



# OVERDRIVE

*The Newsletter of the Ottawa Valley Triumph Club*

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*June 2001*



The “lineup” at the Bustard’s.

## *A “Blast” of an Issue*

This month, the newsletter is pretty much dedicated to blasting cabinets and the other factors that you need to take into account when either buying or building a blasting cabinet. We have two feature articles this month. The first is a summary of Brian Mills’ excellent presentation at our last club meeting. The second is by Louis Boucher and the blast cabinet he built a couple of months ago.

Another real blast was the drive out to the Oxford Mills Show, followed by a run down to the home of Alex and Karen Bustard. Thanks once again to the Bustard’s for hosting a great BBQ. Everyone who attended had a great time, and the short shower we had while eating could do nothing to dampen the fun. One point of note, Bob Thomas did attend and is well on his way to repeating as “Rain God” for another year.

Just remember that there is no regular meeting this month, but the **OVTC Richmond Car Show is on 24 June**. There seems to be considerable interest from a number of local & regional car clubs so we should have a great day with lots of cars on display. Several vendors have also confirmed their attendance. I have been in contact with Kim Chevalier at KDC Wear over the last few weeks and she promises to have some new OVTC items for sale at the show. Now all we need is a little sunshine to make it a great day.

Andre Rousseau, who just recently joined the club and has just acquired a GT6, has put a great deal of work into revising and updating our website. Andrew Miller, Andre, and I had a breakfast meeting last Saturday to make some decisions about the website and the direction we would like to take. Please have a look at the revised site and give us your feedback.

In the hard to believe category is news from Juliano Banco that the Clubhouse is now officially open. That seems to be appropriate timing. We have been waiting for what seems like two years, and the month we don't need a meeting location, the clubhouse is open. The good news is that we will be back to our "regular" meeting location starting in July. Its been a long wait, but the new facility and equipment should make the delay worthwhile.

Hope to see all of you at Richmond. It should be a 'blast'.

Cheers, Mike Graham

### ***Meeting News***

Our last regular meeting was held at the home of Pat and Brian Mills. Brian lead us through a thorough discussion about compressors, blasting media, and blasting cabinets. This issue includes a summary of Brian's presentation as well as an article written by Louis Boucher.

As already mentioned, the Richmond Show substitutes for the June regular meeting. For July we have a treat. Jeff Patterson has arranged to borrow a radar gun from the Ottawa Police. Jeff is going to give us a short presentation on radar and how it works and then have a session where we can use the radar to verify the accuracy of our speedometers. Should prove to be an informative and useful meeting. And don't forget the location ... yes, its really at the clubhouse!

### ***Membership News***

#### **June renewals now due**

To simplify our membership records, we have decided to move to a June to June membership year. This means that all memberships for the upcoming 12 months (2001–2002) are now due. Please forward payment (\$30 per household, \$60 corporate) to Vivien Kaye at 1710 River Road, Manotick, ON, K4M 1B4 (cheques preferred to cash, please), or you can pay her at Richmond. For those who have a few months left in their current membership, Vivian will prorate this year's dues. Thanks.

### ***Triumph News***

#### **Websites**

OVTC has new website: <http://www.ovtc.n3.net/>

The Toronto Triumph Club also has a new site: <http://www.torontotriumph.com/>

#### **Bluesfest**

Jeff Birch wrote to say that they have introduced a Car Show the first weekend (7 and 8 July) and Motorcycle Show the second weekend (14 and 15 July) of Bluesfest. Both shows will be held at Lebreton Flats from noon to 7 pm (rain or shine). Commemorative dash plates will be provided to the first 200 entries, and participants have the option of purchasing a discounted Bluesfest weekend pass (\$30.00). For more information, please contact Jeff at [merchandising@ottawa-bluesfest.ca](mailto:merchandising@ottawa-bluesfest.ca) or telephone 613-247-1188

## Technical Articles

### Designing a Blasting Cabinet by *Brian Mills*

If you are interested in doing serious restoration work on your Triumph, sooner or later you will feel the need to have your own blast cabinet. This article is a summary of the information I presented at our last regular meeting. This article briefly discusses some considerations related to the actual design of the blast cabinet. The accompanying article by Louis Boucher gives construction details for the cabinet he recently made. I cover five main topics in my talk: air supply and conditioning; types of blasting equipment; types of blasting guns; blasting media; and design considerations.

