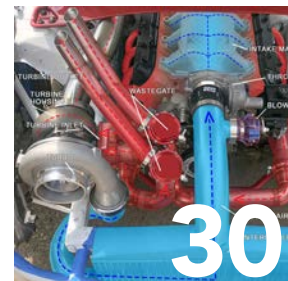


NOZZLE CHATTER

NEWS FROM THE
ASSOCIATION OF
DIESEL SPECIALISTS

TURBO ISSUE

Shop Spotlight: Midwest Fuel Injection	24
Techtip: Forged Milled Wheel Technology	28
Wastegate Vs Blow Off Valve?	30



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So Much To Say... So Little Time

This year we are celebrating our company's 50th anniversary and next year I will be celebrating my 40th year of working here full time (we aren't going to count the years when my father was breaking child labor laws by having me at age 12 and my brother and sister help out whenever necessary). Our company has been a member of the ADS since well before me joining full time in 1983, and while I attended conventions (both regional and international) for the first few years, I didn't become "involved" in the association until I attended my first YEO Committee meeting (Young Executives Organization---which later became known as the Forerunners). I quickly became aware that being a member of the committee was a great way to network, learn things, and make new friends. I have been "hooked" on ADS ever since being fortunate enough to go on and Chair the YEO Committee, Co-Chair the Turbo Committee, serve on the Board of Directors, serve on the Executive Board, and currently as your association President.

As I was going through the different positions of the Executive Board the most daunting task I could foresee, was having to write 10 articles for the Nozzle Chatter. HOW IN THE WORLD WAS I GOING TO COME UP WITH INTERESTING CONTENT FOR 10 ARTICLES FOR THE NOZZLE CHATTER????!!!!!! Now, I'm acutely aware that the haters out there are snickering----"YOU DIDN'T!", but you must admit that for someone who left college thinking, "I'm glad I will never have to write a paper again", this could seem like a formidable task. But as I began bloviating through my articles (that I truly hope some of you have found at least slightly humorous if not maybe informative or thought provoking), to my great surprise, new ideas (often aided by adult beverages---which I refer to as my "thinking drinking") just kept running through my mind.

Imagine my surprise as I'm thinking---I only have 2 more articles left to write (and the last one I've written in my mind for months entitled "The Luckiest Man"---just a teaser---you will have to wait until next month for that article), but there is so much left to cover. I just returned from the AAPEX and SEMA shows in Vegas. I could certainly write about how the ADS was there promoting our Association (not to mention the recent ADS reception at Automechanika in Frankfurt Germany) and reaching out to our members at these shows, or how great it was seeing so many ADS friends there. The United States has just finished our mid-term elections. With recent polls showing that 75% of Americans think the country is on the "wrong track" and with over \$16 billion spent on campaigning, I could write about how remarkably little change came out of these elections. I'm not sure if this is a statement about the "Devil" you know being better than the one you don't know, or if the country is just so divided, people will support

their side not matter what. I could also write about Elon Musk, who recently concluded his purchase of Twitter. To me, however, this didn't seem like a significant enough story until I witnessed the vitriol used to first try and prevent the purchase, then to try and regulate and destroy the platform (the most threatening thing I have heard Musk say is that he will level the playing field where everyone's opinions can be heard--I guess it's easier to control the narrative than to have to defend your ideas with reason and logic---let that "sink in"). I could also write about an apparent looming threat of diesel fuel shortages in the U.S. and possible heating oil shortages all around the world. With winter quickly approaching in the northern hemisphere, this certainly seems like a topic of significant importance (for people that think the world runs on wind turbines and solar panels---they could have a very rude awakening coming). Or last but certainly not least, I could try to make sense of President Biden's recent comments on "Nuclear Armageddon"-----but honestly, I can't even begin to deal with this topic.

With so many potential topics (and honestly a lot more) and basically 1 article left to "Make Friends and Influence People" (or at least slightly amuse and inform), I have decided to write about my most recent fishing trip. This was my 26th consecutive year of attending this particular trip. The people on the trip have changed a lot over the years. The first year I attended, my father (Lewis Roberts) and I were the only 2 attending that were involved in the diesel industry (fyi---if you want to build some memories that will last a lifetime---go fishing with someone important in your life). This year, out of

the 12 people attending, all but 2 were current or former ADS members or at least somehow involved with our industry. The conversations were full of, "how is your family doing, what are your kids doing now, how did you manage to hit that same tree with your golf ball again, and you should have seen the big fish that I "hooked", but got away". But inevitably, the conversations always seemed to drift back to, "how is your company handling a particular problem, how are your hiring new employees, have you invested in your website, are you offering new products or services, etc. etc. etc. This annual trip is a constant reminder to me of a couple of things. First of all, our industry has some of the brightest and most innovative people of any industry, but also, and perhaps even more impressive, it has some of the nicest people you would ever want to meet---the kind you would want to go with on a fishing trip.

The ADS International Convention is being held in conjunction with HDAW in Grapevine TX, January 15-19. Registration is already open and you can make all of your reservations by going to diesel.org. We have already announced some of our exciting programming including our 2 keynote speakers Elliot Eisenberg the "Bowtie Economist", and Anita Barlow with "Reflections of a Diesel Life". If you attend, I can promise you will receive a lot of excellent information that all of us can use to help run our businesses. If you get "involved", I can promise you will network with some of the nicest and most helpful people that you will ever meet---the kind that you might want to go with on a fishing trip. Get "involved" with the ADS and you might get "hooked" too. ■



Welcome New Members!

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Para servicios en español,
contacte a membresia@diesel.org

Find us on:



Scott D. Parker
ADS CEO

Know, Like & Trust

At the advent of the dot com era, the business oriented social media company LinkedIn was launched. The ease of connecting with industry colleagues, potential suppliers and customers attracted millions of customers. I remember reading articles at that time declaring the end of trade shows and association events because of LinkedIn.

Twenty years later, COVID paused the entire world. Businesses quickly started using services like Zoom and Teams to fill their need to interact with one another. Similar to the LinkedIn prognosticators, I read articles during COVID declaring the end of trade shows and association events because of the ease of using Zoom & Teams.

While it is true technology has made it easier to connect, there is just no substitute to the networking and industry education that occurs at in-person events.

It turns out that LinkedIn is a mile wide, but only an inch deep. Association events are an inch wide, but are a mile deep. The quality of the networking that occurs in-person dwarfs virtual offerings.

For Zoom and Teams meetings, let's just say I participated in a few virtual happy hours during COVID and they were sad alternatives to the real thing. In-person events allow attendees to develop deep and meaningful relationships.

Those who predicted the demise of trade shows and association events missed something. People prefer to do business with people they know, like and trust. There is no better and efficient way to get to know, like and trust potential business colleagues than attending in-person trade shows and association meetings.

Without the deep and meaningful relationships developed at in-person events, the risk of becoming a commodity and selling on price is increased.

On September 15, 2022, ADS hosted a "Get Re-Acquainted Reception" for members and prospective members at Automechanika in Frankfurt, Germany. Over 150 people attended the event. We just got back from exhibiting at AAPEX that was held November 1-3, 2022 in Las Vegas. The traffic at the ADS booth, both members and prospective members, was amazing.

Since getting back from these shows, we have had 7 new members join and many more in the pipeline directly related to these events. This is the most active new membership activity in a short period of time that I can recall.

This confirms my theory that people prefer to do business with people they know, like and trust. Contrary to the naysayers, in-person events are alive and doing very well.

I know many ADS members have not been out to industry events since COVID. If you fall into that category, I strongly encourage you to attend the ADS International Convention that is co-located with HDAW. The event will be held in Grapevine, Texas, January 15-19, 2023. Our pre-registration list is up 57% and growing every day.

At the ADS Convention, you will get to know, like and trust many new industry contacts and get the knowledge and networking you need to succeed in 2023. ■

Scientists Retrofit Diesel Engines to use Hydrogen Fuel

Engineers at the University of New South Wales have successfully retrofitted a diesel engine to use hydrogen as a fuel to reduce carbon emissions. The team spent 18 months developing the dual-fuel injection system that uses 90 percent hydrogen as fuel. The increase in energy efficiency over existing diesel engines was reported to have improved by as much as 26 percent.

