



# Shop Manual

May 2025

[www.badgoat.net/ptcaths](http://www.badgoat.net/ptcaths)

## Vice President's Message

It is that time of year when the barn doors are opened and the old trucks come out from their winter hibernation with the promise of a new year of making memories with old friends and socializing while talking trucks. Spring brings out the trickle charger, fresh containers of oil, coolant, dust rags, and whatever else is needed to wake the old beasts from their slumber. A few weeks ago, I was glad to take off the plow from my 2015 GMC 1500 Sierra. I put it in front of my old 90 Volvo White GMC. I charged the batteries for the WIA 64 to move it and turned the key to get the old Caterpillar purring. After the air was up to pressure and the coolant circulated, I released the parking brake, pushed in the clutch, and put the truck in reverse. I was happy that there weren't any stuck brakes. Spring brings us the promise of old truck season and warmer temperatures. Living in our present time and moving to the future always brings the challenge of adventure plus uncertainty. Organizations or groups are very much like the promise of Spring and the constant of change.

A few months ago, when Peter Mullin announced that he would be retiring from his President position, an opportunity appeared to be of service. I felt an obligation to step up my responsibilities as chapter Vice President and help navigate the future waters of the chapter. I have been an A.T.H.S. and chapter member since 2009 and the owner of two vintage semi-trucks (1974 IH Transtar 4200 and a 1990 Volvo (White GMC) WIA 64). As many of you know, I love various brands and sizes of trucks, trucking culture, history, and socializing. I'm a child of the 1970s/80s, and my interest in trucks of that era is embedded in my soul. I was that little boy who rode in big trucks with his dad and scoured the pages of *Overdrive* magazine looking at trucks and dreaming of one day driving them. Up until age 12, my father trucked seafood from coastal Virginia to the Midwest and points in between. The backhaul was mostly LTL freight, and I saw parts of America that were different and beyond the border of my small hometown. Some of my favorite memories were naming all of the different brands and models that I saw when we arrived at a truck stop. Those days are long gone in the side view mirrors, and the world outside of the windshield looks very different.

I am looking forward to being of service to the chapter and helping out until we find a new president. I let it be known in email conversations to the officers and board of directors that I have no intention of being the chapter president. I am content with being the vice president and helping out for a few more years. Hopefully, the fundraising and search for truck parts will be complete by then, and I'll have only bodywork to complete to have my Transtar ready for out-of-state travel. Then again, life happens while you make other plans, or the universe throws a curveball. On that note, before I end my message, I want to thank the chapter members who brought plenty of pots for luck for our souls, and a special thank you to The Higgins Family/Higmos Inc. for hosting the Spring Stretch. Over and out, *Tom*

## RAMBLINGS.....

So glad to see a good turn out @ Higmo's for some good grub; a tour of the facility, and the all important election of a new slate of officers. This chapter has come a long way since parting company with the old New England Chapter. We are fortunate to still have some of the Charter Members still on the roster. Some have slacked off a little, but it seems like when the tough times hit, somebody will still throw their hat in the ring, and make things happen. Our new slate of officers appear to be off and running with a few and exciting things in the offering. Lets, as a group, be behind them 100 %..

I've been weeding out a 40 year collection of newsletters and magazines.....I've been writing RAMBLINGS for quite some time now, and some of the older members have been after me to republish some of the interesting older stories for the new members to enjoy. I will follow up on that suggestion, so if you see a re-run of an old story, don't just chalk it up to an old man being forgetful.....