#### Air Supply and Conditioning

Air for the blast cabinet is delivered from a compressor. The choice of compressor is an important consideration, and the choice you make should be determined by the amount of usage you plan to make of the compressor, your budget, and the need to have a compressor that is portable. Compressors are rated according to their ability to deliver air in SCFM (standard cubic feet per minute, and ratings are usually given at 40 and 90 pounds per cubic inch). As with most things, more is better, but costs more. I have compared several popular and locally available compressors to determine their efficiency and cost.

There are two types of compressors — single stage and two stage. As well, there are compressors with several cylinders. Single stage compressors pump air directly into the holding tank; whereas, two stage models pump air from one pump to another before delivering the air to the holding tank. Single stage, two cylinder models are most common and sufficient for most of our hobby needs. Figure 1 shows the relative efficiencies of several locally available models as well as their costs and air-delivery specifications.

**Figure 1: Compressor Specifications**

Manufacturer	Air delivery (SCFM) at 40 psi	Air delivery (SCFM) at 90 psi	Approximate cost (CAD)	Cylinders/ Stages	Voltage
Campbell Hausfeld	20.0	17.3	1125	4 cylinder/ single stage	230
Devilbliss (TV5200)	13.8	13.4	1300	2 cylinder/ two stage	230
Devilbliss	7.2	6.3	450	2 cylinder/ single stage	115
Eagle	19.0	18.5	970	3 cylinder/ single stage	230
Husky/ Campbell Hausfeld	11.7	10.2	650	2 cylinder/ single stage	230

For blasting work at about 60 psi, a compressor that delivers about 6 SCFM will be slow, but cost about \$450, one that delivers about 12 SCFM would be fairly good and cost about \$650, and one that delivers 18 SCFM would be good and would cost about \$1000. After that, you get into industrial grade equipment and cost can easily exceed \$3000. When I was comparing the various compressors I calculated their relative efficiencies and decided to choose the Eagle brand. Your requirements and budget may lead you to make another choice.

A couple of other points of note. The horsepower ratings that are given in all the compressors are at best a guide, but the advertised ratings are generally higher than the actual electrical horsepower that can be generated by the motor. If you decide on a 230 V unit, make sure the electrical wire and breaker are adequately sized. A 5 HP model will require a 30 Amp breaker and number 10 wire (the same as a dryer). As well, compressors get hot and several of the units are designed to run for only about 10 minutes at a time. If you are blasting, you will find that the compressor will have to run constantly. The pump itself can reach temperatures of 70 C and the tank 50 C. As the temperature rises, the efficiency drops, so some people use an external air intake to obtain cooler air to feed the compressor.

You may want to consider running copper pipes to distribute the compressed air throughout your shop. The pipe should be large enough so that it does not limit air flow. A 0.75 inch copper pipe seems to work well. You should also limit the number of 90 degree bends in your pipes as they greatly limit air flow. Instead use 22.5 or 45 degree elbows or make your corners out of hoses that make gradual turns.

No matter which compressor you decide on, and how you choose to distribute your air, you must take steps to ensure that the air pressure is regulated and that the air is dry and clean. Two inexpensive pieces (\$20–30) are required between your compressor and the blast cabinet. The first is a filter that removes water from the atmosphere, oil from the compressor, and dirt that may accumulate in the pipes and hoses. Most common are particulate filters that work on the basis of centrifugal force and a filter media of about 40 microns. These are readily available and are adequate for use with a blast cabinet. A regulator is used to adjust (reduce) the air pressure delivered to the blast cabinet. A pressure of about 60 psi is about right. If the pressure is too high you can distort the metal you are blasting and breakdown the blast media. It is best to buy filters and regulators with 3/8 inch (rather than 1/4 inch) inlets and outlets as these larger units do not result in such large pressure drops.

### Types of Blasting Equipment

There are basically two common types of blasting equipment. Direct pressure blasting uses air pressure to directly push the blast media; whereas, the siphon method uses air pressure to create a vacuum that pulls the media. These two basic configurations are shown in Figure 2. The direct pressure system is about four times more efficient, but costs about \$400, the siphon system costs about \$40, but requires a larger compressor to work well. Cabinet blasters use the siphon system to draw the media from a self-contained reservoir.