The team retained the original diesel injection into the engine and directly added a hydrogen fuel injection to the cylinder. Interestingly, the team's efforts also found a way out of the high nitrogen oxide (NOx) emissions associated with hydrogen engines.

Instead of putting hydrogen into the engine and letting it mix well, the researchers found that its stratified addition significantly reduces NOx emissions. This means that the hydrogen presence is more in certain parts of the engine while being lesser in other parts. Overall, the nitrogen oxide emissions, causative of acid rain and air pollution, were reduced in the dual-fuel engine.

The dual fuel system developed by the UNSW researchers does not require high-purity hydrogen to be used as fuel. Since producing high-purity hydrogen is expensive, the new system could be deployed at lower costs for the end users. The research team is looking to commercialize the technology within the next two years.

Stanadyne Appoints Jeff Blake as PurePower Managing Director

Stanadyne has appointed Jeff Blake as Managing Director of its PurePower Technologies business unit. As Managing Director, Blake oversees the development of PurePower's original equipment and aftermarket growth strategies aimed at expanding the business unit's global remanufacturing product footprint and new diesel original equipment product lines.

"Jeff brings a wealth of experience in our sector, as well as a strong track record of business transformation in multiple industries and markets," said Stanadyne CEO John Pinson. "I am looking forward to working with Jeff as he leads the PurePower team to expand our markets, serve our customers, and deliver our next steps of transformational growth."

Technician Program Completion Numbers Falling

A lack of diesel technicians has been a Top 10 concern of motor carriers for the last two years, according annual surveys conducted by the American Transportation Research Institute (ATRI), but this is far from a trucking-specific issue.

The supply of new entrant technicians from automotive post-secondary education programs in the U.S. dropped 11.8% (to 28,866) in 2021, widening current and projected shortfalls of professionals needed to service the nation's automotive fleet, according to TechForce Foundation.

(Continued on Page 10)

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The supply of program graduates/completions slipped 2.6% and 0.4%, respectively, in the diesel and collision repair segments but has fallen by a combined 17% over the past five years.

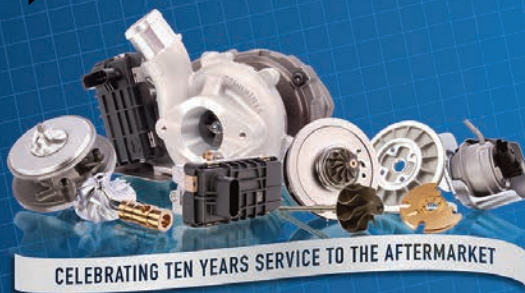
Post-secondary programs are an important pipeline to the diesel trade. According to the 2022 State of Diesel Technicians report, a survey-based report produced by CCJ parent company Randall Reilly and sponsored by Shell Lubricant Solutions, about 42% of current technicians completed a vocational/trade program in diesel engine repair, while 44% came to the field with a high school diploma and entered into an apprenticeship.

M&D Expands with Acquisition of Abilene Diesel Injection Service, Inc.

M&D recently announced the acquisition of Abilene Diesel Injection Service, Inc.

“We are excited about the addition of Abilene Diesel to the M&D Family. Mike Patton and his family have built a great business in West Texas that is known for expertise and customer service. Their shop is a perfect fit with our employee-first culture, and it marks the next step in our national expansion,” M&D CEO Grant Garrett said.

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Abilene Diesel Injection Service has a decades-long relationship as one of M&D's Service Dealers with deep expertise in diesel engines. A long-time provider of fuel injection, turbocharger and engine repair parts and services, this acquisition is an opportunity to boost remanufacturing capacity and customer reach.

How Much Diesel Is Left?

Diesel prices remain high across the U.S. and inventory levels are lower than they have historically been this time of the year, as temperatures drop and demand grows.

As of the week ending on November 4, the U.S. had 106.263 million barrels left in stock, the equivalent of 26 days of supply according to the

Energy Information Administration (EIA). That means that, in the unlikely scenario in which all U.S. refineries across the country were to suddenly shut down, the country would have enough diesel to cover 26 days.

The latest data shared by the EIA shows that diesel inventories have been slightly replenished compared to a month ago, when news that the U.S. had 25.4 days of supply left—the lowest level since 2008.

The current diesel supply crunch stems from a combination of reduced capacity—as many refineries shut down or have repurposed their production since 2020, partially due to COVID-19—the ban on Russian imports after Moscow's invasion of Ukraine and increased demand as the economy quickly picked up after the pandemic. ■



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2023 ADS International Convention

The 2023 ADS Convention will be held in conjunction with HDAW 2023 in Grapevine, Texas, at the Gaylord Texan Resort & Convention Center. See hotel information below and visit the ADS website to book your room today before the room block sells out.

Registration is now available for ADS Members. Members may register for ADS convention only, ADS and HDAW only, or HDAW only. See pages 19–20 for registration information.

Sponsorships are a great way to gain exposure for your company at the 2023 Convention. See page 18 for sponsorship descriptions and contact at marketing@diesel.org with any questions.

ADS/HDAW Convention Information

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Hotel Information

Gaylord Texan Resort & Convention Center
 1501 GAYLORD TRL, GRAPEVINE, TEXAS 76051

- The room rate of \$195 per night is based on single or double occupancy
- Reservations are refundable if cancelled at least 72 hours prior to arrival.

Don't delay, the Gaylord Texan has sold out in prior years - reserve your rooms today!

Visit diesel.org/2023Hotel for information on booking your hotel room through HDAW.

ADS INTERNATIONAL CONVENTION & HDAW 2023

The Best of Both Worlds

The 2023 ADS Convention and HDAW Trade Show will be held January 15-19 in Grapevine, Texas.

Register now to gain access to the latest industry education sessions as well as numerous networking opportunities.

ADS and HDAW will be co-locating in 2023 in Grapevine, Texas. This gives members of ADS the best of both worlds.

ADS: Diesel Specific Education & Networking

During the ADS International Convention (January 15-16), ADS members will receive diesel specific industry education and training as well as networking opportunities with hundreds of your diesel peers.

HDAW: Broader Industry Perspective & Diversification Opportunities

Immediately following ADS International Convention, Heavy Duty Aftermarket Week (HDAW) kicks off (January 16-19). ADS members will interact with more than 2,500 executives and managers at the largest North American gathering of light, medium and heavy duty aftermarket professionals in the industry.

Great Value

Because ADS members get huge discounts to register for ADS and HDAW, ADS members can register for both events for less than the cost of attending past ADS stand-alone meetings. That's right – you get more education, networking and value for less money.

Members of ADS save significantly on exhibiting and registration - make sure your company's membership is in good standing to qualify for discounted member rates.

Networking: Business Development Opportunities

The 2023 ADS/HDAW event will feature numerous events to connect with thousands of attendees to get ideas and leads for you to grow your business. The networking sessions include:

HDAW '23 Product Expo: The premier feature of HDAW is the Product Expo, which features over 300 suppliers in the trade show. The Product Expo includes dozens of ADS manufacturer, replacement parts and allied equipment members as well as many related suppliers. This is your chance to meet with these leading suppliers so you can attract new clients and retain your current customers.

HDAW All Industry Networking Receptions: HDAW provides ADS members numerous valuable networking opportunities with top industry executives of supplier manufacturers and distributors across the light, medium and heavy duty aftermarket. It includes All Industry Welcome Reception, Closing Reception and the Leaders of Tomorrow (LOT) Reception (for attendees under the age of 45.)

HDAW One-on-One Meetings: The industry's most successful One-on-One Business Meeting program between manufacturers and distributors – more than 1,800

pre-scheduled meetings took place in 2020. This is where deals get done. An integral part of HDAW, One-on-One Business Meetings match you with the suppliers you want to do business with. Here, you'll get a personalized experience with products and pricing tailored to your situation and focused on your business needs.

