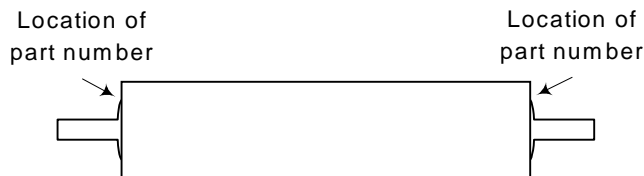


GBC Films Group
 4151 Anderson Rd.
 Madison, WI 53704
 Tel: 608-246-8844
 Fax: 608-246-8645

Information Section

This section will consist of detailed information concerning the rolls and heaters. Use this as a reference in determining the correct roll and heater used in specific machines. This will be updated should changes occur. Items in red are hyperlinked to information. Press when arrow changes to hand.

Identifying the roll part number: On the rolls, there is a stamped number identifying the roll. This number, beginning 690, will be located on the journal (reference Drawing 1.1).



Drawing 1.1

Identifying the heater: There are two ways to identify the heaters. The first is physical appearance. We use the words Ogden and Maytag to refer to certain types of heaters. An Ogden heater is a straight single rod heater. The Maytag is a combination of several smaller heating elements. The second method is by a number stamped on the heating element. Reference Chart 1.1 for these numbers.

Heater part number	Identification number	Description
189332	CAC08230001	Maytag
189028	319876970001	Maytag
189024	30108460002	Maytag
189290	EIN 2204477X	Ogden
189015	EIN 22055101X	Ogden
189110	EIN 2202859X	Ogden
189330	EIN 2202864X	Ogden
189000	EIN 2202451X	Ogden
189026	N/A	Quartz
189032	4229033N52	Maytag
189038	4229033N59	Maytag
189041	N/A	Maytag
189039	46473449	Ogden
189009	EIN 22010101X	Ogden
189300	N/A	N/A
189100	EIN 2202557X	Ogden
189331	EIN 2203168X	Ogden
189140	EIN 22044101X	Ogden
Chart 1.1		

Orca Series

Machine type	Main roll part number	Kit part number	Heater part number	Notes
Orca III	690004	005047	189332	See Info. 1.1
	690043	N/A	189332	See Info. 1.2
	690029	005053	189332	See Info. 1.3
	690051	005056	189028	See Info. 1.4
	690078	005081	189028	See Info. 1.5
Orca IV	690051	005056	189028	See Info. 1.4
	690078	005081	189028	See Info. 1.5
Orca I	690023	005050	189024	See Info. 2.1
	690045	N/A	189024	See Info. 2.2
	690050	005055	189024	See Info. 2.3
	690054	005059	189024	See Info. 2.4
Orca I SP	690037	N/A	189024	See Info. 3.1
	690049	N/A	189024	See Info. 3.2
	690057	005060	189024	See Info. 3.3
Orca II	X930114 (11930114)	005063	189290	
Orca 80	690017	N/A	189015	
Orca 50	Top Main 690363	005061	189110	
	Bottom Main 690360	N/A	189110	
Orca LC	690310	N/A	189330	

Falcon Series

Machine type	Main roll part number	Kit part number	Heater part number	Notes
Falcon 36	690001	005044	189000	
Falcon 60	690048	005054	189026	See Info. 4.1
	690059	005075	189032	See Info. 4.2
Falcon 60 Plus	690059	005075	189032	
Falcon 160	690071	005080	189038	See Info. 5.1
	690079	N/A	189041	See Info. 5.2

Other

Machine type	Main roll part number	Kit part number	Heater part number	Notes
DS-60	Top roll 690056	005065	189039	See Info. 6.1
	Bottom roll 690055	005079	N/A	
Vinyl Tiger 80	690520	005062	189009	
PTN - 36	X930074 (11930074)	N/A	189300	
EGS-45	Top Main 690325	N/A		
	Bottom Main 690345	N/A	189100	
LC-56	690311	N/A	189331	
88 LG	690520	005062	189140	

Information 1.1

The 690004 was the first roll used in the Orca III's. It is easily identifiable by the bolted journal ends. There were two different heaters used in the production of these machines. The first was a coiled heating element. This is identified by the Slipring or Mercatec at the end of the roll on the control side. This element cannot be replaced. The roll and heater must be replaced. Reference **Chart 1.2** for parts when changing only the top roll. Reference **Chart 1.3** for parts when changing both rolls. The second heater was an Ogden straight rod heater. This heater is replaceable with the 189332 heater. Reference **Chart 1.4** for the parts to install the 189332 heater. Also reference **Maytag Note** installation of heaters.

Note: If both rolls need to be replaced, 690004 should be substituted with 690051 and 189332 substituted with 189028.

Information 1.2

The 690043 was the second roll used in the Orca III. These may have either the Ogden or Maytag heaters. Reference **Chart 1.4** for parts required if replacing Ogden heaters. Reference **Maytag Note** when replacing with Maytag heaters.

Note: If both rolls need to be replaced, 690043 should be substituted with 690051 and 189332 substituted with 189028.

Information 1.3

The third roll is the 690029. These have always used Maytag heaters. Ensure the spring kit is installed on the upper and lower heating element. Reference **Maytag Note**.

Note: If both rolls need to be replaced, 690043 should be substituted with 690051 and 189332 substituted with 189028.

Information 1.4

This is the current roll used in the Orca III. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Information 1.5

The 690078 is a teflon coated roll specially designed for customers doing large quantities of vinyl transfer. The roll is still capable of performing the lamination processes with the only setback being a loss of quality. Only the top roll is replaced with a teflon roll and can be used with any of the Orca III rolls on the bottom. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Information 2.1

The 690023 was the first roll used in the Orca I. It is an excellent roll for performing mounting, laminating and vinyl transfer. Ogden heaters were the only heaters used and should be replaced with the 189024 Maytag heater. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Information 2.2

The 690045 was the next generation of main rolls. It is good for mounting, laminating, and vinyl transfer. Ogden heaters were initially used and should be switched to the 189024 Maytag heaters. Reference **Maytag Note**.