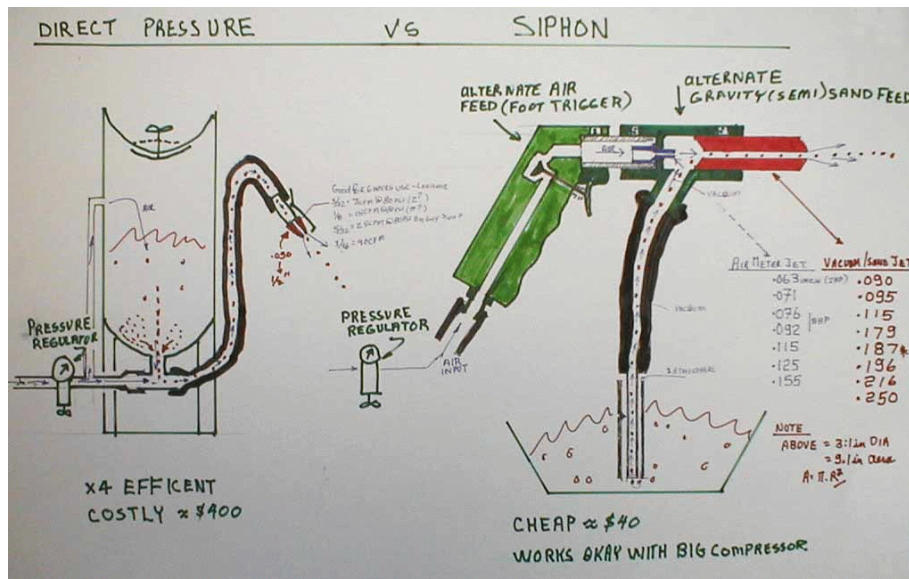


Figure 2: Basic Design of Pressure and Siphon Blasters.

### Types of Blasting Guns

The critical component of this system is the gun. The air metering jet determines the flow of air through the gun and is sized according to the compressor output. For a 2 HP compressor this jet should be about 1/16 inch. For a 5 HP compressor it can be larger (about 3/32 inch). The size of the sand jet, in combination with the size of the air jet, controls the vacuum that is created to draw the sand up the hose. These come in various sizes, but for a 5 HP compressor a sand jet about 3/16 inches seems to work well (in combination with the 3/32 inch air jet). One other consideration for guns is the trigger mechanism. Most guns come with a one-finger trigger, which can be tiring to use. A better alternative is a gun with a full-length trigger that is controlled with all four fingers. I have installed a foot-activated electrical air valve to stop and start the flow of air to the gun and now have no worries about trigger-fatigue.

### Blasting Media

Most people think of sandblasting when they think about blasting. However, a range of media types are available, and without proper breathing equipment you should not use silica-based (sand) products because they are carcinogenic. Many factors determine the characteristics of blast media, but the most important for blast cabinets are: hardness; shape; size; specific gravity; and cost. Hardness is indicated by the Mohs number of the media. This hardness scale was developed by F. Mohs (1733–1839), a German Mineralogist. The scale ranges in increasing hardness through ten steps. If you look up Mohs Scale in a dictionary you can usually find a table showing his hardness scale. The softest material (talc) in the scale has a hardness of 1. The hardest (diamond) has a hardness of 10. Figure 3 shows the characteristics of some common blasting media. There are many other media available, but recycled glass and glass bead are commonly used and give good results. Walnut shells and other softer media can be used to polish soft metals such as aluminum, and harder media such as aluminum oxide are better reserved for heavily rusted pieces such as wheel rims and suspension parts.

**Figure 3. Characteristics of Common Blast Media.**

Mohs Number	Material	Specific Gravity	Comment/ Cost	Percentage Silica
2.5	Sodium Bicarbonate	1.3	—	0
3.0	Walnut Shell	—	\$70 per 50 lb	0
3 – 4	Plastic Media	1.2	—	0
4 – 6	Glass, Glass Bead	3.0	\$20–50 per 50 lb	0
6 – 7	Silica Sand	1.8	Cheap and dangerous	100%
6 – 8	Copper Slag	3.2	—	less than 1%
8	Emery	4.0	—	less than 1%
8 – 9	Aluminum Oxide	3.8	\$50–70 per 50 lb	less than 1%
10	Diamond	3.5	Expensive!!	0

Generally, media with a hardness of 1–4 are used for cleaning, polishing, and de-burring, media in the 4–6 range are used for more aggressive cleaning, and those in the range 6–10 are used for scale removal and deep cleaning. Shape also influences the use characteristics of the media. The more angular the particle of media, the more aggressive it is. Three descriptions are commonly used: block (for cubic and rectangular particles), round (for semi-round and oval particles); and angular (for sharp, pointy particles). There are also differences in size,



which are either given as the average size of the media (as measured in thousandths of an inch) or according to the size of a standard size sieve that the media will pass through. For example, media that would be classified as sieve 10, would be coarse and equivalent to about 0.0760 inch; whereas, a sieve 400 media would be fine (about 0.0015 inch).

