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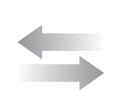


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THE MINNESOTA RECYCLER

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On The Cover, Photo from The Upper Midwest Auto & Truck Recyclers Convention and Trade Show 2011

Check Our Website at www.autorecyclersmn.net

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THE MINNESOTA RECYCLER

The Minnesota Recycler is published six times per year for the Automotive Recyclers of Minnesota. None of the material in this publication necessarily reflects the opinion of ARM, its officers, directors, staff, members or it's Publisher. Statements of fact and opinion are the responsibility of the author alone. Articles and letters suitable for publication will be published in the next scheduled newsletter as space permits. Material should be sent to Kelly Lynch-Salseg, ARM Executive Director. Articles may be edited for length.

Throughout this issue, trademarked names are used. Rather than place a trademark symbol in every occurrence of a trademarked name, we state we are using the names only in an editorial fashion, and to the benefit of the trademark owner, with no intention of infringement of the trademark. Mention of trade names, commercial products, or techniques does not constitute endorsement or recommendation for use.

ARM Board of Directors Meeting Recap

June, 2012 - Madison Lake, MN

Board present: Chris Bickmann, Wes Bradford, Randy Davis, Carl Genz, Mark Hortman, Shane Rudd & Terry Stenglein. Jesse Faust arrived at 7:00 p.m. **Board Absent**: Patrick Garrity & Paul Lang **Staff Present**: Kelly Salseg.

The Board reviewed and approved the April 2012 Board of Directors meeting minutes and the Association and Foundation financial reports.

Major items discussed:

- 2013 Upper Midwest Auto & Truck Recyclers Convention & Trade Show. ARM Committee assignments were made.
- ARM sponsored Bike/Car Poker Run for Fall 2012.



From the Executive Director's Desk

By Kelly Lynch-Salseg

June and July have come and gone but not without some good memories. I do hope that everyone is enjoying the summer and is spending some quality time with your families outdoors because the summer will be gone before we know it and the time to send in your ARM membership will be here soon.

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Membership Renewal Notices for 2013 will be mailed out soon. Please do your best to promptly return your renewal notice and membership fee for 2013. Carefully review the information on your renewal notice as it will be used as the basis for your free listing in the ARM 2013 Membership Directory as well as your listing on the ARM website.

The ARM Membership Directory is mailed to virtually every insurance adjuster, body shop, mechanical repair shop and automotive recycler in Minnesota (and beyond). In addition to the initial mailing of the directory, the ARM office receives requests for the directory from various companies virtually every week throughout the year.

Each ARM member receives a FREE listing in the ARM Membership Directory. You must have your membership renewed by December 31, 2012, in order to receive your free listing.

In addition to your free listing, you also have the opportunity to advertise in the Membership Directory. A 2013 Membership Directory order form follows this article.

When you send your ad in remember to have it created in full color & saved as either a .jpeg image or .pdf file. Also keep in mind the sizes needed for each ad option!

Thanks and enjoy the rest of your summer!





Automotive Recyclers of Minnesota 2013 Membership Directory

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Serious Safety

By David Kendziorski, MN-CAR Program Manager

The Minnesota Certified Automotive Recycler (MN-CAR) program was designed to be an easy and affordable way to become a certified professional auto recycler following basic environmental, safety, and regulatory standards. The standards have not changed much since the program began. The environmental standards are comprehensive and help members meet Minnesota's tough stormwater permit regulations, spill control laws, and hazardous material rules. These environmental standards are specific practices for the recycling industry: addressing incoming vehicles, vehicle processing, fluid storage, parts storage, crushing, equipment maintenance, and many other activities. The MN-CAR environmental standards are among the best in the industry.

However, the MN-CAR safety standards are not as strong. The current safety standards cover per-

Scrap Commodities Market Report August 2012 *Approximate Pricing*

Crushed Cars	160.00 NT
Prepared Iron	210.00 NT
Motor Blocks	225.00 NT
Aluminum Rims	0.65/LB
Aluminum Condensers Clean	0.60/LB
Alum/Copper Radiators Clean	1.50/LB
Aluminum Case Transmissions	0.20/LB
Dirty Aluminum	0.17/LB
Batteries	0.35/LB
Lead Wheel Weights	0.40/LB

^{*}This Report is for the sole purpose of informing members of current metal market activity.

sonal protective equipment, eyewash stations, fire extinguishers, first aid kits, HazMat Right-to-Know requirements (including Material Safety Data Sheets and postings), injury and illness logs, and training for forklift operation, hazardous material (airbag) transportation, and cutting torch operation. These standards are certainly helpful and a step in the right direction. But we could do better.

John Gilstrap, Director of Safety for the Institute of Scrap Recycling Industries (ISRI), notes that the "refuse and recycling industry" (that includes both scrap recyclers and auto recyclers) is the 7th deadliest industry in America. Our jobs are 33% more dangerous than that of a police officer. In a March-April 2012 article in Automotive Recycling magazine appropriately titled "The Big Lie", Gilstrap calls out our industry's safety programs and concludes that we don't know enough about safety regulations, and more important, we don't care enough about the safety of our employees. When unfortunate accidents happen, Gilstrap places the blame on management failure, not careless employees.

The Automotive Recyclers Association (ARA) is committed to improving the safety performance of our industry. Find and read the afore-mentioned March -April 2012 issue of Automotive Recycling, which is titled, "Get Serious About Safety", and includes a half dozen excellent articles about safe auto recycling. ARA University offers 14 courses on safety compliance, and Wells Fargo Insurance Services and ARA collaborated on an Employee Safety Booklet. In February 2012, ARA established a Safety Committee to generate a list of safety recommendations for auto recyclers. That Committee, coordinated by Betsy Beckwith of the ARA Government Affairs Department, consists of 19

^{**}For more accurate and current pricing call your scrap metal vendor.

industry representatives, including Rick Lemke from Metro Auto Salvage, Inc. in Lakeville. Rick is confident that the Committee will be developing excellent safety guidelines for the industry.

We can and should incorporate additional safety standards into the MN-CAR program. The new standards might address issues such as respiratory protection, lockout/tagout, electrical requirements, machine guarding, truck driving, and perhaps even safety guidelines for self service recyclers. We should coordinate our efforts with the ARA Safety Committee. We should better utilize ARA University and other webbased training resources to significantly improve our safety training and record keeping. We should consider working with OSHA On-site Consultation Services (a branch of OSHA emphasizing compliance assistance, not enforcement) to identify safety issues of greatest concern to the regulators and to use their training, outreach, and education programs. It's always better to work cooperatively with regulators than risk additional inspections, citations, and heavy fines.

Most important, owners and managers must commit to providing the safest working conditions for their employees. As John Gilstrap says, "Workers aren't hurt when they're being careless; they're hurt when they're doing what they were told to do."