Note: If both rolls need to be replaced, find out the customers applications. If mounting and laminating is all the customer performs, order the 690054 rolls. If vinyl transfer is all the customer performs, order the 690050 rolls. If all three processes are performed, order the 690023 rolls.

Information 2.3

The 690050 was the third generation. It also is good for mounting, laminating, and vinyl transfer. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Note: If both rolls need to be replaced, find out the customers applications. If mounting and laminating is all the customer performs, order the 690054 rolls. If vinyl transfer is all the customer performs, order the 690050 rolls. If all three processes are performed, order the 690023 rolls.

Information 2.4

The 690054 was the last roll. It is a non-crowned roll designed for mounting and laminating only. Do not order this roll if the customer is performing vinyl transfer. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Information 3.1

The 690037 was the first roll used in the Orca I SP. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Note: If both rolls require replacement, then 690037 should be substituted with 690057.

Information 3.2

The 690049 was the second roll used in the Orca I SP. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Note: If both rolls require replacement, then 690049 should be substituted with 690057.

Information 3.3

The 690057 is the current roll used in the Orca I SP. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Information 4.1

The 690048 was the first roll used in the Falcon 60. It is an aluminum roll that requires the use of the 189026 heater. The 189026 heater is a quartz heating.

Note: If replacing both rolls, order kit number 005078. This kit includes all the components required to replace both rolls with the newer 690059.

Information 4.2

The 690059 is the current roll used in all the Falcon 60's. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Information 5.1

The 690071 is the current roll used in the Falcon 160. The 189038 is the current heater, but will be replaced by the 189041. When ordering, please continue to order the 189038. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Information 5.2

The 690079 is a new roll that will be used in the Falcon 160 in the near future. It has a softer durometer than the 690071. The 189038 is the current heater, but will be replaced by the 189041. When ordering, please continue to order the 189038. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Information 6.1

The 690056 is the current roll used in the DS60. There have been other roll numbers used in the DS60, but the 690056 should be used if replacing the top roll. The 189039 is the current heater. Ensure the spring kit is properly installed. Reference **Maytag Note**.

Part number	Description	Quantity	Notes
690004	Main roll	1	
189332	Heater	1	
005020	Heater wire Kit	1	Kit is for both top and bottom roll
005025	Spring kit w/ Brackets	1	Kit is for both top and bottom heater
540546	Conduit, 1" mod.	1	
755001	Spacer, heater bracket	2	Only if replacing the bottom roll

Nuts and bolts required:

Quantity	Description		
1	TEB 1/4 X 3		
5	Fender washer 1/4 X 1/2		
5	BHSCS 1/2 - 20 X 1/2		
2	Set screws 1/4 x 20 X 3/4		
2	HCS 1/4 - 20 X 3 Z 5		
5	Star washer 1/4		
3	Hex nut 1/4 X 20		

Chart 1.2

Part number	Description	Quantity	Notes
690051	Main roll	2	
189028	Heater	2	
005020	Heater wire Kit	1	Kit is for both top and bottom roll
005025	Spring kit w/ Brackets	1	Kit is for both top and bottom heater
540546	Conduit, 1" mod.	2	
755001	Spacer, heater bracket	2	Only if replacing the bottom roll
Nuts and bolts required:			
Quantity	Description		
1	TEB 1/4 X 3		
5	Fender washer 1/4 X 1/2		
5	BHSCS 1/2 - 20 X 1/2		
2	Set screws 1/4 x 20 X 3/4		
2	HCS 1/4 - 20 X 3 Z 5		
5	Star washer 1/4		
3	Hex nut 1/4 X 20		
Chart 1.3			

Part number	Description	Quantity	Note
189332	Heater	1	Quantity 2 if replacing both elements
Only one of these kits is required, please reference the notes to determine which you need			
005025	Spring kit w/ brackets	1	Order this kit if the current brackets use a romex clamp to secure the heater. Kit is for top and bottom roll
005036	Spring kit w/out brackets	1	Order this kit for all other machines with a set screw that secures the heater. Kit is for top and bottom roll
540546	Conduit, 1" mod.	1	Quantity 2 if replacing both elements
Nuts and bolts required			
Quantity	Description	Notes	
2	Set screws 1/4 - 20 X 3/4	These are only needed if replacing old style brackets with romex clamps	
2	Hex nut 1/4 X 20	These are only needed if replacing old style brackets with romex clamps	
Chart 1.4			

Maytag Note

It is very important when installing the spring kit on any of the machine that the procedure is performed properly. The following is general guidelines to follow when installing the spring kit. Also included is the installation procedure for each machine.

Guidelines:

- Make sure the heater is straight before inserting it into the roll
- Make sure the spacers on the heater are evenly spaced out
- A star washer should be placed between the first nut and the heater spacer. If possible, also place a star washer between the wire terminal and the first nut.

Note: This is very important. If the wire terminal is loose it can cause the end of the heater to reach high temperatures resulting in the melting of the heater spacer. It is very important to ensure the wire connections are tight.

- On the Orca III, ensure that the spring is completely compressed on the drive side. The best method for doing this is to install the spring and heater spacer. Thread the first nut about halfway onto the threaded rod. Compress the spring completely and secure the heater on the control side. Return to the drive side and tighten the nut.

- On the Orca III, ensure that the heater is secured well on the control side. There is a lot of force trying to pull the heater toward the drive side. If the heater were to slip on the control side it could possibly short out.

