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## **Triumph Stag Club USA**

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# On the Cover

Mel Hildebrandt drives his Stag through the Chandelier giant redwood tree. Leggett, CA

Photo:Kristie Hildebrandt



Like to have your photo on the front cover? Send high resolution JPG files to the Editor at Publisher@TSCUSA.org

Stag News is published quarterly by the Triumph Stag Club USA ("TSC USA") and is distributed to its members as part of their annual fees. Opinions expressed are those of the contributors and are not the official views of TSC USA, the Publisher, Editor, Officers, Directors or Membership at large. TSC USA cannot be held in any way responsible for the quality or correctness of information contained herein nor does it endorse or recommend the use of any of the products, technical repair procedures or modifications mentioned in any published content, including advertisements. It is your own responsibility to obtain appropriate training prior to undertaking any repairs, procedures or activities described herein.

### **Submissions to Stag News**

Submissions should preferably be non-formatted MS Word documents. Articles of 1,500-2,000 words are preferable but larger submissions can be accommodated. The Editor reserves the right to make changes to any submission for layout purposes. Photographs or diagrams should be sent separately as high-definition JPG files (>4000KB) with appropriate cut-line/caption descriptions. The author should provide a short biography. Send by e-mail to the Editor ahead of the deadline dates of March 1, June 1, September 1 and December 1 for inclusion in a future issue.

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### TSC USA on the internet

Our website URL is: tscusa.org

## STAG ARTICLES WANTED!

Producing a magazine dedicated to a single classic car model issue after issue, as we do at Stag News, can be challenging. In order to keep providing interesting articles and stories, we need to hear from more of our membership. Thanks to those who have already stepped up to the plate and prepared a once off submission or have become regular contributors.

Please consider sending us an illustrated article about your Triumph Stags; the hunt for a suitable model, the restoration projects completed or underway, the modifications you have made, the difficulties faced, why you still love them, the outings and trips you take, the shows and events that you attend, the friends and associates with whom you share this passion.

We would like to hear from members in as many different States and Provinces (and internationally) as possible in order to keep the content regionally balanced.

Renew your membership ON-LINE at www.tscusa.org/join.asp

# **NEW MEMBERS** Since Spring Issue #115

Michael Ashworth, New York, NY

Richard Atkinson, Scarborough, ON

Bryant Brandenburg, Newman, GA

(Rejoined from 09/2020)

Marc Gottlieb, Commack, NY

(Rejoined from 03/2019)

Ethan Kleinberg, Chester, CT

Robert McKenna, Bristol, RI

Richard Poniarski, Westbury, NY

# Can You Help?

with

Web/Social Media content Stag News content & publishing Membership Director/Treasurer

Contact Michael Coffey or Terence McKilen for further details

# **DEADLINE**

The deadline for the next issue of

**STAG NEWS is:** 

Aug. 1, 2022

To submit material for publication refer to details on inside front cover

# From the Editor







# **Summer Time**

even Stags participated in the 2022 All British Field Meet in Vancouver over the May 21/22 weekend which celebrated the model's 50th anniversary postponed from 2020. This is a significant increase in the number of Stag participants and we hopefully will get an even larger turn out next year when we might reattempt to hold some Stag-only events associated with the



weekend. TSCUSA member participation included one intrepid owner who made the journey from Escondido in southern California, a round-trip distance of 3,266 miles, confirming the Stag's original mission as an Interstate Grand Tourer and which provides the cover story in this issue.

Also in this issue, we have a report from two western-based British Car Shows - Darrell Price reports on the All British Field Meet, Western Canada's premier British car show, held in Vancouver, BC and Michael Link reports from the annual Queen's English British Car Show in Van Nuys, CA. Meanwhile, Henri Van Triest describes how he installed a modern air conditioning unit to his Stag for more pleasant Florida driving while Tony Fox provides some hints on restoring a soft top frame.

Don't forget to let Tony Fox know if you plan on attending this year's Bronte Stag Weekend on September 16-18 in conjunction with the Toronto Triumph Club's annual British Car Day where up to 1200 British classics and moderns are expected to attend. Further details are provided on page 15.

**Terence McKillen** 

Top - Stags at British Car Day 2019 | Center - Henri Van Triest checks out refridgerant pressure | Lower - Mel & Kristie Hilderbrandt's Stag on the road home to southern California

# Founder's Corner

t seems to me that foreign car shows are making a come back as car owners are bringing their great cars out for all to admire, of course in a cautious manner in consideration of the ongoing COVID infections worldwide. Thank all of you who have made this effort and let's hope that this health issue will pass away in the foreseeable future.

Triumph Stag Club USA continues to be the primary supporter of these cars on this continent and it can only continue with our individual members support. Over the past three months it seems that our membership has surprisingly declined for the first time ever. Maybe this is a result of owners not using their Stags on a regular basis, because of diminished foreign car shows?

This is a small club which needs our members full support. Please renew your membership if not already done so. Thanks to all of you who have continued your support. If any of you have suggestions to improve the content of Stag News, please forward that input to our Editor and myself.

Thank's for your support.

**Michael Coffey - Founder** 

# FROM (almost) BC MEXICO TO BC CANADA

by Mel Hildebrandt

LET ME EXPLAIN.....
KRISTIE AND I LIVE 39 MILES NORTH OF
the border with Mexico and the State of
Baja California, and our journey took us
across the border with Canada and the
Province of British Columbia. Ok, so why
drive all the way up there when it's so easy
to take a plane?

It all started in fall 2019 when I began to seriously look to buy a Stag to join our TR6, and I checked out three in the Los Angeles area. Then in December a really nice one in Florida was being sold by Obin Hamrick, a Stag Club member. So I visited him, promised that the car would go to a good home, and we struck a deal.