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Minnesota Certified Automotive Recycler (MN-CAR) **Application Form**

		*	
Owr	ner	/Contact Name(s):	
Busii	ne	ss Name:	
		(if applicable):	
		Address:	
		g Address (if different):	
		de:	
		:	
		ish to participate in the Minnesota Certified Automotive	
		gree to meet the MN-CAR standards.	, , , , ,
•	a	gree to participate in the MN-CAR auditing program to	verify compliance with the MN-CAR standards.
		nderstand that participation in the MN-CAR program doe t that I have that option if I am an ARA member in good s	
•	h	ave enclosed my MN-CAR membership fee of \$350.00,	made payable to "ARM".
•	a	gree to comply with the following guidelines:	
	J	Be a member of ARM, and meet the membership req	uirements.
ſ	7	Appropriately display applicable MN-CAR program identity and promotional materials. I agree to	

surrender the same if ARM membership is canceled or **MN-CAR Members**

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Viking Auto Salvage

Business Owner Signature: __ Date: _ Staff Use Only: Date Received by ARM:_

☐ Improve my effectiveness as a business person and

□ To not knowingly purchase and/or sell automotive

I understand that as the automotive recyclina industry changes, the requirements to be a MN-CAR member may

also change. I agree to incorporate any such changes in

my business. If I fail to do so, my MN-CAR membership will

parts of questionable origin. A MN-CAR member

professional automotive recycler through trainings and

should take pride in his industry and business, thereby

enhancing quality, customer service and confidence.

Disclaimer: Each automotive recycling facility participating in the MN-CAR program is responsible for complying with applicable local, state, and federal regulations. Meeting the MN-CAR standards does not guarantee compliance with all regulations that apply to the facility, nor does it provide against citizen or third party legal actions.

terminated.

seminars offered by ARM.

be subject to termination.

Legend Smelting and Recycling Can Help Your Business

Through Rocky Economic Times

Legend Smelting and Recycling recently had the opportunity to ask some of its existing customers what, if anything, Legend Smelting and Recycling has done for your business that has made it more profitable. The following are some of the responses we received:

1. **Education.** A number of the business owners we spoke with named the most important



thing Legend Smelting and Recycling has given to their business is education. Legend Smelting and Recycling does not believe in tricks or the manipulation of its customers to make a dime. That is why we work with our customers and assist them in learning the converter grades and what each grade is worth. Legend Smelting and Recycling firmly believes that education is power and



- that educating customers instills confidence in its customers that they are getting a fair deal. That is why, instead of simply tossing the converters into the truck, we spend the time to lay out the converters, discuss them with the customer and allow the customer to ask questions.
- 2. **Schedule.** Not only does Legend Smelting and Recycling believe in educating its customers, it also stands firmly on timely pick-up of its customers' material. With the volatility of the current market causing market prices to potentially change daily, having a regular schedule that a customer can count on could mean the difference between making hundreds and making thousands.
- Transparency. Legend Smelting and Recycling is building its business on transparency.
 Legend Smelting and Recycling recognizes that its customers are an integral part of its success.
 That is why Legend Smelting and Recycling of

- fers to let its customers come to one of our locations to learn about the converters and which converters fall into each category.
- 4. Categories. Legend Smelting and Recycling has recently implemented a new grading system based on the laboratory breakdown of the contents of each converter. Those laboratory breakdowns provide the basis for the approximately sixty-eight categories that Legend Smelting and Recycling uses to purchase converters. By using the precise contents of each converter to determine its worth, it is our belief that we can pass more money on to our customers.
- 5. **Customer Support.** Legend Smelting and Recycling prides itself on being available to answer customer questions or concerns promptly. Whether a customer has a question on the value of a converter, needs a quick description of a converter category or has concerns about



market trends, Legend Smelting and Recycling is available to help. We are constantly contacting our customers with updates and price changes, thereby allowing our customers to have the up-to-date information they need to compete in the marketplace.

6. **Trust.** Legend Smelting and Recycling is interested in making long term relationships with its customers. In order for that to happen, we realize that we must earn their trust. It is our hope that trust will develop as we educate our

customers, schedule regular pick-ups, and provide excellent customer support. However, we also try to earn that trust through other, smaller ways, including following up with accounts after a scheduled pick-up to check on the customer's satisfaction with our visit.

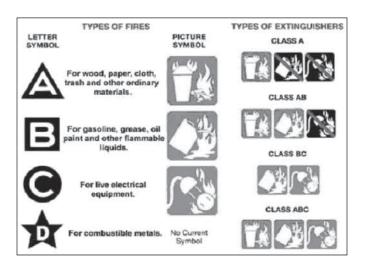
If you are interested in how Legend Smelting and Recycling might be able to make your business more profitable, we invite you to contact Dan Miller at (815) 641-7661. We also welcome you to check us out at www.legendsmeltingrecycling. com or visit our booth at an upcoming industry event.

Portable Fire Extinguishers

OSHA Standard 1910.157

OSHA regulations specifically require that fire extinguishers be provided on powered platforms and in work areas involving use, storage or dispensing of flammable, explosive, or combustible materials, hazardous wastes, and clean-up of hazardous materials releases.

Every employee should be trained on how to use a fire extinguisher and should be familiar with the letter or picture symbols identifying the type(s) of fire on which it may be used.



Type of Fire Extinguisher

Your fire extinguishers should have ABC ratings on them. These ratings are determined under *ANSI/UL Standard 711* and look something like "3-A:40-B:C". Higher numbers mean more firefighting power. Use a professional fire extinguisher service which will protect your employees and business as well as provide back up fire extinguishers when the original ones are removed for maintenance and recharging.



Accessibility

OSHA requires that employers label, mount and identify fire extinguishers in the workplace so employees can access them easily without risking injury. Once mounted, there must be 36 inches of clear space surrounding the fire extinguisher.

Locations

Employers should place fire extinguishers throughout the workplace so they are positioned near areas where fires are most likely to occur and near areas where fires would be large or very risky if they did occur. Fire extinguishers should be distributed so that the travel distance from the hazard area to an extinguisher is between 50 and 75 feet depending on the class of fire. Exact distances may vary by municipality. Please check with your fire department for local requirements.

Although not mandated, some businesses have posted maps of fire extinguisher locations throughout their facility.

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Inspections/Recordkeeping

According to OSHA, fire extinguishers should receive monthly visual inspections and yearly maintenance checks, which the employer should keep a record of. Use of Inspection tags is recommended.

The people who inspect fire extinguishers should have proper training on how to use and test a fire extinguisher. Fire extinguishers with stored pressure dry chemicals should be emptied and refilled at least once every six years. Carbon dioxide extinguishers and carbon dioxide or nitrogen cylinders should be tested at least every five years.

Know the P-A-S-S Technique

Employers who provide fire extinguishers in the workplace also need to train their employees on how to use them if a fire occurs. Every employee has to sign a form that confirms that he he has been trained annually.

