



Alfacionada

Alfa Romeo Owners
of
Southern California

P.O. Box 261

A Driving Club

Los Alamitos, Calif., 90720

Volume 6, Number 4

April, 1967

STEWED CARBS WITH NOODLES

This being a funny time of the year, AROSC held their March event on April Fools' Day. T'was a combined Social and Technical event, held at Fritz Taggart's Studios. (Fritz has been more than generous in letting AROSC use his facilities for various events.)

For the men, there was the ARI Service Truck with Mr. Cappelletti along, to give us a talk about "the care and feeding of the Alfa Romeo Carburettor." Well, this he did, and in very fine fashion. The Solex was covered first, this being the most common type of carburettor. The purpose on many of the adjustments were explained in fine detail, always with the admonition that the carburettor is the last thing one adjusts in a tune up. Make sure the rest of the engine (plugs, plug wires, distributors, cam timing, valve clearances, ignition timing, etc.) is up to spec before tweaking the pot. A valuable piece of info this.

We then pressed on to a few words about the Weber. Synchronization was covered, and various methods for achieving this were outlined. It turns out that the factory method is fairly wild. It consists of running an engine on a dyno without an exhaust manifold, and observing the length of flame coming out the exhaust port. When they are all the same, with a one inch white tip, the engine is then synchronized.

Alfa people being as they are, the lecture then became a discussion, and various topics of interest to all were covered. While the men were regaling each other with tales of mechanical derring-do, the women...

were busy handling voluminous amounts of food in the kitchen in an attempt to prepare a meal for the 38 of us who attended the session. In the true spirit of an Alfa woman, Ehlah Gilland began the massive undertaking. Onions and meat were set to bubbling in three huge kettles. Gallons of wine and tomato paste were added to the brew. While this was taking place, the other gals were busy scurrying around setting tables, cooking vegetables, heating rolls, and on ad inf. A special mention must be given to Nurse Paula Taggart as she went around with a look of mercy and a tube of burn ointment.

The feast of Ragout, potatoes, noodles, French-style string beans, salad, rolls, and coffee, tea, or milk was well received from the looks of pure contentment on all faces present. A real Badge of Courage and grateful thanks to all the cooks, but most of all to Ehlah Gilland, a true blythe spirit in the kitchen. (Recipe published next month.)

The club would like to thank Mr. Barratt and Mr. Cappelletti for attending and bringing the Alfa Romeo Service Truck in spite of the terrible weather that night. We would also like to thank ARI for helping us shoulder the burden of feeding so many people.

And then, the party over, most of the people gone, visions of new Webers with velocity stacks nice and shiny, etc., we hopped in our Alfa to leave for home, and guess what? The damn thing wouldn't start! O, factory engineer, where are you, with your special tools and infinite knowledge now that we need you...

ALFACIONADA is the monthly publication of the Alfa Romeo Owners of Southern California (AROSC). Subscriptions to this newsletter are included as part of the \$5 per year AROSC membership fee. For membership information, write AROSC, PO Box 261, Los Alamitos, Calif., 90720. Articles, letters, and personal ads are always welcomed for publication and should be received by the editor ten days prior to the monthly meeting. Meetings are held the third Friday of every month at Little Lake Park Clubhouse, 10900 S. Pioneer Blvd., Santa Fe Springs, just north and east of the Santa Ana Freeway at 8pm.

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LET'S GET TECHNICAL by Barry Thompson

Rebuilding the Giulia Limited Slip Differential

The purpose of the differential in the driving axle of an automobile is to permit the two driving wheels to rotate at slightly different velocities. This velocity difference (relative motion) occurs when turning corners (the outside wheel travels farther than the inside wheel), when the tires are not exactly the same size, and when driving over irregularities in the road surface. In conventional differentials, there is not limit to the relative motion of the two wheels. Consequently, if one wheel loses traction, most of the driving torque is delivered to the slipping wheel causing it to spin, and little torque to the wheel retaining traction.

