

Shop Manual

www.badgoat.net/ptcaths

May 2020

President's Message

Peter Mullin

Since the last issue the news has not necessarily gotten any better. We still don't have even a hint of when we might be able to have our Annual Meeting and shows and events are being cancelled or re-scheduled on almost a daily basis. ATHS and ATCA Chapter shows across the country have been cancelled and a few re-scheduled. Please see the Calendar of Events page for those events that are still on (tentatively) and those that have been officially cancelled.

The ATHS National Convention, that was to take place in Springfield, IL this year, has been cancelled and is switching to a virtual (online) format. The usual speaker presentations will still take place but as online presentations (probably via Zoom). The trade show portion will also be virtual and will available for 12 months starting May 28. There will be a Virtual Truck Show. T-shirts, souvenirs and chock blocks will be available online starting on May 28th.

To register your trucks go to aths.org/convention. There is no cost to register and you do not need to be an ATHS member to do so. As a member you will want to have your member number (appears on your mailing label and your billing statement) to help expedite the process. I have already registered my 4 trucks. I got some feedback from headquarters last week. While you can register from an iPad or tablet the word is that it works better with Google Chrome and/or a regular computer. Any Chapter Members wishing to register their trucks that is having difficulty please feel free to contact me and I will help as best I can. This is a great opportunity to have all of your trucks at a convention with no fuel bill, tolls, hotels or registration costs. So, let's fill the virtual convention with Pine Tree Chapter Trucks.

I have participated in the two virtual presentations that ATHS hosted in April and can report that as people have become more comfortable with Zoom Meetings the quality of the presentations has improved significantly. Clayton and I took part in a Town Hall Meeting on Zoom with the

ATHS Executive Board last Thursday night. At that time there were 450 trucks already registered for the Virtual Truck Show. Many topics were discussed, in addition to the Status of the Convention, including; status of memberships, financial effects of the CoVid crisis on ATHS, ability to get insurance for events going forward, other ATHS initiatives and how ATHS and the Chapters can stay connected with the membership during this time without gatherings. Probably the best way we as a Chapter can stay connected is through this newsletter and through our Facebook page. To that end we are committed to stepping up the frequency of Shop Manual publication with the intent being to get an issue out between the first and tenth of each month for the foreseeable future. We are a little bit behind that goal this month but we were waiting for news on a couple of events.

Ok, we were hoping for good news. So, good news first. Putting the best spin on this that I can - while the Topsham Fair has been cancelled, we have been in touch with the Topsham Fairgrounds Board of Directors. They are still hopeful that they will be able to host the Fall Swap Meet and our Chapter Truck Show in September. So - tentatively, the Topsham Show is still on the calendar at this time. Now for the bad news. Further along in this issue you will see a note from Toby Stinson at the Owls Head Transportation Museum announcing the cancellation of the Owls Head Truck, Tractor and Commercial Vehicle Meet (along with a significant portion of their show calendar) for this year.

It is difficult not having truck shows and gatherings for now. Until things get better I am asking all our members to keep an eye on our higher risk members, neighbors and family members. Know somebody that is immune-compromised? Offer to do their grocery shopping. Have a relative that is shut in? Set up a video call on skype or FaceTime (some who are hard of hearing find it much easier to communicate this way). Maybe in the not too distant future we will come up with a way to do a video tour of someone's collection. In the meantime stay safe and be on the lookout for more newsletters and social media posts from your Pine Tree Chapter

Peter

Ramblings

Lars Ohman

Back in the mid 1950's I was living in San Antonio, TX. Our neighbors across the street were a hard working Mexican-American family, and the father, Pepe Sandovar had a 1956 Chevrolet Series II truck with a cut off school bus body on behind the cab. His business was selling to all the small farms and ranches south of San Antonio. Now, remember 1956 did not have a Wal-Mart or Tractor Supply on every corner, and these folks relied on guys like Pepe to visit their farms or ranches with a traveling department store. He had everything on that truck from pots and pans, shoes, ammunition, clothing, nuts and bolts, canned goods, some fresh vegtables, an occasional chicken or two, bibles, and most anything you could not get to town for.