P-A-S-S is the technique that best describes how to use a fire extinguisher.

To operate a fire extinguisher....PASS

- Pull the Pin at the top of the extinguisher. The pin releases a locking mechanism and will allow you to discharge the extinguisher.
- Aim at the base of the fire, not the flames. This is important in order to put out the fire, you must extinguish the fuel.
- *Squeeze the lever slowly*. This will release the extinguishing agent in the extinguisher. If the handle is released, the discharge will stop.
- Sweep from side to side. Using a sweeping motion, move the fire extinguisher back and forth until the fire is completely out. Operate the extinguisher from a safe distance, several feet away, and then move towards the fire once it starts to diminish. Be sure to read the instructions on your fire extinguisher different fire extinguishers recommend operating them from different distances.

Fire Extinguisher Training

The employees that are charged with the use of the portable fire extinguishers are required by OSHA to have initial training on their use, and annual followup training for however long they are still charged with

that responsibility. Portable fire extinguisher maintenance companies that are authorized by the manufacturer may offer training sessions to customers.

Fire extinguishers are labelled with their type and instructions.

Portable fire extinguisher training consists of reviewing with personnel the types of fire extinguishers located in the building, the type of fire each one can put out, and the proper use of the unit. There are several different types of fire extinguishers, such as ABC dry chemical which is for general use and a Class "D" fire extinguisher which is for use on flammable metals.

The first rule that is taught in training is to call 911, no matter what the size of the fire is. The second rule is to evacuate the building. The third rule is to then determine if the fire can be put out with a portable fire extinguisher. Employees should be trained to assess the safety of the situation before attempting to extinguish the fire by themselves. They should also be trained on the actual use of the extinguisher, and should frequently review the types of extinguishers in their workplace and the materials they can extinguish. Fire extinguishers are required by law to have proper labeling that gives directions for their use and the employee should review those directions periodically.

Resources

Training Tools

Fire Extinguisher Labeling and Usage Training Cards
These wallet-sized instructional cards can help
your employees remember their fire safety training.
The front features the NAFED (National Association of Fire Equipment Dealers) pictograms found
on extinguishers, the four basic types of fires, and a
brief description of each. The reverse side features
the PASS method for fire extinguishing- Pull, Aim,
Squeeze, and Sweep.

http://www.safetyemporium.com/ILPI_Site/Web-PagesUS/detail.htm&&2eiBpe0obDuox2NvxMpoLGxolob024_aXIWaSlka_ITa?11502

Fire Extinguisher Training

http://www.ehs.okstate.edu/modules/exting/Howto.htm

ARA University

http://www.arauniversity.org/courses.php

SOURCES

- http://www.osha.gov/pls/oshaweb/owadisp.show_ document?p_id=9811&p_table=STANDARDS
- 2. http://www.ehow.com/list_6777356_fire-extinguisher-training-requirements.html



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Wisconsin

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All Grades of Scrap Metal
Chris Higley
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Thomas D. Slinde 1990 - 2007

Thomas D. Slinde, age 65, of Annandale died Thursday, June 7, 2012 at North Memorial Medical Center. Tom worked for E Z Crusher from 1990 – 2007 and worked with a lot of our members over the years.

Visitation and a Memorial Service were held on Tuesday, June 12, 2012 at the Dingmann Funeral Care Chapel in Annandale, MN. Interment was held on Wednesday, June 13 at Fort Snelling National Cemetery, Minneapolis, MN.

Thomas Dean Slinde was born December 27, 1946 in Albert Lea to the late Udene and Eldora



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(Loken) Slinde. He was a 1964 graduate of Albert Lea High School and then enlisted in the Military as a member of the U.S. Navy. He married Susan Hawkinson on August 27, 1971 in Minneapolis and they lived in the Twin Cities, Maple Lake, Annandale, St. Michael and most recently back in the Annandale area on Lake Sylvia.

From 1990-2007 he worked as a sales manager for R. M. Johnson Company of Annandale. Tom was a 2009 Sister Kenny Institute Stroke Survivor Honoree. He was a member of the Maple Lake VFW Post 7664 and a former member of the Maple Lake Jaycees. He enjoyed hunting, fishing, golfing and the Minnesota Twins.

He is survived by his wife Susan of Annandale, daughter Heide of St. Paul & her fiancé Joseph Baker of St. Paul, brothers Darryl (Linda) of Golden Valley, Daniel (Mary) of St. Francis, David (Linda) of Montrose, Udene of Alexandria, Michael of Dalton, sister Loann (John) Swelander of Osceola, WI, mother in law Beatrice Hawkinson of Bloomington, also special aunts & many nieces & nephews.



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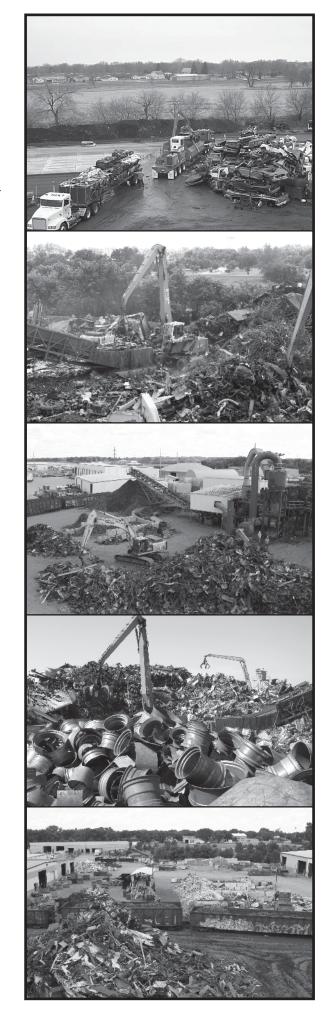
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U.S. EPA Expected Soon to Publish Proposed NPDES Electronic Reporting Rule

The U.S. Environmental Protection Agency (EPA) is developing a proposed rule on electronic reporting for various aspects of the National Pollution Discharge Elimination System (NPDES) program which includes stormwater permit information.

The focus of this rule is to establish new reporting requirements for facilities, and other parties such as the states, that currently are required to report certain data (such as stormwater) under NPDES. Each of these parties are already collecting and submitting substantial amounts of data, on a number of program areas, to



the states or to EPA. The proposed rulemaking, is expected to require that some portion of that reporting be submitted electronically. The final rule is expected to be issued in 2012, and include a process for phased implementation over several years.

Since 1985, the Permit Compliance System (PCS) has served as the national data base for the NPDES program and as the primary source of NPDES information for EPA, many NPDES-authorized states, Congress, and the public. But over time the NPDES program has changed significantly, and regulatorsnow believe there is a growing need to present a more complete picture of the NPDES program and include the diverse universe of regulated sources, including smaller and non-traditional sources such as storm water.