To overcome this shortcoming of the standard differential, several types have been designed which tend to limit the relative motion of the driving wheels. Some types mechanically lock the axle shafts together upon application of driving torque or if the relative motion exceeds a certain value. These devices do not work smoothly and usually lock up with a jolt; however, they are long lasting, and do not wear out. Other types (including the ZF Lok-O-Matic, available as a racing option of the Giulia) use friction pads or clutches to resist relative motion of the axles. These units work smoothly, but are prone to diminish in effectiveness due to wear. Such is the case with the Alfa unit, which works beautifully when new and then ceases to function effectively in a disappointingly short time (half a year of street and slalom driving). The cause and remedy are fortunately straightforward.

The friction device consists of two groups of steel discs (one group for each axle shaft) located within the ring gear carrier. In each group there are five discs, alternately splined to the carrier (external splines) and to the axle shafts (internal splines). When driving torque is applied to the carrier, the stacks of discs are compressed, and friction force is developed at each disc face resisting relative motion between the axle shafts and the carrier. When the discs are new, the surfaces have some roughness which provides a high coefficient of friction at each disc face. As operating time accumulates, the disc faces rub against each other and become polished, lessening the coefficient of friction, and permitting more slippage in the unit.

It has been found that removing the free play in the clutch packs restores the unit to good working condition. The procedure is as follows:

- 1) Clamp the clutch pack and spider gear assembly together to flatten any warpage in the discs. Referring to the diagram, make the following measurements and calculations:

$$D_1 - d_1 = \text{Total Clearance} \quad 0.020''$$

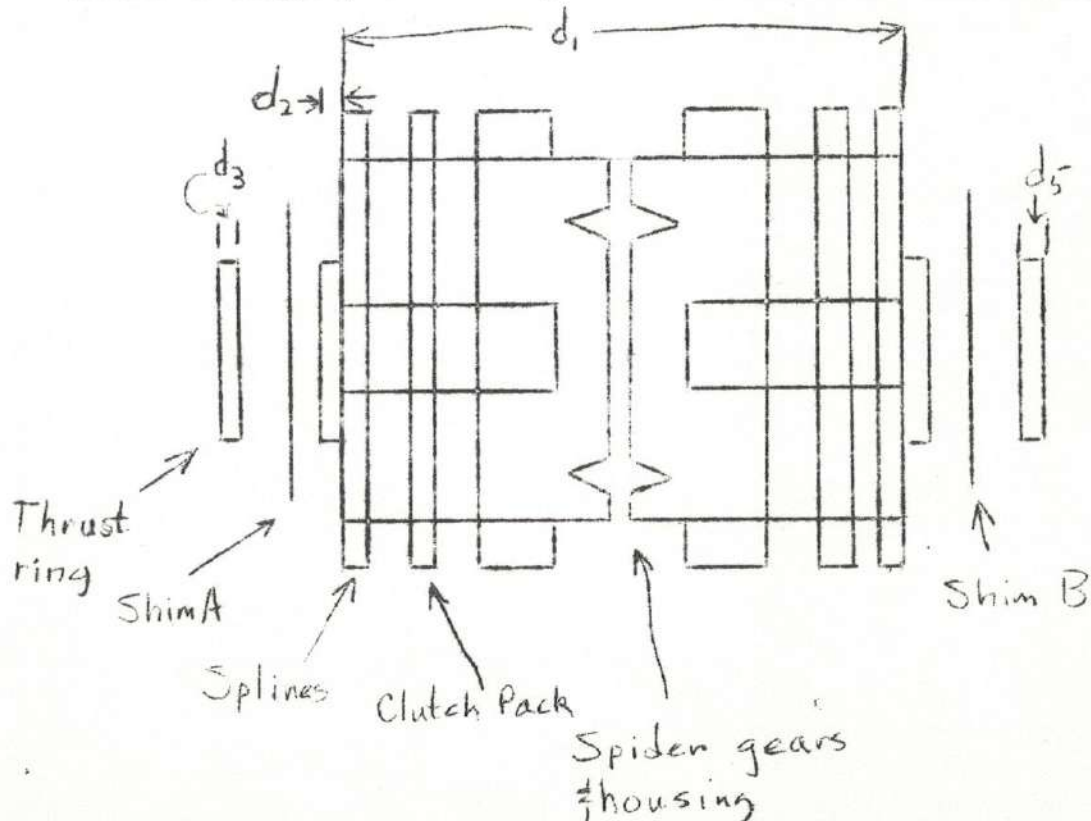
$$= \text{Total Shim Thickness} + 0.001'' = \text{Shim A} + \text{Shim B} + 0.001''$$