HDAW Education Workshops: The Education Program at HDAW builds on the diesel specific education during the ADS Convention. The workshops feature top notch aftermarket education to provide you the information you need to succeed.

HDAW Service Opportunities & Learning Day (SOLD!): SOLD! is an education program held during HDAW specifically designed for independent service shop owners and management, and distributor companies in the truck service business. It features a mix of management and how-to type training sessions focused on increasing the value and competitiveness of the independent service provider.



Tentative Agenda | 2023 International Convention

January 15 - 19, 2023

Grapevine, Texas

(Tentative, Subject to Change)

DECEMBER 2022

ADS Committees to Meet Virtually

Business Management Committee: December 5	Technical Education Committee: December 7
Communications Committee: December 1	Turbochargers Committee: December 8
Manufacturers Committee: December 2	Canadian Committee: December 13
Membership Committee: November 30	Latin American Committee: December 14
Replacement Parts Committee: December 6	International Committee: December 15

SUNDAY, JANUARY 15

9:00 AM - 12:00 PM	Board Meeting <i>Committee Chairs Report to Board</i>
8:45 AM - 1:00 PM	ADS Welcome Desk
12:00 PM - 12:45 PM	Board and Committee Chairs Lunch
1:00 PM - 4:00 PM	Training Seminar
1:00 PM - 4:45 PM	Distributor Meetings <i>(by invitation only)</i>
4:45 PM - 6:45 PM	Owners Only Collaboration Meeting
6:15 PM - 9:00 PM	ADS Welcome Desk
7:00 PM - 9:00 PM	ADS Get-Acquainted Reception

MONDAY, JANUARY 16

8:30 AM - 3:45 PM	ADS Welcome Desk
8:30 AM - 9:00 AM	Morning Coffee
9:00 AM - 12:15 PM	ADS Convention Programming
12:15 PM - 1:15 PM	Lunch
1:30 PM - 3:45 PM	ADS Convention Programming
2:00 PM - 3:15 PM	Companion Afternoon Tea
4:00 PM - 5:15 PM	Forerunners Reception

HDAW 2023 Agenda

(HDAW 2023 Registration Required to Attend)

MONDAY, JANUARY 16

5:15 PM - 5:30 PM	Leaders of Tomorrow Reception
5:30 PM - 7:30 PM	All Industry Welcome Reception

TUESDAY, JANUARY 17

8:00 AM - 10:00 AM	Breakfast/Opening General Session/Awards Programming
10:00 AM - 1:00 PM	SOLD Educational Programming
10:00 AM - 1:15 PM	Pre-Scheduled One on One Meetings
1:00 PM - 2:00 PM	Lunch & Roundtables
2:00 PM - 6:00 PM	Product Expo & Happy Hour



WEDNESDAY, JANUARY 18

8:00 AM - 9:00 AM	Breakfast/Education Session Product
9:00 AM - 1:00 PM	Expo
1:00 PM - 2:00 PM	Lunch & Roundtables
2:00 PM - 5:55 PM	Pre-Scheduled One on One Meetings
5:00 PM - 6:00 PM	Reception
6:30 PM - 8:00 PM	All Industry Closing Reception

THURSDAY, JANUARY 19

7:00 AM - 8:15 AM	Grab & Go Breakfast
7:00 AM - 12:55 PM	Pre-Scheduled One on One Meetings
12:45 PM - 1:45 PM	Lunch
1:45 PM - 4:20 PM	Open Time for Unscheduled One on One Meetings

Reflections of a Diesel Life

*ADS Industry Keynote
Anita Barlow*



ADS is proud to have Anita Barlow as the 2023 ADS Industry Keynote Speaker. Having spent her entire career in the diesel fuel system industry, she will provide a unique perspective to ADS members on the significant changes that have occurred in the industry during her tenure. She will also share her insights to ADS Convention attendees on future challenges and opportunities that will impact the independent diesel aftermarket to help members prepare themselves for success in the future.



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The Economy: Take A Hike!

ADS Keynote
Dr. Elliot Eisenberg



Elliot Eisenberg, Ph.D. (aka, “The Bowtie Economist”) promises to entertain and educate as he discusses the short-term and longer-term prospects for the US economy. Dr. Eisenberg will discuss key topics such as the condition of the current economic recovery, the timing, length and magnitude of the increasingly likely recession, GDP growth, household spending and savings rates, labor market conditions, inflation, future Federal Reserve policy, and what it all means for interest rates.

Along the way Dr. Eisenberg will spend considerable time looking at consumer confidence, construction activity, new and used auto sales, heavy truck sales and energy prices. Find out everything you need to know to interpret the most critical data and gain a better understanding of market conditions, what may lay ahead, and why. After his prepared remarks, and time permitting, Dr. Eisenberg looks forward to taking questions from the audience. Be ready to take plenty of notes.

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Gold:	\$1,500
Silver:	\$1000
Bronze:	\$500
Copper:	\$250

ADS A/V SPONSOR

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ADS CONFIRMATION EMAIL SPONSOR

SOLD \$1000

Your logo will be featured on the confirmation email sent to all ADS attendees when they register and on the event confirmation email sent prior to the convention. Only one available.

ADS FLOOR CLING SPONSOR

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Your full-color logo will be displayed on large floor clings near the ADS registration desk on Sunday and Monday and by the ADS general session room on Monday (2 clings per sponsor).

ADS LITERATURE TABLE SPONSOR

\$500

Table sponsors have the opportunity to display company information and literature for the duration of ADS meetings on Monday, January 16 near the ADS registration desk. Please note that meeting space allows for materials to be displayed only on a six foot table. Floor signs are not permitted.

ADS Owners Only Meeting Sponsor

\$500

Your company logo will be prominently displayed on signage during the ADS Owners Only Meeting on Sunday, January 15.

ADS Forerunners Meeting Sponsor

\$500

Your company logo will be prominently displayed on signage during the ADS Forerunners Meeting on Monday, January 16.

ADS NETWORKING LUNCH SPONSOR

\$500

Your company logo will be prominently displayed on signage during the ADS Networking Lunch on Monday, January 16.

ADS EVENT PAGE LOGO

\$400

Your company logo will be featured on the ADS Convention page on the ADS website.

ADS CONTINENTAL BREAKFAST SPONSOR

\$250

Your logo will be displayed on small signage at the continental breakfast on Monday morning, January 16.

ADS COFFEE BREAK SPONSOR

\$250

Your logo will be displayed on small signage near the coffee during the morning break on Monday, January 16.

ADS GENERAL EVENT SPONSOR

\$150

Small logo displayed on ADS event signage and in pre- and post- *Nozzle Chatter* magazine.

NOTES

Non-Members add 40% to the price of all sponsorships.

All Sponsors are thanked on signage at the event, in the pre and post *Nozzle Chatter* magazine, on the ADS website and in emails promoting the event.

ADS Members may register for both ADS & HDAW through this form or online at www.diesel.org.

Registering for HDAW only? Please register at www.HDAW.org. Identify you are an ADS member for member discount.

Note: Complete one form for each person. If submitting multiple forms, only one sheet with payment info is required.

1. Contact Information

FIRST NAME	LAST NAME	NAME ON BADGE		
COMPANY	TITLE			
ADDRESS	CITY	STATE/PROVINCE	POSTAL CODE	COUNTRY
EMAIL (REQUIRED FOR CONFIRMATION)	PHONE	CELL		

Is this your first time at an ADS Convention?

Yes No

Is this your first time attending HDAW?

Yes No

Are you 45 years of age or under?

Yes No

Check here if you do NOT want your e-mail address or fax number to be released for use by HDAW Conference Management & Organizers.

2. Registration Type

For the 2023 Convention, ADS is offering a discount, saving each attendee \$55 off of registration.

Non-members, contact ADS Headquarters for Non-member registration form.