As theNPDES program has evolved, PCS reportedly has become increasingly ineffective in meeting the full scope of EPA's and individual state's needs to manage, direct, oversee, and report on the implementation and enforcement of the NPDES program.

According to EPA, PCS is being phased out and is being replaced by the Integrated Compliance Information System (ICIS). Compared to PCS, ICISNP-DES allegedly more accurately reflects the full scope of the NPDES program, and it includes data for a variety of permit types and program areas that could not be easily tracked in PCS.

Through this rule, EPA plans to begin establishing a nationally consistent setof required NPDES electronic reports for the full scope of the NPDES program. ARA is closely following the status of this rulemaking process and will alert members as soon as the proposed rule is published.

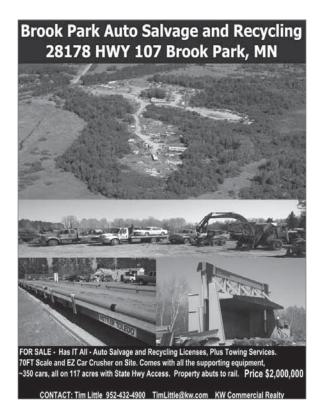
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What's New With You?

***** FOR SALE *****

Gaylord Boxes: John's Auto Parts has about 100 extra Gaylord boxes that they are looking to get rid of. They are mixed heavy duty Gaylord boxes 4 and 5 ply strength. Very strong boxes. They vary between 38-42 inches high and 36-45 inches length and width. They are selling them for \$20 each and will deliver them for \$20 per set to the metro area. You can purchase 1 or up to 100 if you need that many. Call Doug at 763-783-2223 or email dougw@johnsauto.com.

Brook Park Enterprises: We are planning on installing the Hollander system and are looking for a temporary consultant who knows the system well and could help us get up and running with it. Hours could be flexible and it could possibly turn into something more long term, either part-time or full-time. Please contact Kathy at Brook Park Enterprises, Brook Park, Mn. 612-721-4442.





Recyclers Parts Exchange Program: June 30th marked the close of the second quarter of 2012 business. For the Recyclers Parts Exchange Program that meant it was time once again, to randomly select the recipient of the quarterly "Thank you" from RPEP. As always, the prize is that RPEP will pay the next year



state association membership for the selected user.

On April 24th PAMs Auto issued a purchase order to Rhine Auto. The p o was for an ABS module and naturally PAMs anticipated a reasonable profit on the resale of this part. However, they certainly did not anticipate the "bonus profit" of this transaction which is the \$199.00 value of the 2013 membership dues for Automotive Recyclers of Minnesota.

Rhine Auto created a shipping label in the RPEP system and sent the part to PAMs. Of course, no one knew at the time that label number 237675 would be the randomly selected number to win the second quarter reward.

As the RPEP rewards program is set up, in the first and third quarters the winner would be the shipper, and in the second and fourth quarters the winner would be the receiver of the shipment. Consequently, 2013 ARM membership dues for PAMs Auto will be paid by RPEP.

All RPEP users are winners, in the sense that they realize increased recycler to recycler sales opportunities and decreased shipping costs due to the unique RPEP approach to shipping rates. Additionally 4 users each year will have their respective state association membership dues paid for them by RPEP.

Every part sold, and shipped via Recyclers Parts Exchange Program, generates a unique shipping label number and each label generated is another opportunity to become the next recipient of ARM or CARS membership dues payment.

If your business is not currently an RPEP user you may want to investigate the benefits of this auto recycler designed program. RPEP was built by auto recyclers, for auto recyclers and continues to meet the specific needs of shipping recycled parts. Information is available by contacting hoffmann.bob@gmail.com

"What's New With You?": Please contact the ARM office with your and your employee's birthdays, anniversaries, weddings, births, etc. coming up. We will gladly include them in the "What's New With You?" column. Gather those dates, names and occasions and let us know. Also, if your company or any employees have received any kind of special civic commendation or award, or you have made any changes to or with your business - pass that info. along as well. Email (autorecyclersmn@bitstream.net), fax (612-781-7052) or phone (612-781-5555) the information in!

Automotive Recyclers of Minnesota Stormwater Testing Kit Order Form

Full Kit includes: Cooler, Nitric Acid preserved bottle for metals, Unpreserved bottle for TSS, Temperature Blank, Ziploc bags for ice, Trip Blank for BTEX, Sample vials for BTEX, Label for bottles, return shipping label Chain of Custody form, lab services.

Payment must accompany all orders. Sorry – refunds are not available.

	ARM MEMBER Price	Qty.	Total	
Full Kit	\$134.09*			
TSS Kit	\$26.82*			
Aluminum Kit	\$26.82*			
Iron Kit	\$26.82*			
Lead Kit	\$26.82*			
BTEX Kit *includes sale	\$53.64* es tax			
Check made pa	yable TOT it card information r		pany order.	
Shipping/Bill	ing Address:			
Name				
Company:				
Address				
City, State, Zip				
Phone				
Email				
Payment Method: I have enclosed a check made payable to "ARM" in the amount of \$ I will pay by credit card: We accept Visa and MasterCard				
Name on Card				
Amount	AmountExp. Date		e	
Credit Card#				
CV Code		Dat	e	
Authorized Signature				

Mail To:

Automotive Recyclers of Minnesota 3333 Skycroft Circle, Minneapolis, MN 55418 Phone (612) 781-5555 · Fax 612-781-7052 Email autorecyclersmn@bitstream.net

New Right To Repair Legislation Passes In Massachusetts

Right to Repair advocates scored a victory last week in Massachusetts after a last-minute compromise secured passage of Right to Repair legislation, requiring auto manufacturers to provide all repair and diagnostic information to car owners or their choice of repairer. After many weeks of negotiation and on the last day of formal legislative session for the year, a compromise bill was introduced and passed by both the Senate and House of Representatives late Tuesday evening, on July 31st. The bill has been sent to the Governor, who is expected to sign the legislation into law.

ARA has long argued that car owners and independent repair shops need full access to the information, parts and tools necessary to accurately diagnose, repair and re-program vehicles. For far too long, vehicle manufactures have made access to this data increasingly difficult and costly to obtain. The new Massachusetts law is an important step forward in providing consumers and re-pair shops with the information they need to make informed decisions. ARA would like to recognize the efforts of the Right to Repair Coalition and local Massachusetts automotive recyclers in achieving this important milestone. ARA looks forward to working with advocates in the state to educate the general public about the new law, and about how access to this information can facilitate the use of quality recycled auto parts.

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Automotive Recyclers of Minnesota HAS YOUR BAGS!!

ARM has plastic bags with ARM logo available at a price that would be hard to match!!! Save money, support ARM and order from us!!