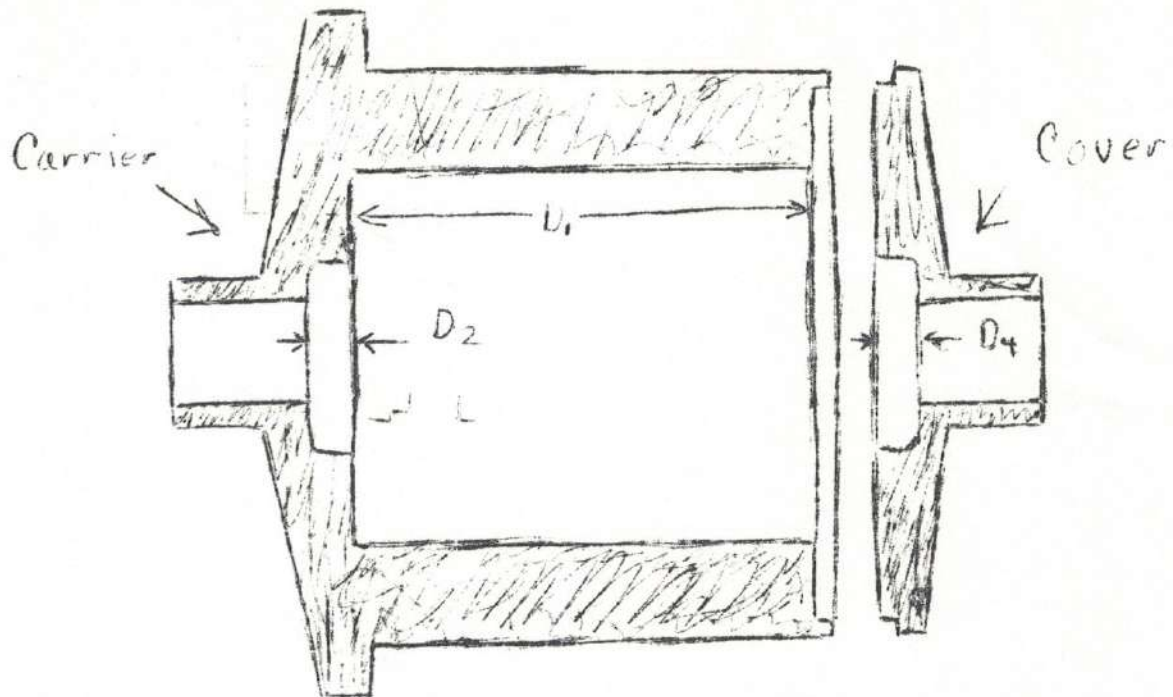
$$D_2 = d_2 + d_3 + \text{Gap A}$$

$$D_4 = d_4 + d_5 + \text{Gap B}$$

<u>Gap A</u>	<u>Shim A</u>	(within several thousandths)
Gap B	Shim B	

- 2) ($D_1 - d_1$) represents the clearance in the unit. It is about 0.018" when new and several thousandths larger in used units.
- 3) Measurement of Gap A and Gap B allows you to distribute the total shim thickness between each end of the housing so that the clutch pack assembly remains centered in the carrier and is not forced against one of the thrust rings.
- 4) Cut shims from shim stock (preferably steel) using a clutch disc for a pattern. No splines are necessary.
- 5) Assemble the unit putting the shims at their proper ends between the carrier (or cover) and the outer clutch disc (which is splined to the case).
- 6) Lubricate the rear end with Corvette Limited Slip Fluid. This oil allows the clutches to develop more friction than EP type oil. It also prolongs the useful life of a "slipping" limited slip differential lubricated with EP oil.