SERVICE / DISTRIBUTOR REGISTRATION FEES (check appropriate fee box)

Service Members, Replacement Parts Distributor Members, Technical Training Members, Associate Members, Honorary Members

ADS Convention + HDAW*

**subject to registration approval by HDAW*

1st + 2nd person
from company

By
Dec 31
\$850
 \$795/attendee

By
Jan 6
\$900
 \$845/attendee

After
Jan 6
\$950
 \$895/attendee

3rd person or more
from company

\$650
 \$595/attendee

\$700
 \$645/attendee

\$750
 \$695/attendee

ADS Convention Only

If attending HDAW, but
registering for HDAW separately

\$200
 \$145/attendee

\$250
 \$195/attendee

\$300
 \$245/attendee

If not attending HDAW

\$650
 \$595/attendee

\$700
 \$645/attendee

\$750
 \$695/attendee

SUPPLIER CATEGORY REGISTRATION FEES (check appropriate fee box)

Allied Equipment Manufacturer and Distributor Members, Manufacturer Members, Diesel Engine and Vehicle Manufacturer Members and Replacement Parts Manufacturer Members

ADS Convention

If attending/exhibiting at HDAW

By
Dec 31
\$200
 \$145/attendee

By
Jan 6
\$250
 \$195/attendee

After
Jan 6
\$300
 \$245/attendee

ADS Convention

If not attending/exhibiting at HDAW

\$900
 \$845/attendee

\$950
 \$895/attendee

\$1000
 \$945/attendee

ADS will verify all ADS Convention registrations. ADS reserves the right to adjust a registration based on ADS membership category. If an ADS member selects the registration for those also attending HDAW but does not register for HDAW, member agrees to pay the difference between that rate and the rate for those not attending HDAW. If the member does not pay the difference or register for HDAW, the registration will be canceled without refund.

3. If registering for HDAW through ADS, check the boxes next to any item you are interested in attending:

- One-on-One Business Meetings (*Distributors only*) Product Sales Training Program
 Leaders of Tomorrow (LOT) Reception (*Must be 45 years or younger*) **SOLD!** Service Opportunities & Learning Day

4. ADS COMPANION REGISTRATION

- \$100 Companion Package - Includes receptions + Companion Tea

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LAST NAME

CELL PHONE

E-MAIL

5. SPONSORSHIPS

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 Silver \$1000
 Bronze \$500
 Copper \$250

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 ADS Networking Lunch Sponsor \$500
 ADS Literature Table Sponsor \$500
 ADS Event Page Logo \$400
 ADS Continental Breakfast Sponsor \$250
 ADS Morning Coffee Sponsor \$250
 ADS General Event Sponsor \$150

ADVERTISING IN ADS CONVENTION PROGRAM

- Back Cover* \$1,000
 Inside Front Cover* \$800
 Inside Back Cover* \$800
 Full Page Color \$600
 Half Page Color \$300

6. METHOD OF PAYMENT

TOTAL: _____

- Check made payable in U.S. funds to ADS enclosed. Check #: _____

Charge my: AMEX MasterCard Visa

Please fax or mail if providing credit card data.

Fax: 703-753-2445

ADS Headquarters

7250 Heritage Village Plaza, #201

Gainesville VA 20155

Questions?

Contact ADS at 816.285.0810 or ads@diesel.org.

Card Number

Expiration Date

CVV

Cardholder Name

Authorized Signature

Are you a resident of the European Union, United Kingdom, or Switzerland?

- Check here to consent to the use of your registration information by Conference Management. Contact ADS if you wish to revoke consent.

ADS Convention Terms and Conditions

Name changes and substitutions may be made at any time by notifying ADS Headquarters in writing to accounting@diesel.org.

By attending the ADS Convention, attendee agrees to receive promotional emails from ADS and HDAW and that their image may be used in future ADS and HDAW promotional materials.

Cancellations/Refunds

ADS: Refunds for cancellations will be granted if notified in writing by January 2, 2023. A \$100 administrative fee will be retained on all cancellations.

HDAW (if purchased through ADS): Refunds for cancellations will be granted, provided HDAW is notified in writing by January 2, 2023. A \$150 administrative fee will be retained on all cancellations. There will be no refunds issued for cancellations after January 2, 2023.

Cancellations must be made in writing to accounting@diesel.org.



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10 THINGS A GREAT SHOP OWNER DOES EVERY DAY

BY CAROLYN GRAY, DRIVESHOPS.COM

Incorporate these tasks into your routine to see your business grow.

As a shop owner you're no stranger to long hours and hard work. Some days are more hectic than others and important tasks can be left unfinished if the day gets overwhelming. Other shop owners have found doing these 10 tasks every single day helps keep them focused. So, try incorporating them into your routine to keep yourself on track!

1 – Greet Your Employees When You Get To Work

Fostering a connection between you and your employees can create a healthy and happy work environment. When the people that work for you feel valued they are much more likely to be productive, on time, and present during work. All it takes is a quick “good morning” to let your employees know you appreciate them. You can even take it one step further and ask them specific questions pertaining to their lives.

Lacey Cunningham, owner of a shop in California, shares her take on this tip: “When I arrive I make a point to walk through the shop and say good morning to each staff member. Usually it’s a simple good morning, but sometimes I will stop and ask them about something specific that I know they are interested in or involved with. Like how their weekend was, how their spouse is doing with their child starting kindergarten, or how they did in that recent frisbee golf tournament. I really enjoy getting to know them on a more personal level; even if it’s just a few minutes at a time.”

2 – Inspect Your Shop To Make Sure It Meets Your Standards

Once you’ve arrived, take 10 to 15 minutes to take a walk around your shop. During this time make sure everything is up to par with your set standards. Are there tools lying around? Is there trash in your front desk area? Imagine yourself as a customer, would you be impressed by the shop’s appearance alone? Take note of what stands out to you, both the good and the bad.

Kareem Abouzeid, owner of a repair shop, says that he “inspects each area of the business for cleanliness and organization – everyday. I’m always looking for ways to improve both the appearance and functionality of the shop.”

3 – Check Your Progress Toward Your Goals

Keep a list of your weekly, monthly, and yearly goals on hand. At some point during the day take time to sit down and track your progress. See how close you are to hitting your numbers for the week. Track the sales, production, and income for the month. Then compare these to where you want to be at this point in the year. Does it look like you're on track? Or do you have to change some things to keep moving towards your goals? "Accurate tracking of the key numbers is vital for this!" Says Kareem.

4 – Be Passionate About Your Shop

When a shop owner loves their shop and is excited about what they do, it shows other people they're passionate and hardworking. For your employees, it sets a positive expectation. When they see you putting in the effort to make your shop the best it can be they will be filled with the same excitement! For your customers, it shows them they are going to a trustworthy shop committed to excellence. This will ensure your customer base returns and shares their positive experiences with their friends, gaining you new clientele along the way.

5 – Prioritize Your Day

Once you're in your office, take a moment to see what you have on the calendar for the day. Then, make a list of your top priorities – what needs to get done first and what can take a seat on the back burner. This will help you visualize your day and keep you on track. Days can get hectic, so having a physical reminder of what needs to be finished will help you follow through on those tasks.

6 – Plan Your Schedule In Advance

Every day brings new information and challenges. When you have your days planned out in advance it opens up time for you to schedule out solutions to any issues that may arise. So, make sure to check your calendar frequently. This also allows you to leave your business at a reasonable time each day!

"I schedule my weeks in advance and schedule specific times for personal meetings with staff, doing my own executive duties, holding private meetings with my DRIVE coach, and working with my bookkeeper. I handle the other things that pop up in the cracks of time in between," says Kareem.

7 – Expand Your Network

Do you have a relationship with any fellow shop owners in your area? Because if you do, it can be an advantage to you! Together you all can learn about what works and what doesn't in your area. Instead of viewing them as competitors, think of them as colleagues. You all want the same goal, to provide quality and trustworthy service to the members of your community.

8 – Take Time To Coach Your Staff

Putting time and energy into training your staff allows for them to grow under your supervision. When employees see a future at your company they are more likely to commit to working for you long term. Invest in your employees' future so they will be invested in the future of the shop, thus increasing productivity.