Pick up at Metro Auto Salvage in Lakeville, MN -ORinclude \$10 shipping charge per package.

Plastic bags: 18 x 24 - 250/pkg., 3 MIL Thickness Price Qty. Total
\$45.00 (ARM Member) =
\$50.00 (Non-Member) =
Subtotal
Minnesota & Hennepin Cty. Sales Tax 7.275%
Shipping (\$10.00 per package)
TOTAL DUE Check made payable to ARM or credit card information must accompany order.
Shipping Address:
Name
Company:
Address
City, State, Zip
Phone
Email
Billing Address: (if different)
Name
Company:
Address
City, State, Zip
Payment Method: I have enclosed a check made payable to "ARM" in the amount of
O I will pay by credit card: We accept Visa and MasterCard
Name on Card
AmountExp. Date
Credit Card#
CV Code Date
Authorized Signature
Mail To: Automotive Recyclers of Minnesota

3333 Skycroft Circle, Minneapolis, MN 55418 Phone (612) 781-5555 · Fax 612-781-7052 Email autorecyclersmn@bitstream.net

Parts Price Inflation: Mitchell's Industry Trends Report Special

Mitchell began to examine the impact of parts inflation on an average claim estimate several years ago and created a list of 20 most-frequently replaced collision parts. The list contains the most common front and rear end parts that one might replace following a collision - these parts are also the ones most fre-quently produced for after-market sale as well as being top movers in the re-cycled parts industry (professional automotive recyclers).

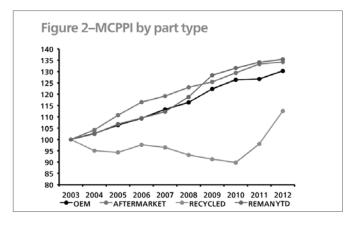
Mitchell then collated data from 2003 through 2012 (YTD) to arrive at a weighted average price for those parts, allowing for comparison of inflationary trends by part type. The values represented are based on 100 percent for the base year (2003) and related percentages. Analysis was made by part type (OEM, aftermarket, recycled or remanufactured) according to the type of vehicle (domes-tic, European or Asian), in order to see what is driving the inflation in parts costs.

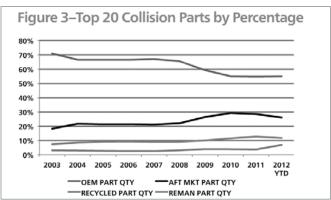
Fig. 1 shows a parts price index, down for Domestic vehicles, flat for Asian ve-hicles between 2011 and 2012. Fig. 2 shows the increase of both, recycled parts and OEM parts, possibly caused by a change in the part type selected. Fig. 3 indicates the percentage selected by part type of the parts

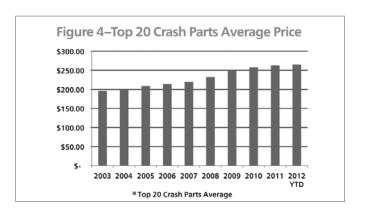
Figure 1–MCPPI by vehicle nameplate origin

150
140
130
120
110
100
2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
ASIAN EUROPEAN DOMESTIC YTD

selected for the top 20. Fig. 4 appears to show an overall inflationary trend, but the rise is less than that of an individual part type.









REASONS TO JOIN AUTOMOTIVE RECYCLERS OF MINNESOTA

Newsletter

- The Minnesota Recycler is mailed out six times yearly free of charge
- Information about ARM members and events, legislative reports, business tips and market conditions. Member profiles, timely articles, announcements and advertisements.

Membership Directory

 Over 3,000 mailed annually to every insurance adjuster, body shop, mechanical repair shop and automotive recycler known to exist in Minnesota! FREE LISTING to ARM members.

Representation at the Capitol

- ARM works with local and state governing bodies on issues affecting the recycling industry.
- Provides the "eyes, ears and voice" for recyclers.

National Affiliation

ARM is an affiliate member of ARA- the Automotive Recyclers of America.

ARM Foundation

 Developed to provide annual post-secondary educational scholarships to children of ARM Full members and their employee's children. ARM awarded \$5,000 to deserving applicants last year.

Web Site- www.autorecyclersmn.net

- An information resource for recyclers, body and repair shops, and retail customers.
- Averages over 21,000 Total Hits a month!
- Contact ARM lists all officer and management names and phone numbers.
- Calendar lists all upcoming ARM events.
- Members List provides phone numbers, email and web site links to all ARM members.
- Parts Search area provides an opportunity for ARM members to sell their parts.
- News Letters archives past issues of the Minnesota Recycler.

Upper Midwest Automotive Recyclers Convention & Trade Show

- Annual convention brings vendors and recyclers together in one place.
- We team up with Wisconsin to host the best regional convention in the country.

Products

- Plastic part bags (18 x 24) are offered to ARM members at the lowest possible price!
- Stormwater testing kits at the lowest possible prices through ARM's collective bargaining power.

MN-CAR Program (Minnesota Certified Automotive Recycler)

 The MN-CAR Program is designed to help members improve their performance as professional recyclers, and recognizes and certifies that enrolled members, passing an audit, meet specified general business, environmental, safety, licensing, and regulatory standards.

Educational and Social Events

- Educational seminars and trainings held on subjects of interest to recyclers.
- Social events such as the annual Summer & Winter Outing bring recyclers together with an opportunity to network in an informal and fun atmosphere.

Be a Player

- Rather than watching from the sidelines, joining ARM is an
 opportunity to get involved and affect change rather than being a
 passive non-participant.
- For the price of your cheapest transmission sale you can get your company name in front of repair shops, auto body shops, insurance adjusters, and fellow auto recyclers for an entire year!

Automotive Recyclers of Minnesota Application for Membership

Company Name		
Contact Person & Title (Name in directory)		
Address		
City		
State, Zip		
Whom should ARM invoice at your company?		
If different address than above, list		
Phone:		
Toll Free:		
Fax:		
E-mail		
In business since:		
No. of employees:		
Web Site		

ENCLOSED IS MY ARM MEMBERSHIP CHECK:

☐ \$199.00 Full Member

Note: Full Membership is reserved for automotive dismantling facilities (salvage yards) located within the state of Minnesota

□ \$150.00 Associate Member

Note: Associate Membership is reserved for non-salvage yards, and salvage yards from outside the state of Minnesota

Rates are based on annual membership.

