



ARCC UPDATE

May 2012

1st Choice Garage Outfitters

by George Beston, Cobourg

We had a modest turnout for our first event of the season. Those who did show up were treated to a number of things. Our hosts provided coffee and Timbits. There was a display of part of the car collection belonging to one of the partners including an Opel GT, a Prowler, a Lamborghini or two, a Ferrari and a DeLorean!

The meat of the show was a string of concepts for storage and garage furnishing concepts. The vision of the garage of the future seems to be something about 2,000 square feet of well organized tools and equipment with laundry, entertainment and beverage preparation capabilities as well. During favourable climatic conditions, a roll-up screen door can be used to let the fresh air in and keep flying insects out.

Naturally, decorating aspects must be considered. Diamond plate clad appliances are de rigueur, and of course floors are finished with either checkerboard tiles or an industrial grade epoxy coating.



Photo by George Beston.

I briefly considered going home and telling my wife that we had to move so I could set up a dream

garage, but the thought of the house she'd want to go with it changed my mind for me.

Of course this kind of garage is "over the top" for many of us, including me. However, the visit was worthwhile for all of us because 1st Choice Garage Outfitters also sell many useful items for storage and tool organization. I'd recommend a visit for nothing more than the ideas for space utilization that are on display.

Toronto Chapter May Cruise Night

by George Beston, Cobourg

The pending thunderstorm in the early evening of May 5 nearly wiped out our first cruise night of the year. It was just as well, because the heavy rain started about 7:30 and didn't let up until after midnight. The very few of us who did show up took refuge in La Paloma for espresso and gelati and enjoyed ourselves trying to wait out the storm.



Photo by George Beston.

There was one Alfa there that hadn't turned out before, a late model fwd twin spark 16V Spider owned by Felix Leung. This car was brought in from Japan, and surprisingly has left hand drive, apparently because it was brought into Japan as a used car. It's good to see such vehicles legally filtering into Canada.

Tools

by George Beston, Cobourg



Photo by George Beston.

A few weeks ago, Ken Lee mentioned to me that he had read on the BB that one of the tools commonly used to tighten up the abrasive discs on angle grinders can be used as a cam turning tool. With my curiosity suitably prodded, I found the time to dig out that tool for my own Makita angle grinder. Sure enough, it fits. Actually, it's also more convenient to use than the hinged tool that I bought from one of our mail order suppliers. The fact that the spacing of the pins is fixed means it's easier to line them up with the vernier holes at the end of the camshaft. For anyone interested in checking this out, the pin spacing that works for me is 28 mm, and the pin diameter is 4 mm.



Photo by George Beston.

Another tool that I stumbled on recently is what I would call a "needle nose magnet". My magnetic tools are always a mixed blessing. Often, by the time I get to something I want to pick up, I have had to pull the magnet off everything ferric along the way. In other circumstances, today's powerful rare earth magnets are overkill, removing things like valve keepers rather than just moving them into position. The answer I found was in the form of my trusty multi-bit screwdriver equipped with the

smallest hex head I could find. The magnetism of the screwdriver transfers to the driving tool, and the small end on the tool localizes the magnetism, making it much less likely to attach itself to unintended objects.

High Lift Cam Install

by George Beston, Cobourg

I finally have arrived at the installation of custom cams for my Spider's 1750 engine. This is the culmination of a number of years of consideration. My overall purpose is to optimize this engine for street use in the modern world. So, the target is to maximize average torque and horsepower across the normal rev range. Hypothetical cam profiles were identified using Dynomation, an engine simulation program wielded by my mentor in such things. The intake cam came out at 12 mm lift and 282° duration at 0.040: lift, and the exhaust cam at 9 mm lift and similar duration. The intake cam spec is no surprise, being very similar to the profile of Kent Cams' JK 303 described by author Jim Kartalomakis in his book on tuning Alfa engines. The exhaust cam is not conventional among Alfa tuners, but follows a trend that Alfa displayed in some of the last versions of Alfa Nord 2 litre engines.