Specific gravity is a measure of the density of the material. Therefore, for a given mass, the higher the specific gravity, the smaller the particle. Since the force exerted by the particle is equal to its mass times the velocity it is moving at, this means that particles with higher specific gravity will exert more force at the same velocity. Cost is not prohibitive when you are choosing the blast media because it is recycled within the cabinet and can be used repeatedly. Media costs between \$20 and \$90 for a 50 lb bag and this amount can typically be used for many cycles (100–1000).

### **Design Considerations**

As you design your own blast cabinet or buy a commercial one, here are some of the factors you should take into consideration: size, lighting, window, door size, grate, changing the media, dust control, and gloves.

**Size** — make sure the cabinet is as large as you can accommodate in your shop. The size not only limits the physical size of the objects you can put in the cabinet, but the room you have to manoeuver the pieces once they are in there.

**Lighting** — an excellent light source is critical to working well. The light should be external to the blast area and the light source should be well ventilated to dissipate heat.

**Window** — generally, the window can be vertical if you are sitting at the blast cabinet, but should be sloped if you are standing.

**Door size** — the door should both be large enough to allow easy removal of the grate for cleaning and to allow easy access to the cabinet for parts that are to be blasted. Again bigger is better.

**Grate** — the grate should be solid so that it withstands heavy things being dropped on it, and it should have small enough openings to keep small objects from falling through. The cabinet I just built is made of 16 gauge perforated steel on an angle iron frame, and this seems to work very well.

**Changing media** — it is important to have a drain of some kind to make changing media as easy as possible. When making your own cabinet a simple bottom drain made from plastic plumbing fixtures works well. It is useful to include a sieve at the bottom of the blast cabinet to keep large chunks of debris from plugging the gun.

**Dust control** — a shop vacuum works well to collect dust from the cabinet. I have found that a standard shop vacuum operated with a cloth dust bag works well. The input in the cabinet is covered with a 0.025 inch screen to ensure that media is not drawn into the vacuum.

**Gloves** — industrial rubber gloves are cheap (about \$6 a pair) and can be fitted over 4.5 – 5 inch plastic PVC coupling pipe cut to 2 inches in length.

### ***Handyman Sandblasting Cabinet*** by *Louis Boucher*

The cabinet described here is the practical solution for those looking for efficient blasting chores without spending all their “Triumph dollars” and their shop space. It has a robust 0.75-inch plywood construction sitting on a 2 x 4 lumber frame. Its interior is lined with galvanized sheet metal used for duct work. A supporting shelf as well as a light complete the interior of the cabinet. Access is provided via two sleeves made of 4-inch ABS connectors, a few feet of dryer exhaust hoses attached to a pair of rubber gloves. The laminated glass was salvaged from a retired Econoline van. Aside what you have to build, there are a few basic components required. A simple sandblasting gun, a 4–5 HP compressor, and a good shop vacuum will complete your sandblasting rig.

Let's get the materials. Here is what you will need. From the lumber yard: 1 sheet of 0.75-inch plywood; 24 feet

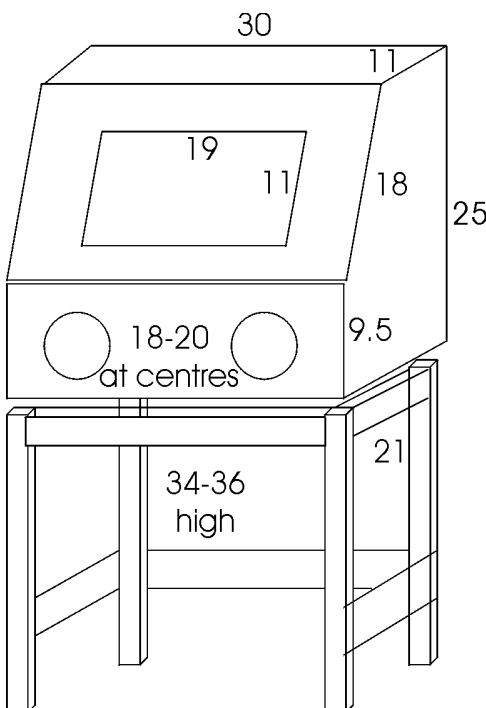


of 2 x 4; and 8 feet of 1 x 6. From the plumbing / heating department: 16 square feet of galvanized sheet metal; two 4-inch ABS connectors; 4 feet of 4-inch dryer flexible hose; and one 4x10 inch register adaptor. The other items you will need are: a pair of long rubber gloves; a piece of wardrobe shelving; a sealed exterior lighting fixture; a pair of hinges; the glass from that salvaged Econoline van; and of course some duct tape for the glove / sleeve arrangement.