Then in early 2020, I saw a note from Terence McKillen that the club was trying to organize a Western get-together in Vancouver, Canada because the All British Field Meet (ABFM) planned to honor the 50th anniversary of the Stag. I now had a goal: get an unfamiliar, 47 year old, Stag ready for long road trip in just three months.

The way I gain confidence with a car and to prepare for a trip is to drive it as often as possible and in various conditions so that problems are dealt with while still reasonably close to home. I determined that the shocks and suspension bushings needed replacement, the carburetors could use a rebuild, the coolant hoses were of unknown age, and the tires should be replaced because they were over 10 years old. I'm sure that other things would have surfaced before the trip but in March 2020 COVID put everything on hold. I kept driving the car locally and fixed a few other small things during the lockdown.

In early 2022, the ABFM in Vancouver was scheduled to resume after a two year pause and they planned to honor the Stag and the Jag E-Type. We're on!

**Spares to take along?** Extra fuel pump, extra electronic ignition module, seal kits for clutch slave and rear brake cylinders, a quart of oil, a pint of brake fluid, and some hand tools.

**Preparations** - Itinerary planned, reservations made, fluids changed on the car, and the dog sitter has been scheduled. I think the big stuff has been taken care of for a 3,000 mile road trip.

Five weeks before departure I saw a puddle of oil accumulating on the garage floor below the differential. The fluid change had washed some gunk away from the pinion seal and there was no way the amount of leakage was going to survive the trip. I learned how to replace the pinion seal and diff extension bearing.

The shaft seal on the power steering pump decided to start leaking, but not excessively. There was no time to order parts and fix it so I brought a quart of ATF with me so I could just keep topping it up.

One week before we leave, and the choke cable outer sheath separated from the metal housing because it was not swaged properly, and the choke would not release when pushing the knob home. I checked online and the suppliers were out of stock until at least a week after departure. I had to make this one work. I tried using adhesive to hold the outer cable in the assembly but that was a sticky failure. So I resorted to putting the housing in a vise and squeezed carefully so as not to crack the cast aluminum. Success! I think that we're ready to go.

Even with all the prep work something can still happen that could prevent us from making it to Vancouver or from making it back home in the Stag. So I adopted one of the teachings in Buddhism: "It is better to travel well than to arrive." There are experiences between "here" and "there" each day on the road (good or bad) and those make up the actual story of the trip. The daily journey is the important part. That's why I planned each travel day to be about 300 miles instead of trying to get up North in the shortest amount of time.

I'm glad the Stag has plenty of trunk space. We packed two standard size carryon bags next to a tool box, oil, and some miscellaneous supplies in case of a road-side repair. One smaller bag went behind the seats for jackets and rain gear.

While passing through Los Angeles we noticed various expensive cars capable of high speed. BMWs, Mercedes, Teslas, high-powered Mustangs... and you know what? I realized our Stag is just as fast as any of the others when we are all stuck in the same 40 mph traffic jam. And our car looks better.

One of the highlights of our trip was to meet other Stag Club members for the first time. At our first overnight stop we went out to dinner with Michael and Lynn Link at a local Italian restaurant. Then on our second day we stopped for a mid-day



A record seven Stags attended ABFM 2022 in Vancouver

break with Sujit Roy to enjoy samosas and tea. I expect to meet other Stag enthusiasts in Vancouver. It's comforting to have someone for consultations if the car is sick.

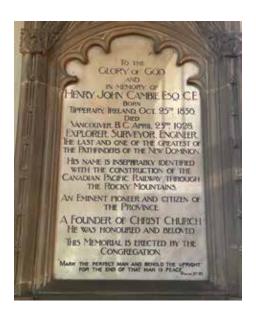
Even at a road speed of 70 mph we discovered that the car is quite stable in windy conditions. Grand Touring car indeed!

We almost got pushed off the road north of Salinas because the car next to us decided not to wait to change lanes. Every day is an adventure, right?

I've noticed that the mechanical noises that the car makes become more and more important the further away I get from home. Is that whine from the transmission (or is it the differential?) worse than it used to be? Is there a vibration from the drive train that wasn't there before, or is it my imagination? Wait! Was that a miss in the engine that I detected?

Have you noticed that there is always someone who makes a comment to "get rid of that hardtop and enjoy the open air?" It's my opinion that a lot of these people have never taken a Stag on a long-distance journey. The hard top transforms the car into a true Grand Tourer and the occupants do not feel beaten up at the end of the day. And I think that the hardtop completes the lines of Michelotti's design.

Our car has functioning air conditioning which came in handy on this trip. Temperatures were in the 70s when we began but then rose to almost 90 on our second day. The factory "boat anchor" York compressor has been replaced with a Sanden unit that uses the current approved



Christ Church Cathedral, Vancouver - founded by Irish surveyor, Henry Cambie



Stag - Monarch among the giant redwoods of Northern California

refrigerant and does not suck the power out the engine like the York does. There are York-to-Sanden adapter plates for about \$50 that utilize the factory compressor mounts so it's an easy conversion and the air comes out nice and cold.

So what about the car overheating? Even when running the A/C, this one behaves itself because of the following: Wizard aluminum radiator with a fan shroud; the proper thermostat with a foot; a TR6 air deflector under the front bumper; only water and a corrosion inhibitor instead of a glycol coolant mix.

That last statement may have caught your eye. Like every other Stag owner I gathered as much information as possible about engine coolant. I looked at the Evans waterless product and their literature states that coolant temperatures run higher than normal but it won't boil over because there is no water involved. However, my objective is to avoid higher running temperatures. I discovered a product called HyperKuhl and their literature states that straight water conducts 60% more heat than a 50/50 mix of glycol and water. I use one pint of HyperKuhl and the rest is bottled drinking water. You can get more technical information at norosion.com and decide what's best for your car.