- Just because the heater is bowed, does not constitute the need for a new one. The heaters can be straightened and reused.

Installation Procedures:

Click on the kit part number to view the installation procedure.

Part number	Description	Machines
005025	Spring kit with brackets	Orca III
005036	Spring kit without brackets	Orca III, Orca IV
005028	Spring kit	Orca I, Orca I SP, Falcon 60, Falcon 60 Plus, Falcon 160
005043	Spring kit	DS-60

Kit number : 005 - 025 Heater tensioning kit

Information : This kit contains all components to install the heater tensioning system with the correct heater brackets. If you require only the heater tensioning kit, please order kit # 005 - 036. One kit is required per machine. This kit should be installed on all machines equipped with Maytag heater elements.

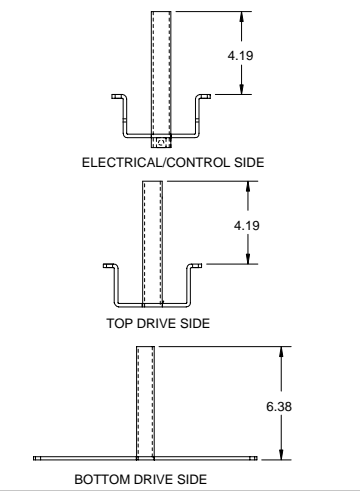
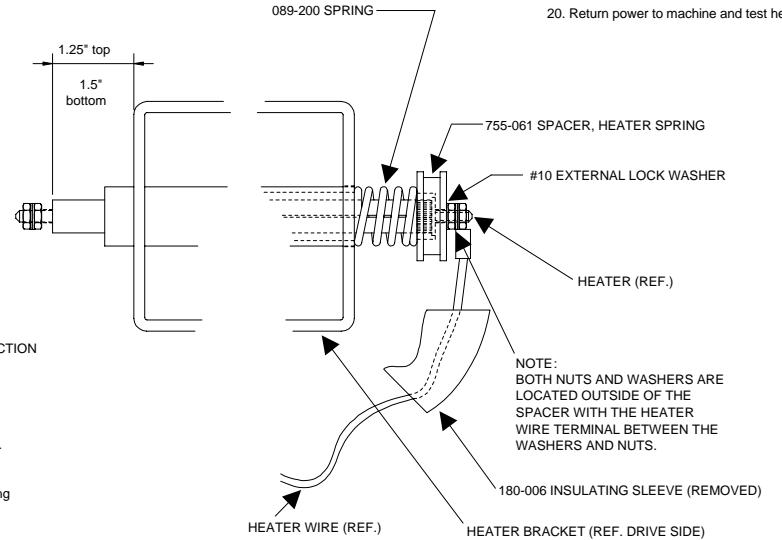
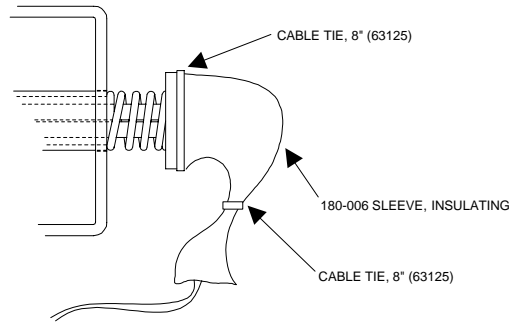
Instructions : Installation procedure is provided with a document number of 820 - 058.

Illustration : One is provided with an illustration of items contained in this kit.

History : This kit was introduced in January of 1998. The constant expansion and contraction of the Maytag heater element from heating up and cooling down causes the heater to sag in the center of the roll. The center of the roll would become hotter effecting nip pressure across the width of the roll. Heat sensitive images would tend to blister in the center. Ouput would have waves along the egde, especially noticable if wide materials were being used. The current manufactured machines come with this kit as a standard feature.

Purpose : This kit was designed to eliminate the sag of the heater by adding two tensioning springs to the ends of the heater element on both sides. The kit can only be used with Maytag type heater elements (Smaller diameter rods ganged together).

Warning : This kit should be installed by a GBC Technician. If this is performed by other means, please follow the instructions completely.