To the many who sent birthday best wishes, I am thankful to have such a varied group of friends to thank. In closing, I will pass on the news that "Big Bill" William R. Saucier, of Auburn recently passed at 77 years young. Bill was a respected Civil Engineer with Callahan Bros, and Reed & Reed. Bill restored a Ford "TT" named "Hilda" from bits and pieces.... RIP 'ol friend.....Just 'Chuggin on down the road..... *Lars*

Editor's Note: The Officer and Director information has been updated on Page xx

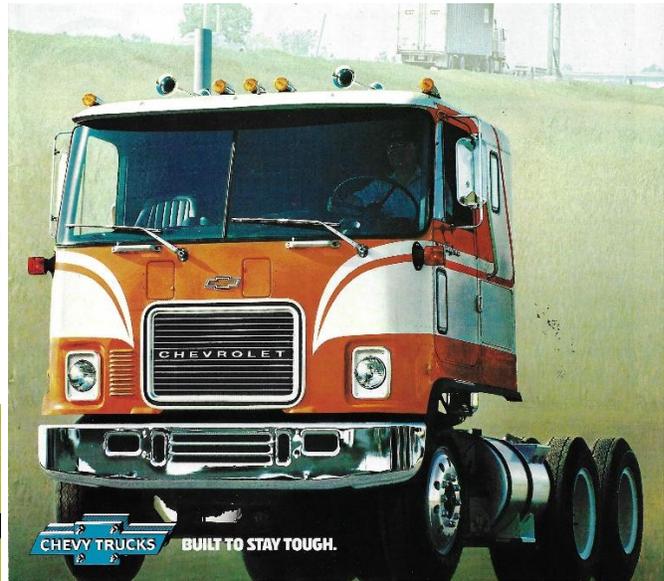
Lars called just before this issue of the Shop Manual was being put to bed. Longtime Chapter member, Peter Wood, formerly of New Hampshire and now an Alabama resident, is very ill and has entered hospice care. Lars asked we keep Peter and his wife, Donna, in our thoughts and prayers.



Director Bob Stackpole presenting (former) President Peter Mullin a plaque for his many years of service to the Chapter



72 Astro (notice bus style mirrors)



78 Titan

### GMC Astros and Chevrolet Titans

In 1969 GMC introduced the Astro 9500 aluminum tilt cab-over-engine trucks, replacing the Cracker Box models first introduced in 1959. Per Don Meyer's First Century of GMC Truck History the Astro 9500 features included:

- Much more interior room and improved occupant comfort, visibility and appearance;
- Rounded corners, reduced air resistance and fuel consumption;
- Instrument panel wrapped onto a center console, providing space for gages and controls;
- Standard day cab (54" BBC) and two optional sleeper cabs (74" and 86" BBC);
- Several suspended driver's seat options and a variety trim levels and interior colors;
- Detroit 6-71N and 8V-71N diesels, and Cummins 230 to 335 gross hp diesels; and
- A wide selection of transmissions and rear axles.

Meyer noted the "Options available made the Astro the most luxurious heavy-duty GMC ever built."

The first letter of the model number designated the number of drive axles - F denoted a single axle and D denoted a tandem axle chassis. The second letter of the model number designated the engine series with I for the 195, 218 and 238 hp Detroit 6-71Ns; H for the 260, 290 and 318 hp Detroit 8V-71Ns; N for the Cummins NH-230 and NHC-250; and C for the Cummins NHCT-270 and NTC-335. Depending on the truck model, transmission options included 5-10-13-16 and 20 (5x4) speed Fuller and Spicer models; single rear axle options were Eaton and Rockwell 22,000 and 23,000 lb. single or two speed models; and tandem rear axle options were Eaton 34,000 lb. models; and Rockwell 34,000, 38,000 and 44,000 lb. models. The Eaton 34D3C 3-speed rear axle was standard for the DI models and DN models.

In 1970 Chevrolet entered the heavy-duty truck market with re-badged GMC heavy duty models. The Astro 9500 became the Titan 90 in the Chevrolet line-up. In 1971 GMC introduced the Astro-Aire tandem air ride suspension for conventional and aluminum tilt-cab trucks with Rockwell 34,000 or 38,000 axles. It was recommended for road tractors only and weighed approximately 1,000 lbs. less than a Hendrickson suspension.

