



ARCC UPDATE

April 2011

Toronto Chapter AGM

by Anthony Tersigni, Richmond Hill

On March 31, 2011, the Toronto Chapter held its annual AGM at Mini Grid in Toronto as we have for many years now.

The meeting was well attended, as we had twenty members come out. For those who didn't attend, our Directors are as follows:

Anthony Tersigni	President
Dave Munro	Vice President, Librarian
Ken Lee	Treasurer, email master
George Beston	Past President

Directors at large:

Tony Adams, Deni Bellai, Brad Golden

Stepping aside, but still members:

Gord Zimmerman, Ron Thiel, Rob Dovigo

Frank Scalisi was nominated and welcomed as an additional Director at large.

Our 2011 event list was the main focus of the meeting.

Before the meeting concluded, Oliver Collins and John Pickering provided the group with a brief overview on the preparations for the 2012 Convention hosted by our Toronto Chapter. There was much talk about this. After the meeting it was time to shop and catch up with other Alfisti and their projects after a long winter! Thanks to Mini Grid for once again hosting us and for providing great discounts that evening on Alfa miniature models. Well, the AGM kicks off the start of the season. I hope to see and talk to you all at many events this year.

Valve Seal Replacement

by George Beston, Cobourg

At the end of the long drawn out EFI conversion on my Spider Jr., trustworthy observers informed me that a noticeable amount of blue smoke was visible in the exhaust. My first trip of any length was to Watkins Glenn for the Vintage Grand Prix in September, Sure enough, I could see the blue smoke too, and oil consumption was much higher than in the past. Shortly after getting home from that trip, an investigation was carried out with the following results:

Cylinder	1	2	3	4
Dry Compression, psi	160	162	160	160
Wet Compression, psi	205	220	212	210
Leak down, %	0	2	2	0



Spark plug inspection. Photo by George Beston.

Well, the numbers look really good. They certainly don't indicate any sealing issues with the rings. The spark plug from cylinder #3 was definitely a lot darker than the others, but it wasn't fouled badly enough to interfere with ignition. The only logical conclusion I could come up with was that some oil must be getting past the intake valve guide seal on this cylinder. This sent me off on a quest to figure out how to change the seal with the least work.

All the manuals say to take off the cylinder head and go from there. Since this motor is relatively

fresh, as in 15,000 miles on a five-year-old rebuild, that seemed like a lot of unnecessary work.

To change the seal without taking the head off requires the removal of the appropriate camshaft, follower and shim. At this point one needs the ability to do the following: hold the valve shut, compress the valve springs to remove the retainer, keepers and springs and finally, remove and replace the seal. Following that, everything has to go back together again.



After some consideration of the options, compressed air was chosen as the method for holding the valve shut. The spark plug fitting from a compression gauge was used for the purpose.

To compress the valve springs, an overhead valve spring compressor was adapted for the purpose. As purchased, it couldn't be used in this application because the hooked arms for gripping the spring could never fit between the tappet bore and outer spring. The adaptation consisted of making up some arms of staggered length to compensate for the angle of the valve (40° off vertical) and the fabrication of a jig to hold the ends of these arms and to bolt the assembly down over the cam bearing studs.



Photo by George Beston.

The materials used were pretty basic. The new arms and the cam stud fittings were cut from $\frac{3}{4}$ " square tubing, and $\frac{1}{4}$ " threaded rod was used to provide the anchor for the compressor.

Another tool was used in this process that made life a little easier along the way:



Photo by George Beston.

This is Lisle's valve keeper removal and installer tool, catalogue #36200. The idea is to use the silver piece on the left to remove the retainer and keepers. There's a strong ring magnet in the opening, so once the springs have been compressed by pushing on the tool the keepers are drawn to the magnet and it's all over. To install the keepers, the keepers and retainer are loaded onto the spring-loaded retractable post in the middle of the black part of the tool. As the tool is pushed down to compress the springs, the post is up against the end of the valve stem. It retracts into the tool and the keepers are pushed down around the end of the valve stem.