4	3	2	1																
<p style="text-align: center;">PROPRIETAR</p> <p style="font-size: 8px; text-align: center;">GBC PRO-TECH CLAIMS PROPRIETARY RIGHTS TO MATERIAL DISCLOSED ON THIS DRAWING. IT IS ISSUED IN FOR ENGINEERING INFORMATION ONLY AND SHALL NOT BE COPIED OR DISCLOSED IN WHOLE OR IN PART, OR USED MANUFACTURE OR FOR ANOTHER PURPOSE WITHOUT PERMISSION FROM GBC PRO-TECH</p> <p style="text-align: center;">BE SURE TUBES OF HEATER BRACKETS ARE NEAR THE DIMENSION SHOWN BELOW.</p> 	<p>TOOLS NEEDED</p> <ol style="list-style-type: none"> 1. VARIABLE OPENING WRENCH 2. 1/8" ALLEN WRENCH 3. 5/32" ALLEN WRENCH 4. METAL SAW 5. DUBURRING TOOL <p>PARTS NEEDED</p> <ol style="list-style-type: none"> (2) HEATER SPRING SPACER (2) SPRINGS (2) INSULATING SLEEVE (3") (10) CABLE TIES 	<p>Installation Instructions</p> <ol style="list-style-type: none"> 1. Disconnect and lock out the electrical power from the machine. 2. Remove the screws (5/32" allen wrench) securing both cabinets. Open cabinets. 3. Disconnect heater wires from both sides of the top and bottom roll heaters. 4. Remove the remaining washers and nuts from the drive-side end of each heater. All nuts and washers should be removed from the drive-side end of each heater. 5. Remove drive-side heater brackets. Make sure not to lose the washer that acts as a spacer between the heater bracket and the bearing block at the upper bolt hole of the upper heater bracket 6. Remove the micro-switch brackets from the control-side heater brackets. Switches and switch wires do not need to be removed from the micro-switch brackets. 7. Remove the control-side heater brackets. 8. Compare the kit heater brackets to the pictures at left to assure the tube lengths are like as shown. 9. Remove and straighten heaters and position the five spacer rings on the heaters evenly along the length of the heater. This is needed to avoid future bending of the heaters. 10. Return the heaters into the machine so that any bend will be upward. Make sure the split conduit on one end of the heater is placed at the control-side of the machine. 11. Install the new drive-side heater brackets. Make sure to place the spacer washer between the heater bracket and the bearing block at the upper bolt hole of the upper heater bracket. Failure to do so can result in heater failure. 12. Install the new control-side heater brackets. 13. Position heaters as shown in view below, then lock the heaters in place on the control-side with set screws bearing on the split conduit. The opening of the split conduit should be placed down (away from set screw) when the heater is locked in place. It is important that the set screw is tightened firmly onto the solid face of the split conduit, and that the jam nut is tightened to keep the heating element locked firmly in place. 14. Install micro-switch brackets on the heater brackets and adjust according to the instructions shown. 15. At the drive-side install the spring, spacer, lock washer and first nut on the end of each heater. Tighten the first nut until spring is fully compressed. 16. At the drive-side insert heater wire through the new sleeve and install the wire surrounded by washers and held by a second nut as shown. When completed, both nuts and both washers should be positioned to the outside of the spring spacer. 17. Install the sleeve and use the cable tie to secure it in place, making sure the tie seats in the groove on the spacer. Cable tie the other end of the sleeve to the heater wire. 18. On the control-side reconnect the power leads to the heaters using the original parts and cover with the original insulating sleeve. For the upper heater make sure to secure the heater wires to the eye-bolt with a couple of cable ties. 19. Remount the cabinets. 20. Return power to machine and test heater performance. 	<table border="1" style="width:100%; border-collapse: collapse; font-size: 8px;"> <thead> <tr> <th>REQD</th> <th>DESCRIPTION</th> <th>PART NO.</th> <th>ITEM</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	REQD	DESCRIPTION	PART NO.	ITEM												
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<p>MICRO-SWITCH MOUNT INSTRUCTION</p> <ol style="list-style-type: none"> 1. Loosely mount switch bracket to heater bracket. 2. Place 3/16" hex wrench between lock collar on roll and switch actuator button. 3. Gently slide switch bracket until switch actuator just "clicks". 4. Carefully tighten switch bracket mounting screws without allowing bracket to shift. 																			
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SHEET 1896 OF -		GBC PRO-TECH	
UNLESS OTHERWISE SPECIFIED TOLERANCE		4155 Anderson Road, DeFouse, Wisconsin 53502 Phone (608) 246-8844 Fax (608) 246-8845	
DMK AS SHOWN	TOL.	FINISH TO BE	1/8"
.XX	P.184		
X	P.650		
.XX	P.820		
.XX	P.810		
.XXX	P.005		
REVISION	DATE	RELEASE	1896
3147	1-20-98		
3113			
3078			
DATE	1-20-98	DRAWN BY	AJH
SCALE	none	SIZE	C
ANGLES	P.10	Dwg	820 - 058
INSTRUCTIONS, HEATER TENSION KIT 005 - 025, ORCA III			

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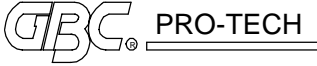
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33735

REQ'D	DESCRIPTION	PART NO.	ITEM
△ _B 2	SPACER, HEATER SPRING	755-061	1
△ _B 2	SPRING	089-200	2
△ _B 6"	SLEEVE, INSULATING	180-006	3
△ _C △ _B △ _A 10	CABLE TIE, 8"	-	4
1	INSTRUCTIONS, HEATER TENSION	820-058	5
△ _B 2	BRACKET, HEATER	510-164	6
△ _B 1	BRACKET, HEATER	510-165	7
△ _B 1	BRACKET, HEATER	510-166	8
△ _C 4	EXTERNAL LOCK WASHER	-	9

Notes:

1. Parts are shipped loose
2. One kit is required for each machine
3. The heater brackets on the machine must be replaced with the brackets in the kit.
4. The service techs will return the brackets on the machine for rework.

3147 AJH 7/23/98	3113 BJT 5/26/98	3078 BJT 3/20/98	SHEET 1897 OF 1			 4151 Anderson Road, DeForest, Wisconsin 53532 Phone (608) 246-8844 Fax (608) 246-8645		
			UNLESS OTHERWISE SPECIFIED TOLERANCE					
			DIM. AS SHOWN	TOL.	FINISH TO BE	125√	TITLE: KIT, HEATER TENSION ORCA 3	
			X/X	P 1/64				
			X.	P .050				
X.X	P .020			DATE: 1-20-98 RELEASE NO. 1897 DRAWN BY: BJT SCALE: 1:1 SIZE: A Dwg: 005-025				
X.XX	P .010	ANGLES P 1D						
X.XXX	P .005							

Kit number : 005 - 036 Heater tensioning kit

Information : This kit contains all components to install the heater tensioning system. If you require new heater brackets due to an older style heater along with the heater tensioning kit, please order kit # 005 - 025. One kit is required per machine. This kit should be installed on all machines equipped with Maytag heater elements.

Instructions : Installation procedure is provided with a document number of 820 - 074.