His route was along US 35 thru such towns as Dilley, Devine, Big Foot, Poteet, Hondo, Knippa and over to Uvalde. He would leave out early Monday AM, stopping at every ranch, farm and rural setting he could and selling his wears along the way. If someone requested an item, he would have it with him the next week. As all things come about, the world was advancing, folks were getting into town a little better, and his delivery route began to dwindle. Not to be outdone, he removed the old school bus body, installed a rack type body, and the Chevy took on a new life as a truck picking up 40 quart milk cans from many of the same farmers he had delivered goods to. On occasion, I would go with Pepe and his son Joey and load these 40 quart cans, by hand (no power tailgates then!) on to the truck, exchange an equal number of empty cans to be ready for the next day pick up, and go on to the next farm and do it all over again. These were small producers who had not switched over to the stainless bulk tankers yet. The day was not too far off in the future. Pepe made a good living off the milk route. It was hard work on a short guy hefting near 100 lbs. cans up into the truck, but Pepe had a knack of leverage and strength that would get the cans off the loading dock and up about 18" on to the end of the truck. . Joey and I would then roll them up against the full cans forward. At one stop, Pepe stopped to talk to the farmer and Joey and I decided we would load them onto the truck ourselves. The first couple went pretty well with one of us on each handle (remember, we are only 15 or so, and the cans weighed pretty near as much as us!) We got on the third can, gave it all the umph we could muster, and when it went up onto the truck, it came back on us, hit the deck and the cap popped off! 40 quarts of USDA Grade "A" was now on us, the truck and the loading dock. Pepe and the farmer were not impressed at all. We hosed off as best we could, I assume the farmer got paid for the milk, and we were on our way.

Not a word was spoken on the way to the next stop. Thru gestures, we were told to get IN the back of the truck and just roll the cans into place. This was the second stop of the day, it was hot and the milk on our clothing started to dry and curdle. Joey and I rode in the bed of the truck for the rest of the day to the Creamery. Metzger Farms Depot was big and well organized. Samples were taken from each can, then we dumped them into a long trough, the empties were turned upside down and off to the wash out rack, and returned to us red hot and sanitized and stacked back on the truck to be ready for the next day. Now, we were almost stiff from sour milk and sweat...again we rode home in the bed of the truck. I did not get my quart of chocolate milk that day, and was never asked to help on the milk truck again! Life went on, farm-

ers gradually gave way to the more efficient stainless bulk tankers, and once again Pepe was looking for a way to make a living with the Chevy, now finishing up its second life..... The Third life......Getting back to the truck, which was not heavy duty by today's standards. It only had a Chevrolet V-8 of 265 HP, a four speed transmission, and an Eaton two speed rear end of perhaps 17,000# capacity. Wheels were GM 10 stud on the rear and only 5 stud on the front, and Hydro-Vac brakes....pretty spindley by today's standards. Next episode, I looked over one day, and the milk truck body was off, and Pepe and Joey had out the tape measure and were setting out to cut the frame, and make a tractor out of it. They figured they could cut out one length of drive shaft and hangers, cut the frame and have a tractor for "short" money. Having no torches, they made the four cuts in the frame rails with a hack saw (many blades) and a grinder. It took them two or three days to do....slid the back section up to the front, hooked up the drive line and brake lines, clamped the newly spliced frame together with "C" clamps and 2" x 6" s, and drove it to the welding shop for final assembly! It came back and the old 4 speed transmission was replaced with a used 5 speed with PTO to run the winch for a trailer dump application (Hydraulic dump trailers were not around then) A trailer showed up and after a new brush coat of paint (and not much else) the new unit was ready to go to work for McDonnough Bros. Limestone. The trailer was a SHAMROCK with a capacity of not more than 10 or 12 cubic yards, if it was that big. Bob Stackpole's Brock-away and trailer would be about the same configuration and operation method. A little longwinded, but just to show you how a truck can have three or more occupations in its life. I moved away from Texas about that time, and it wouldn't surprise me if Pepe gave it a 4th life ... Be safe folks, as you chug down the road......Lars





A reminder of what a 1956 Chevy looks like photos from Bing Images

Back Side Of Worley's Log Book

Larry Worley

In the spring of 1967 I needed work. There was nothing in my area that would hire anyone under 21 per insurance companies rules. (York Harbor, Portsmouth NH) I could find work in Portland area driving 10 wheel dump trucks was my best shot. This brilliant idea lead me to Direnzo and Sons, Westbrook. I was 19 and had parked and handled 40 foot flatbeds at Orville C. Badger, Trucking Inc., Portsmouth, NH from age 14 as my father, Donald A. Worley, was leased to them since I was 3. I lived it, so why not learn it. I couldn't buy the schooling I received from these old masters of this amazing art!