In 1972 the Cummins 330 hp V903 and the Detroit 390 hp 12V-71 diesels were added as engine options. Per Don Meyer few Detroit 12V-71s were sold due to the added weight and cost. The February 1973 Chevrolet Sales Data book shows the 150" wheelbase 12V-71 Titan chassis weighed 16,550 lbs. and had an MSRP of \$34,547; while the 150" wheelbase 8V-71 Titan chassis weighed 2600 lbs. less (13,950 lbs.) and had an MSRP of \$25,736 (\$8,811).

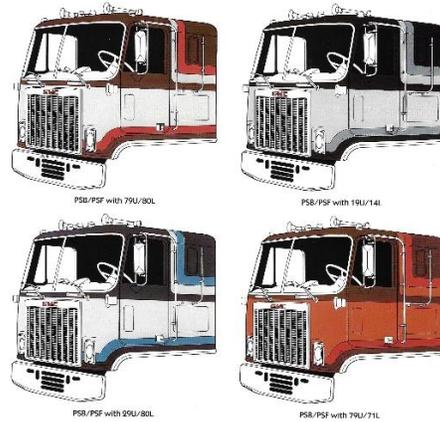
Over the years production changes included\*:

- 1975 The GMC patented Dragfoiler was first offered on Astros/Titans to reduce air resistance and improve fuel economy;
- 1977 A larger radiator was available to cool the more powerful engines, and Cummins KT450 and CAT 3406 DIT 267 and 312 hp engines were added to the engines offered in Astros/Titans;
- Astro/Titan glider kits (frame, cab, front axle with wheels and tires, brake controls and airlines) became available;
- 1978 The Detroit 8V-92T was offered with a rating up to 412 hp;
- 1979 Astro SS Special Series model was introduced featuring dress-up exterior features and uplevel interior trim targeting the Owner-Operator. The package included the larger radiator which became standard in 1980;
- 1980 – The Cummins NTC 300 and Formula 300 diesels were added to Astro/Titan engine option list. Chevrolet ceased marketing heavy duty trucks so Titan, along with Bison and Bruin, model production, ended;
- 1983 – An Aero Astro package with collapsible dragfoiler, side filler panels, frontal air dam, larger radiator grill and taller bumper was introduced
- 1984 Astro BBC dimensions increased one inch to 55", 75" and 87" by moving the bumper forward one inch. The Aero Astro package was discontinued.
- 1987 The Volvo GM Heavy Truck Corporation joint venture was formed with Volvo owning 65% and General Motors owning 35%. Astro and General models were declared redundant with other Volvo offerings. Production of the GMC Astro ended in September 1987.

(\* - bullet points taken from Don Meyer's First Century of GMC Truck History)



1980 Titan



1987 Astro paint options



1983 Aero Astro



1980 Astro glider



1987 Astro

## Timken-Detroit "3 for 1" Axles

A couple of years back a fellow truck literature collector, Dave Mueller, lent me a large file of equipment component materials to copy or scan, should I have an interest in them. In the cache file a collection of early 1950's Timken- Detroit Axle brochures including the one on Timken-Detroit's "3 in 1" axles detailed below.

Each of the seven series offered 3 types of final drives - Single Reduction Hypoid Drive (x-100 axle); Hypoid-Helical Double-Reduction Drive (x-200 axle) and Two-Speed Hypoid-Helical Double-Reduction Drive (x-300 axles) and a choice of brake type: DPH- hydraulic; DPA- air over hydraulic and P-full air.

The axle series designation was based on the axle's tire size.....E-Series – 8:25-20 tires; H-Series – 9:00-20 tires; L-Series – 10:00-20 tires; Q-Series- 11:00-20 tires; R- Series – 11:00-22 tires; S- Series – 12:00-20 tires; and U- Series – 12:00-24 tires; all on dual disc wheels.