The next issue was how to create cams to these specifications. It turns out that every company that grinds cams has a range of profiles in its data base that they are capable of producing. After corresponding with a few companies, I found that Crower Cams was willing to take a pair of retired 9 mm short duration cams, weld metal onto the lobes to build them up, and then grind the desired profiles chosen from their files. A reader might be wondering how I know these cams will function properly in an Alfa engine. My understanding is that modern cam lobe designs have been carefully developed to work with pushrod engines where the inertia of the valve train and the high loads imposed by rocker arm ratios and stout valve springs create a far more demanding situation than would ever be encountered by a direct acting cam and tappet like the ones in Alfa engines. So, as long as you start with a current flat tappet cam lobe design, there should be no problem.

It turns out that installing these cams was a substantial amount of work. While the engine was being rebuilt 15,000 miles ago, valve guide height was adjusted to leave room for as much as 13 mm lift. Also, the tappet bores were relieved somewhat at the top so that 13 mm cam lobes could clear the top of the bores.

High performance valve springs from Kent Cams were used, not so much to prevent valve float at

high rpm as to make sure that the springs could cope with the higher rate and acceleration of lift imposed by the long duration cams.

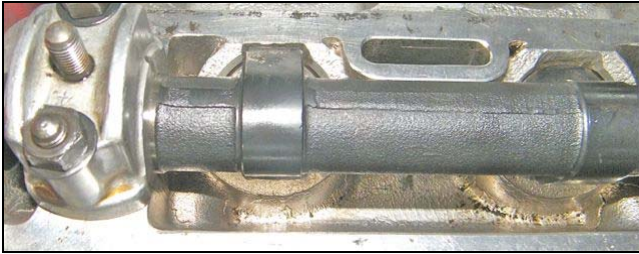


Photo by George Beston.

The spring installation turned out to be a prolonged exercise because each of the eight spring sets was removed and replaced twice, the first time to check dimensions, and the second time to make adjustments so that the specified installed height was achieved and valve retainers changed to give enough room to allow for 12 mm lift before contact with the valve guide seals.

Adjusting installed spring height to the specification of 37 mm was simply a matter of shifting the existing 0.020" (0.5 mm) shims around and having one left over.

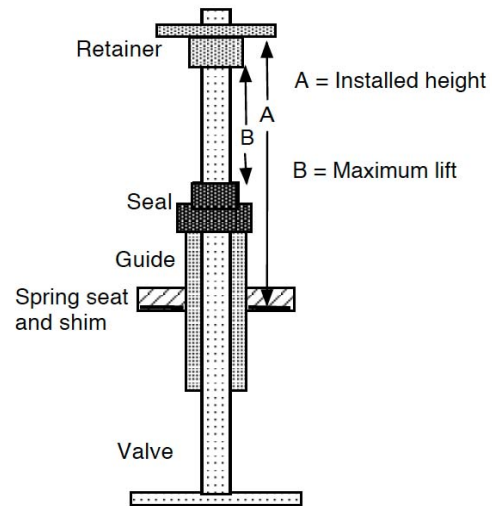
The issue with maximum lift interference was a bit more difficult. On the intake valves, the valve stem length between the end of the valve and the seal, the protrusion of the valve stem above the retainer and the height of the retainer were measured. The calculation is: tip to seal length minus stem protrusion minus retainer height equals maximum lift. For two of the intake valves, the maximum lift worked out to 13 mm, for the other two it was 11 mm, i.e. not enough!

To get around this problem without removing and adjusting valve guide positions in the head, a search found that Alfa Parts Exchange sells titanium retainers that are 2 mm shorter than the factory items. Therefore using them would give a maximum lift of at least 13 mm in all cylinders. So, a set of those retainers was ordered and installed in the second round of valve spring re and re.

Along the way, the new springs were checked for coil bind height. It turned out to be 20 mm. With the installed height of 37 mm, it would take 17 mm lift to cause them to run out of room to compress, so that's no problem.

The springs were changed without removing the head. This involved using compressed air to hold the valves shut, and the use of an adapted overhead valve spring compressor. This was done one cylinder at a time, and one valve at a time. The pistons were held at TDC while the springs were

compressed with an adapted overhead valve spring compressor.



Drawing by George Beston via Easy Draw.

