OVERDRIVE

The Newsletter of the Ottawa Valley Triumph Club

March 2002

February Meeting Report *by Ed Kaye*

Mid-winter blahs — about the only good thing relating to our beloved Triumphs is that the days are getting longer and the sun is getting stronger. A few days before the meeting, I spoke with Chris Day of CJOH. They had wanted to attend the meeting to take video and highlight our club and activities. I had to explain to him that as this was still February there would not be any hint of a sports car in attendance, and with reluctance suggested that he do his special in another month or two. As for the meeting, we had a hardy group of twenty or so. For those of us with on-going car projects, in fact even those of us that don't, the February meeting was very informative, and inspiring.

Louis detailing the restoration of his TR3.

Louis Boucher gave us a chronicle presentation with digital pictures of his ongoing restoration of his TR3. It was an excellent presentation. The amount of work and thought that Louis has put into his car is, really, quite amazing. He has turned a rusted hunk of junk into what very well may be a ninety-five point restored TR3. The project is still in process and with any luck, may be complete in late fall, 2002. Thanks Louis, for those of us there, it was awesome. Personally, it brought back fond memories of my own 3-year TR4 project.

Andre Rousseau also made a presentation of his recently started anti-rust campaign with his GT6. Witnessed through digital photographs, there were some hidden secrets deep down in the door panels and rear quarters. This is surely a well timed event, nipping it in the bud before it eats it all up. Although not as significant a project as the above mentioned TR3, still a project of consequence, and it is already starting to drive Andre crazy ... see his account of the steps he is taking a bit later in the newsletter.

Will we have cars out for March? Somehow, I think so. Cheers, Ed

Valve Timing Particular to Triumph Engines

For good performance of any automotive engine, the phasing of the crankshaft and the camshaft must be precise. When putting the engine back together two scenarios are possible. First (and most desirable), if: (1) a simple rebuild is being performed using the original sprockets and camshaft; (2) the engine has not been "messed with" and was not "lazy" before the rebuild; and (3) the sprockets were well marked before disassembly, then you should be able to use your shop manual as a guide for reinstallation and all will be OK.

However, if all of these conditions are not met, then the second case applies. In this case, you will need to: (1) determine precisely the top dead centre (TDC) position of both the crankshaft and the camshaft; (2) fit the sprockets and chain; and (3) verify that all of the components are in their correct position. This article explains how to handle this second scenario.

TDC — Crankshaft

In a 4 or 6 cylinder engine, the front piston (number 1 cylinder) and the rear piston (number 4 or 6 cylinder) are both at TDC at the same time in the rotation of the crankshaft. One cylinder will be firing (power stroke) and the other will be at the end of the exhaust stroke and the start of the intake stroke.

It is quite easy to determine TDC (in an engine with the head removed) with a dial gauge set on top of one of the pistons. An alternate method is to look at the timing marks on the flywheel and block.

In an engine with the head on, a dial gauge fitted into the spark plug hole will also give a TDC indication (see Figure 1). This is a little more difficult and a specialized adapter for the dial gauge is needed, but it works well enough. The piston movement that needs to be measured is very small (in a TR6 with a 3.75 inch stroke, plus or minus 2 degrees of crankshaft rotation amounts to only 0.0012 inches of piston movement).

Figure 1. *Gauge (on right) used to determine TDC of cylinder one. Here I am working on Bob Thomas' TR6.*

TDC — Camshaft

Almost all camshafts have a symmetrical overlap at TDC. This means that the valves are open the exact same number of degrees on both sides of TDC. This relationship is used to determine the TDC of cylinder 1, because when both valves in the rear cylinder are open the exact same amount (it is completing exhaust and starting intake), cylinder 1 will be at precisely TDC with both valves closed (firing).