Kareem shares how he's grown as an owner, saying "I have put key people in place to manage areas of the business. I have trained and coached them to the point they can oversee their responsibilities, so I just have to let them do their jobs. I used to give employees a job to handle by themselves without adequate coaching or training; then I'd end up mad when they couldn't get it done. Now, I coach my folks whenever needed. I listen to and use their suggestions to create policies and procedures to solve problems."

9 – Trust Your Team and Delegate Tasks

One person can't handle everything – and that's okay! Trust your team to be able to take over the reins on certain tasks when necessary. Your top employee, shop manager, or co-owner can be given more responsibilities as needed. Once you've delegated tasks to the appropriate person, you can now focus on any large issues at hand. With more free time, you can also make room for thinking about the future and where you want your shop to go.

10 – Look For Diverse Perspectives

When one is making important decisions it's important to seek out advice from many different people. Whether this be other shop owners, business owners within a different industry, or even one of your employees. It's important to take into account the unique perspectives other people with different experiences have. You can learn a lot by sitting down and listening to someone's thoughts on important matters, and hopefully avoid making any mistakes that they have in the past. This can apply to not only major decisions, but how the shop functions on the day to day as well!

Try out these ten tips and see how much smoother your day to day operations become! ■

For more information regarding this article, visit www.driveshops.com

MIDWEST FUEL INJECTION: A TEAM COMMITTED TO QUALITY IN REMAN AND SERVICE

BY: M. DIANE MCCORMICK

At its core, so to speak, Midwest Fuel Injection leverages remanufacturing to the highest industry standards plus distribution capabilities in order to offer customers tremendous value and options.

“We partner with people to offer a top-quality product, knowledge, competitive pricing, and great service from quote to core return,” said Executive Vice President Kurtis Howey. “Our ultimate goal is to be easy to do business with and thinking about the customer always, and not doing what is easiest for Midwest Fuel Injection.”

Midwest Fuel Injection (MWFI) was founded in 1981 by Geret and Ben Seidel. Now based in a state-of-the-art headquarters in Bolingbrook, Illinois, MWFI remains the largest division within the family-owned Seidel Diesel Group (SDg) and its 14 locations nationwide.

Respect not only for customers but for the team members who devote their talents and energies to the enterprise remains a hallmark of the entire group.

Before and throughout the pandemic, MWFI has continued to become the go-to place for all turbocharger needs. MWFI is a Garrett Advancing Motion Master Distributor, and since the acquisitions of Turbo Exchange and Bell Turbo, is now a distributor for Borg Warner and for Holset Turbochargers. These acquisitions allowed MWFI to offer a remanufactured solution to customers when supply chain was limited throughout the pandemic. This was another example of decisions made at MWFI with the customer in mind.

Those strategic moves, following years of growth in fuel injection, expanded the MWFI portfolio, adding versatility and customer choices to the mix. The company’s commitment to quality is captured in the creed established by founder Geret Seidel and upheld by CEO/President Ben Seidel: “Too frugal to buy cheap.” To MWFI, it means committing to top quality in remanufacturing, products, and service, without cutting corners.

On the remanufacturing side, MWFI was in the first group of 14 companies achieving MERA Manufactured Again Certification in 2017. With the certification, MWFI attests to meeting ISO 14001:2015 standards, operating its remanufacturing facilities and using the latest technology and techniques to reach the same quality standards as new manufacturing facilities. As a Manufactured Again company, the firm restores original

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products in factory settings to like-new, OEM specs through a controlled, reproducible, and sustainable process.

(For MWFI's video celebrating 2022 Global Reman Day, visit www.seideldieselgroup.com/?s=Reman+day.)

Remanufacturing gives new life to fuel injectors, fuel pumps, and turbochargers that remain viable. The customer gets value through condition and performance equivalent to the original part, plus better value by saving money on a fully warranted part with OE fit and function. The environment gets a boost, too. MWFI's remanufacturing processes have prevented nearly 81,000 pounds of aluminum and 182,000 pounds of steel from going to landfills. The power needed to produce the equivalent weight in steel would serve 50,000 homes for a year.

"Midwest Fuel Injection is a major supporter and advocate of sustainability and of MERA – The Association for Sustainable Manufacturing," said Howey.

But sometimes, a piece is beyond repair, and parts are no longer available. That's when MWFI's national distribution capabilities give customers options that keep them and their equipment operating in top condition.

"If the manufacturer no longer offers the complete units but they offer the components, we can reman the customer's unit, and they're off on their way," said Jason Rodriguez, MWFI's Turbocharger Product Manager.

Respecting and valuing each team member is the key to keeping pace with a changing marketplace and turbulent economy, said Howey.

"The entire SDg team and customers are at the top of the list for every decision we make," he said. "Our leaders at each one of the SDg locations lead their business units with the support of the entire team at SDg. We work hard every day to listen more than we talk. We are humble in stating that we have the best team in the industry, and our team is the difference."

As a large, family-owned business, SDg also commits to keeping manufacturing in the U.S. while also supporting local communities by seeking out opportunities to support local causes. In Bolingbrook, SDg's Action Truck Parts' annual golf tournament raised more than \$59,000 for Special Olympics Illinois in 2022.

"This incredible amount came from the generosity of our outing sponsors and donors, as well as through a live auction and raffle at the event," said Sales and Marketing Coordinator Jessica Koranda. "We are proud to have hosted this event

for the past four years, and will continue to work to make it bigger and better every year."

Of course, there are challenges to conquer. Especially amid the supply chain uncertainties of the pandemic, MWFI family spend their time managing parts shortages, forecasting parts, and getting a handle on inventory control. MWFI, like everyone else, must also address frequent price changes from vendors and price updates to customers.

The best way to manage? "Communication, communication, communication," said Howey. "We forged new relationships, forecasted even more, and ordered more inventory when available."

Lacking a crystal ball, Rodriguez handles his forecasting duties through data analysis, scrutiny of vehicle and product reports, tracking missed opportunities, and communicating with customers about their past and future needs.

"The customer doesn't have that crystal ball, either," he admitted. But true to company values, Rodriguez can call on his colleagues for support. The entire team at MWFI has the autonomy to suggest ideas and make adaptations.

"It's family-oriented here," Rodriguez said. "When anyone has ideas, we listen to them and collaborate, and we move in that direction. It makes a fun work environment. People are involved. They're engaged."

For the future, MWFI plans to retain its industry-leading role in quality offerings of remanufactured fuel injectors, fuel pumps, turbochargers, and adding product offerings for additional customer value through the Manufactured Again process. Growth could encompass acquisitions or greenfield opportunities.

"We will continue working with partners to distribute our products, and not compete against those same partners that support our SDg family," said Howey.

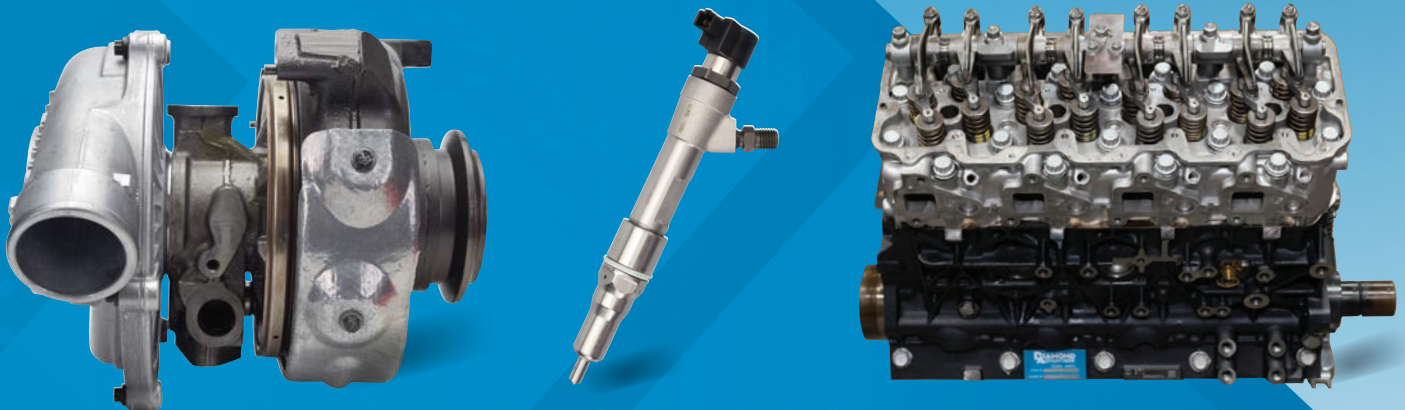
ADS has been "a large part of our business for many decades," said Director Paul Thoms. Midwest Fuel Injection leadership play active roles as ADS advocates, supporters, and council members. Thoms, of MWFI, serves on the ADS board and is soon to be president.

