



Jim Mraz retires  
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#### ASK AN ENGINEER

## How can I determine if the encoder is causing a fault symptom on my machine?

Machine symptoms caused by either a defective encoder or encoder cable may not always be obvious, but are easy to troubleshoot. An absolute optical encoder is used on Evergreen machine models N-8 (SN1525 - SN1712), EQ-5, EH-2 and EH-3 (SN5600 - SN5683) to electronically input the machine timing position to the PLC. With this input, the PLC will know when to turn on or off outputs to the machine, such as bottom or top seal solenoid valves and vacuum release.

An absolute optical encoder uses a disc with transparent and opaque areas along with a light source to generate 360 counts per revolution of the encoder shaft, and maintains its position even when power is removed.

It is not uncommon to have a defect in the encoder disc where the signal may skip or jump one or more counts. An example would be if the machine is showing a fault on the HMI display that the spout clutch is disengaged on both lines, yet it is not disengaged. A proximity switch on the spout welder monitors the position of the anvil shaft spider. The PLC is looking to see a signal from the proximity switch within a specific timing window. If it does not sense a signal within the timing window, the PLC assumes the clutch is disengaged or out of position. A defective

encoder may skip counts when the PLC is looking to see the proximity switch signal, resulting in a spout clutch fault. This fault will occur whether the spout system is turned on or turned off.



To check for a defective encoder, slowly hand-crank the machine while someone is watching the timing screen on the HMI operator display. The timing numbers should change by 1-degree increments. If the timing skips one or more numbers, the encoder is likely defective. Be sure to hand-crank the machine through a complete 360-degree rotation and verify that each timing number is displayed. A defective encoder can also increment backwards or jump a series of timing numbers.

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## PARTS DISCOUNTS

Parts must be ordered between Nov 1 and Dec 31, 2016. To get the discount, you must ask for the special Run Time price when you place the order!

Part No.	Description	Model	Discount	Your Price
3051627	Bottom Oven	EQ4, older quarts	25%	\$4,245
3055921	Sealer Jaw Stationary	N5	25%	\$818
3058006	Top Breaker Kit	Q6, Q7, Q11	15%	\$5,160
3058035	4 Jaw, Line 2, 6 Pin + Slug Kit	EQ, Q9, Q11	25%	\$3,147
3058306	Top Seal 6-Hole Rebuild Kit	Older quarts	15%	\$26,610
3285398	Stationary Jaw, Line 1 - PM	EH2, EH3	25%	\$1748
3286491	Ribbed Sealer Jaws, Foil And Heavy Paper	EH3	25%	\$4,950
3286915	Top Squeezer Guide Block Kit	EH3	20%	\$738
3473143	Top Breaker Base	Q11, APC11	25%	\$1,519
3492370	Electric Heat-Unique Parts	N8	25%	\$77,880
7053747	Spider - Inlet	Older quarts, half gallons	25%	\$713
7263914	SM Welder Rebuild Kit	SM spout	25%	\$4,790
3281019	Infeed Drive Arm	EH2, EH3	25%	\$1,100

*When you order parts from an Evergreen quotation, please tell the sales coordinator the quotation number (200xxxxx) when you place the order. It will speed up the order entry process and get your parts to you quicker!*

*Contd from page 1*

A defective encoder cable can cause a similar symptom. Individual wires in the cable are soldered to pins in the connector. A broken solder joint or corrosion across pins can cause incorrect signals to the PLC.

Here are examples of some other symptoms that might result from a defective encoder or encoder cable:

- The outfeed vacuum release does not come on, even though the solenoid is good and output forcing will energize the solenoid valve.
- You get an infeed carton jam fault, where the carton jam detect photoeye is looking to see the carton within a specific timing window.

- The bottom seal cylinders do not extend, since the encoder may be jumping the timing number that the PLC is looking for to extend the cylinders.

I hope these suggestions provide some assistance. If you have questions about this or any other issue, don't hesitate to "Ask An Engineer."

— Dave Olsen  
Engineering Technical  
Support Manager



The Run Time is the newsletter of the Evergreen Packaging Equipment Sales Services Department. Its purpose is to provide customers with Evergreen Packaging gable top parts and service information.