With all these new tools at hand, the job went like this:

The engine was placed at TDC on the desired cylinder (#3 in this case); the transmission was put into 5th gear; the hand brake was applied; and the wheels were chocked. All this is to ensure that nothing moves inside the engine due to the compressed air. After disconnecting the battery, the valve cover came off; the intake cam was removed, as were the #3 bucket follower and shim. The air line adapter was fitted to the spark plug hole and the cylinder was pressurized to 80 psi with compressed air.

The Lisle tool was used to remove the retainer and keepers and worked like a charm. Within seconds, the retainer, keepers and outer valve spring were sitting on the magnetic end of the tool free and clear of the engine.

After lifting out the inner spring, the old seal was removed using curved needle nose pliers and replaced with a new one using an insertion tool fabricated for the purpose with $\frac{1}{2}$ " round tubing, $\frac{3}{4}$ " square tubing and openings cut and tapered for the purpose with a Unibit:



Photo by George Beston.

The reassembly operation ran into a small snag because the Lisle tool could not get the keepers all the way down into the correct spot. They were holding somehow, but the tops of the keepers were above the end of the valve stem, which won't do!

So, the overhead compressor was brought to bear on the problem:



Photo by George Beston.

At this point it was a fairly easy procedure to compress the springs, move the keepers into the appropriate location with a small screwdriver, and release the compressor again.

After all this, the compressor and jig were removed, the air pressure relieved and the valve stem was given a couple of firm taps to make sure the keepers were properly seated.

Reassembly, as they say, was pretty much the reverse of disassembly. Along the way, the cam chain was re-tensioned and cam timing was double-checked.

So, what about the old seal? Well, from the top, it seemed fine. The small spring around it was still in place and undamaged. From the bottom, it looked like this:



Photo by George Beston.

For all I know, every valve guide seal might look like this after it has been installed and removed. For the time being, I'm hoping that some of that rubber strand from the inside of the seal may have been a contributor to the engine's new-found appetite for oil.

I'll find out soon!

Upcoming ARCC Events

Toronto Chapter

Date	Time	Event
Feb. 5	9:30 am	Directors' Meeting
March 31	7:00 pm	AGM
May 5	7:00 pm	Cruise Night
May 15	TBD	Sunday Drive
June 2	7:00 pm	Cruise Night
June 5	TBD	Sunday Drive
June 17-19	TBD	Vintage Festival/Drive
July 7	7:00 pm	Cruise Night
July 12-17		AROC Convention
August 4	7:00 pm	Cruise Night
August 6-7		Toronto/Detroit Party
August 21	TBD	Brewery Tour
Sept. 1	7:00 pm	Cruise Night
Sept. 25	TBD	Europa Rally
Oct. 6	7:00 pm	Cruise Night
Oct. 16	TBD	Fall Tour
Nov. 8	7:00 pm	Pub Night/Directors' Mtg
Nov. 26	6:00 pm	Holiday Dinner

Ottawa Chapter

Date	Time	Event
May 7	3:30 pm	Where are all the Italian cars?
June 18	10:00 am 1:00 pm 2:00 pm 3:00 pm 6:00 pm	Italian Day - register Lunch Parade Italian Car Show Banquet

Alfa Club of Edmonton

Date	Time	Event
April	TBD	Tech Session – Ron G.
May	TBD	Hills Winery
June	TBD	Historic Road Solstice
July	TBD	Race event
August 3-7	TBD	Rock-N-August Concours / Viva Italia
September	TBD	Mid-southern tour
October	TBD	Amber Brewing Oktoberfest
November	TBD	Italian dinner
December	TBD	Christmas tree hunt
January	TBD	After Christmas party

Other Events of Interest

Thornhill Cruisers **Italian Car Night**, June 13

Italian Day Parade, Ottawa, June 18, 19

Ferrari Shell / Historic **Trans Am Challenge**, Mont Tremblant, July 9-11

Italian Car Day, Boyd Park, August 27



Alfa Canadese, June 17-24, 2012

The 2012 National Convention for the Alfa Romeo clubs of Canada and the USA.

Early details: <http://alfacanadese.ca>

Volunteers wanted: info@alfacanadese.ca

Alfa Romeo Club of Canada

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ARCC Update

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