In addition to the "3 in 1" axle information shown the collection had individual brochures on the E, H, L and R axles with specific track, spline, available axle ratios (for each drive type) and brake information, along with drawings of the axles and brake systems. Also in the collection were brochures on the Timken -Detroit SFD-SFDD, SLD-SLDD, and SQD-SQDD axles, "Straight-Line" tandem axles, and single and tandem trailer axles. Should you have a need for, or interest in more information on any of the early 50's Timken -Detroit axles please feel free to contact me at (207) 522-7088 or [1948reo@roadrunner.com](mailto:1948reo@roadrunner.com).

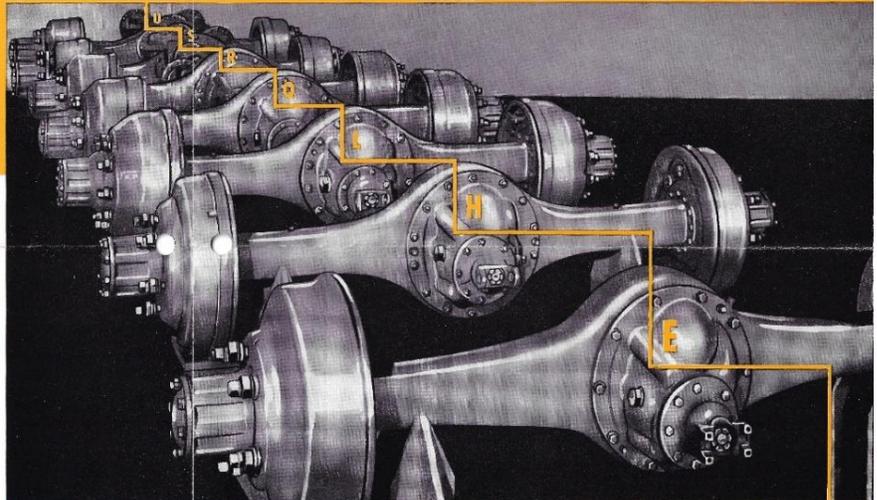
Clayton

# THE TIMKEN-DETROIT AXLE COMPANY BUILDS AND SELLS THE WORLD'S ONLY FAMILY OF REAR DRIVING AXLES!

*We call them a "Family" of Axles because:*

They are built in **SEVEN** sizes or capacities, progressing from the smallest to the largest in **EVENLY-SPACED STEPS**

Each axle is **IDENTICAL** to all the others in design, construction and performance characteristics, **DIFFERING ONLY IN LOAD-CARRYING AND TORQUE-TRANSMITTING ABILITY**



**T**HE TIMKEN-DETROIT family of rear driving axles did not "just grow!" It was planned that way—designed that way—today is built that way! It is a family of axles offering tremendous benefits of standardization to truck builders, sellers and users

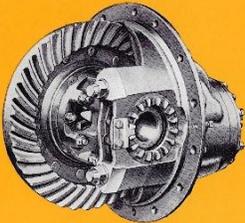
alike. It is a family of axles offering the same modern design and the same outstanding performance characteristics in every capacity from the smallest to the largest. For complete, eye-opening information, write for detailed product literature today!

# Meet TIMKEN-DETROIT "3 for 1" AXLES

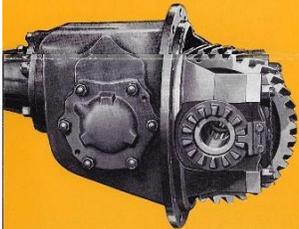
—WORLD'S ONLY *Family* OF ADVANCED-RELATED DESIGN REAR DRIVING AXLES!