Matty Direnzo didn't believe this skinny, starving kid could possibly handle a Mack 10 wheeler. I was driving B model Macks w/Tri-plex trans., IHs w/5 and 2 speed rears, GMCs, and a Diamond-T ,at Badger's.

Matty gave work hauling hot top with a 62 GMC, V-6, 5 and 2 speed, 7 yard dump hauling out of Northeast Paving, Westbrook (soon to become Blue Rock Industries. Ten ton of hot top was a bit much for this little animal to handle!

Vacuum brakes that were not near heavy enough for this purpose, and, 1962 ONLY, torsion bar front axle. DIDN'T work! '63 went back to beam axle, leaf spring!

After a month Sonny (Matty jr) gave me a B-62x, heavy on-road, off-road 14yd dump, to work on-site on the first extension of the runway at Portland Airport' Big thermodyne gas engine, 5 spd main, 2 spd aux. Non-power steering, which would build up my shoulders, big 4 spoke steering wheel. It had an older Perfection body that came from another wreck. I say that as I saw lighter green paint on the sub frame than the Mack frame, and just to make life more interesting, the hydro-ram

crossmember had been broken off and relocated on a new crossmember 10 inches forward, which means it took nearly 3 ft. out of the total lift height of the dump body! Made hauling wet marine clay quite the challenge all day.

One particular day at lunch-break I went over to the edge to dump, pump in gear, tripped the tail-gate, ran the body up and didn't see anything on the ground! The clay packed nicely and never came out! As the body reached it's limit the front end lightened and up we went ever so slowly, til she rested on the rearmost axle. A small bit of clay must fallen out as she came back down ever so slowly again til the right front tire touched down. At that point, I stepped out on the ground. I was smart enough to shut it off. It went back up after got out, again, ever so slowly. I saw Sonny heading my way in their 65 Ford 250 service truck. I smoked back then so I reached up, grabbed the running board, and pulled the B model down, grabbed my shirt off the seat, lit a Chesterfield King, returned the shirt to the seat. At that moment, Sonny pulled along side and asked "What's goin' on, Worley?"

I grabbed the running board again and lifted the B back up! Sonny laughed so hard he stalled the 250. Sonny knew I wouldn't hurt his trucks. This lead to a change of rides to an R 400 Mack with a Scania Diesel, small Ouadraplex (1st and 2nd under drives.

Stayed in those til I was drafted on 7 Nov 67! One day in October I Came back to Direnzo shop, fueled,parked and was taking the keys in when Sonny met me, took the keys and told me to park the B model lowbed from the fuel pumps back to the loading ramp. Got in, pushed the fuel stop in, started it and blind-backed it to the right, shifting the duplex up as I went. When I got to the door Sonny was outside with 6 senior drivers whose mouths couldn't have been open any wider in surprised looks. Sonny knew I could! The rest doubted a young driver knew how. Til the next page Larry

George Schroeder Memorial Scholarship

Each year, the American Truck Historical Society recognizes outstanding students who intend to further their education at an accredited college or university or a certified vocational or technical school. Named for a dedicated, long-time ATHS member, the George Schroyer Memorial Scholarship Fund seeks to help students of all ages reduce the financial burden of higher education. Open only to the families of ATHS members, this fund currently provides two \$1,000 scholarships annually. It is the sincere hope of the Board of Directors, as additional donations to the fund are made, ATHS will be able to increase the number of scholarships awarded each year and broaden the eligibility requirements. Increased funds means more students will find higher education within their reach.