"Our company learns about new product releases from the OEMs, learns from colleagues at other fuel shops, has developed many forever friendships, and tries to provide support or knowledge to ADS members whenever asked," Thoms said. "ADS has been, and continues to be, a huge value to the SDg group of companies." ■

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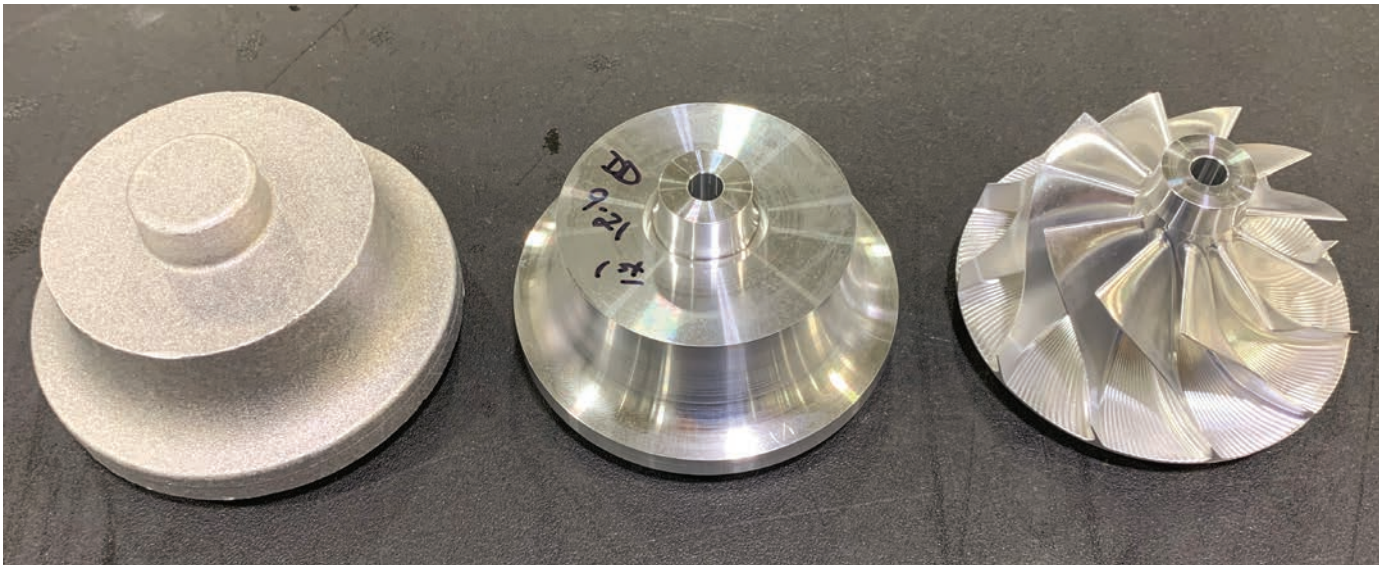


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FORGED MILLED WHEEL TECHNOLOGY

BY: BORGWARNER



Turbos can be made from a variety of materials and constructed in multiple ways. The difference in materials and manufacturing processes is the difference between good, better and best.

The picture above shows the forging process. From left to right, the compressor wheel is transformed, first through forging and then through lathe machining to become the completely milled wheel.

At BorgWarner, we use the best—forged milled wheel technology—for most of our new and existing turbo models. This innovative process produces a highly engineered, high-quality product that lasts longer. By hammering material properties into the desired shape and grain structure, we better support wheel strength and functionality, and ultimately, increase safety and enhance long-term durability.

Here's how it works:

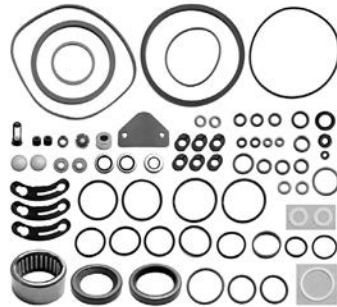
- The compressor wheels start out with a round piece of aluminum and then cut into desired lengths.
- This is either extruded or roll-formed into shape, refining the metal's grain.

- During the forging process, the metal grain gets finer, adding strength and fatigue resistance to the material.
- Once the forged blanks are formed, it is then machined into a predetermined shape.
- It is then milled to its final shape, which produces a much more consistent blade shape vs. casting. This process is very repeatable, producing less variation.
- Additionally, every lot is X-rayed to ensure the forging is defect-free.

“Forging adds more steps to the manufacturing process, but improves the final turbo product durability,” says Seth Temple, Senior Application Engineer. “It makes the material more dense and aligns the grain structure to improve durability. Forging also improves low cycle fatigue, which directly determines turbo life.”

Better technology, stronger materials and smarter processes are all part of BorgWarner's forged milled wheel technology. Most of all, this innovative technology provides confidence that the product you're buying offers high quality and a longer life than any off-the-shelf option. ■

For more information regarding this article, visit www.borgwarner.com



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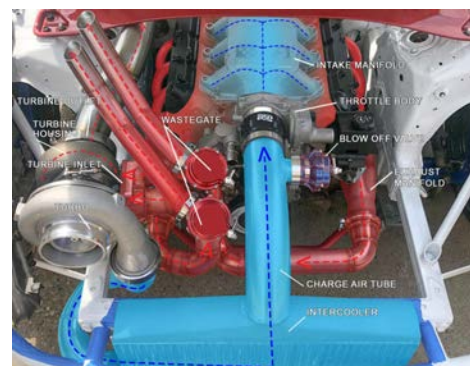
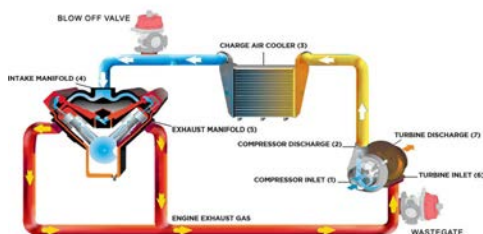
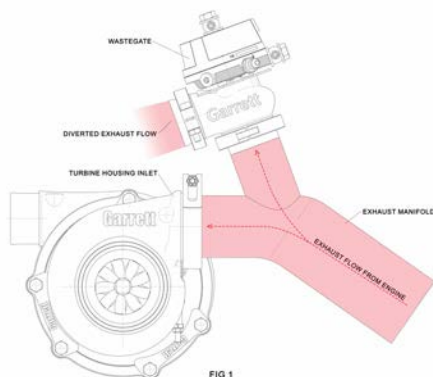
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What Is the Difference Between a Wastegate and a Blow off Valve?

BY: GARRETT MOTION



Wastegates and Blow Off Valves are both designed to vent air, however, they are engineered for two different types of air flow. Wastegates are placed on the exhaust gas side of a turbo system and are used to control turbo speed. Blow Off Valves are placed on the boost side of the turbo system and are used to vent boost in the intake tube once you let off the gas pedal, to avoid damaging the turbo.