Please return this form with your membership check to: ARM, 3333 Skycroft Circle, Minneapolis, MN 55418. Phone (612) 781-5555 ~ Fax (612) 781-7052 Email autorecyclersmn@bitstream.net

SUPPORT OUR ASSOCIATE MEMBERS

7TH Avenue Auto Salvage 701-282-5130

AASP-MN 612-623-1110

Adolph's Converters & Cores 763-755-7534

AFLAC

612-298-7533

Allied Auto Salvage 951-784-0057

Alter Metal Recycling 651-222-2751

AMG Alliance, LLC 651-388-1790

Auto Data Direct, Inc. 850-877-8804

Auto Dismantling Program NE Metro District 916 651-415-5522

Automotive Research & Design 248-506-5697

Battery Wholesale INC. 320-253-8383

Bayside Recycling Corp. 218-628-3109

Behr Iron & Metal 641-424-9521

FOR MORE INFORMATION, CONTACT:





Pete Hill VP / Commercial Insurance Email: PeteH@MyLSB.com Cell: (319) 240-2428

Adam Brickley Insurance Consultant Email: AdamB@MyLSB.com Cell: (319) 310-6225



219 Main Street Cedar Falls, IA 50613

Phone: (319) 268-4242 Fax: (319) 268-4211 Toll-free: (866) 907-4242 Big Lake Auto Repairable 763-263-2050

BW Insurance Agency 651-488-0789

Car-Part.com 800-347-2247

Chiefs Towing 952-888-4944

Crow Wing Recycling 218-828-0048

Derson/Clean Burn 800-403-3456

EZ Crusher 800-328-3613

G. J. Sullivan Co. 714-621-2330

Gerdau Ameristeel 651-731-5600

Gladwin Insurance Agency 952-935-5551

Global Parts Solutions 414-861-8442

Harleysville Ins. Co. 952-829-1422

Hollander 800-825-0644

Integrated Recycling Tech. 877-892-9194

Keller Williams Commercial Real Estate 952-432-4900

Keystone Automotive 800-328-1845

LSB Financial – Petersen-Hill Insurance 800-907-4242

Legend Smelting & Recycling 800-697-5556

Liberty Tire Services of Ohio LLC 330-868-0097

MCI Cores 314-725-267

Mike French & Company 800-238-3934

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United Recyclers Group 888-874-3463

Universal Core Supply 763-682-3365

Wells Fargo Insurance Serv. 952-830-3039

Wheeler's Autobody Supply 319-234-3414

Zurich 800-468-8078

Hybrid High Voltage Battery Pack Testing and Analysis:

A Roadmap for Reconditioning, Rebuilding & Remanufacturing
Opportunities in the Automotive Aftermarket
By: Dr. Mark L. Quarto, Technical Consultant for
Automotive Research & Design, LLC

Members of APRA should be listening for a knock on their business door. It's the sound of a new revenue stream opportunity that may be virtually untapped by many automotive remanufacturing businesses that are currently acquiring high volt-

age (HV) hybrid electric vehicle (HEV) battery packs or, for those businesses that have not -entered this market and have interest in pursuing new revenue opportunities. The thesis of this article will be to provide information in how to use additional HV battery pack processes and procedures that can be utilized in offering additional product enhancements to your customer. This results in a superior (known quantity) product for the customer and an additional revenue stream for your business.

The Anatomy of an HV HEV Battery Opportunity

The HEV entry into the automotive market in model year 2000 was the birth of a new opportunity. Any battery pack (Figure 1) that has been removed

(or not) from a new or used vehicle that has been scrapped due to a collision or other reason provides an opportunity for any business that acquire or retain this "core" part. As APRA members know, in the aftermarket parts business the core of a com-



ponent or part is king. Translated this means any business that acquires the part/component core can command much of the aftermarket parts business because, without the core a reconditioning, rebuilding, or remanufacturing program is impossible.

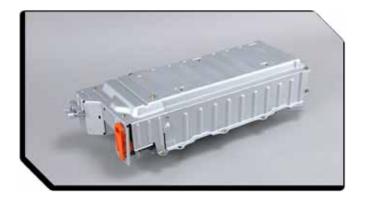


Figure 1. Toyota Prius hybrid high voltage battery pack

However, just because an aftermarket business may have access to the part core doesn't mean that they are fully capitalizing on its value. Value to a customer, when applied to a HV hybrid battery pack system, means that the battery pack: 1) is clean, 2) modules have been analyzed and tested (test data has been acquired and documented) and can perform to a stated industry accepted specification, 3) is safe and has to HV isolation fault condition that could (electrically) harm the installer customer or vehicle operator when the battery pack is being tested or installed 4) cause a loss of propulsion during the drive cycle of the vehicle, and 5) warranty will provide power and energy levels necessary for adequate vehicle performance and fuel economy during the stated warranty period (e.g., 6 or 12 months) and beyond for a high cost component.

Value to the business owner is elimination all of the battery pack module performance unknowns and that the customer has received a fully functioning



battery pack module system. In my 25 years in engineering, testing and servicing hybrid/electric/fuel cell vehicle propulsion systems I have never seen a time where an aftermarket service and parts business could so easily reinvent their business model by pursuing opportunities in these new technologies – HV battery systems in particular.

What's contained in the Battery Pack Testing and Analysis Process?

Whether your business decides to develop a reconditioning, rebuilding, or remanufacturing program the process for testing and analyzing the test data of a HV HEV battery pack system will be identical. Within the confines of this article the following definitions will be used: 1) reconditioned – battery pack modules receive only cycling to achieve adequate power and energy performance, no components are replaced and mild cleaning of bus bars may be necessary, 2) rebuilding - only malfunctioning battery pack components, hardware or modules are replaced to achieve adequate power and energy performance, and 3) remanufacturing - specific components are replaced on every battery pack system irrespective of their condition to achieve original (new) power and energy performance. During my long career with hybrid and electric vehicle



Figure 2. Example - Panasonic hybrid battery module

high voltage propulsion systems I have tested hundreds of battery pack systems (Lead Acid, Nickel Metal Hydride, and Lithium Ion technologies). From 2000 – 2012 hybrids in particular have (to date) been almost exclusively Nickel Metal Hydride (NiMH) module technology (Figure 2). This is very good news for the aftermarket parts industry. Since one type of battery chemistry has been dominant preparing or implementing additional value to the battery pack products and the customer is much simpler and easier to develop testing and marketing programs.

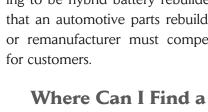
Another great piece of news is that experience with hybrid NiMH battery packs indicates that most (very high percentage) need only to be reconditioned to acquire very acceptable power and energy performance necessary to bring a good value to the customer. The NiMH battery modules are very resilient and can conditioning the modules can increase module capacity to near new Amp•hour (A•hr) levels. From the perspective of a customer (purchaser) of the reconditioned battery pack this would result in a lower purchase cost. From the perspective of a business owner marketing a reconditioned battery pack this would typically mean that disassembly is not required (but may be an option) nor battery module replacements would be necessary to acquire very acceptable levels of power and energy performance (without all of the additional labor or parts costs). Although there is an additional up-front cost to the business owner (in testing and analyzing the battery pack) the benefit is a component with known power and energy performance. Removing the unknown of how the battery pack will perform is extremely important to the person/business purchasing



the battery pack. Moreover, those experienced with hybrid battery packs have consistently indicated that most purchasers of used battery packs are most concerned with how the battery modules will perform after installation. If the battery pack has any performance or diagnostic issues after installation the battery pack must be removed and returned for a replacement unit.