**And now, back to our story** - California is about 900 miles from bottom to top and contains every type of natural

environment you can think of, except maybe swamps. I have to tell you, the redwood forest on the coast at the very top of the state will amaze you. The trees are hundreds of years old and large enough in diameter to drive a car through. It's true! I have a photo to prove it! There is a scenic side road that parallels Highway 101 for about 30 miles, and it's called The Avenue of the Giants. We spent time stopping and listening to the forest and trying to imagine what the trees have experienced and what their future may be.

While crossing through Washington State we did encounter some rain. I was expecting some stormy weather somewhere along our route and it's ironic that British cars have inadequate windshield wipers so here's a tip: Rain-X is your friend. The water just beads up and flows off the windshield.

Have you noticed that I haven't mentioned any problems with the car so far? We have crossed around 1,300 miles and all the noises that I've been concentrating on have not changed. Still, I'm not able to totally relax because in the back of my mind I know that something inconvenient may happen. I guess it's a curse.

After five days of travel we arrived at the Canadian border around 4 pm and had to wait in line for around 15-minutes to approach the checkpoint. Car idled just fine. After crossing into Canada, I had to slow down for some traffic, pushed in the clutch and the engine dropped past the normal



Downtown Vancouver

idle speed and died. What the hell? I was able to start it while coasting and continued on, worrying that at the next need to stop in traffic it would die again. Kept my foot on the gas a little and used the hand brake in stop and go traffic. After 1,500 miles this had to happen? But then the car idled as normal after a few more blocks.

For the past several weeks it had been raining almost every day in Vancouver. I was very worried that we would suffer British weather for the ABFM on Saturday. But as we were driving up, the rain frequency began to drop and we only experienced one day of wet as we approached Canada. The forecast for Thursday: Partly cloudy and windy; Friday: No clouds and a light breeze. Saturday is expected to be sunny all day for the ABFM.

We made it to the hotel. Thursday we slept late and stayed away from the Stag. We learned to use the transit systems to go into the city to play tourist. We visited Christ Church cathedral, city hall, Kristie did some shopping, and then back for dinner. We went into the city again on Friday and then returned in the early afternoon. I spent about an hour cleaning up the Stag so that it would not embarrass the team on Saturday.

Saturday, we had to arise earlier than normal for our retiree lifestyle to get to the ABFM at the required time. But I was eager to experience the 35th edition of this event, and Kristie was equally eager

to immerse herself in the various gardens around the show field.

Oh, my goodness, what a lovely venue for the show. VanDusen Botanical Garden opened in 1975 on the site of a former golf course and covers 55 acres. At least 500 British cars were grouped by marque on the former fairways. Most importantly, we had seven Stags in attendance, with seven different colors: Mimosa, Mallard, Magenta, Damson, Pimento, White, and Torch Red (a GM color). Five had the TV8, one a petrol injection straight-6, and one with an engine and transmission from a Chevy

Camaro. All the cars were show-worthy and impressed many spectators who had never really looked at a Stag before. And to top things off, Kristie and I received the longestdistance driven award.

On the way back to the hotel I managed to get into the

wrong lane and ended up going in the wrong direction. This wasn't my first time making a wrong turn (Kristie can attest to that), so I said, "I'll just make a U-turn at the next opportunity." The sign at every opportunity said, "No U-turn." Three miles in the wrong direction and finally I was able to get turned around.



Peace Arch, Canada-USA Border

On Sunday we slept late and drove to Queen Elizabeth Park for an easy day of sightseeing. It's a beautiful place. Did you know that even on holiday weekends such as this one (Victoria Day) they charge for parking? I didn't. [believe me Mel, they charge for parking 24/7 365 days a year, although I have made some short stops there gratis - Ed.] Upon returning to the car there was a greeting from the parking warden under the windscreen wiper that demanded payment of a penalty. So....do I pay the infraction on-line even though the international border is 26 miles away and we will be driving across it the next morning? Do I attend Google University for the next hour to find out what the esteemed professors think my risk may be if I flee without paying? Hmmm....pay \$35 (a half tank of gas at current prices), or take the risk that



Stags line up at the show



1940s Chevrolets encountered on our last overnight stop

International Relations may be harmed and wonder if I will be tracked down months later with a demand to pay ten times the amount? What would you do?

After dinner on our last day, I went out to the car to make my daily inspection of fluids, tire pressure, and for anything that looked suspicious. Everything looked great but I noticed that the flexible warm air tube from the exhaust manifold needed to be pushed back into position at the bottom of the air intake. When I gave it light push, the entire air filter/carburetor assembly wobbled a bit. Turns out that the nut which secures the carburetor pedestal had worked loose. Could this be the reason that the engine suddenly died on Wednesday? Easy enough to fix but nothing that I would normally have checked. I'll replace it with a nylock nut when I get home.

After a quick breakfast we are on our way to the border. It's normally a 15-minute wait to get to the checkpoint but this is the end of the Victoria Day holiday weekend. During the 40-minutes that we crept toward the checkpoint we were able to get a good look at the Peace Arch in the meadow separating the Northbound and Southbound lanes. And we had plenty of time to use Google to read about what the heck we were looking at.

Once back in the USA we followed pretty much the same route as the first half of our trip. A couple of stops were different, but we were definitely going to go through the redwood forest again. Absolutely stunning. This time we stopped at a souvenir shop but we couldn't fit the carved bear in the car. Who buys this stuff, anyway?

**Note to self:** I keep focusing on what I perceive to be a slight vibration in the drivetrain at freeway speeds and wonder if it's getting worse. The car still drives great so everything must be ok, right? I mean,

we're only 1,000 miles from home so we should be fine, right?

At our last overnight stop there were some 1940s Chevys in the parking lot. A couple of them looked original and the others had some nice custom work. We chatted with the owners a bit and found out that there is a big rod and custom show (American cars, 1965 and older) in town this weekend, and just like the ABFM in Vancouver, it had been paused for two years. They were expecting 500 cars. It just shows that even though car enthusiasts may belong to different tribes, we all love our rides.