## 3 Types OF FINAL DRIVES

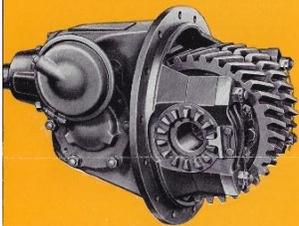
HYPOID SINGLE-REDUCTION



HYPOID-HELICAL DOUBLE-REDUCTION



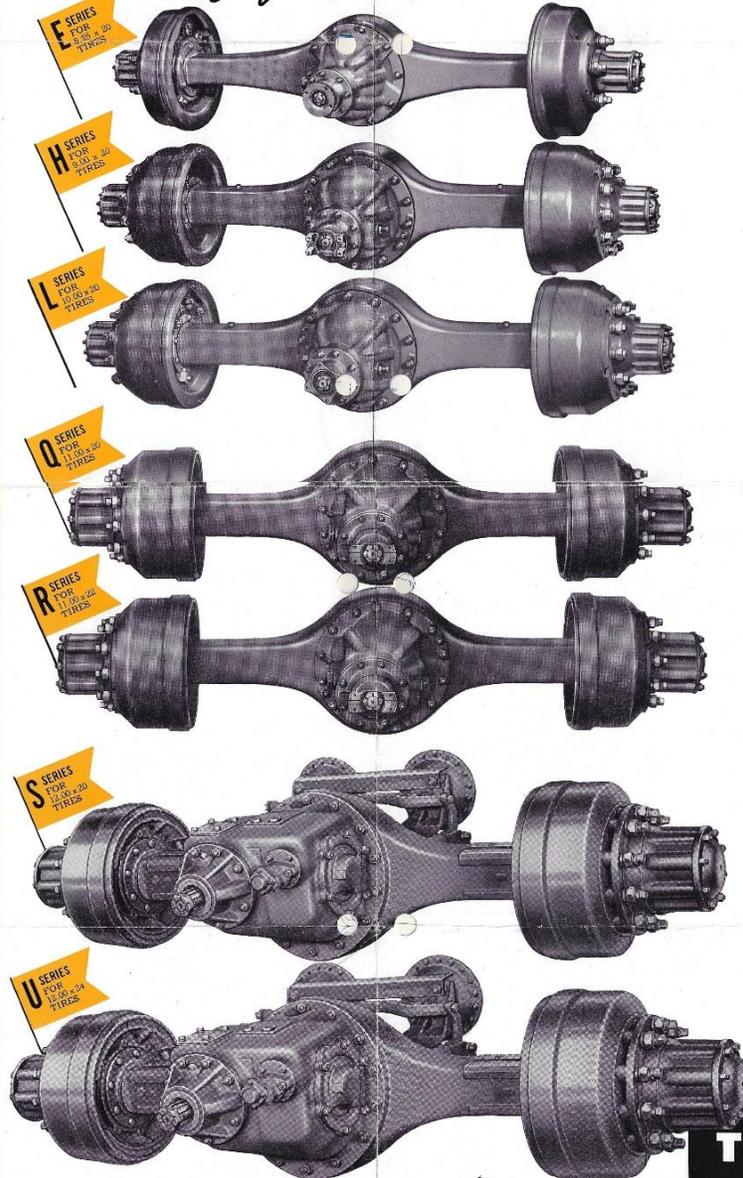
TWO-SPEED HYPOID-HELICAL DOUBLE-REDUCTION



All three types of final drives are interchangeable in the same housing of any given capacity, using the same axle shafts. (Except "S" Series and "U" Series axles which are not offered with single-reduction final drives.)

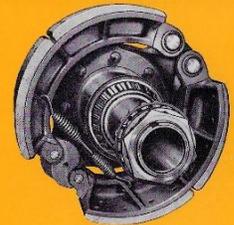
## 7 EVENLY-SPACED CAPACITIES

Tire Sizes from 8.25x20 to 12.00x24

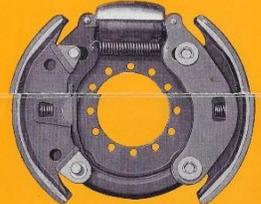


## 3 Types OF BRAKES

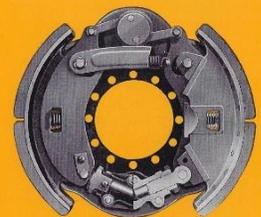
"P" SERIES AIR BRAKES\*



"DPH" SERIES HYDRAULIC BRAKES



"DPA" SERIES AIR BRAKES



Each type is offered in a complete range of sizes and capacities. Each size of brake is related in design, construction and performance characteristics to all other sizes of that type—and related, also, to the performance characteristics of the axle with which it is used.

