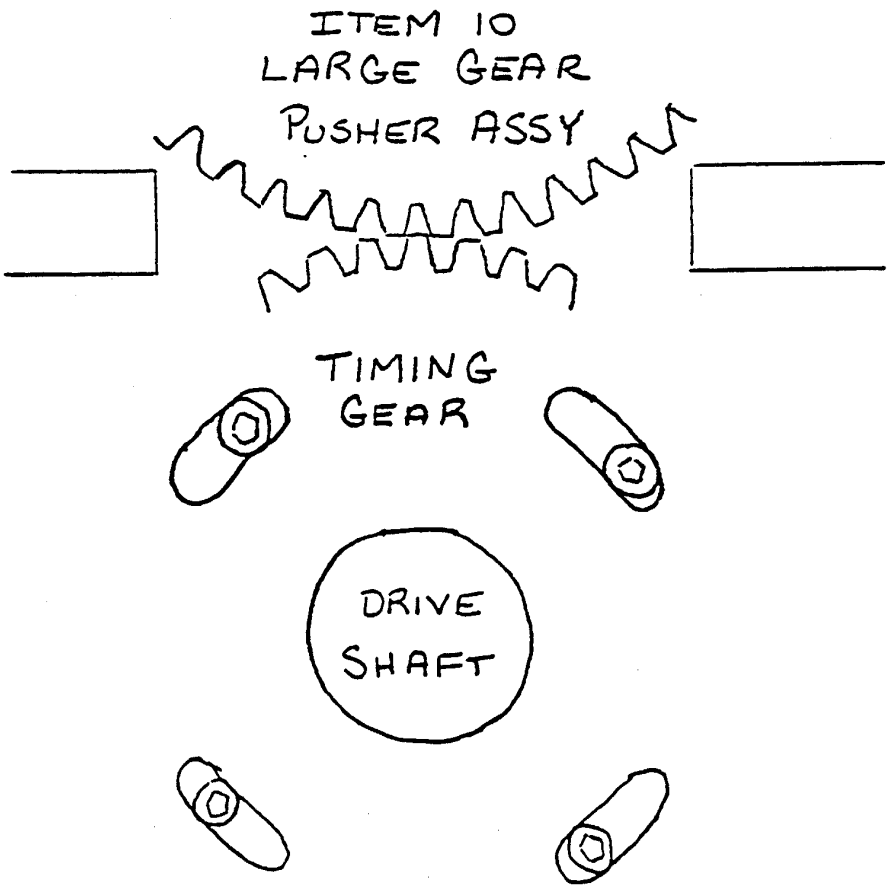
MANDREL TO DRUM ALIGNMENT

Using a STRAIGHT straw, insert into drum assembly slot. Slide towards mandrel. Mandrel must enter straw dead center. If this alignment is off, adjustment is made by advancing, or retarding, small timing gear, spur, located directly under the main plate and meshing with large gear ITEM 10. Loosen 4 Allen cap screws and adjust to exact alignment. Retighten 4 Allen caps screws.



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CAM FOLLOWER REPLACEMENT

#D-SFM-223 - PUSHER ASSEMBLY

Align defective cam follower with removable tab on drum assembly.

Remove 1/4 - 28 Hex Head Screw "25". Remove housing and bushing assembly. Remove keyed pusher "3" by sliding back. Replace cam follower and reassemble.

CAUTION: Make sure to realign mandrel to die assembly. Before running. NOTE: Use loctite on threads when replacing.

#D-SFM-168 - FEED DRUM ASSEMBLY

This pusher assembly has two cam followers - one on top and one on bottom. If top one is defective, remove by inserting Allen key on top and Allen key from inside of drum to remove Allen nut "14". Replace with new one. If bottom one is defective, top one still has to be removed. After removal slide pusher assembly to the right until bottom Allen nut "14" is visible. Again use 2 Allen keys to remove.

NOTE: Use loctite on threads when replacing.

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HELICAL DRUM - HEIGHT ADJUSTMENT
#D-SFM-229 - MANDREL STRAW LOAD ASSEMBLY

This adjustment is factory set. Before changing settings, these items should be checked.