FMI: https://aths.org/about-us/scholarship-2/

Hagerty Youth Judging LOOKING FOR A FEW GOOD KIDS

Hagerty is looking for SIX good young people to act as judges for a handful of trucks, as a special part of the 2020 Virtual Truck Show. If you know a child aged 8-14 who has access to a computer (with video capability) and is available for an hour on May 29th to judge some fresh old trucks via Zoom meeting, please let us know. Only a few spots remain.

Email: convention@aths.org for details and to register

Diamond T Model 980 / 981

George Barrett

In 1939 the British were giving serious thought about something to replace the 30 ton Scammell tractor and semi trailer they were using to move their tanks and other heavy equipment. They needed a 40 ton capacity rig and they came to the United States to do their shopping. They came away having selected a Diamond T and accessories that were standard American off the shelf items as put together by Diamond T engineers such as: Hercules Diesel engine, Modine radiator, W.C. Lipe clutch, Fuller main and auxiliary gearbox and PTO, Spicer drive shafts, Timken-Detroit axles, Bendix air equipment, Ross steering, Delco-Remy electronics, Budd wheels, and a Gar Wood 5M723B 40,000 lb. winch.

The British wanted to use the full trailer system so weight was added in the form of a ballast box with 360 56 lb. pieces of weight increasing the load over the tandems by 20,160 pounds. This truck was given the model number of 980 and at some point a model 981 was added. The difference in model numbers: the 980 had 300′ of cable on the winch. The model 981 had 500′ and a fair lead assembly that allowed the winch cable to be fed off the front bumper and used for recovery.

The 980 / 981 Diamond T was also adopted by the US army with over 900 units in service by the end of the war. It was known on our side of the Atlantic as Truck, 12 ton, 6x4, M20. Because it did not meet the requirements of the US Army (it did not have front wheel drive and featured a diesel engine) it could not carry the designation of the standard tank carrier. That role was assigned to the M26 tractor built by the Pacific Car and Foundry Company. Furthermore the M26 was to be used with the Fruehauf M15 semi trailer rather than the British fondness for the full trailer being pulled by a tractor with a ballast box.

The pintle hook on the front was considered an essential item needed for maneuvering the full trailer in many instances. On the 981 the winch could the rigged to come out next to it. Some of the trucks were built with an open cab with canvas top. This was desirable in night operations with only blackout lights were used and a lookout was needed to spot aircraft. In some instances shipping cubic feet were reduced with the soft top but this wouldn't have made much difference unless the ballast box was removed.

The trailers used in most areas had 24 wheels. The rear had four sets of four. The steering system on the front had two sets of four. The British referred to the capacity as 40 tons but late in the war changed to 45 tons that the Americans were using. This had to do with the long tons used in Europe.

The truck's Hercules Diesel had a Bosch fuel injection . There was no power steering system. After looking at the details in every picture I can't find a steering wheel mounted on the right side. My guess is that the United Kingdom needed the trucks so badly that they knew better than to ask for too much. The Diamond T cab had been designed and wasn't going to be changed. The Timken axles with double

reduction differentials (11.66: 1 ratio) apparently proved themselves during the war and were used for many years after. But we should not forget that this truck's top speed is 25 mph, Compared with the Dragon Wagon's 28 mph I guess we could say that tank retrievers weren't made to win a race. If you want some speed get a Mack NO 7.5 ton and go 32 mph. The Federal 20 ton was 27.5 mph and the Federal 7.5 ton was 35 mph.

So, how many were built? The total delivered, according to to government records from 1941 to 1945 is 6,548, the manufacturer claims to have made 6,554. The half dozen extra is assumed to be those used for testing. Included in these figures is an order to Canada for 677. The Russians received 471. There were a few changes during the five years building. In 1944 a major improvement to the winch paying-on-gear (what I would call the level winding) Retrofits were made to older builds. The ballast box was raised to allow for tire chain clearance. A vertical exhaust stack prevented soot and heavy smoke from gathering around the winch area and trailer

Apparently some or all of the 677 sold to the Canadians had a 201" wheelbase, 21" longer that the standard.

There was a variety or trailers supplied to go with the truck. Rogers Bros. Corp in Albion PA and the Winter-Wess in Denver, CO, and Fruehauf were the biggest. The Fruehauf model was called CPT145, the others were D45LFI. These standard M9 trailers were an American product built to a British design, Payload capacity was 90,000 lbs. with a net weight of from 22,500 to 25,000 lbs, Overall length was just under 30 feet including the drawbar, 114 inches wide with a platform height of of 41 inches. Tire size was 8.25-15.