Last day, six hours from home, and Los Angeles traffic on the Friday of Memorial Day weekend. The final challenge! We met the enemy, survived the battle without wounds, and arrived home about 4 pm. We covered 3,266 miles, used 146 gallons of fuel, and one quart of oil. Job done.

Except for some items that I need to

investigate later this year.... The power steering pump seal is still leaking, I need to remove the prop shaft to find out if that is the source of vibration, and the heater isn't working because the water valve doesn't get sufficient vacuum for it to operate. There's always something to do!

Cover Image: The Chandelier Tree in Drive-Thru Tree Park is a 276-foot tall coast redwood tree in Leggett, California with a 6-foot-wide by 6-foot-9-inch-high hole cut through its base to allow a car to drive through. Its base measures 16 ft diameter at breast height.



Azelias and Rhododendrons abound at the VanDusen Gardens



We couldn't fit the bear in the car!

# **ALL BRITISH FIELD MEET 2022**

by Darrell Price

HE GREATEST SHOW ON BRITISH Wheels, at least in Western Canada, was back again on the Great Lawn of Vancouver's VanDusen Botanical Gardens on Saturday, May 21.

"After two years hiatus as a result of the COVID-19 pandemic, we are pleased to welcome HAGERTY, the world's largest collector car insurer and automotive lifestyle brand, to partner with us as the Presenting Sponsor," said Patrick Stewart, event cochair. "Through their involvement, we plan to introduce some additional features at the show—a Best Club Award, in recognition of those dedicated enthusiasts who run local classic car clubs; and through the show's Youth Judging Awards program, an award to recognize and support young people."

The important work of car clubs and the involvement of next-generation car enthusiasts are vital to the very survival of the classic car hobby and our continued enjoyment of classic car ownership.

# Stag Featured for First Time in Special Class

The featured marque/model anniversary celebrations, carried forward from 2020 and 2021, included the Triumph Stag's 50th, English Ford's 100th, and Jaguar E-Type's 60th anniversaries. This was the first ABFM to feature a special class for the Triumph Stag. Previously it had been lumped together with Triumph - other.

TSCUSA attempted to organise a three-day Stag event associated with the ABFM in 2020 when we had expected participation from 20-25 Stag owners including some from as far away as Ontario, Arizona and southern California. With the COVID situation not being quite

VANCOUVER-HARRISON ALL BRITISH RUN back to normal, we endeavoured to encourage more local participation this year from western Canadian and northwestern USA Stag owners and perhaps try again for a TSCUSA event

next year or the year after.

Seven Stag owners attended the car show, five from British Columbia and one each from Washington State and California. A number of local participants told me that this day was the first positively warm, sunny day they had seen this year, with a temperature of 18C/64F. I have attended this show for a number of years now and for 2022 noted that some class numbers were up and some down. There were far fewer Triumph TR6's this year for example but due to a very active club, the Lotus contingent had their best showing ever and by a considerable margin. I also noted several fresh restorations new to the show, a productive couple of years in the workshop possibly? The good weather and pent-up enthusiasm also brought out a very large crowd of spectators.

Of the seven Stags present six are current TSCUSA members.

Mike Blaisdell of Tacoma, Washington brought his very original 1973 magenta Stag with automatic and working original air conditioning! This car has won many awards in the past and rightly so as it is a stunning and very original example. Mike received the Stag model award at the show, this award was a judged award and so one of the top presentations for the day.

Lee Cunningham of Chilliwack, BC brought his 1973 carmine red car which is powered by a 2.5L six cylinder Triumph engine; this engine is the Lucas fuel injected version and has a four speed with overdrive transmission.

Mel & Kristie Hilderbrandt of Escondido, California (just north of San Diego) arrived in their 1973 mimosa yellow manual with overdrive Stag coming to the show with its hard-top on. The home location is significant in this case as the long-distance award went to Mel & Kristie, 1,525 miles one way, up the west coast from near the border with Mexico; quite the drive!

Gordon Jones of Burnaby, BC was showing his 1973 Stag for the first time; Gordon's car is an automatic pimento red model. I personally know that Gordon has been making many improvements to his car so as to keep it primarily stock while building in reliability; Gordon is an enthusiastic new member to the Stag community.



Bob Norquay of Surrey, BC came in his 1972 sapphire blue car, manual with overdrive. This car recently underwent an extensive restoration with Bob doing much of the work himself.

Dave Renner brought along something a little different, Dave is from Kelowna, BC. This Stag is heavily modified and runs a 1986 GM 5.0 litre V8 (305 CI) with tuned port injection (TPI) and a GM TH 700-R4 transmission. The stunning paint is GM "Torch Red"; Dave's Stag came first in the Triumph Stag Class as voted by those show participants who were allocated the Stag class to vote on (participants do not get to vote in their own class). Dave's car is currently for sale.

Finally, there was my white 1973 manual/OD car which came second in class. There were only awards for first and second place this year, previous years also had a third-place plaque. We drove down from Kamloops, BC in my mostly stock car, traveling with my brother and sister-in-law visiting from England,. They drove down in my 1972 pimento TR6.

This year was the first year the Stag had its own class for showing and judging, historically the one or two Stags that did attend, mine included, have been placed in "Triumph-Other" along with a Herald, Vitesse, Dolomite and Mayflower I am not sure if Stag will continue to have its own

class in future years as that will very much depend on how many owners register for future shows.

All seven Stags present were excellent examples of the marque and showed very well indeed. There was plenty of interest in our cars from many who attended and lots of questions were answered, especially, "No, it is not a Rover engine!"

Seven Stags in one place may not seem like many cars compared to events elsewhere but for the Pacific Northwest, and British Columbia in particular, this was quite the get together.