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Evergreen Packaging Equipment is proud to be ISO 9001:2008 certified.

### QUALITY POLICY

As employees, we will perform our jobs in conformance to customer and industry requirements with a commitment to doing it right the first time. We will manufacture and deliver on time, defect-free products and services to our customers.

We are dedicated to quality and continuous improvement.

## SURPLUS/OBSOLETE DISCOUNTS

Take advantage of these huge discounts on overstocked parts. To order, make sure you ask for the surplus/obsolete price. Stock is limited to the quantities shown, so order now!

Part no.	Description	Model	Qty	List price	DISCOUNT PRICE
3109265	Carton Lift Rod	Q14	1	\$3,400	\$1,750
3111334	Mandrel	EQ4, Q11, Q14	4	\$3,212	\$1,100
3113182	Jaw Sealer Movable-Line 2	Quart	3	\$1,140	\$525
3114167	Carton Stop Assembly	EQ5	3	\$1,197	\$650
3150768	Top Breaker Eccentric	N5, Q150	1	\$3,000	\$1,950
3152780	Mandrel Bearing Kit	EQ5	1	\$3,709	\$1,750
3153659	Top Breaker Eccentric	EQ4	1	\$3,600	\$1,950
3157239	Retainer	EQ4, H75, Q80	32	\$160	\$75
3158285	Oven Housing-Line 1	H5	5	\$4,038	\$550
3158286	Oven Housing-Line 2	H5	4	\$2,475	\$550
3285815	Anvil	SA VE3/ALCOA	8	\$1,098	\$375
3481257	Jaw/dater Movable-Line 1	EQ5	3	\$1,298	\$750
3481731	Elevator Subassembly	EQ5	2	\$3,409	\$1,750
7150179	Carton Stop Block	N7	58	\$145	\$75
7254154	Mounting Slide Bearing	N5, Q11	6	\$573	\$250

## EPE NEWS

### Get Rebuilt Parts, Now at BIGGER Savings

From time to time, Evergreen has parts repaired or rebuilt to like-new condition and places them into stock as “REB” parts. These parts are offered to customers for 25% off our normal list price. But we are now offering the parts listed below with an additional 15% discount. That’s 40% off the price of new but with the same 6-month warranty that applies to every new part that we sell.

Please make sure you provide the REB part number and ask for the 40% discount price when you order. Stock is limited to the quantities shown, so order now!

Part no.	Description	Model	Qty	Price for new	REB PRICE
REB3284984	Product Tank Agitator Port	EH3	1	\$52,995	\$31,800
REB5500965	Regenerative Blower	EH2, EH3, H9, N8	1	\$3,824	\$2,294
REB5501171	Allen-Bradley Servo Motor	N100, QL70	1	\$3,022	\$1,813
REB5513982	Temperature Controller	Q16	1	\$1,001	\$601
REB5522170	Gearbox	Q14	1	\$4,590	\$2,754
REB5561928	16-Station Former Valve Manifold	N8, N8 ESL Stretch	1	\$6,500	\$3,900
REB5580430	CIP Pump	N8, Q15, QR15	1	\$9,180	\$5,508
REB5902591	Clutch	H5, N5, QPC11	2	\$3,031	\$1,819
REB6511142	Power Supply, DCX-4K Horizontal Ultrasonic	SA Consolidated, SM Spout	2	\$14,320	\$8,592



EVERGREENPACKAGING is a global leader in beverage packaging systems, serving the dairy, juice, specialty, and other liquid food markets. The Evergreen Packaging business employs nearly 4,100 people worldwide. Besides the North American facilities, Evergreen Packaging includes wholly owned subsidiaries in China, South Korea and Taiwan, and joint ventures in Israel, Latin America, North Africa and Saudi Arabia.

Evergreen Packaging is owned by Reynolds Group Holdings Ltd, an investment company that also owns Reynolds Packaging, Pactiv Corporation, Closure Systems International and Graham Packaging.