The trickiest part of the whole procedure was getting the valve keepers in their proper place with the new retainers. With my limited experience at this, I can't necessarily fault the retainers, but it sure took a lot of patience to get them set on some of the valves. A word to the wise – it's always worth having a few extra keepers around when doing this sort of work. They can easily pop out of place, and when lost, are extremely hard to find. Thanks to Pino for bailing me out when I showed up on his doorstep after losing one!



Photo by George Beston.

The next step was to adjust valve clearance for the new cams. Crower specified 0.014" cold clearance for the exhaust cam and 0.012" clearance on the intake cam. That's quite a bit closer than standard Alfa practice, but is required due to the relatively short initial ramps in these profiles. I really tried hard to get these clearances right on the money, but had to settle for plus or minus .001". I'll probably try again after I set up a dial indicator rig for measuring shims.

I'll report again after timing these cams and tuning my Spider's fuel injection system to suit them.

Upcoming ARCC Events

Alfa Club of Edmonton

Date	Time	Event
April 28	11:00 am	Ron's Grease Pit Blowout
May 7	7:30 pm	Speedsters Racing
June 16	TBD	Reynolds Museum
June 23	TBD	Easy Solstice Rally
July 10	TBD	St. Albert Casino
June 17-24		Alfa Canadese
August 7-11	TBD	Rockin' Horse, St Albert
Sept. TBA	TBD	Concourse
Sept. 30	TBD	Pie Run, Stony Plain
Nov. TBA	TBD	Great Italian Eating
Dec. TBA	TBD	Christmas Tree Hunt
January	TBD	Christmas After Party

Toronto Chapter

Date	Time	Event
March 22	7:00 pm	AGM, Scarlett Road
April 21	10:00 am	1 st Choice Garage Tour
May 3	7:00 pm	Cruise Night
May 6	TBD	Sunday Drive
June 7	7:00 pm	Cruise Night
June 15-17	TBD	Vintage Festival/Drive
July 7	7:00 pm	Cruise Night
June 17-24		Alfa Canadese
July 5	7:00 pm	Cruise Night
July 8	TBD	Sunday Drive
August 2	7:00 pm	Cruise Night
August 4-5		Toronto/Detroit Party
Sept. 6	7:00 pm	Cruise Night
Sept. 9	TBD	Europa Rally
Sept. 15	TBD	Alfas and Sevens
Oct. 4	7:00 pm	Cruise Night
Oct. 14	TBD	Fall Wine Tour
Nov. 7	7:00 pm	Pub Night/Directors' Mtg
Nov. 24	6:00 pm	Holiday Dinner

Other Events of Interest

- Members' Tech Sessions, whenever possible
- Italian Day Parade, June 16, Ottawa
- Italian Car Day, July 21, Boyd Park
- Concorso Canadese, August 25, Mississauga
- Grand Prix of Mosport, ALMS series, July 19-22
- Non-official Cruise Nights happen every Thursday evening May to October at the La Paloma location.



Alfa Canadese

Toronto, June 17-24, 2012

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

Registration deadline May 31!

<http://alfacanadese.ca>

Alfa Romeo Club of Canada

National Executive

vacant	President	
Harry Hamilton	Western VP	(403) 463-2235
Tony Adams	Eastern VP	(416) 222-2406
Jack Thompson	Past President	(780) 481-1708
George Beston	Treasurer	(905) 372-3552
Christine Pickering	Secretary	(416) 498-6553
	Messages	(416) 499-7129
	Fax	(416) 499-4517

Regional Contacts

Don Best	Vancouver	(604) 939-5056
Mark Willis	Calgary	(403) 668-0379
Chesley Wells	Edmonton	(403) 963-9199
Anthony Tersigni	Toronto	(905) 918-0457
Jack Livingstone	Ottawa	(613) 232-6335
Yves Boulanger	Montréal	(450) 692-7478

ARCC Update

Editor:	George Beston
Telephone:	(905) 372-3552
E-Mail:	gbeston@eagle.ca

ARCC On Line

Our Website:	http://www.alfaclub.ca
Webmaster:	Adam Di Carlo
E-Mail:	dicarlo_adam@hotmail.com