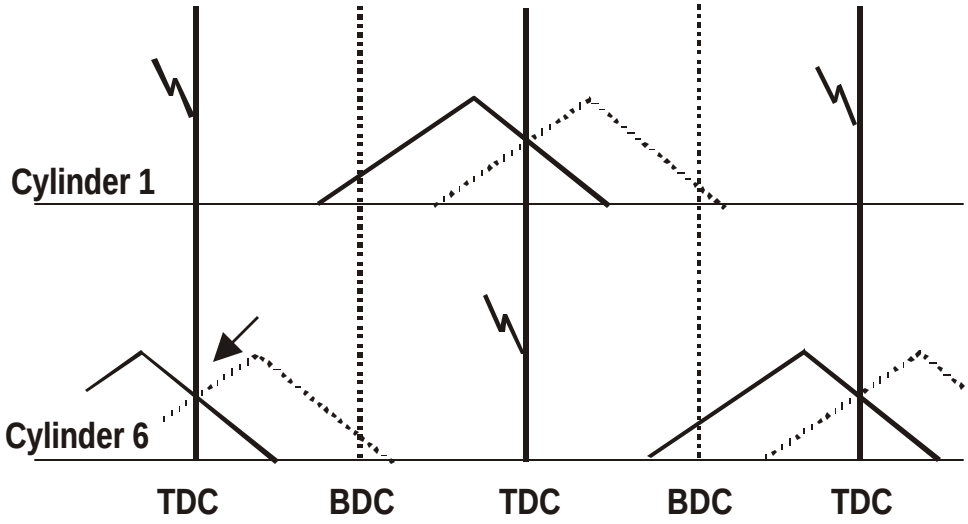

Figure 2. *Relationship between valves opening and closing in cylinders 1 and 6. Exhaust valves are indicated by the solid "peaks" and the intake valves by the dashed "peaks". The crossover point of the valves in cylinder 6 (indicated by the arrow) corresponds with TDC of cylinder 1. "Lightning bolts" represent approximate point at which the spark plugs fire.*

Here is how it works. At the rear of the engine, the exhaust valve is almost shut and the intake valve is just starting to open. The amount of "almost shut" and "almost open" is very small (remember they are equal at TDC). Although the cam lift at TDC crossover varies for different cam profiles, they are almost always the same magnitude (about 0.035–0.040 inches) for stock cams, and a little more for hot cams or racing cams. Figure 2 shows the relationship between the movements of cylinder 1 and cylinder 6 (or 4 if a 4 cylinder engine) as they complete a full cycle of a 4-stroke engine.

To find TDC for the camshaft, a pair of dial gauges are use to measure the cam lobe height of the rear cylinder. At this point, the rocker shaft, spark plugs, and timing chain have been removed. The mounting holes of the rear pedestal of the rocker shaft is used to mount the dial gauges (I have a custom-made setup for this, see Figure 3). In a headless block, the head bolts are used.

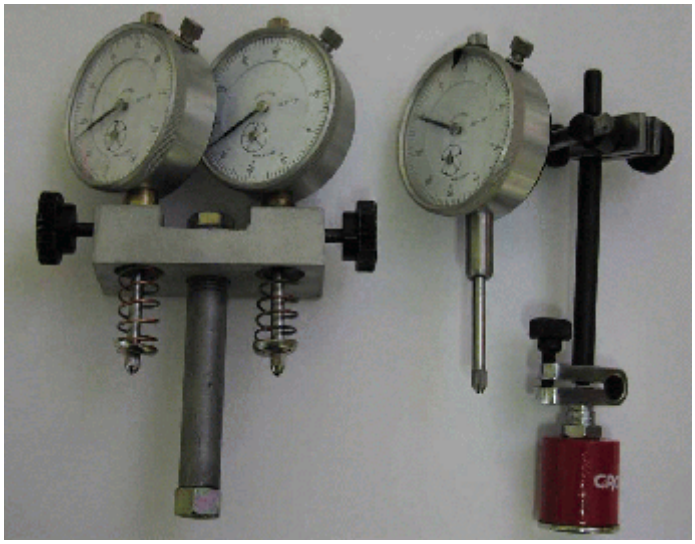

Figure 3. *Gauges (on left) used to measure the crossover point of the valves. Gauge on right is used to determine TDC when the head is off (magnetic base holds it to the block).*

The next step is to zero the dial gauges when both valves in cylinder 6 are closed. Now you are able to determine the lift of the valves at the crossover point (0.035–0.40 inches is typical). As the camshaft is rotated, you will see that as one of the dial gauges starts to move up from zero, the other will start to move down from zero. The point you are looking for is when the movement in opposite directions is exactly the same. You will likely have to go through several sessions to find the exact point of crossover because a small movement of the cam results is quick movement of the valves at this point (both cam lobes are at maximum lift). If you miss the point keep going in a clockwise direction (don't reverse the direction of the camshaft). When the TDC of the camshaft has been found, it is a good idea to do a few rotations of the camshaft just to verify that you are getting consistent readings.