After two very quiet years the 2022 ABFM turned out to be a great show indeed, the Stags on display were all in great condition, were clearly used for driving and touring and the cars and their owners were great ambassadors for the Stag model and the Triumph marque.

## Awards - Class #51 (Triumph Stag)

## Stag Model Award (Judged)

Mike Blaisdell: 1973 Triumph Stag - Tacoma, WA

## **Participants Choice Award**

David Renner: 1973 Triumph Stag - Kelow-

na, BC

Darrell Price: 1973 Triumph Stag - Kam-

loops, BC

## **Farthest Distance Driven Award**

Mel Hilderbrandt: 1973 Triumph Stag -

Escondido, CA

## **Vancouver-Harrison Classic Run**

For the past 27 years, the Sunday classic driving event of ABFM took the famed Sea to Sky Highway from Vancouver to the Whistler resort, culminating with a car display in the Olympic Plaza and Creekside locations. Unfortunately, that route is no longer an option, as the Whistler Resort Municipality introduced a new Green Eco policy that prohibits all carbon-burning vehicles from renting their facilities, effectively eliminating classic car events in the Village. The Whistler destination this year was replaced by a run eastwards along the north bank of the Fraser River to Harrison Lake, affectionately dubbed the 'Searching for Sasquatch Rally', which began from Coquitlam and provided a fun day's outing, including entertainment, barbecue lunch, optional overnight hotel stay, plus awards and lots of prizes.







# RESTORING THE STAG'S AIR CONDITIONING

by Henri Van Triste

Y CAR CAME WITH A/C, NON-WORKING. The first idea was to try and resurrect the system with a minimum of effort. A big mistake. I will save the reader all the failed attempts I went through and only present the success story.

The good way is to replace all components with new components and upgrade to a parallel flow condenser and a Sanden compressor. I did not replace the evaporator because it was still in good order. If the evaporator is leaking you might reconsider going further. Removing the evaporator is not easy and finding a spare evaporator is not easy. Recommend contacting club members if they were to have an evaporator assembly available. I have also seen some assemblies being advertised on Ebay in the past.

See further down on how to test the condition of the evaporator. Before embarking on this project, my knowledge of air conditioning was limited. As an education I bought a book, specifically addressing the subject of vintage air conditioning restoration. "Just Needs a Recharge", The Hack Mechanic Guide to Vintage Air Conditioning, by Rob Siegel. Available from Amazon, just search for Rob Siegel. Absolutely necessary for anybody wishing to resurrect the A/C in an older car. I read it A to Z before starting any work on the project

Reading and understanding the section on the A/C system in the printed repair operations manual (ROM), 1977 issue is also absolutely necessary.

This article only provides the highlights of my restoration. For those who wish to restore their A/C the same way, I have a far more elaborate description available on request, listing all parts required and where to source them.

If you suspect there is still refrigerant in your system, slightly open the low side service valve. If you hear any refrigerant escaping, close the valve and take the car to an A/C shop to have the refrigerant recovered. It is illegal to vent any refrigerant into the air.

Discounting the unnecessary costs I made trying to do short-cuts, the total cost of the project was about \$1,000 (Including the special tools).

I now have a working A/C system, with R134A, and cooling to 45°F in 90°F Florida weather.

Besides the special tools for the A/C you will also need some fairly large wrenches, up to 1 1/16.

## Steps:

- 1. Pressure test the evaporator and then decide to continue. Rob Siegel provides a detailed description of the nitrogen testing process. You need to invest in the following tools:
- Manifold gauges. Buy one with an extended low pressure range, very helpful during evacuation checking (Fig.1)
- Nitrogen bottle, pressure regulator and nitrogen
- Plug to block the output of the evaporator (at the compressor), available from ACE, p/n 4503124
- Coupler to couple the manifold gauge to the return line to the evaporator, available from ACE, p/n 4503231.

This adds up to about \$200. The most expensive item is the nitrogen bottle with the regulator and the nitrogen fill (about \$170). You might be able to find a place where you can rent the bottle and regulator and only pay for the nitrogen. The investment is not lost if you decide to carry on with the restoration.

Remove the hose fittings of the hoses coming from the evaporator to the compressor and from the receiver/drier to the evaporator. Plug the hose from the evaporator to the compressor.

Connect the hose going to the evaporator from the receiver/drier to the manifold with the adapter and Nitrogen test the evaporator as described in Rob Siegel's book.



Fig.1 - manifold extended scale

Wait at least 24-hours and check if the pressure holds. If the pressure holds, you are good to go. If not I would recommend to wait until you can secure a new evaporator or abandon the project. Obviously, if the pressure test fails, it is still possible there is a leak in the hoses to the evaporator and the evaporator is still OK. The evaporator showed no leaks, thus I continued.

2. Remove the compressor and receiver/drier. The job is a lot easier with the radiator removed. The ROM does not mention this.

Ignore the description about depressurizing, your system should be empty. You can remove the compressor and idler pulley without putting the car on ramps. Not mentioned in the ROM, you also have to remove the LH engine lifting bracket. Remove the idler pulley first. Then remove the compressor as per the manual. This removes the compressor complete with the mounting bracket. Note the assembly is heavy and takes a bit of strength to lift out. Removing the receiver/drier is easy (refer ROM).

- 3. Remove the condenser and condenser fans. The ROM can be followed with the following cautions:
  - MkI models have the condenser angled.
  - MkII models have the condenser in front of the radiator

Also remove the battery, one bolt of the RH bracket is not accessible with the

battery in place. ROM says something about special tool. Trust me, you cannot remove the bolts without removing the battery.

Removing the fans is straightforward. Removing the condenser hoses with spanners is impossible, no room to put a spanner on. I cut the hoses at the fittings and manipulated the copper hoses until they broke. Getting the two brackets out is also a bit challenging, bolts and nuts are not easily accessible but with a bit of perseverance they can be removed.