\*Not available on "E" Series and "H" Series axles.

# TIMKEN-DETROIT "3 for 1" AXLES

THE FINAL ANSWER TO EVERY FINAL DRIVE PROBLEM! PROVED BY BILLIONS OF MILES OF SUPER-SERVICE IN THE FIELD!

**TIMKEN**  
*Detroit*  
**AXLES**

A PRODUCT OF THE TIMKEN-DETROIT AXLE COMPANY  
DETROIT 32, MICHIGAN



TRADE MARK REGISTERED

## 2025 Springtime Truck and Tractor Show

by Doug Wakefield

We continue, along with our 2025 Show Hosts, Roger and Michelle Ireland, planning our Charity Truck Show.

Along with hamburgers and hot dogs hot off the grill, a BBQ wagon will be part of the food and refreshment offering. Cost will be, by your donation.

As always, there is no costs for Truck registration, or spectator fee, but donations are appreciated.

Truck drawing and awards will be presented after lunch. Those that wish are welcome to tent or dry camp overnight at the air strip on site.

All look forward to the show, to show and shine up their trucks and tractors, and to visit with friends. We look forward to seeing everyone on Saturday June 21, 2025 at 1558 Main Road, West Enfield, Maine.

Come for the trucks, stay for the people as we honor trucking and the people that work to supply all the things that we use every day.



**SPRINGTIME TRUCK & TRACTOR SHOW**  
**SATURDAY JUNE 21, 2025**  
**IRELAND'S CONCRETE SERVICES**  
**1558 MAIN RD (RT. 2) WEST ENFIELD, ME**  
**ENTER FOR YOUR CHANCE TO WIN EITHER THIS TRUCK OR CASH!!**  
**300 TICKETS AVAILABLE @ \$100.00/Ticket**  
**1ST PRIZE: 1985 White Road Boss**  
**2ND PRIZE: \$1,000.00 CASH**  
**3RD PRIZE: \$500.00 CASH**  
**Show Proceeds to Benefit Acts of Kindness Charity**



**Address to Enter:**  
**Springtime**  
**Truck & Tractor Show**  
**24 West Old Main Road,**  
**Lowell, ME 04493**

**For Info: Call Doug @ 207-356-2237**  
**Email to: tiredironguy56@yahoo.com**



### Local Cruise Ins by Sandy Gushee

Auburn, ME: Roy's All-Steak Hamburgers Drive-In, 2514 Turner Road, Route 4 - Every Friday Evening til 8:00pm - Mid-April to End of September.

Gardiner, ME: Gardiner Waterfront at Waterfront Park, Water Street - Every Thursday Evening 4:00-7:00pm - Through September

Bangor, ME: Dysart's Restaurant, 1110 Broadway, Route 15 - Every Thursday Evening 5:00-7:00pm Throughout the Summer

(Editor's Note - please submit other cruise in events)

### 2025 Pine Tree Chapter Dues

If you haven't submitted your 2025 Pine Tree Chapter Dues, please send a check to Treasurer Jamie Mason at 104 Falmouth Road, Falmouth, ME 04105; or bring a check or cash with you to the Pine Tree Chapter Gathering at the Owls Head Truck Show on Saturday and Sunday, July 19<sup>th</sup> and 20<sup>th</sup>. Still \$10.00 annually. Thank you.

## 2025 Local and Regional Events

Below is the 2025 event calendar through July, plus two September additions. While I have tried to be accurate my sources may not be. Please verify dates and locations before heading out for the event. Also, please submit additional events you would like to see posted in the newsletter to Clayton Hoak – phone (207) 582-3224 or email [1948reo@roadrunner.com](mailto:1948reo@roadrunner.com). Additions since the March -April Shop Manual are in **bold letters**.