Putting it All Together

When you are satisfied that you have good consistency, and the crankshaft is at TDC (based on the timing mark, see Figure 4), the timing chain can be refitted. Make sure that the gauges have not moved. Note that there are different possible locations for the camshaft sprocket on the camshaft (up to four) so some trial and error in fitting the camshaft sprocket and the timing chain may be necessary. Once the set up is considered correct, it is good practice to turn the crankshaft a few more rotations to verify that when piston 1 is at TDC the lift crossover for the valves on the rear cylinder are identical. Remember that it takes two crankshaft revolutions for one camshaft revolution.

My experience has been that when the setup is correct, the gauges will all be at their proper places (with a thousands of an inch or so) over many revolutions. If this is not the case, something is not right.

Next month: Brian will explain how to set up the ignition.

My First Painting Lesson *by Livia Haasper*

The restoration of the valance was completed. The wire wheels had been primered, and for practice, the "boss" thought it would be a good idea to paint the shock absorbers a nice bright colour. This day had bee chosen for my debut as a painter of fine automobiles. As a lover of the arts, I was looking forward to the new learning experience of spray painting.

First, the proper clothing had to be selected for protection of the lethal fumes and the paint itself. I selected a shower cap to cover my hair, old overalls, boots, the works. Never had I looked more professional. If my dad could see me now, he always had such high hopes for me. I was ready for the operation, Dr Livia was on her way to the operating theatre. Glove me please, I demanded from the crew — where is the scalpel? The boss gave me the look that said: "You are out of your mind, woman" — the one I know so well. He handed me a painters mask, and pointed to the spray gun. A gun, that's what I always wanted. Spray something bright, feel in control.

I was told to practice on the shock absorbers, and I'm now allowed to choose a colour. I opt for yellow, the colour of sunshine and inspiration. Why not have a whole rainbow of colours under the hood? I could have a field day at this. It's what I do best, combine rainbows of colours in interesting arrangements. The paint is already mixed and in the paint gun, I'm ready to shoot. The Spitfire is parked in our workshop. She has no wheels, is propped up on jack stands, and can't be moved out of the way. I have her covered up with sheets. I also don't want her to see my attempts at painting. There is no sense in frightening the little lady.

The garage/workshop is crowded, with the Firefly taking up most of the space in the middle. Numerous tools are spread all over the floor and lie assorted on shelves. There isn't a lot of free space to move around. One corner of the shop has been dedicated as the painting area for small components. That's where the operation will take place. I'm ready for action. Gun in one hand, I aim and shoot. At first I don't see any paint on the shocks, where did it go? Now I wish, I would have taken those air-brush lessons when I had the chance. But I get the hang of it soon enough. The shocks are taking on the look of Christmas Crackers. Hey, this is fun. One has to be careful not to create runs. Michelangelo, I'll give you a run for the money. I'll gain fame and fortune after all. I'm now totally absorbed, letting the creativity flow. I blast the things with light touches of air and paint — Canadian impressionist in the making. Next thing, the clear coat, make the shocks shine in the neon light. I'm impressed with myself, I did a good job, so I'm told.

I'm allowed to continue on to the wire wheels, my beloved wheels, which I have slaved over, when I was getting them ready for this job. Wilf had sandblasted them. I had given them a final sanding, now they will be painted a silver colour. They will add the sparkle and light to the Firefly when she flies down the tarmac. I'm ready for job number two. At the master's command, I pull the mask over my face, grab the gun, do a quick double check on the air, then the

compressor roars loud and appreciative, I fire. I'm high on adrenaline, or maybe on icocyanide. I let a whiff of paint descend on the rims, a light coating of silver coats the spokes, lights up the air and my spirit. It's not easy to get paint into all the little nooks and crevices, without creating rivulets on the project, but its the master painter at work here. How delightful is this? Instantaneous satisfaction. I bend and crawl around the object of my attention, dragging that aggressive compressor hose behind me. It seems to have a life of its own, its constantly in my way. It is like a boa constrictor in heat, trying to wind its way up my body. I'm invaded by a serpent, and I'm almost ready to blast it with my gun, if the paint wasn't so bloody expensive.