This is a costly event for both the purchaser and battery pack supplier. This results in lost labor time, shipping costs, and an irritated customer. Therefore, if a business that is marketing reconditioned battery packs can test, analyze, and acquire data on a battery pack prior to a customer sale the business owner could market the battery pack at a slightly higher cost margin with a warran-

> ty ensuring battery pack (known) performance. This a considerable value point for any customer that is considering the purchase of a used (expensive) battery pack unit, and a significant marketing advantage to any business that can provide this value. In the automotive aftermarket repair business there are small companies forming that are claiming to be hybrid battery rebuilders that an automotive parts rebuilder or remanufacturer must compete



Supplier to Help Me? There are reputable HEV HV battery rebuilders that can provide excellent battery pack rebuilding services. However, there are many automotive aftermarket businesses that have entered the hybrid service market within the past five (5) years or longer that are self-taught or have learned from others who themselves were self-taught. Their testing and analysis techniques, coupled with using sub-standard equipment are not grounded in good engineering principles or practices nor do they possess the requisite experience to supply an optimal reconditioned or rebuilt product. However, customers of the self-taught suppliers typically don't know that their supplier is



self-taught nor do they know what questions to ask in selecting a qualified reconditioning/rebuilding supplier. Scary thought isn't it.

When selecting a supplier to assist in growing your hybrid HEV battery pack business, whether it is purchasing equipment and associated battery pack training to support an in-house program or selecting a turn-key supplier, there is one key question you should ask them: Do members of your staff have significant OEM hybrid vehicle manufacturer or OEM hybrid battery pack supplier technical and or engineering experience? If the answer is yes, ask them for credential documentation (education, professional development, and experience). If the answer is no then, run from them FAST because, they are likely self-taught which will foster a lengthy nightmare for your business. With organizations that I regularly provide engineering and technical consulting, we are witnessing an explosion of individuals in the automotive aftermarket training arena that claim to be engineers with fraudulent credentials, claim to have significantly more experience than is the actual case, or are completely self-taught but will claim that their methods are "as good as any other methods." Some of these individuals are nationally known and very popular in the automotive aftermarket. However, popularity and a big smile won't feed your business profit model, curb warranty returns, or maintain/increase your industry reputation. Therefore, I implore you to ask the tough questions before purchasing any aftermarket training, equipment, or service! It will save you time and treasure in unwinding the poisonous effect on your business.

A Scenario for an Aftermarket Parts Remanufacturer

A likely scenario for an aftermarket parts remanufacturer in the HV HEV battery arena is that they will acquire a battery pack core direct or from a sub-contracted material acquisition source. The battery pack when received may have been in a vehicle with 50k miles or 250k miles and the condition of the vehicle (and HV battery pack) is likely unknown (Figure 3).

Experience has shown than if a HV HEV battery pack has only 50k miles this by no means

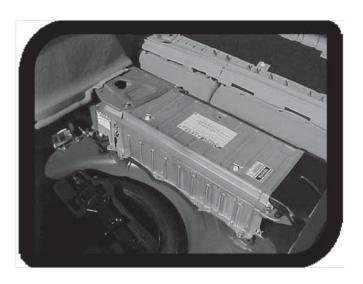


Figure 3. High Voltage battery pack in vehicle

guarantees the condition of the battery modules (of which could be 20 to 40 battery modules depending on model year, manufacturer and vehicle model). Even if the HV battery pack were in a vehicle when it arrived at a remanufacturers site and a serial data (scan) tool could be connected to the vehicle to gain access to the battery pack controller there will not be enough data nor tests available through the serial data tool to properly test and analyze the battery pack for reconditioning, rebuilding or, remanufacturing. The serial data tool is a wonderful tool for checking general battery pack state-of-health (SOH) but, lacks serious capability in performing industry standard power and energy testing processes. Also, with NiMH battery modules there is no direct correlation between battery module terminal voltages and state-of-charge (capacity). Determining actual NiMH battery power and energy becomes a very difficult task unless you have the proper battery testing equipment and a associated training. This is the opposite of a Lead Acid battery in which state-of-charge can be more easily determined by correlating battery terminal voltage. Therefore, a new approach must be used to determine battery pack/ module SOH. Based on this information, if an automotive parts remanufacturing business is not determining the battery pack SOH prior to customer purchase and

shipping the product, the remanufacturer would be sending product with unknown SOH. Wouldn't a much more prudent process be to ship a battery pack with a quantified (known) power and energy SOH? Not to mention that customer confidence in the product that the supplier (e.g., your remanufacturing business) would be of significant value to the customer when the possibilities of failed parts or parts that fail within a warranty period are at stake. So, the question becomes: How can a parts remanufacturer determine HV HEV battery pack power and energy SOH before selling it to a customer?



Figure 4. Hybrid battery discharger unit

What's This Power and Energy Test Stuff, Anyway? Battery Power Testing

A power test determines how much electrical power can be delivered to the electric propulsion system. This important metric determines how much electric assist (torque/hp) during an acceleration event that motor(s) in the electric propulsion system can provide to the engine. This test will assist in determining battery cell resistance that could affect the power delivered by the battery pack. However, a battery pack may be power limited but not energy limited (or vice-versa) - a key analysis and diagnostic metric for vehicles that have lack of power complaints. Therefore, both power and energy tests must be performed. Battery pack power level effects acceleration performance and overall fuel economy of an HEV or Plug-In HEV vehicle. Figure 4 shows a battery discharger unit (BDU) that can perform both power and energy tests.



Figure 5. Hybrid battery module power test connections

The power test would be the first of the two tests performed as part of an SOH evaluation. Figure 5 shows the connections to a battery module group for performing a power test combined with a laptop computer and software controlling the testing. At the conclusion of the power test, the BDU will provide a signature (Figure 6) for the user to determine each module group power state of health, and further determine how to approach any

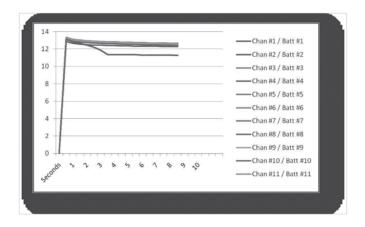


Figure 6. Honda hybrid battery pack power test signature results

subsequent repair/rebuild the battery pack. Typically, the total time for a technician to perform the power test with the BDU is approximately 25 minutes for a typical hybrid battery pack.