External Wastegates regulate turbocharger shaft speed by venting exhaust gas around the turbine stage of the turbocharger. A wastegate is placed on the exhaust manifold before the turbine housing inlet (Fig 1). The faster an engine revs, the more exhaust air it flows to the turbine housing, and the faster the turbo spins. Most applications do not need all of the boost from the turbo and the only way to limit the boosted air a turbo produces is to slow the turbo down. The only way to slow the turbo down is to reduce the exhaust air flow to the turbine housing by venting it out of the external wastegate. A wastegate opens based on the PSI rating of the springs that are contained inside the cap. These springs sit on top of the valve and diaphragm and apply a downward (closing) pressure on the valve. Springs can be adjusted from 0.2 Bar | 3 PSI up to 1.7 Bar | 25 PSI meaning it will take that amount of positive pressure (boost) to fully open the valve. Positive pressure (boost) is fed to the space below the diaphragm and once the pressure starts to equalize or exceed the spring rate, the valve will open and vent exhaust air to stabilize the turbo RPM.

Blow Off Valves are placed on the charge air side of the turbo system. Its main role is to vent boosted air out of the charge air tube once you let off the throttle and the throttle

body is closed. If you rev the engine to a high RPM and let off the gas, the turbo is still spinning and creating boost. The boost is now trapped in the charge air tube, and intercooler, and if there's a lot of pressure buildup the air will force its way out of the turbo causing compressor surge. Compressor surge creates stress on the shaft and bearing assembly causing extra wear to the turbo. A Blow Off Valve uses a pressure signal from the intake manifold that is fed to a fitting in the top cap. When the engine is in acceleration and creating positive (boost) signal, the air pushes the valve down to keep it closed. If you let off the throttle, the pressure signal from the intake manifold becomes negative (vacuum) and it now pulls the valve open and vents the charge air out of the charge tube.

If you look at the diagram you can see how the turbo system works. Air flow is cyclical, it starts at the turbo, goes through the intercooler and into the intake manifold, then it is fed to each engine cylinder for combustion, from there it is considered exhaust, the exhaust flows through the exhaust manifold bypassing the wastegate, and into the turbine housing inlet to spin the turbine wheel, and finally the exhaust leaves the turbine housing outlet where it is directed to the exhaust pipe. The blue/yellow highlighted piping is the compressed air (boost) from the turbo, and the red is the exhaust air flow path.

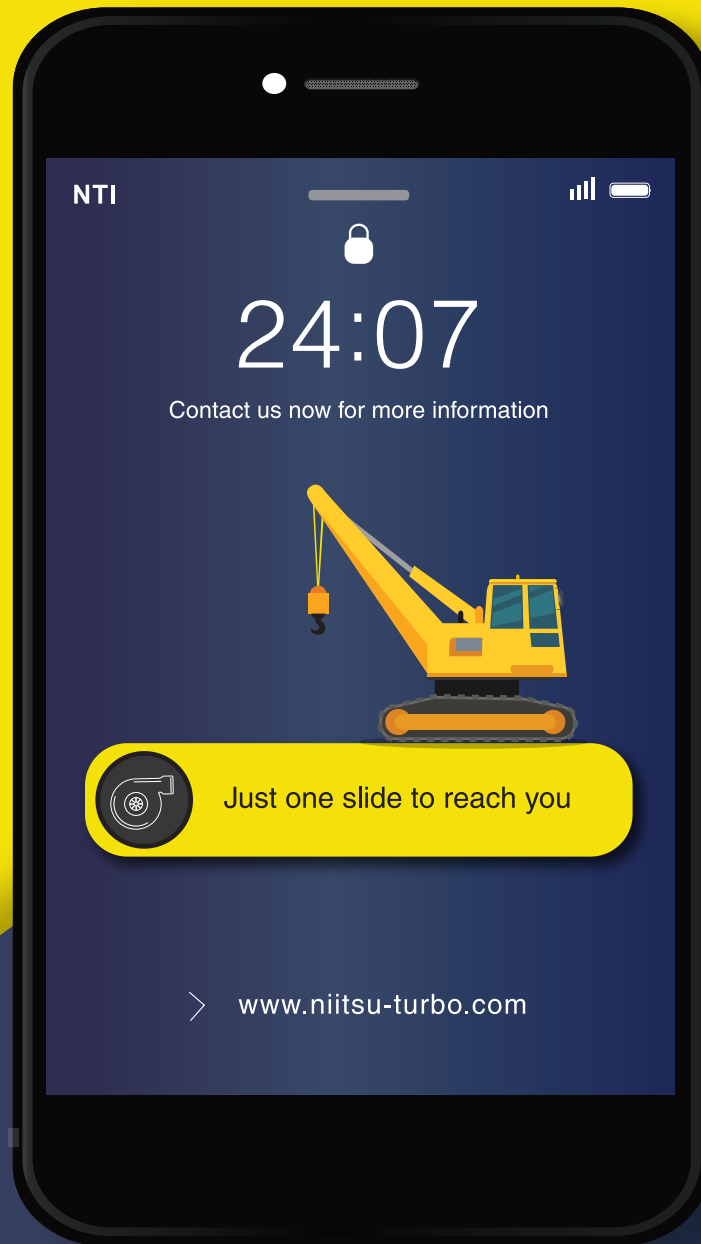
In this image, we have an engine bay with an LS, 8 cylinder engine, single turbo configuration, two wastegates, and one blow off valve. In V configuration engines it is common to see a wastegate for each of the manifold runners, this provides more accurate control over the turbo speed. ■

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HOW TO CALCULATE YOUR OVERHEAD

BY: SUZ BALDWIN, FULLBAY

Knock-knock.
Who's there?
Overhead.
Overhead...who?
EXACTLY.

Joke didn't land? That's OK. Overhead is no laughing matter. It's popped up in the background of many shop operation articles, and most shop owners are at least vaguely aware that a lot of their monthly bills go towards overhead...but what is it, exactly? How do you determine it?

And how can you reduce it?

We set out to answer these questions and more. To help us out, we requested the help of Irvin Bowman of Truck Shop Network and Robert "Robby" Gilbert, Fullbay's Director of Finance. They sat down with us (well, virtually) to chat about all things overhead and help us break down this often mysterious portion of operational expenses.

WHAT IS OVERHEAD?

Let's start out by describing what overhead is, especially in the context of this article.

"If you're not selling it, it's overhead," Irvin says.

"Overhead is things that don't directly contribute to generating your product or service," Robby confirms.

So, if it's not a profit producer or revenue generator, it's likely overhead.

A technician produces profit through their labor. A technician is not part of your overhead.

Your accountant, if you have one, does not produce profit through their labor. It's a true cost...but you generally need them to help run your business. They are part of your overhead.

In other words, your overhead consists of bills you'll have to pay even if no money is coming in.

Generally speaking, the lower your overhead, the more efficient your operation. A one-man mobile repair tech will



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probably have way lower overhead than a five-acre facility with seven bays.

WHAT COUNTS AS OVERHEAD?

Okay, so now we know what overhead is. You're now probably looking for a list of what is or isn't overhead, right?

Well, it isn't quite that easy...

First, make a list of all your expenses. Look at them fondly. Then go down that list and check off the ones that directly drive revenue.

Anything that doesn't directly drive revenue counts as overhead.

Here are some examples:

Overhead

-Wages for front-of-house staff (service advisors, parts guys, management, etc)

-Lease rates/mortgage/general real estate fees

-This includes things like property taxes (if you own the building/land), property insurance, and so on

-Utilities (you kinda need lights, even if they aren't performing repairs)

-Supplies

-Advertising and marketing expenses

Not Overhead

-Your back-of-shop staff (technicians!)

-A high-dollar piece of equipment (like a lift or alignment machine; these should be written off as one-time investments)

-Parts! Especially these days

Then there's other costs that can go either way (depending on how you view and use them). "Make a judgment call," Robby says.

Let's take service trucks. They can count as overhead because they have static costs associated with them (like fuel, insurance, possibly payments), but they can also be out there earning you money like a gigantic gas-guzzling technician.

Take a close look at all of your finances. Like Robby says, some items will be judgment calls. But once you've got them in order, you can move on to the next step.

HOW TO CALCULATE YOUR OVERHEAD

How you actually calculate your overhead will depend on how detailed your records are. Irvin describes figuring out overhead as "a math problem that needs to be solved," which will either put you at ease (yay math!) or give you hives (ARGH! math!).