Different paint, different ball game. One has to feel how the paint applies itself to the metal. Can't have runs ruining the total effect. The gun gets heavy in my hand. Thank god for the 10 pound weights I have been lifting lately, strength training finally pays off. The python is curling up behind me, one must stay in control, breath slowly through the foul air in the mask. Paint here, paint there, I hear from a distance. I bend, I curl, I straighten, I shoot. Life has its reward. My wonderful old fashioned wheels, no antique vehicle should be without, are taking on a silvery shine of old sterling silver. The job is done. I feel very professional, accomplished, and respected in the Haasper restoration facility. I put the gun back in the holster and tip my hat to the boss. I walk away with that bold extra step, an air of exaggerated confidence, I casually throw the mask to the audience. Bring on the Jags, the TR 3s, the Morgans. This is a piece of cake....Tomorrow, I'm painting body panels.

Out and About *by David Huddleson*

St Patrick's Day deserved a little extra "green" so out came the TR8 on Sunday, the 17th. Victoria and I drove all over town and even visited Paul Macdonald on our journeys.

We spent the first couple of weeks down in sunny Florida, and Bill Sweeting of the TR8 Car Club was smart enough to arrange a "British Car Cruise Night" on 12 March in north Clearwater so I would not be bored! There were 24 cars out for the first-ever British Cruise night! The roster included 2 TR3s, 2 TR6s, a Spitfire (from Nova Scotia!), a beautiful Herald, a recent Rolls, a Bugeye Sprite, an MG Midget, and an MG TD. A TVR and 4 TR8s rounded out what I recall of the bunch. Of course the mall housed a British Pub so we dined there, eating magnificent Haddock and Chips!

Andre's 20 Steps To Madness *by Andre Rousseau*

01. Strip down body
02. Remove body from chassis
03. Paint underside of body
04. Put body on rolling mount
05. Strip down chassis
06. Clean/Sand blast chassis and parts
07. Paint chassis pieces
08. Check Rear Diff
09. Rebuild Transmission (2nd gear synco)
10. Rebuild SU carbs
11. Clean Motor
12. Paint Motor
13. Rebuild Chassis, new brakes, performance suspension, poly bushings and lines (fuel too)
14. Wheels
15. Repair body
16. Paint body hot yellow
17. Put body back on chassis

18. Redo int. vinyl and headliner
19. Carpets
20. Enjoy

Open Invitation to Targa Tasmania *by Craig Hamm*

On Wednesday March 27, 7:00–9:00 pm, the Motorsport Club of Ottawa, Rally Group, will host a presentation by Canadian, and fellow Ontarian, Doug Mepham on his rallying experiences at the 2001 Targa Tasmania and Targa New Zealand driving his fully rally prepared 1971 Volvo 142S. Doug is also the media relations contact for the upcoming Targa Newfoundland, and he will be talking about this exciting new international classic as well. Doug's presentation has had excellent reviews from other clubs, his presentation will include slides, video, and paraphernalia gathered at the events.

What is Targa Tasmania, you ask? The best description is directly from the Targa Tasmania website (http//www.targa.org.au/). Targa Tasmania is an exciting International Classic, a tarmac rally with competitive stages on closed roads for the best touring, sports, and GT cars in the world. Its inaugural year was in April 1992 when Tasmania hosted this distinguished International motoring Classic. The competition concept is drawn directly from the best features of the Mille Miglia, the Coupe des Alpes, and the Tour de Corse. However, Targa Tasmania is not a slow-motion re-run. It is a genuine "red-blooded" motorsport competition. It is also a unique annual opportunity for the owners of sports cars and GTs to drive them the way they were designed to be driven, on some of the most exciting and challenging tarmac roads in the world.