Sunday, June 1 <sup>st</sup>	Ocean State Vintage Haulers – ATHS Annual Show, Johnston Memorial Park, Johnston, RI
Sat-Sunday, June 7 <sup>th</sup> -8 <sup>th</sup>	CT Yankee – ATCA Annual Show, Bethlehem Fairgrounds, Bethlehem, CT
Tues-Sat, June 3 <sup>rd</sup> -7 <sup>th</sup>	ATHS National Convention ad Show – Alliant Energy Center, Madison, WI
Fri-Sat, June 13 <sup>th</sup> -14 <sup>th</sup>	ATCA National Show – Macungie Park, Macungie, PA
Saturday, June 14 <sup>th</sup>	OHTM Spring Auto Tour, starting at the Museum in Owls Head, ME
Saturday, June 21 <sup>st</sup>	Springtime Truck and Tractor Show, Ireland’s Concrete Services, 1558 Main Road, West Enfield, ME
Sunday, June 22 <sup>nd</sup>	Nutmeg Chapter - ATHS Annual Truck Show and Flea Market, Brooklyn Fairgrounds, Route 169, Brooklyn, CT 8:00-2:30
Thurs-Sun, June 26 <sup>th</sup> -29 <sup>th</sup>	OHTM 50 <sup>th</sup> Anniversary Celebration, at the Museum, Owls Head, ME
Fri-Saturday, June 27-28 <sup>th</sup>	27 <sup>th</sup> Annual White Bash & 13 <sup>th</sup> Annual Ohio Vintage Truck Reunion, Ashland County Fairgrounds, Ashland, OH
Thurs-Sat, July 10 <sup>th</sup> -12 <sup>th</sup>	Walcott’s Truckers Jamboree, Iowa 80 Truckstop, Walcott, IA
Saturday, July 12 <sup>th</sup>	IH Motor Truck Chapter – ATCA 12 <sup>th</sup> Annual Show, Sones Farm, Muncy, PA
Weds-Sat, July 16 <sup>th</sup> -19 <sup>th</sup>	25 <sup>th</sup> National REO Meet – Cedar Falls, Iowa
Sat-Sun, July 19 <sup>th</sup>	Hamlin Library 46 <sup>th</sup> Annual Founders Day – Public Viewing – Sandra and Gary Bahre ‘s private car collection – Paris Hill, Paris Maine FYI -207-743-2980
Sat-Sun, July 19 <sup>th</sup> -20 <sup>th</sup>	Owl’s Head Transportation Museum Truck and Tractor Show – Owls Head, Maine
Sunday, July 20 <sup>th</sup>	Uncle Sam Chapter – ATCA 21st Annual Show, Schaghticoke Fairgrounds, Route 40, Schaghticoke, NY (new location)
Sunday, September 21 <sup>st</sup>	27th Trucking for Kids Convoy - Hannaford Corp. Offices, 145 Pleasant Hill Rd, Scarborough, ME 8 am – 3 pm / Touch-a-Truck 10 am – 12 pm / Convoy 12 pm
Fri-Sun, September 26 <sup>th</sup> -28 <sup>th</sup>	Rockbusters Antique Construction Equipment Show, Boro Sand & Stone Corp., 192 Plain St North, Attleborough, MA 02760 9-4 daily

**Classified Ads** - Classified ads may be sent or called in anytime. They will generally be run twice unless the ad is pulled by the submitter. An ad will be run additional issues at the submitters’ request.