HV Battery Energy Test

An energy test determines HV HEV battery pack State-of-Charge (SOC) and/or A•hr capacity of each battery module (or module group) to determine if there are weak battery cells and then compare this data to the battery specifications. Figure 7 shows the connections to a battery module group for performing a energy test combined with a laptop computer and software controlling the testing. This will determine the overall energy condition of the battery pack/battery modules. The energy test analyzes how much capacity each battery module has/is able to store and deliver. This is a key metric in how much torque the electric propulsion system can produce to assist in the internal combustion engine or how long the vehicle can operate in an electric-only mode.

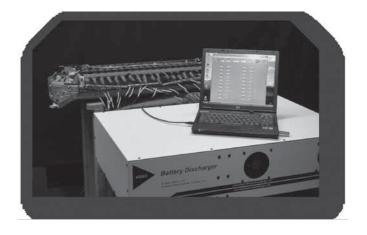


Figure 7. Hybrid battery module energy test

Energy storage and power availability in the battery modules effects acceleration performance and overall fuel economy of an HEV or Plug-In HEV. A recent example is the lawsuit successfully litigated by Heather Peters, relative to Honda Civic HEV battery pack performance, illustrates how (lack of) HV HEV battery system can effect vehicle fuel economy and performance.

Total time for the BDU to perform the energy test is approximately one (1) to 1 ½ hours for a typical hybrid battery pack. Actual technician time to

perform battery connections and execute the test is approximately 10-15 minutes. At the conclusion of the Energy Test, the BDU will provide a signature for the user to determine each module group A•hr capacity and SOH. The signature is necessary to further determine how to repair/rebuild the battery pack (Figure 8).

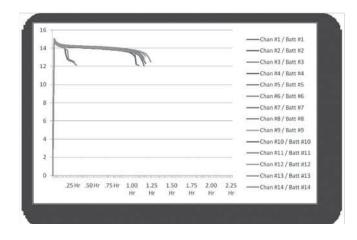


Figure 8. Toyota hybrid battery pack energy test signature results

HV Battery Charging

After completion of an energy test the battery pack may or may not require additional cycling. In either case it will need to be charged before the next cycle or before being reinstalled in the vehicle. A programmable HV battery charger (Figure 9) will be needed to quickly recharge the battery to the proper SOC level. By programming the charger with specified data the HV battery pack will be



properly charged without fear of destroying it and it will be at the proper SOC level.

The time necessary to charge a HV hybrid battery may be two (2) to four (4) hours depending on its condition and if it needs significant reconditioning care. The key point for where time would be allocated is the approximate 10 – 15 minute technician time to reassemble the battery, program the charger, and start the charging. The charger programming will control the charging and stop the charging automatically at the appropriate time.



Figure 9. HV battery charger system

Let's Summarize

In summary, there is a tremendous opportunity for automotive parts remanufacturers to consider testing and analyzing used HV hybrid battery packs for the purposes of reconditioning, rebuilding, or remanufacturing the unit. There is an advantage for any remanufacturer to consider expanding their business to include testing and qualifying HV HEV battery packs because, customers would value knowing the SOH information accompanied by a

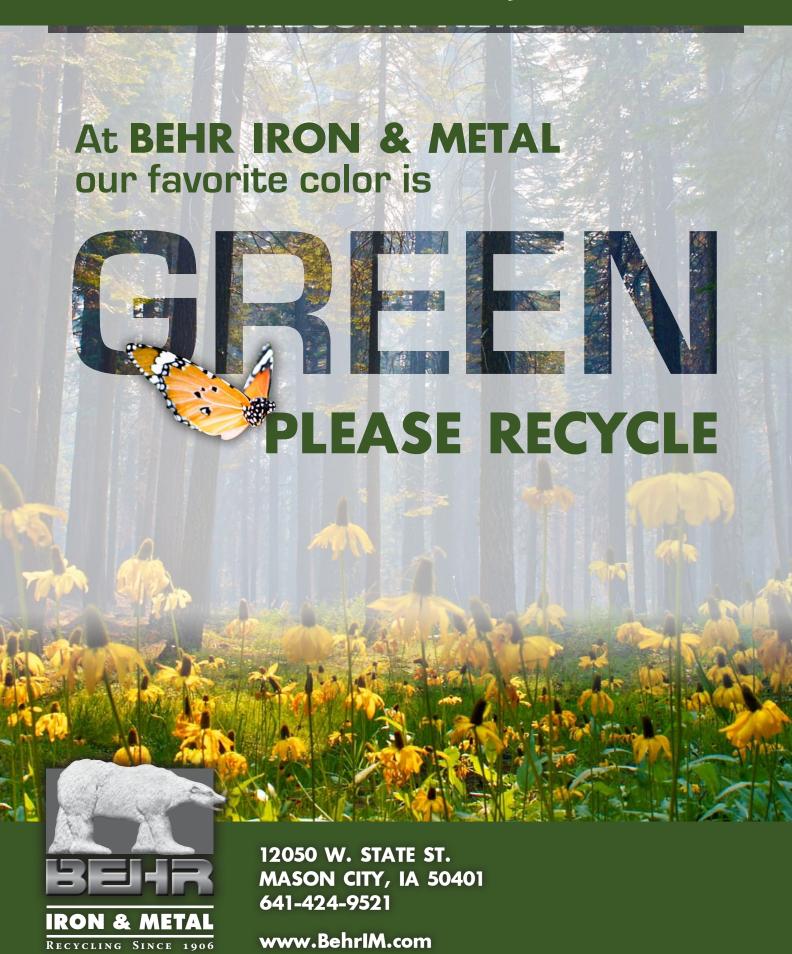


warranty that both the customer and remanufacturer can be comfortable in assuming (e.g., 6 to 12 months). This removes all of the battery performance unknowns for both parties. Additionally, there is battery pack performance data (provided by the BDU software) that can be supplied to the customer that graphically illustrates the performance of the component they purchased. The remanufacturer can also store the performance data in their electronic system for warranty purposes or future reference.

The NiMH battery modules are extremely resilient in providing power and energy over long periods. Typically, only battery pack reconditioning is necessary to ensure near new or very acceptable levels of power and energy capability. Therefore, no part replacements are necessary unless otherwise desired by the remanufacturing process. The total time that a technician is actually on the battery pack performing testing, analysis, battery pack disassembly and reassembly is approximately one (1) hour. A very similar process can be utilized for HV HEV or electric vehicle (EV) platforms containing Lithium Ion battery pack technology systems. The remainder of the time the process is controlled by the BDU or HV charger software. Therefore, the entire process and associated procedures is not a labor/employee intensive proposition for a remanufacturing business owner.

Finally, you need to ask yourself these key questions: 1) do my customers desire to purchase qualified (i.e., tested) HV HEV or EV battery packs? and, 2) do I want to offer these qualified HV battery packs to my customers? My experience indicates that customers would be very interested in qualified HV hybrid battery packs with documented performance data and a solid warranty. So, why don't you start today? There is a great business opportunity that awaits your organization!

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