The two brackets holding the condenser and fans will be reused. I cleaned and painted them.

- 4. Remove the High Pressure cutout switch This is the "Ranco" unit fitted with a capillary to the receiver /drier. New receiver/ driers have an electric low/high pressure switch, no need for the "Ranco" unit. The two fixing screws can be accessed from within the LH wheel well.
- 5. Remove fascia. The most time consuming part of the project. To unscrew the two hoses from the evaporator, you need access to the fittings. Removing the fittings is listed under 82.25.01, how to remove and refit the expansion valve.

It is impossible to remove the hoses without removing the fascia, there is simply no room to get a spanner on. Even after removing the fascia access is still very limited. Fig.2 gives you an idea of the space constraint. This is actually the picture showing the two flares to O-ring adapters already fitted.

The ROM clearly describes on how to remove the fascia and the process is quite straightforward. ROM 76.46.01

## A few words of caution:

Item 2, you also have to remove the



Fig. 2 - There is simply no room to get a spanner on



Fig. 3 - Fascia holding bolt

parcel tray.

Item 5, remove three bolts securing steering column to fascia. Actually two bolts and one nut over a stud. The bolts will be stuck in the insulation and difficult to remove. Apply liquid wrench and carefully remove them lest they break. Guess how I know. If broken you will have to drill out the broken bit, only one side is accessible.

Item 9, on each side there are two nuts. One nut screws on to a stud welded to the A POST. The other nut screws on a bolt accessible if you open the door and look at the A post near the top hinge. See Picture 3. The other two bolts are actually nuts fixing the fascia to the brackets on the firewall, clearly visible. So now you have the old bits out and ready to fit the new bits in.

# Remove/replace the expansion valve

ROM 82.25.01. Access is limited. To improve access I also removed the brake light switch. Gives you more room to swing the spanners to remove the hoses. Since we will replace the hoses, undo the old fittings as described.

Replacing the expansion valve is optional. The expansion valve is made to operate with R12 refrigerant and we will be using R134A refrigerant. But really, it does not make much of a difference. Refer to pages 98 and 99 of Rob Searle's book. The expansion valve in figure 109 is exactly the same valve as used in the Stag.

If you do decide to change the expansion valve, they are readily available on Amazon and one identical to the one in the Stag is available from NAPA (p/n 207356. Looks very much like NOS. This is the one I finally put in.

Removal remains complicated due to limited access and getting the old insulation off is boring. The ones on Amazon have very long capillaries, difficult to put

in place. Removing the two screws holding the sensor bulb is a pain. And cork wrapping after installing a new expansion valve is a must.

If I were to do it again, I would not replace the expansion valve if it passed the test as described in the book.

So now you have the old bits out and either replaced the expansion valve or kept the old one and are ready to rebuild. Procure all your new parts first. I have found Amazon and ColdHose.com to be the only suppliers you need.

### Make new hoses

Here Rob Siegel and I are of a different opinion. The best way to make new hoses is to use the Eaton E-Z CLIP system with the Eaton hoses. Prices are very reasonable and there is no need to invest in a special and expensive press. A simple and reasonably priced pair of pliers and a hose cutting tool is all that is required. The hoses/fittings have the lowest permeation values. It would take too much time for this article to describe the process. If you are interested in restoring your A/C, I can provide a far more detailed and elaborate description. Google https://www.eaton.com/us/en-us/ catalog/hose-tubing-fittings-and-connectors/ac-and-refrigeration-hoses.html for a full description of the materials and process. The hoses and fittings are available from coldhose.com

Fig. 4 shows how an Eaton fitting looks like. Our new system uses O-ring fittings, not flare fittings. The O-ring type fittings require a very much reduced torque to make them seal. The only exception is the fittings to the evaporator. These remain flare-type. Consequently adapters are required to match the flare fittings to the O-ring fittings.

## Install the compressor

I used a Sanden 4663 compressor to



Fig. 4 - Eaton E-Z clip fitting

replace the noisy, inefficient and heavy York compressor. To fit the compressor to the York bracket an adapter bracket is required, readily available. To make the adapter fit you have to take a notch of metal off the RH end of the bracket. The bracket has elongated holes to allow adjusting the compressor. I found that moving the compressor to the most forward position aligned the belt on the engine pulley, the idler pulley and the compressor pulley (see Fig. 5).

I used a small laser to check the alignment. Just put the laser in the V of the groove and check for correct alignment.



Fig. 5 - bracket mount

### Install the receiver drier.

Installs where the old one was.
Recommend you buy two receiver/driers.
One to be used as a guide for cutting the hoses to the correct length, which can be left open. The second one once you have all hoses in place and then connect the receiver/drier quickly in place, immediately after opening it and with all other hose connections in place.

# Prepare and install the condenser and the condenser fans

This is the most time consuming/elaborate element of the project. There are no direct replacement condensers available. Theoretically it would have been possible to keep the old condenser fans but I decided to replace them with two 9" SPAL fans. Performance of an A/C system is to a high degree dependent on the performance of the condenser. The bigger you can make the difference between the input temperature and the output temperature the better the cooling effect.

The condenser is 11 in. x 20 in. and needs brackets to fit. The pictures clearly show the brackets and the way the SPAL fans are fitted. The SPAL fans are slightly larger than the width of the condenser. In order to make them sit squarely I placed some window seal under the edge. For those interested, I can supply drawings of the brackets. Figs. 6 and 7 show the arrangement of the condenser and fans.

# Add a relay for the compressor and the fans

The compressor clutch draws 4A and each of the SPAL fans draws 6.5A, or a total

of 17A. Using the existing wiring would definitely cause an excessive voltage drop, which would reduce the performance. Hence I installed a relay and drew the power directly from the battery with a large gauge wire.