The Evergreen Packaging product line includes:

- Gable top packaging equipment—which forms, fills, and seals paper gable top cartons—available for pasteurized, ESL (Extended Shelf Life), ELL (Extended Long Life), and hot fill applications. These machines fill cartons from 4 oz. up to half-gallon (150 ml up to 2 liter), at speeds from 30 to 340 cartons per minute.
- SPOUT-PAK® twist-off closures for most gable top cartons.
- Gable top materials available through our global network of converting plants.

## SERVICE TIP

# Here's How to Reduce Converter Failures

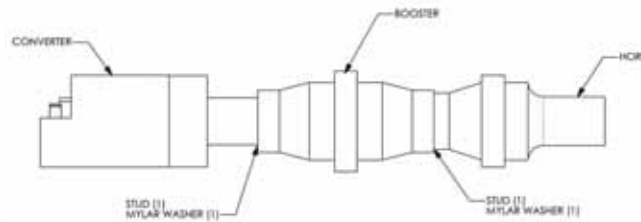
Frequent ultrasonic converter failures can be frustrating for customers as well as for Evergreen's service technicians and returned goods coordinator. What contributes to their failure? According to product engineer Jim Goranson, problems with converter PNs 5517630 and 5518161 usually center around four areas:

1. Broken electrode tabs or wires
  2. Damaged RF connector
  3. Converter fretting, loose stud or converter not properly torqued
  4. Horn-to-anvil contact for extended period of time
1. Electrode tabs or wires are usually broken in two ways: from looking inside the converter to see what is wrong, and because the converter cooling line is kinked. Simply inspecting the cooling lines for kinks can eliminate that cause of failure, and putting a tamper-apparent decal on the converter to indicate if it has been opened can discourage looking inside.
  2. Damage to the RF connector is generally obvious because it will appear bent or deformed. To avoid this, be very careful when connecting and disconnecting the cable from the converter. Converter PN 5518161 comes with an 8-in. "pigtail" that flexes with the connector, thus reducing the possibility of damage.

3. General converter installation and maintenance practices should be followed. When replacing ultrasonic stack components, it is recommended to replace the stud that connects the stack components as well. Also, any fretting on the components must be cleaned before reassembly, and a new Mylar washer must be placed between the stack components. Finally, be sure to tighten components to the correct torque:
  - Stud to horn: 450 in-lb (50.84 Nm)
  - Converter to booster and booster to horn: 220 in-lb (24.85 Nm)

Torque wrench kit PN 3701004 and stack vise kit PN 3112721 will help in applying the proper torque and, consequently, eliminating inconsistent welds and damage to components. Find more information in the instruction manual.

4. Make sure the horn and anvil never come in contact with each other. There must always be a gap between the anvil and the horn. Refer to the instruction manual for additional information on setting the gap between the anvil and horn.



## EPE NEWS

# Sales Coordinator Jim Mraz Retires

We've all heard the saying that all good things must come to an end, and so goes Evergreen's relationship with Jim Mraz.

Jim came to then Cherry-Burrell in 1978--four years after earning a degree in psychology from Iowa State University and working in sales for a company in Chicago where he grew up. Perhaps that psychological insight is what helped Jim to positively connect with

Evergreen customers and coworkers for the next 38 years.

Jim will work his last day at Evergreen on December 21, so be sure to wish him well before he heads to Florida where he'll spend his retirement enjoying the sun and sand, and getting fishing pointers from his 3-year-old grandson Nolan. Congratulations, Jim!



Every part you purchase from EVERGREEN PACKAGING EQUIPMENT is backed by our:

- Commitment to quality.
- Technical Service Team (TST) of engineers to answer your questions.
- Team of knowledgeable sales coordinators to make sure you get the part you need, when you need it.
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- Experienced field service technicians available to maintain your filler in peak operational condition.
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### TO ORDER PARTS:

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Phone: 319-399-3570 or 800-331-6083  
Fax: 319-540-8958

### FOR TECH SUPPORT:

Phone: 319-399-3300

## ANNOUNCEMENT

The Evergreen Packaging facility will be closed Nov 24-25, Dec 23, 26 & 30, and Jan 2 for the Thanksgiving, Christmas and New Year's holidays. On those days, we will ship parts and schedule service on an emergency basis only.

Happy holidays!