Illustration : One is provided with an illustration of items contained in this kit.

History : This kit was introduced in January of 1998. The constant expansion and contraction of the Maytag heater element from heating up and cooling down causes the heater to sag in the center of the roll. The center of the roll would become hotter effecting nip pressure across the width of the roll. Heat sensitive images would tend to blister in the center. Output would have waves along the edge, especially noticable if wide materials were being used. The current manufactured machines come with this kit as a standard feature.

Purpose : This kit was designed to eliminate the sag of the heater by adding two tensioning springs to the ends of the heater element on both sides. The kit can only be used with Maytag type heater elements (Smaller diameter rods ganged together).

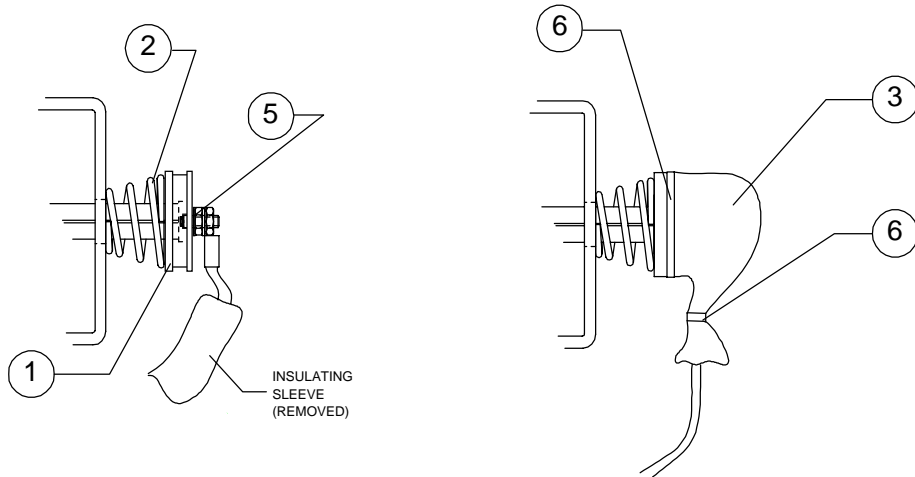
Warning : This kit should be installed by a GBC Technician. If this is performed by other means, please follow the instructions completely.

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<p>D</p> <p>BE SURE TUBES OF HEATER BRACKETS ARE NEAR THE DIMENSION SHOWN BELOW.</p> <p style="text-align: center;">ELECTRICAL/CONTROL SIDE</p> <p style="text-align: center;">TOP DRIVE SIDE</p> <p style="text-align: center;">BOTTOM DRIVE SIDE</p>	<p>TOOLS NEEDED</p> <ol style="list-style-type: none"> VARIABLE OPENING WRENCH 1/8" ALLEN WRENCH 5/32" ALLEN WRENCH METAL SAW DUBRRING TOOL <p>PARTS NEEDED</p> <ol style="list-style-type: none"> HEATER SPRING SPACER SPRINGS INSULATING SLEEVE (3") CABLE TIES 	<p>Installation Instructions</p> <ol style="list-style-type: none"> Disconnect and lock out the electrical power from the machine. Remove the screws (5/32" allen wrench) securing both cabinets. Open cabinets. Disconnect heater wires from both sides of the top and bottom roll heaters. Remove the remaining washers and nuts from the drive-side end of each heater. All nuts and washers should be removed from the drive-side end of each heater. Remove drive-side heater brackets. Make sure not to lose the washer that acts as a spacer between the heater bracket and the bearing block at the upper bolt hole of the upper heater bracket Remove the micro-switch brackets from the control-side heater brackets. Switches and switch wires do not need to be removed from the micro-switch brackets. Remove the control-side heater brackets. Compare the kit heater brackets to the pictures at left to assure the tube lengths are like as shown. Remove and straighten heaters and position the five spacer rings on the heaters evenly along the length of the heater. This is needed to avoid future bending of the heaters. Return the heaters into the machine so that any bend will be upward. Make sure the split conduit on one end of the heater is placed at the control-side of the machine. Install the new drive-side heater brackets. Make sure to place the spacer washer between the heater bracket and the bearing block at the upper bolt hole of the upper heater bracket. Failure to do so can result in heater failure. Install the new control-side heater brackets. Position heaters as shown in view below, then lock the heaters in place on the control-side with set screws bearing on the split conduit. The opening of the split conduit should be place down (away from set screw) when the heater is locked in place. It is important that the set screw is tightened firmly onto the solid face of the split conduit, and that the jam nut is tightened to keep the heating element locked firmly in place. Install micro-switch brackets on the heater brackets and adjust according to the instructions shown. At the drive-side install the spring, spacer, lock washer and first nut on the end of each heater. Tighten the first nut until spring is fully compressed. At the drive-side insert heater wire through the new sleeve and install the wire surrounded by washers and held by a second nut as shown. When completed, both nuts and both washers should be positioned to the outside of the spring spacer. Install the sleeve and use the cable tie to secure it in place, making sure the tie seats in the groove on the spacer. Cable tie the other end of the sleeve to the heater wire. On the control-side reconnect the power leads to the heaters using the original parts and cover with the original insulating sleeve. For the upper heater make sure to secure the heater wires to the eye-bolt with a couple of cable ties. Remount the cabinets. Return power to machine and test heater performance. 	<p>D</p>																														
<p>C</p>	<p>B</p>	<p>C</p>	<p>C</p>																														
<p>A</p>	<p>B</p>	<p>A</p>	<p>A</p>																														
<p>MICRO-SWITCH MOUNT INSTRUCTION</p> <ol style="list-style-type: none"> Loosely mount switch bracket to heater bracket. Place 3/16" hex wrench between lock collar on roll and switch actuator button. Gently slide switch bracket until switch actuator just "clicks". Carefully tighten switch bracket mounting screws without allowing bracket to shift. 																																	
<p>NOTE : BOTH NUTS AND WASHERS ARE LOCATED OUTSIDE OF THE SPACER WITH THE HEATER WIRE TERMINAL BETWEEN THE WASHERS AND NUTS.</p>																																	
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">SHEET 1898 OF</td> <td colspan="2" rowspan="2" style="text-align: center;"> <p>415 Ardmore Road, Oak Forest, Michigan 48362 Phone (800) 246-8844 Fax (800) 246-8845</p> </td> </tr> <tr> <td colspan="2">UNLESS OTHERWISE SPECIFIED TOLERANCE</td> </tr> <tr> <td>FINISH TO BE</td> <td>TOL.</td> <td colspan="2">TITLE: INSTRUCTIONS, HEATER TENSION KIT 005 - 036, ORCA III</td> </tr> <tr> <td>XXX P. 184</td> <td></td> <td>DATE: 1-20-98</td> <td>DRAWN BY: AJH</td> </tr> <tr> <td>X P. 050</td> <td></td> <td>SCALE: none</td> <td>SIZE: C</td> </tr> <tr> <td>XX P. 020</td> <td></td> <td>REF. 1896</td> <td>820 - 074</td> </tr> <tr> <td>XXX P. 010</td> <td></td> <td>ANGLES P. 10</td> <td></td> </tr> <tr> <td>XXXX P. 005</td> <td></td> <td></td> <td></td> </tr> </table>				SHEET 1898 OF		<p>415 Ardmore Road, Oak Forest, Michigan 48362 Phone (800) 246-8844 Fax (800) 246-8845</p>		UNLESS OTHERWISE SPECIFIED TOLERANCE		FINISH TO BE	TOL.	TITLE: INSTRUCTIONS, HEATER TENSION KIT 005 - 036, ORCA III		XXX P. 184		DATE: 1-20-98	DRAWN BY: AJH	X P. 050		SCALE: none	SIZE: C	XX P. 020		REF. 1896	820 - 074	XXX P. 010		ANGLES P. 10		XXXX P. 005			
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XXX P. 010		ANGLES P. 10																															
XXXX P. 005																																	
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PROPRIETAR