a. Straw Quality
b. Length
c. Diameter Consistency
d. Wall Thickness

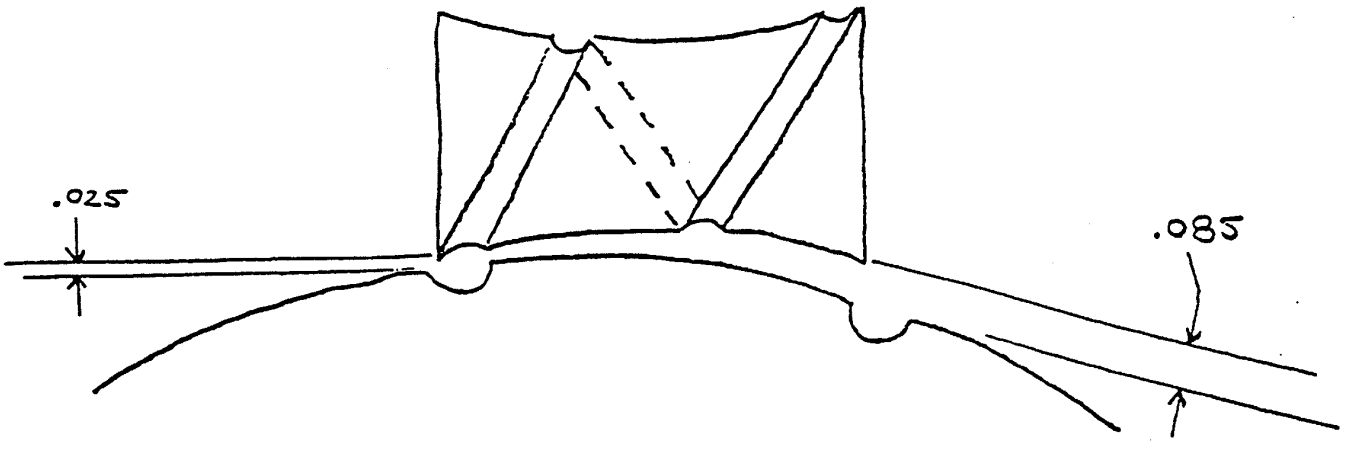
All above items relate to parts going on and bottoming out on drum assembly. If adjustment must be made, refer to illustration showing approximate dimensions. These might vary slightly due to possible accumulation of manufacturing tolerances.

Loosen set screws on coupling "28". Loosen two 1/4-20 socket cap screws - "47" slightly. Then using brass or aluminum (only) rod as pry bar move base "2" up or down approximately .005 at a time until proper height has been reached. After each adjustment has been made, retighten "28" and "47" before testing, otherwise adjustments will not be accurate.

If too much pressure is applied to straw, the outcome is the same as not enough pressure.

a. Too much pressure - More surface drag and drum cannot pull straw.

b. Not enough pressure - Not enough surface contact to pull straw evenly.



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GENERAL MAINTENANCE:

The Gatto Straw Flex Machine was designed for continuous operation with a minimum amount of maintenance. Keep the machine clean and well lubricated and it will remain in good working condition.

1. Belts - Timing belts should be kept taut. Replace worn or frayed belts.

2. Hub City Reducer - 600 weight cylinder oil should be changed every six months.

3. All gears, chain and sprockets should be coated with a light chassis type grease once a month.

4. Cam followers and cam tracks should be oiled once a week with a light, 30 wt., non-detergent oil.
   NOTE: Be careful not to get any grease on drum.

5. All the bearings and idler shafts have grease fittings and should be packed once every two weeks, including the three 1 1/4" Dodge Pillow Block bearings located on undercarriage.

6. The Boston Angle drive assemblies #3551-01716 are pre-lubricated and sealed at the factory and require no maintenance.

RESIN FORMULATION:

This information shows typical properties and characteristics ONLY and is NOT to be used for specifications purposes. There is not guarantee expressed or implied.

Satisfaction has been achieved at our facilities under varying conditions using the following resin formulation.

Polypropylene - 50 pounds
White Concentrate (masterbatch) - 375 grams

Blend (Tumble Mix) 15 minutes.

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NOTE: When ordering spare parts, always reference machine serial and model numbers.

MODEL SFM - 7.5 STRAW FLEX MACHINE

DESCRIPTION	PART NUMBER
Forming Mandrel	0845-00239
Form Die Assembly	0845-03149
D. C. Drive Module	1531-01091
Bushing Housing Assy.	0845-03556
Bronze Bushing Only	0845-03521
Housing Only	0845-03513
Temp. Controller	1534-00045
Cartridge Heater	1556-00022
Fuse - FNM4	1552-00524
Fuse - FMN 6/10	1552-01296
Fuse - MDL1	1552-01849
Fuse - KTK15	1552-00044
Cam Follower	3501-00263
Timing Belt Hopper (170XL-037)	3512-00818
Timing Belt Hopper (130XL-037)	3512-00826
Timing Belt - Drive	3512-01024
Bearing	3558-00693
Thermocouple	1628-00553
Deionizer	1597-00061