## **Testing for leaks**

With all the components in place, the system has to be tested for leaks. Refer to the appropriate sections in Rob Siegel's book.

Do not put the fascia back yet. If there would be a leak, you want to be able to find it and remedy it.

## **Very Important!!!**

After I connected the equipment for the final pressure test, I had a very small leak. Using a soapy solution on all the fittings did not reveal any leak - frustration.

Then I started to use the soapy solution on the test equipment and found that the fitting from the manifold to the high pressure valve was leaking!

Replacing with a new one solved the problem. Lesson learned, your test equipment can also generate leaks.

After solving this problem, I left the gauges on for a full 72-hours and there were no more leaks

### **Evacuation**

Straightforward, just follow the book

### Charging

The ROM specifies the system capacity to be 1130 + 110 grams (82.30.08) or 1240 grams. Charging with R134a requires only 80 % of R12, thus 992 grams. I bought



Fig. 6 - Condenser fan assembly



Fig. 7 - Condenser installed

three cans of 340 grams (12 ounces), or 1020 grams.

According to the book, recharging loses 2 ounces for the hoses, one ounce for the can, a total of 3 ounces per can or 84 grams per can. Thus three can would only yield 1020-252=768 grams, not enough.

But, following the various methods of charging described in the book, I found the system only required 2 ½ cans. Thus 850 -252 (accounting for the losses) or 598 grams.

The reason is that the old condenser has larger tubes than the new one but the new one is a parallel flow where the old one is tube and fin, with parallel flow giving a better performance.

# SOFT TOP FRAME REPAIR

by Tony Fox

RECENTLY HAD THE NEED TO TO-TALLY refurbish a Stag soft top frame, not a job to be tackled lightly as they are quite complicated. It is a lot of work, not necessarily difficult work, but tedious and a lot of care needs to be taken to reassemble everything in the right order. There are numerous different bolts and shims to be used and it is important to get them in the right place.

All the assembly can be done with the frame off the car. I think that is the preferable method to avoid paint damage to the car during the myriad assembly attempts to get things correct, especially if it is a complete rework.

Often, the need for a rebuild is a major failure of one of two components on the frame.

First, and most often in my experience, are the header rail to side rail joints. These joints can seize up due to lack of lubrication as that is not an obvious requirement and not that easily accessed. The pivot between the header rail and the side frame member seizes thereby not allowing the frame to flex, this causes a fatigue failure of the piece of steel that protrudes from the header rail to pick up the pivoting rivet. This is a big repair as a new piece of steel needs to be welded into the header rail and can only be done by removing the rag top and peeling back the fabric covering of the rail. A carefully made piece can then be replicated and welded in place.

Secondly, the long strut joining the front and rear frames together tend to fatigue at the center bolt hole due to stress being placed on it probably due to miss-adjustment of the frame. I've seen a few do this type of failure and can think of no other reason than things being out of adjustment. For this item I reinforced the bar across the hole to alleviate this type of failure.

However, the cardinal rule with these frames is to make sure when mounted to the car, and before attempting to put the rag top on, is to double check the frame folds up and down smoothly and there is no interference anywhere. It is easy to rectify any problems at this stage, once the top is on you have very little opportunity.

Generally, I get the frame members sand or bead-blasted, not essential but if you want a nice looking frame when painted this does help a lot to make a nice finish.

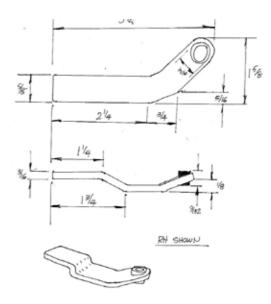
Pretty well all materials are available from our usual suppliers but bear in mind the cost adds up if you are doing a complete restoration. Bolt and shim kits are available and you might very well need these as there are so many different bolts and spacers involved. You can't use just off the shelf hardware (well, you could but not very successfully) as there are many different lengths, diameters and shoulders required to do the job correctly.

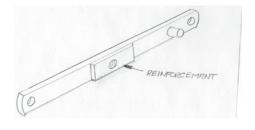
One other upgrade I like to do is replace the original rear deck frame latches, one either side on most cars but very early ones had a latch on the left side only and a simple hook on the right side. I have found a new product sold by Stag Webber UK (stagweber.co.uk), that work so much better and don't let go once engaged. There are two, one left side and one on the right side. The originals have been known to become unlatched when in the folded down position and it is extremely difficult to get the top out of the well with these unlatched, you will really struggle.

Once you have done these steps you are ready to install the brand new rag top. I have written a previous article on doing this which can be accessed on the Club website.

These tops look complicated but when correctly assembled and adjusted on the car work very well, mine can be erected or stowed within two minutes, job done.

If restoring the top intimidates you there is a company in the UK that specializes in rebuilding them. That is their sole business. The Stag Hood Factory at www.staghoodfactory.co.uk. or info@staghoodfactory.co.uk. The owner has a dedicated workshop with a jig on which to build the frames - ideal as they come out correct.









the events, in life we have enjoyed are beginning to be held once again. For us car people, participating in—or perusing through—a car show is often a part of the enjoyable activities that we do. Have you missed them as much as I have? While I have long enjoyed car shows and automotive museums, I never gave much thought to their place in life, they have just been something I enjoyed doing. After having had car activities taken away because of Covid, this loss of going to them has really focused my attention on how much of a role they've played. How about for you? Do you find yourself really looking forward to outings and car shows perhaps a bit more than you did a few years ago?