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REQ'D	DESCRIPTION	PART NO.	ITEM
2	SPACER, HEATER SPRING	755-061	1
2	SPRING	089-200	2
-	SLEEVE, INSULATING	180-006	3
1	INSTRUCTIONS, HEATER TENSION	820-074	4
4	#10 EXTERNAL LOCK WASHER	-	5
4	ZIP TIE, 8"	-	6



NOTES:

- PARTS ARE SHIPPED LOOSE.
- ONE KIT IS REQUIRED FOR EACH MACHINE.

SHEET 2106 OF 1			 4151 Anderson Road, DeForest, Wisconsin 53532 Phone (608) 246-8844 Fax (608) 246-8645				
UNLESS OTHERWISE SPECIFIED							
REVISION	DIM. AS SHOWN	TOL.	FINISH TO BE 125√	TITLE: KIT, HEATER TENSION ORCA 3			
	X/	P .1/64					
	X.	P .050					
	X.	P .020					
	X.X	P .010					
	X.XX	P .005					
		ANGLE B 1D	DATE 7/10/98	DRAWN BY: SNF	SCALE: 1:1	SIZE: A	Dwg NO: 005-036
			RELEASE NO: 2106				

Kit number : 005 - 028 Heater tensioning kit

Information : This kit contains all components to install the heater tensioning system.. One kit is required per machine. This kit should be installed on all machines equipped with Maytag heater elements.

Instructions : Installation procedure is provided with a document number of 820 - 063.

Illustration : One is provided with an illustration of items contained in this kit.

History : This kit was introduced in March of 1998. The constant expansion and contraction of the Maytag heater element from heating up and cooling down causes the heater to sag in the center of the roll. The center of the roll would become hotter effecting nip pressure across the width of the roll. Heat sensitive images would tend to blister in the center. Ouput would have waves along the egde, especially noticable if wide materials were being used. The current manufactured machines come with this kit as a standard feature.

Purpose : This kit was designed to eliminate the sag of the heater by adding two tensioning springs to the ends of the heater element on both sides. The kit can only be used with Maytag type heater elements (Smaller diameter rods ganged together).

Warning : This kit should be installed by a GBC Technician. If this is performed by other means, please follow the instructions copleately.