So, round up all the records you have

around your overhead. If you're a newer shop, this won't take a lot of time. If you've been around for a while, going back a few years will help you with future projections. But let's say you have 12 months worth of records. Add them, and divide them by 12.

That's your average monthly overhead.

There's more to do after grabbing that number, but we do want to high-five you real fast. Just looking into your overhead puts you ahead of a lot of other shops—many of which don't have the time or energy to really zero in on what they're paying to exist. They get caught up in the day-to-day running of the shop and glance at their accounts and say, "OK, we've got enough to keep going."



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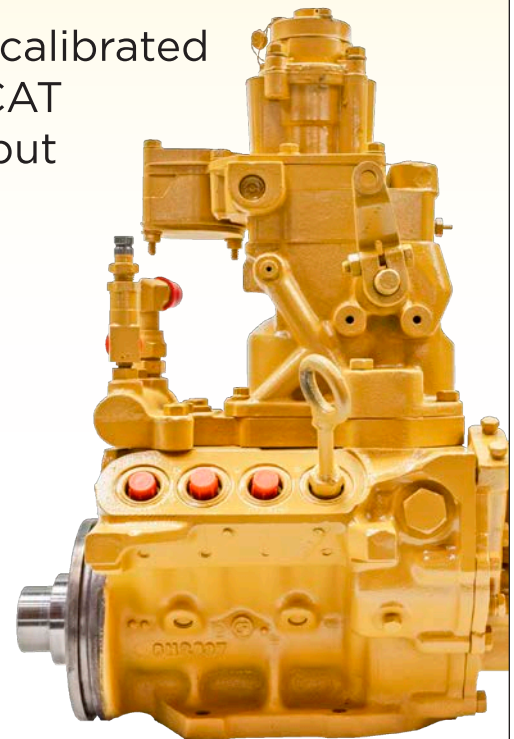
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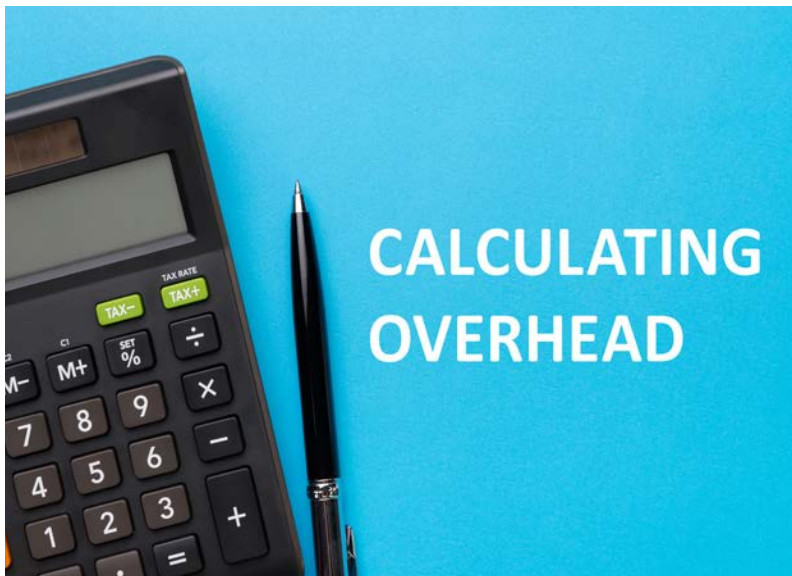
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still paying for despite no longer using it. Some things you can reduce through research—for example, is there a less expensive dumpster company you can use?

Charge properly: More money, more problems, right? Well, no, not really. Charging what you should for your techs' work (or charging for diag work, if you aren't already) means more revenue to cover your overhead. Just remember to stay within what your market can bear.

Outrun your overhead: Otherwise known as Sell, sell, sell! If you're running \$100,000 a month or \$200,000 a month, your overhead doesn't change significantly. Pushing more sales through your shop gives you the opportunity to outrun your overhead.

In a perfect world, you might do a little of all three. But here in the real world, the third option is almost always the most practical choice.

GETTING AHEAD OF THE OVERHEAD

There are other things you can do to battle your overhead. Just about everyone we've talked to has agreed that efficiency is key. The way your shop is organized, and how it operates, will contribute to your bottom line.

Something else you can do to bolster your revenue: Invoice on time. This remains a huge problem for many shops. "If there's a truck leaving your shop and there's not an invoice going with it, you need to address that," Irvin says. It is really hard to overcome not invoicing things out. You're basically not getting paid for the work that you do and your daily, weekly, and monthly cash flow will suffer when it takes you months to invoice your customers!

You can also make sure parts are accounted for. If you can't bring up your labor rates any further, then you'll need to make bank on parts, so to speak, and that means not letting any of them just walk out of the shop.

Many of our "shop operations" articles keep zeroing in on the same theme: To run a successful business, you need to treat it like a business. A lot of shop owners run into problems with this because they started out as technicians. They know how to fix things, and they want to fix things.

So when they open up their shops, it turns into a kind of "death by a thousand cuts," as Irvin describes it, because there are so many little operational things that need to be taken care of, and they don't know where to start.

So. Educate yourself. Treat your business like a business and understand the daily costs that go into operation. And above all, keep accurate financials! Review them on a regular basis. If you don't have accurate financials, you don't know where you're headed. "It's like driving with a dirty window," Irvin says. "You can take a guess, but you never know when you're going to hit a tree."

Don't hit the tree. Figure out your overhead—and point your shop in the right direction.

For more information regarding this article, visit www.fullbay.com

But that's not an actual reflection of how healthy the business is, or where they need to be priced in the market because they don't know what the actual cost of running the operation is. That's how you wind up with situations where shop owners just pump everything they earn back into the shop.

But that's not going to be you!

HOW DO YOU REDUCE YOUR OVERHEAD?

So, now you know your overhead. Maybe you're happy to leave it there; knowledge is power and all that. But maybe you're looking at inflation and the economy and wondering if you can trim things.

Before we go further, let's make it clear that you can't reduce your overhead to nothing. You are always going to have some kind of operating expenses. Looking for places to reduce them is a start, but it's going to vary by shop. "It's a case by case basis," Robby says. "You've got to look at all of the costs contributing to overhead, and see where you are and where you can cut back."

Let's return to Irvin and his Shop Math.

First, look back at (once again) the prior 12 months and see how many hours you've invoiced. How many hours have actually been billed out to customers on work you've performed in the shop?

Divide your total overhead by that number.

The resulting number is the way you combat your overhead.

In Irvin's experience, that resulting number is often higher than a shop's labor rate. For a lot of shops, the only way they're making up the difference is what they're charging for parts.

Once you understand your overhead costs per hour, you can understand what your gross profit per hour needs to be for your operation to make it. If your market won't bear a high enough rate to get your gross profit up, you're going to have to find a way to reduce your overhead.

Here are three things you can try:

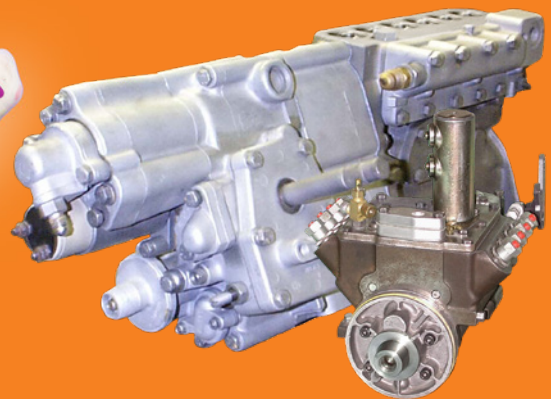
Reduce overhead: This, says Irvin, is the hardest one to pull off, because you have to determine what you need or what you don't. Sometimes the decision is easier than you think; you might have a tool or subscription that was useful in the past, but that you're

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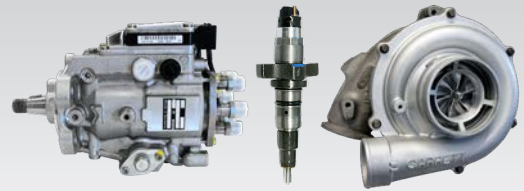


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