References for this short article were many to be sure all info could be verified because of the nature of the design and construction of this truck by more than one country. Again, the standard go to, always accurate TM9-2800 dated October 1947 proved its worth again. The other book that got me interested in this truck was DIAMOND T type 980/981 by Les Freathy & Robin Pearson. Within its 248 glossy pages are some very interesting information and hundreds of excellent photographs of the Diamond T working during the war and many years after in Europe. The only photo taken in the states post war period was one of Colonial Sand & Stone I've had this book for years and kept telling myself that one of these days I'm going to sit down and take my time reading it. That day finally came a few weeks

As a result of my research into this Diamond T I'm already thinking about my next article on a tank retriever. The type 980 /981 is an impressive truck but for recovering a damaged tank or moving one from the maintenance depot to the battle field there is nothing like the "Draggin Wagon". Probably in the next issue of the Shop Manual I'll lay out for you all the details of what I think is the most remarkable designs and engineering to accomplish its task. I don't know if I can do it in one issue.

TRUCK, 12-TON, 6 x 4, M20 Part of Truck-Trailer, 45-Ton, Tank Transporter M19

Manufacturer: Diamond T Motor Car Company

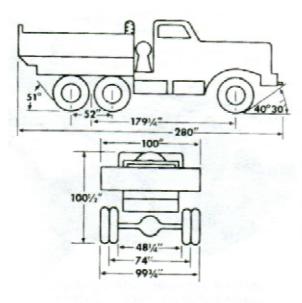
Classification: Substitute standard.

GENERAL DATA

Crew:	2
Weight (lb): Net-26,950 Paylor	ad-18,050 Gross-45,000
Rear axles: Gear ratio	
Axle load (lb): Loaded	Front-11,300; rear-33,700
Empty	.Front-10,950; rear-16,000
Tires: Ply-14	Size—12.00 x 20
Pressure (lb):	
Shipping dimensions: Uncrated (cu i	ft) 1,434 (sq ft) 194.4
Vehicle dimensions:	
Loading height (empty)	
Ground clearance	
Pintle height (loaded)	
Electrical system:	(volts) 24
No. of batteries (6 volts each)	4
Capacities:	
Fuel (45 cetane Diesel fuel oil)	(gal) 150
Cooling system	
Crankcase (refill)	(qt) 26
Transmission (qt):	Main-9; auxiliary 8½
Differentials (each)	(qt) 10
Winch (load capacity)	(lb) 40,000
Brakes: Mfr.—Bendix-Westinghouse;	
Dimensions (in.)	

Purpose: To recover and transport damaged tanks and materiel weighing up to 90,000 pounds in connection with Trailer, 45-ton, M9 component of 45-ton tank transporter truck-trailer, M19.

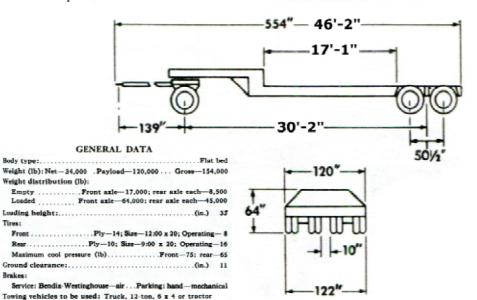
Transmission: Speeds	4
(Gear ratio: High-direct; Low-5.55:1)	
Auxiliary transmission: Speeds	
(Gear ratio: High-,754 over; 2nd-direct	
PERFORMANCE	
Maximum computed gradability:	(percent) 27
Turning radius (ft):	Right-321/6; left-36
Fording depth:	
Fuel consumption (loaded):	(mpg) 2
Cruising range (loaded):	
Allowable speed:	
Maximum recommended towed load	
ENGINE	
Manufacturer: Hercules	Model DXFE
Type: Valve-in-head, 4-cycle Diesel	
No. of cylinders:	(in line) 6
Displacement:	
Bore:	
Stroke:	
Maximum governed speed:	(rpm) 1.600
Brake horsepower:	
Torque:	