That's the mindset I had as the date approached for The Queen's English car show this year. This is an all-English car show held in Los Angeles' San Fernando Valley every year. After having been canceled one year, then set, canceled and later rescheduled the following year, last year's show was eventually held in the late summer. This is a show traditionally held on a Sunday in April, near Queen Elizabeth II's birthday. This year, the show was held in April on the tenth—a return to normal! When the date was announced, I registered our 1973 Triumph Stag, paid the \$20 fee and looked forward to the day. This is an unjudged show, held in a park. The cars are grouped by margue, but not by model

within the marque. Anyone can walk through the park, look at the cars, talk to owners, and generally have a fun time with British cars; it is free to the general public. To get to the show I left home at 6:00 AM with a projected arrival time of 08:30. If I can maintain 72-75 mph the whole way and not stop, it's a 2.5-hour drive.

My wife and I arrived as expected, thankfully we didn't get caught in any LA traffic, an advantage of the early hour on a Sunday. Before crossing the mountains and the pass separating central from southern California, we encountered some dense fog so had to slow through there, but otherwise we kept our desired pace. At the end of the offramp in LA, as we waited for the light, a Spitfire pulled up next to us, and a Morris Minor Traveller (woody) pulled up behind us. My wife began a conversation with the Spitfire driver as we waited. The day was off to a good start. We entered the park and went over to the Triumph paddock area. There are some Triumph owners that we only see at car shows, living too far apart to see them any other time. Friendships, acquaintances renewed as we conversed throughout the day.

There were only two Stags this time, one of which was mine. In the past there have been as many as six or seven Stags. Without counting all the cars in the show, I'd guess there were around 200-300 LBCs there. This represents something on the order of 60-75% the number of cars pre-Covid. I did count the number of Triumphs

at 56. The other marque I counted was Lotus, because it looked like they had a pretty good turnout, at 24 cars. There were about 8 Morgans, smaller number than in most years. MGs were around 125 I'd guess. Jaguars had a smaller than typical turnout, and Land Rovers were many. There were two Singers, about 6 Jensen-Healeys.

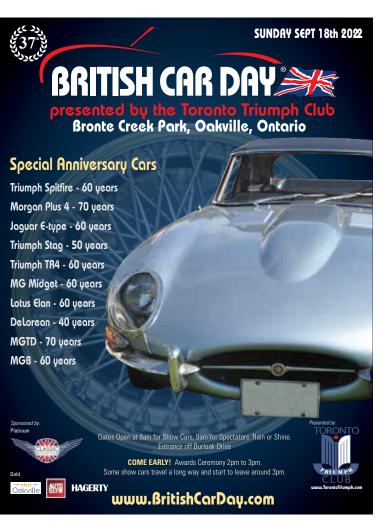
One of the fun aspects of this show is the food trucks. There were fewer of these this year too. However, there was a coffee/ espresso food truck, an ice cream and desserts food truck, and a Mexican food truck with a large menu.

Around two in the afternoon, we headed out, back north to Central California. Though the LA traffic is far worse heading into the big urban area on a Sunday afternoon, it still can get pretty heavy going northbound out of the urban area as well. To give a measure, it took four hours to get home going the same route, and once distanced from the LA area, the traffic moved along quite well.

It was really nice to get out to a car show. The people, the cars, the getting out and resuming an aspect of normal life we had prior to COVID. I might have walked around more than I did, counted the participation of more marques of cars, but as it went it was a very nice time. I am so glad I went. I'd encourage everyone to get out to a show, something you did pre-COVID, and enjoy yourself. It's a little surprising how much going to a show meant.

# **BRONTE STAG WEEKEND & BRITISH CAR DAY**

Friday, September 16 to Sunday, September 18, 2022





Some of the Stags attending British Car Day in 2019

ony Fox, TSC USA Canadian Director, together with family and friends, has for many years hosted a three-day get-together for Triumph Stag owners on the days prior to as well as the day of the Toronto Triumph Club's British Car Day© each September. Now in its 37th year, British Car Day© will be held at Bronte Creek Provincial Park in Oakville (just west of Toronto, ON) once again this year on Sunday, September 18, after a two-year hiatus due to COVID.

The Bronte Stag Week-end provides an opportunity for Stag owners to attend British Car Day®, the largest gathering of British cars in North America, but also to participate in a number of enjoyable drives through the southern Ontario countryside with other Stag owners on the two days prior to BCD, often visiting museums or other destinations with a transportation interest. Lunch and dinner outings are also arranged to enable Stag owners to socialise.

The Triumph Stag was first introduced to the Automotive Press in June 1970 at Knokke-le-Zoute in Belgium and later revealed to U.S. audiences at the New York International Auto Show in April 1971. Because of the pandemic, celebrations of the the Golden Anniversary of the Triumph Stag model were cancelled in 2020 and 2021 but we can now celebrate the Stag's 50th anniversary at British Car Day© where Tony is hoping to have at least 30 Stags participate from Ontario and adjacent States and Provinces.

Besides joining a large group of Stag owners you will have the opportunity to mingle with an expected 1,100 British vehicle owners (this year including over 100 Rootes models) as well as shop at the numerous classic car parts and other related vendors.

You can pre-register for the British Car Day® show and save CAN\$5 using the Toronto Triumph Club's website (https://torontotriumph.com/BCD/) rather than

pay cash at the gate (CAN\$25). Click on "Fast Lane Registration" in the left hand column. This will speed up your entry into the park. For further information: contact Tony Fox at 905-632-0479 or tonyfox@sympatico.ca.

### **Accommodations**

Due to the uncertain nature of the CO-VID situation we are not block-booking any hotel rooms this year but encourage you to check hotels in the Oakville and Burlington areas and make your own reservations.

## **Crossing the USA-Canada Border**

Currently, fully vaccinated foreign nationals may enter Canada for discretionary travel. Starting April 1, 2022, pre-entry tests are no longer required for fully vaccinated travellers entering Canada by land, air or water. You must however use the ArriveCAN mobile app to provide mandatory travel information within 72 hours before your arrival at the Canadian border.

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