The view of the interior of the cabinet shows the sheet metal lining that is critical for the longevity of the cabinet. You can notice the drainage for the blasting media via the register adaptor on the left bottom which is actually pitched toward this area. The shelf is supported by small brackets. The lighting fixture ( with the lense removed for the picture ) avoids working in the dark, in the dust I must say! Please pay attention to the sophisticated arrangement of the glove compartment. The key here is the proper alignment of the thumbs. If you want to get fancy, you can also protect all corners with aluminum angles as in mine.



The construction is straightforward. First, you have to build the upper box, the door / window assembly and the bottom. It is now time to assemble the base that will receive the upper cabinet. Then the lining gets in, this is where you practice your sheet metal skills (no bondo allowed)! I would recommend that you paint the cabinet and base at this point. This cabinet is big enough to clean 15-inch wheels and major components. The measurements shown here are for reference only and represent approximate outside dimensions (in inches). You do not have to restrict yourself to these but they are quite proportional and practical.



You are now ready for the “glove compartment” fitting and plenty of duct tape. The shelf, light and gun supply lines ( air input and sand pick up ) are finally fitted. Do not forget to drill the hole to receive the vacuum pick-up, this is essential. You are now ready, fill the pick-up bucket with blasting media, connect the air supply, turn on the light and vacuum, and pull the trigger. WOW !!!

I wish you good luck with this project.

**Editor's Note:** Louis has lots more pictures if you want to see more of his very nice project.

### Member News

#### John Tierney soon back from Oz

Former OVTC President John Tierney will be back sooner than anticipated from his work stint in Australia, Dave Huddleson reports. The high-tech downturn has altered John's assignment with Nortel, so he'll be returning back to work in Ottawa by August or September. I know John

will be looking forward to driving his TR8 again — but what (if any) strange Aussie Triumphs might he bring with him? Stay tuned.

**EBay Survey** by Ken Gano (reproduced with permission from the Triumph Mailing List)

For about the last year I have been collecting all of the Triumph sales on e-bay. A common question here seems to be “what is it worth?” After collecting 1111 total cars offered, 478 sold, I thought it might be time to share some “conclusions.” First, a couple of disclaimers. While I believe this list is complete, (if anyone would like to see the raw numbers, e-mail me and I will attach the file) there are about 30 cars on presently and another 20 or so which, for whatever reasons (early withdrawal, bad links, etc.) that are not included in these figures. Also, I am not a statistician, so I will happily defer to someone who is). Note to that I am counting each listing as a separate sale, many, many cars have been listed multiple times. While E-bay is hardly a representative market, here goes, “for what it’s worth.” A total of 1111 cars have been offered for sale, about 478 of these “sold” in the sense of either having met reserve or having bids when there was no reserve. I have no way of knowing how many sales actually were consummated. These works out to a 43.0% sale rate. The average price of all of the Triumphs that sold was \$5,940.12. The model breakdown is as follows (all prices in US Dollars):

**TR2** — A total of 8 cars were offered, 3 actually sold for an average \$7,056.66 and a median of \$5,044.99 on the cars actually sold. The range on the sold cars was from \$1,725.00 to \$14,400.00. The unsold cars ranged from \$100.00 to \$15,200.00. Sale rate 37.5%

**TR3** — A total of 101 cars were offered, of which 48 actually sold for a sale rate of 47.5%. The average price of the cars sold was \$7,758.91 and the median was \$7,000.00. The range was \$520.00 to \$21,000.00. (This also represented the highest price paid for any Triumph). The unsold cars ranged from \$150.00 to \$25,000.00

**TR4** — A total of 89 cars were offered, of which 46 sold, representing a 51.7% sale rate. The average sale price was \$4,288.23 and the median was \$3,150.50. They ranged from \$250.00 to \$13,200.00. The unsold cars ranged from \$315.00 to \$15,000.00

**TR250** (No true TR5s have been offered) — Total of 9 cars offered, 7 of which have sold for a sale rate of 77.8% (that’s the highest sale rate). Average sale price was \$2,807.41, ranging from \$636.88 to \$6,610.00. Medium was \$1,525.00. The unsold TR250s ranged from \$750.00 to \$9,000.00.