<p style="text-align: center;">4</p> <p style="text-align: center;">PROPRIETARY</p> <p style="font-size: 8px;">GBC PRO-TECH CLAIMS PROPRIETARY RIGHTS TO THE MATERIAL DISCLOSED ON THIS DRAWING. IT IS ISSUED IN CONFIDENCE FOR ENGINEERING INFORMATION ONLY AND SHALL NOT BE REPRODUCED, COPIED OR DISCLOSED IN WHOLE OR IN PART, OR USED FOR MANUFACTURE OR FOR ANY OTHER PURPOSE WITHOUT WRITTEN PERMISSION FROM GBC PRO-TECH</p> <div style="text-align: center;"> </div> <p>TOOLS NEEDED</p> <ol style="list-style-type: none"> 1. VARIABLE OPENING WRENCH 2. 1/8" ALLEN WRENCH 3. 5/32" ALLEN WRENCH 4. 3/32" ALLEN WRENCH 5. 1/16" ALLEN WRENCH <p>PARTS NEEDED FOR FULL MACHINE</p> <ol style="list-style-type: none"> (4) HEATER SPRING SPACER (4) SPRINGS (4) INSULATING SLEEVE (3") (8) CABLE TIES (4) #10 EXTERNAL LOCK WASHERS 	<p style="text-align: center;">3</p> <div style="text-align: center;"> <p style="font-size: 8px;">NOTE: BOTH NUTS AND WASHERS ARE LOCATED OUTSIDE OF THE SPACER WITH THE HEATER WIRE TERMINAL BETWEEN THE WASHERS AND NUTS.</p> </div>	<p style="text-align: center;">2</p> <p style="text-align: center;">Installation Instructions</p> <ol style="list-style-type: none"> 1. Disconnect and lock out the electrical power from the machine. 2. Remove the screws (1/8" allen wrench) securing the panels to both cabinets. Set panels aside. 3. Pull back insulating sleeves and disconnect heater wires from both sides of the top and bottom roll heaters. All nuts and washers should be removed from each end of each heating element. 4. Remove and discard the insulating sleeves from the heater wires. 5. Remove the set screws and split conduit currently mounting the heaters. 6. Straighten heaters and position the five spacer rings on the heaters evenly along the length of the heater. This is needed to avoid future bending of the heaters. 7. On machines so equipped, remount the lower over temperature safety micro-switch using FHCS 4-40 x 5/8 in the position shown. 8. Return the heaters into the machine so that any bend will be upward. This step may require the removal of a heater bracket. 9. Install the spring, spacer, external lock washer and first nut onto a heater on one side of the machine. Tighten the first nut completely as shown below. 10. Install the spring, spacer, external lock washer and first nut on the other side of the machine. To do this it is necessary to completely compress the springs on both ends of the heater. Suggested ways to do this: <ol style="list-style-type: none"> 10.1 Have another person compressing the first spring while installing the second. 10.2 Install the first spring on the side having the set screw that formerly locked the heater in place. Use the set screw to hold the first spring in the fully compressed position while installing the second. Be sure to remove the set screw when done installing the second spring. 11. Repeat steps 8 and 9 for the other heater. 12. Insert heater wire through the new sleeve and install the wire surrounded by washers and held by second nut as shown. Install the sleeve and use the cable tie to secure it in place, making sure the tie seats in the groove on the spacer. Cable tie the other end of the sleeve to the heater wire. 13. Repeat for the other three wires. 14. Assure the over temperature safety micro-switch is set per instructions at left. 15. Remount the cabinet covers to the cabinets. 16. Return power to machine and test heater performance. 	<p style="text-align: center;">1</p> <table border="1" style="width:100%; border-collapse: collapse; font-size: 8px;"> <thead> <tr> <th>RECD</th> <th>DESCRIPTION</th> <th>PART NO.</th> <th>ITEM</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <div style="text-align: center;"> </div>	RECD	DESCRIPTION	PART NO.	ITEM				
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SHEET 1939 OF 3148		UNLESS OTHERWISE SPECIFIED TOLERANCE			
DM	AS SHOWN	TOL.	FINISH TO BE	4151 Anderson Road, Dallas, Wisconsin 53032 Phone (608) 246-8844 Fax (608) 246-8645	
.XX	P.184			TITLE INSTRUCTIONS, HEATER TENSION KIT 005-028, ORCA I	
X	P.050			DATE:	3/20/98
.XX	P.020			DRAWN BY:	BJT
.XXX	P.010			SCALE:	none
.XXX	P.005			SIZE:	C
				RELEASE	1939
					820-063

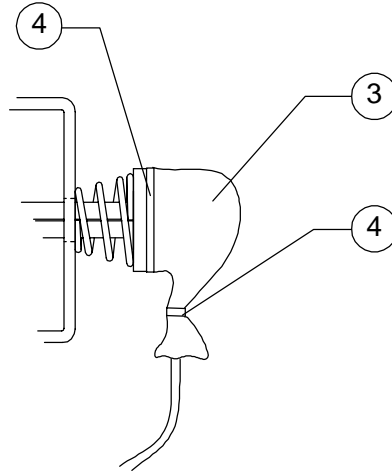
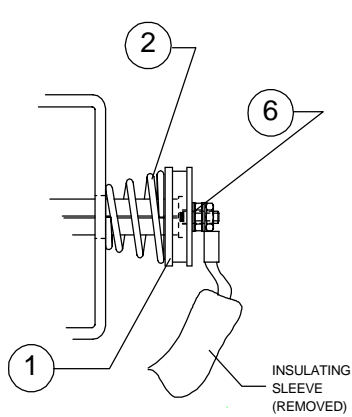
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NOTES:

1. PARTS ARE SHIPPED LOOSE.

REQ'D	DESCRIPTION	PART NO.	ITEM
4	SPACER, HEATER SPRING	755-061	1
4	SPRING	089-022	2
-	SLEEVE, INSULATING	180-006	3
8	CABLE TIE, 8"	STOCK	4
1	INSTRUCTIONS, HEATER TENSION	820-063	5
4	#10 EXTERNAL LOCK WASHERS	-	6



		SHEET 1937 OF -		 4151 Anderson Road, DeForest, Wisconsin 53532 Phone (608) 246-8844 Fax (608) 246-8645	
		UNLESS OTHERWISE SPECIFIED TOLERANCE			
		DIM. AS SHOWN	TOL.	FINISH TO BE	TITLE: KIT, HEATER TENSION F 60, F 60+, ORCA I, ORCA I SP
		X.X	P 1/64	125 $\sqrt{\quad}$	
		X.	P .050		
		X.X	P .020		
		X.XX	P .010	ANGLES P 1D	DATE: 3-21-98
		X.XXX	P .005		RELEASE NO. 1937
					DRAWN BY: BJT
					SCALE: 1:1
					SIZE: A
					Dwg: 005-028

3148

AJH
7/20/98

A

REVISION

Kit number : 005 - 043 Heater tensioning with heater kit

Information : This kit contains one heater and all components to install the heater tensioning system.. One kit is required per machine.