HELP!

Alfacionada needs a Slalom Column Editor: No exp required. Until we get one, we will publish only results of championships, and schedules.

FOR SALE

All sorts of Alfa parts - you name it he's got it.

Call Bud 714-524-1092

APRIL MEETING

The next regularly scheduled meeting will be held at 8 pm, April 21, 1967 at Little Lake Park, 10900 So. Pioneer Blvd., Santa Fe Springs as usual. Entertainment will be a late racing film. Coffee and donuts will be served. For information call 714-524-1092 or 213-645-0677.

SON OF LET'S GET TECHNICAL by Bud

Those of you fortunate enough to own 105 series Giulia Sprint GT and Giulia TI models may have noted that the oil pressure is not always its normal, happy 55lb. self. There may be times when you are quite alarmed at the oil pressure.

There always exists the possibility that there is something wrong with the engine, but usually this isn't the case. It turns out that the oil pressure sending unit is located under the exhaust manifold. The wide range of temperatures encountered in this area has somewhat of a debilitating effect on the sending unit (serious heat stroke and all that) with consequent loss of accuracy.

Should you have this problem on your car, the repair is not a major operation. The sending unit is mounted to the oil filter fitting. It is a Borletti unit. (Borletti Part No. 64.5021 - Alfa Romeo Part No. 10500 06 32300). This unit must be replaced with a new part. Borletti Part No. 64.5022. When ordering, have no confidence in your parts man. It never pays. Make sure that you order the right part, and make sure you receive the right part. (With the departure of Val from Jim Gray's parts dept., there are now no qualified Alfa parts men in Southern Calif.)

Remove the old unit (a somewhat greasy and time consuming operation) and replace with the new one. Be careful about dirt and sealing.

It may not make your Alfa run any better, but it will make you feel better, and will eliminate those times when one is thinking about other things and suddenly notices his guage reads zero oil pressure. One could then loose all one's cool, what with visions of turned bearings, scored cranks, etc. appearing and disappearing in true LSD-trip fashion.

Do it tomorrow!

FOR SALE

1967 Duetto: White, Black Interior. Roll Bar and Competition Seat Belts. 14,000 mi. Never raced. \$3500/offer.

Hunter Watson, 2715 Carrillo, Torrance 213-320-6905 After 5 pm.

THE RUMOR MILL

Well, Sebring is now history again, and from what one hears every year, hopefully for the last time, if only to minimize the amount of righteous moralizing about Southern-type cops, high prices, poor service, bad course control and safety, etc. The high point was the entry of two Alfa Type 33 prototypes in the first major endurance race of the year. And did you note on the Wide World of Sports program how the little beggar led the whole first lap? Of course, what with the cars being quite new, and Alfas to boot, they had their reliability problems. But enough of trivia! It's good to see the type 33 challenge Porsche and Ferrari!

It is rumored that a certain element in our club is getting dissatisfied with Slaloming. One wonders whether this is just in a natural growth pattern, ie moving up to bigger things, or dissatisfaction with Greenwald's TR2 Mk IV taking all the marbles lately. When one stops to think about it, why can't we run 1600 engines in our 1300 Spiders? After all, look at Carl McCarty. And Greenwald runs a TR4 engine. O powers that be at SCCSCC, may we have some consistency please?

One of our number has gone racing already. Fritz Taggart bought Ted Medley's Veloce and took it to Willow Springs the other weekend and apparently did quite well in the drivers' school. We'd like to wish him luck.

And if you think Alfacionada is out of it, just check this month's Road and Track in Miscellaneous Ramblings. They heard a rumor that Alfa Romeo has a new V-8, but aren't entirely clear as to what it will be used for. Come on now!

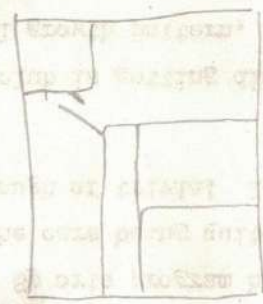
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