Targa Tasmania caters for up to 300 select cars including many overseas competitors. Entries are selected from Applications to Compete, by a Vehicle Selection Committee. Invitations to Compete in each year's Event are announced on a progressive basis from August through to March (close of applications). Targa Tasmania has quickly established itself as an annual event, conducted in April each year. The present format is to conduct the event over six days (including a Prologue) on some 2,000 kilometres of tarmac roads.

Please come out for an evening of motorsport fun and meet like-minded people from the other local clubs. The location is the Tanglewood Community Centre, 30 Woodfield Drive, Nepean, two traffic lights north of Hunt Club and Merivale (basically, behind Canadian Tire and The Brick outlet, free on-street and off-street parking, also parking at the mentioned stores). For more information contact Craig Hamm, Rally Director, Motorsport Club of Ottawa, 727-3192, kchamm@sympatico.ca. The event flyer is located at http//www.mco.org/download/rally/mepham2002.pdf

International Triumph TR Registry *by Corey Sherman*

The TR Registry is an Internet-based database, available on the World Wide Web via any web-enabled computer (http//www.trregistry.com). This living registry has been designed to be dynamic — not only providing a record for your own TR's production history, but a venue to view other TR vehicle information as well. The TR Registry is not intended to be an address book of people and their cars, but rather a listing of cars and specifications that can be documented for all to see. Personal information about the owners of the cars is limited to Name, State and Country. No address or phone info is required, and there no fees or dues for registration. Pictures may be also included with each car. Once an owner registers their car, they may even print an official TR Registry Certificate that documents the time and day the car was entered into the Archive. At present, the Registry is accepting registrations from TR6 owners, but in the coming months, the TR5/250 will be allowed to register. Shortly, thereafter, other TR models, including the TR2, 3, and 4 will be made available. Should you have any questions, comments or feedback about the TR Registry, please email, corey sherman, at staff@trregistry.com.

For Sale/Wanted

1963 Triumph Herald coupe. Car has been in storage for 25 years and is in need of restoration. For further info e-mail ajdayman@tcc.on.ca

1973 TR7 with half of restoration completed with a running restored engine new wiring and restored brakes. Complete body but needs a restoration project. Price is negotiable at $3350 obo (Renfrew Area). Contact Bonnie at 613-752-2976 or email breid@renc.igs.net

TR6 Parts. New and priced to sell. Black original wool carpet set $400; Leyland trunk rack $125; door handle pulls (black) for 1973 and prior TR6 $50 pair; engine bay black rubber seal $20; grill finish piece (goes under the grill and attaches to the clips) $50. Contact Chris Clarke (former TR6 owner) at 613-838-5136.

Wanted Fenders for TR3A. Most interested in passenger side front and driver side rear, but would accept others if they're better than mine. Also looking for passenger side inner fender. Might take a driver side one too, if it's better than mine. I'm about to order new floors, inner and outer rocker panels, battery box, etc. so if anyone happens to have surplus on that stuff, it would be great. Tim Dyer at KingsCreekTrees@aol.com or 253-4126.

Wanted TR6. In very good to excellent condition, preferably with OD. Please contact Sanjay Shah at shahsa@cma.ca or phone (613) 731-4552 ext 1022.

Parts for Sale. I have come to own just a touch too many parts more than any one person could ever use. Any one needing anything for a TR4 short of interior parts, because I just have enough to put my three cars together. But, I have tons of everything else, including a lot of TR250 odds and ends such as a full drive train, which I think is similar to a TR6, as well as other bits that came off a car I just parted down. As far as the TR4 goes, I have everything from IRS to fixed axle. I am also able to get TR3 parts as well. Any of the parts can be bought as they sit or can be sandblasted, primed, or fixed and cleaned. Well feel free to give a ring any time 613-838-9630. Neil.

NEED A OVTC NAME TAG? WE ARE GOING TO ORDER NAME TAGS FOR NEW MEMBERS.

PLEASE CONTACT VIVIEN KAY IF YOU NEED ONE. Tel: 613-692-1880; Email: njkid@cyberus.ca

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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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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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