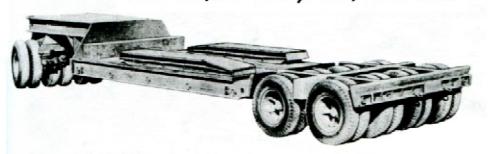
Technical Manuals: 9-768, 9-1768A. 9-1825A, 9-1827A, 9-1829A

Parts List: SNL G-159

124" BBC dimension. The ballast box was 100" wide although the width over the fenders was 96"



TRAILER, 60-TON, FULL, LOW BED



Tires:

Brakes:



top in color, do to www.badgoat.net/ptcaths to view in color. Notice on bottom photo that cable from amidship mounted winch comes out near pintle hook





Top two photos show the 981 Diamond T set up for a semi trailer as it would be used by the U.S. Army. Looks like a capable fairlead over the pintle hook.

bottom photo shows "war surplus" 980 Diamond T as operated by Colonial Sand & Stone.

Pine Tree Chapter member Carl Phillips has the bones of a Colonial Diamond T 980 up the hill behind his shop. As I remember when I looked it over six years ago it had signs it must have done some work as a concrete mixer .





page 7

2020 COMING SHOWS AND EVENTS

Just in and and confirmed by Peter Mullin 5-10-20

Below is what I have for an updated calendar with cancelations and 1 re-schedule. All have been confirmed as best they can be at this time.

I dropped the Rhode Island Chapter show completely without mention as they did not respond in anyway shape or form. They do not have any events listed for RI on the ATCA Calendar and the most recent event calendar on the Chapter webpage is from 2018.

Coming Events & Cancellations

Due to the Covid-19 situation all events listed should be considered to be Very Tentative. Members are strongly encouraged to confirm the status of all events prior to departure.

Sat June 6 Springtime Truck and Tractor Show Burlington, Me. Doug Wakefield Fri-Sun July 31-Aug 2 Rockbusters Antique Construction Equipment Concord, NH Sat-Sun Aug 22-23 Granite State ATCA Truck Show Deering, NH Sun Aug 30 Bay State (Mass) ATCA Bolton Fairgrounds Re-Scheduled from May Sunday September 13 Pine Tree Chapter 3rd Annual Topsham Show; alternate date 9/20 October? Pine Tree Chapter Fall Tour; location and date TBD Sunday November 1 Pine Tree Chapter Late Fall Gathering; location TBD

Cancellations:

Western Mass ATCA Show, Deerfield, MA show ATHS National Convention, Springfield, IL - Going Online/Virtual CT Yankee ATCA Show, Bethlehem, CT show ATCA National Show, Macungie, PA Watson's Water & Wheels, Naples, ME Nutmeg Chapter ATHS Show, Brooklyn, CT Owls Head Truck and Tractor Show, Owls Head, ME Green Mountain Chapter ATHS Show, Chester, VT

Re-Scheduled:

Bay State ATCA Show, Bolton, MA to August 30th

Sat June 6 Springtime Truck and Tractor Show Burlington, ME, Doug Wakefield tiredironguy56@yahoo.comSat July 18 Founders Day Paris Hill Classic Car Collection

Fri-Sat July 30 Aug 2 Rockbusters Antique Construction Equip Concord, NH

Just in from Toby Stinson 5-12-20

Owls Head Truck Show Update 2020

It is with sincere disappointment that I have to inform you that the Owls Head Transportation Museum has made the difficult decision not to hold the Antique Truck, Tractor, and Commercial Vehicle Show this year. Following the guidelines set forth by both the State of Maine and the CDC, OHTM as made the decision to cancel all already scheduled outdoor special events beginning in May through the first weekend in August, Auto Tour through Wings and Wheels. All events after Wings and Wheels are being looked at and evaluated and other updates and schedule changes will be made as needed. The decision to cancel was a hard and difficult one, and one that truthfully was hard to comprehend. Please take care of yourselves and your family and hopefully soon we will come out of this situation better than before. If anyone has any questions please feel free to contact me anytime.

page 8



PINE TREE CHAPTER OF ATHS BOARD OF DIRECTORS MARCH 2019 TO MARCH 2020

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