Instructions : Installation procedure is provided with a document number of 820 - 080.

Illustration : One is provided with a list of items contained in this kit.

History : This kit was introduced in January of 1999. The constant expansion and contraction of the Maytag heater element from heating up and cooling down causes the heater to sag in the center of the roll. The center of the roll would become hotter effecting color hues on the output. The current manufactured Dye Sub 60 machine comes with this kit as a standard feature.

Purpose : This kit was designed to eliminate the sag of the heater by adding two tensioning springs to the ends of the heater element on both sides. The kit comes with a slightly longer heater because the original heater was not long enough to accommodate the spring tensioning system.

Warning : This kit should be installed by a GBC Technician. If this is performed by other means, please follow the instructions completely.

<p style="text-align: center;">4</p> <p style="text-align: center;">PROPRIETARY</p> <p style="font-size: 8px;">GBC PRO-TECH CLAIMS PROPRIETARY RIGHTS TO THE MATERIAL DISCLOSED ON THIS DRAWING. IT IS ISSUED IN CONFIDENCE FOR ENGINEERING INFORMATION ONLY AND SHALL NOT BE REPRODUCED, COPIED OR DISCLOSED IN WHOLE OR IN PART, OR USED FOR MANUFACTURE OR FOR ANY OTHER PURPOSE WITHOUT WRITTEN PERMISSION FROM GBC PRO-TECH</p> <p style="text-align: center;">D</p> <p style="text-align: center;">TOOLS NEEDED</p> <p>1. VARIABLE OPENING WRENCH (3/8") 2. 1/8" ALLEN WRENCH 3. 5/64" ALLEN WRENCH</p> <p style="text-align: center;">C</p> <p style="text-align: center;">PARTS NEEDED FOR FULL MACHINE</p> <p>(2) HEATER SPRING SPACER (2) SPRINGS (2) INSULATING SLEEVE (3") (4) CABLE TIES (2) #10 EXTERNAL LOCK WASHERS (1) 189-033 HEATER</p> <p style="text-align: center;">B</p> <p style="text-align: center;">A</p>	<p style="text-align: center;">3</p> <p style="text-align: center;">Installation Instructions</p> <ol style="list-style-type: none"> 1. Disconnect and lock out the electrical power from the machine. 2. Remove the screws (1/8" allen wrench) securing the panels to both cabinets. Set panels aside. 3. Pull back insulating sleeve and disconnect heater wire from both sides of the top roll heater. All nuts and washers should be removed from each end of each heating element. 4. Remove and discard the insulating sleeves from the heater wires. 5. Remove the set screw (5/64" allen wrench) currently mounting the heater on drive side. 6. Straighten the new heater. This is needed to avoid future bending of the heater. 7. Install the new heater into the machine so that any bend will be upward. This step may require the removal of a heater bracket. 8. Install the spring, spacer, external lock washer and first nut onto the heater on one side of the machine. Tighten the first nut completely as shown below. 9. Install the spring, spacer, external lock washer and first nut on the other side of the machine. To do this it is necessary to completely compress the springs on both ends of the heater. Suggested ways to do this: <ol style="list-style-type: none"> 9.1 Have another person compressing the first spring while installing the second. 9.2 Install the first spring on the side having the set screw that formerly locked the heater in place. Use the set screw to hold the first spring in the fully compressed position while installing the second. Be sure to remove the set screw when done installing the second spring. 10. Insert heater wire through the new sleeve and install the wire surrounded by washers and held by second nut as shown. Install the sleeve and use the cable tie to secure it in place, making sure the tie seats in the groove on the spacer. Cable tie the other end of the sleeve to the heater wire. 11. Repeat for the other wire (other end of heater). 12. Remount the cabinet covers to the cabinets. 13. Return power to machine and test heater performance. <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p style="font-size: 8px;">NOTE: BOTH NUTS AND WASHERS ARE LOCATED OUTSIDE OF THE SPACER WITH THE HEATER WIRE TERMINAL BETWEEN THE WASHERS AND NUTS.</p> </div> <div style="text-align: center;"> </div> </div>	<p style="text-align: center;">2</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <thead> <tr> <th style="width: 10%;">REQD</th> <th style="width: 60%;">DESCRIPTION</th> <th style="width: 15%;">PART NO.</th> <th style="width: 15%;">ITEM</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p style="text-align: center;">1</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <td colspan="2">SHEET 2308 OF -</td> <td colspan="2" rowspan="2" style="text-align: center;"> <p style="font-size: 6px;">4151 Anderson Road, Delforest, Wisconsin 53532 Phone (608) 246-8844 Fax (608) 246-8845</p> </td> </tr> <tr> <td colspan="2">UNLESS OTHERWISE SPECIFIED TOLERANCE</td> </tr> <tr> <td>FINISH TO BE</td> <td>TOL.</td> <td>DATE: 1/20/99</td> <td>SCALE: none</td> </tr> <tr> <td> </td> <td> </td> <td>RELEASE: 2308</td> <td>SIZE: C</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td>820-080</td> </tr> </table>	REQD	DESCRIPTION	PART NO.	ITEM					SHEET 2308 OF -		<p style="font-size: 6px;">4151 Anderson Road, Delforest, Wisconsin 53532 Phone (608) 246-8844 Fax (608) 246-8845</p>		UNLESS OTHERWISE SPECIFIED TOLERANCE		FINISH TO BE	TOL.	DATE: 1/20/99	SCALE: none			RELEASE: 2308	SIZE: C				820-080
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