**TR6** — A total of 318 cars offered, 128 sold for a sale rate of 40.3%. Average price of cars sold was \$5,106.90. Medium price was \$4,900.00. The cars sold ranged from \$250.00 to \$12,650.00. The unsold ranged from \$25.00 to \$25,000.00.

**TR7** — A total of 134 cars offered, 65 sold for a sale rate of 48.5%. Average price sold was \$1,547.20. Medium was \$1,262.50. They ranged from \$177.50 to \$6,000.00. Unsold ranged from \$50.00 to \$7,500.00

**TR8** — A total of 38 cars offered, 9 cars sold for a sale to offer rate of 23.7% (the lowest sale rate) Of the 9 cars sold, the average price was \$5,433.44, the medium was \$4,500.00. The sold ranged from \$1,025.00 to \$9,400.00. Unsold ranged from \$1,251.00 to \$13,500.00.

**Spitfire** — A total of 250 cars have been offered and 105 have sold, for a sale rate of 42.0%. The average sale price has been \$2,262.50 and the medium was \$1,950.00. Among the sold cars the range was \$100.00 to \$9,300.00. Unsold car ranged from \$100.00 to \$9,500.00.

**GT6** — A total of 53 cars have been offered, of which 28 sold, for a sale rate of 52.8%. The average of the sold cars was \$1,876.50 and the medium was \$1,087.50. The range of sold was from \$150.00 to \$6,500.00. The unsold cars ranged from \$400.00 to \$10,500.00

**Herald** — A total of 18 cars have been offered, of which 5 have sold for a sale rate of 27.8%. The average price has been \$935.03 and the medium was \$800.00. The range on sold cars was \$225.00 to \$2,025.00. The unsold included the notorious \$85,000 restoration and ranged from \$761.00 to \$18,200.00.

**Stag** — A total of 29 stags have been offered, of which 13 sold (sale rate 44.8%). The average sale price was \$4,521.69 and the medium was \$3,724.50. The sold cars ranged from \$1,500.00 (two) to \$9,600.00. The unsold cars closed at a range between \$810.00 and \$18,000.00.



## ***Wanted and For Sale***

**Wanted:** Headlight switch for my TR6. Please contact Ian Clough, Tel: 613-523-4508

**For Sale:** Garage doors. Two are sectional doors 9 feet wide by 7 feet high with all hardware (just removed this week so in good working order). One is solid door 8 feet wide by 7 feet high. Best offer takes them ... cash or trade for TR6 or GT6 parts. What have you got that I might need? Please contact Mike Graham, Tel: 613-258-2901

## ***Sponsors***

Our thanks to our sponsors who continue to support the club in many ways.

**British Auto Sport** (Fred ), 3354 Dwiggin Avenue, Mississauga, Ontario, Canada. Tel: 1-888-485-2277  
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**British Car**, PO Box 1683, Los Altos, CA, 94023, USA. The American magazine for Triumph enthusiasts who love English cars. To subscribe call: 1-800-949-9680. Mention the advertisement in our newsletter and get one extra issue free. Rates: 1 year (6 issues) \$22.95 USD, 2 years \$39.95 USD.

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Email: [info@kdcwear.com](mailto:info@kdcwear.com) Embroidery, Digitising, Screen Printing, and Garment Sales.

The Ottawa Valley Triumph Club is comprised of approximately 65 members. The Club meets at 7:30 p.m. on the fourth Tuesday of each month at the Manordale Community Centre, which is located at the corner of Knoxdale and Carola Roads in the City of Ottawa. Meetings include technical seminars, video presentations, restoration techniques, and much more. The Club also publishes a monthly newsletter, *Overdrive*, which is distributed to members and exchanged with other car clubs.

Membership is open to all individuals and companies interested in Triumph sports cars. Membership is \$30.00 per year (June/June) per household and \$60 per year, corporate. **Please send membership applications** to: OVTC c/o Vivien Kaye, 1710 River Road, Manotick, ON, K4M 1B4.

*The OVTC is a member of the British Car Council and is affiliated with the TR Register (UK)*

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