**Wanted:** Local Cruise Night dates and locations for publication in the Shop Manual. Clayton (207-582-3224)

**For Sale:** CASE 750-B shovel dozer, 4-cylinder CASE diesel, three shank ripper (never been in ledge) powershift transmission, soft cab, good undercarriage (does not throw tracks) Was running 9/29/24. Call for details; pricing, availability evenings..... Lars (207-375-6515) or Email : [peckapohl@roadrunner.com](mailto:peckapohl@roadrunner.com)

**Wanted:** Flywheel housing for an 8V71 Detroit Diesel. Tom (207) 943-6548 or [tomchristopher28@gmail.com](mailto:tomchristopher28@gmail.com)

## Pine Tree Chapter of ATHS Board of Directors (elected at the May 03, 2025 Annual Meeting)

**President – Vacant** (candidates needed)

**Vice President - Tom Hudgins** P.O. Box 43, Bradford, ME 04410; (207) 943-6548; emails: [tomchristopher71@yahoo.com](mailto:tomchristopher71@yahoo.com) / [tomchristopher28@gmail.com](mailto:tomchristopher28@gmail.com)

**Secretary – Micheline Abbott** 1336 Hammond St. Bangor, 04401; Cell: (207) 659-1438; email: [mia58mia@yahoo.com](mailto:mia58mia@yahoo.com)

**Treasurer - Jamie Mason** 104 Falmouth Road, Falmouth, ME 04105; (207) 949-1360; email: [haroldjmason@gmail.com](mailto:haroldjmason@gmail.com)

**Director - Howard Clouston** 1336 Hammond St. Bangor, 04401; (207) 852-4424; email: [howardclouston@aol.com](mailto:howardclouston@aol.com)

**Director – Sandra Gushee** 247 Woodman Road, New Gloucester, ME 04260; (207) 926-3467; email: [sgushee@maine.rr.com](mailto:sgushee@maine.rr.com)

**Director – Doug Wakefield** 24 West Old Main Road, Lowell, ME 04493; (207) 356-2237; email: [tiredironguy@yahoo.com](mailto:tiredironguy@yahoo.com)

**Director – Peter Mullin** 6 Kinney Road, Gorham, Me 04038; (207) 838-5069; email: Director [wfd44@maine.rr.com](mailto:wfd44@maine.rr.com)

**Director - Diane Munsey** 785 River Road, Dresden, ME 04342; (207) 737-2997; email: [munsandi@gmail.com](mailto:munsandi@gmail.com)

**Director - Andy O'Brien** 54 Upper Minot Road, Pownal, ME 04069; (207) 232-4743; email: [aobrien211@gmail.com](mailto:aobrien211@gmail.com)

**Director - Bob Stackpole** 446 River Road, Cushing, ME 04563; (207)354-2372; email: [stack123@roadrunner.com](mailto:stack123@roadrunner.com)

**Director Emeritus/Chapter Historian (appointed) - Lars Ohman** 6 Antique Drive, Sabattus, ME 04280; cell (207) 376-7993; email: [peckapohl@roadrunner.com](mailto:peckapohl@roadrunner.com)



All but one of Higmo's firewood processing crew hard at work demonstrating the process to two Spring Stretch attendees.



And the Mack said to the Western Star....."Wanna race???"

Pine Tree Chapter – ATHS  
C/O Clayton Hoak  
299 East Stage Road  
Pittston, ME 04345

***DUES NOTICE - Membership Renewal + Update Form***

**Please sign me up for another year's worth of membership in the Pine Tree Chapter, ATHS. Current membership in the American Truck Historical Society is required.**

*Name* \_\_\_\_\_ *Date* \_\_\_\_\_

*Street* \_\_\_\_\_ *Phone:* (     ) \_\_\_\_\_

*City* \_\_\_\_\_ *E-Mail* \_\_\_\_\_

*State* \_\_\_\_\_ *Zip* \_\_\_\_\_

***Mail dues to:***

Cheryl Billings, Treasurer  
Pine Tree Chapter -ATHS  
1031 Pinkham Brook Rd.  
Durham, ME 04222

***Pine Tree Chapter Dues of \$10.00 run from  
January to December.***