THE JOURNAL OF THE MICHIGAN ROWDIES VOLUME 43, NO 1, JAN-FEB, 2018

A-Antics

Photo by Mac McDonnell

Driving British Cars To The December Christmas Party

Rowdie Christmas Party!

SU Carburetors

Changing Oil

The Rebuild Continues

MICHIGAN CHAPTER OF NORTH AMERICAN MGA REGISTER

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A-Antics: Published every other month.

History: The Chapter was established August 14, 1976. It was NAMGAR's first chapter. We are a low-key club, dedicated to the preservation and enjoyment of our MGA's/ Anyone is welcome to join our chapter and they are asked to join NAMGAR as well.

Chapter Dues: $25 annually ($40 for printed newsletter)

Nickname: Rowdies

Motto: People First!

Rowdies Site: http://www.mg-cars.org.uk/michiganrowdies/

MG Car Council Site: http://www.mg-cars.org.uk/mgcouncil/

NAMGAR Web Site: www.namgar.com

Past Chapter Chairpersons:

1976-1980	Bruce Nichols
1981-1982	Tom Latta
1983-1984	Dick Feight
1985-1988	Dave Smith
1989-1990	Dave Quinn
1991-1994	Mark Barnhart
1995-1995	Herb Maier
1996-1996	Tom Knoy
1997-1998	Neil Griffin
1999-2002	Bruce Nichols
2003-2004	Bob Sutton
2005-2008	Gordie Bird
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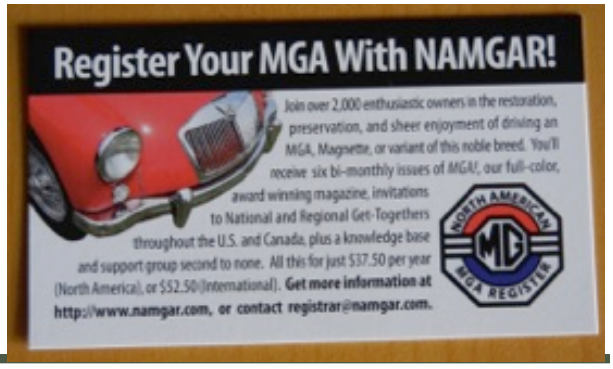


MEMBERS PAGE

Rowdies Website: Larry Pittman, Webmaster

http://www.mg-cars.org.uk/michiganrowdies/

Larry Pitman's Database Report: 59 Active and Paid-Up Members

Deadline for submitting material for the next issue is: February 20, 2018

Classified Ads

Letters

The Magical SU Carb

In this issue, your editor has included a column from the March 2017 issue of Hemmings Sport and Exotic Car, by Satch Carlson (*see page 7*). I reprinted it here because Satch seemed to sum up some of the mystical beauty of the amazing SU carb which has powered numerous English cars for a handful of decades, and it seemed a worthy introduction into four more articles about SU carbs and fuel pumps. Hopefully these will make for some thoughtful reading over a winter's eve when you all received this issue of the Antics. ***Ken Nelson***

Put In Bay Race Update

Dear Past PIBRRR Participant, Greetings of the Season!

Please forgive the mass email but I want to alert you about our plans for 2018, which will be our 10th annual event since the initial "Put-in-Bay Road Races Reunion" in 2009. *(continued next column)*

First off we have a NEW DATE PATTERN for 2018 -- We've moved from late August to **September 24-27, 2018** with various traditional events book-ended around racing on Tuesday and Wednesday, 9/25-26. Also this year we will be making a special effort to celebrate Bugeye Sprites and the Porsche marque, both of which will be noting significant anniversaries in 2018. We hope you'll consider putting Put-in-Bay on your calendar. Here are 2 vintage pictures:

Regards, ***Manley Ford***
Put-in-Bay Road Race Heritage Society
(734) 502 2435

ROWDIES 2017 CALENDAR OF EVENTS

2018

Feb

10 **Rowdie Business Meeting**
Bill & Mary Ellen Weakley's
4120 Pontiac Trail, ANN ARBOR, MI
(734) 996-2524 *See info page 5*

Michigan Rowdies

The first chapter of NAMGAR, the North American MGA Register.

"It's the cars that get you there, but the people keep you coming back."

NAMGAR Michigan Rowdies MGA

Learn more at www.mg-cars.org.uk/michiganrowdies/

CHAIRMAN'S CHATTER

by Bill Weakley

As I write this, I am sitting in our living room looking out at about a foot of snow in the yard. It's very pretty and "Christmassy", but of course it means that I am not going to be driving an MG for a few months. So I have mixed feelings about winter. I have enjoyed winter sports and wish the winter sports businesses all the best, but I miss MG driving already. On the other hand, one benefit of not being able to drive our cars is the opportunity to tackle major projects on the cars without worrying about getting them back together right away. Of course, having a large heated garage helps immeasurably in that endeavor. Right now, I am wishing my garage were a little larger.

I have more than enough projects lined up to keep me busy all winter. I am expecting the body work for my MGA back from the painter sometime soon after Christmas. I've attached a photo of the body undergoing final surfacing. The shop has started color painting but was setting it aside for more urgent jobs. As many of you have experienced, there will be plenty to do getting the body reassembled, installing the interior, wiring, trim, etc. I also have a windshield to replace on my Midget, which may or may not get done before spring. I rebuilt the rear end and replaced the broken axle. For any of you who haven't experienced a broken axle, I've included a photo that also. Obviously, the metal was pretty brittle. The only thing I plan to do on my C is to change the oil and charge the battery. My main goal for the winter will be to have a drivable MGA this summer. After nearly 20 years in the club, I will actually be able to show up in an MGA. I have owned the car for 51 years and only drove it for three. At least no one can accuse me of rushing the restoration.

My A will be Glacier Blue, the original color. According to the BMH data sheet, it came with a blue top. I like the idea of the top being coordinated with the body color. I think a dark blue top would look great. The top was black by the time I bought it, when it was ten years old. The only blue top I have been able to find with a zip-out rear window is over $800. Writing that check will hurt more than most. And yet, compared to the cost of the painting, that sounds like pocket change, so maybe I will bite the bullet. After all, once I buy a top, I'll be living with it for a long time, I hope.

I am still thinking about the future of the automobile in general, and especially collector cars. I recently attended the first Saturday of the month open house at the Points and Condenser Preservation Society in Ypsilanti. John McElroy, host of the Autoline TV show, was the speaker. He is expecting a lot of changes in the near future, including more consolidation and loss of more nameplates. He expects more electric cars but thinks there are major issues yet to be worked out. Longer range, more and better charging opportunities, battery recycling, supply of critical materials and supply of clean electricity are all issues that need to be worked out. There are also many unresolved issues for self-driving cars. Of course, the self-driving systems have to be proved to be completely reliable under real world conditions.

One aspect that I have not heard much discussion about is liability for crashes involving self-driving cars. If the owner of the car is not driving, it doesn't seem likely that he/she would be responsible for a crash. The auto companies are often held responsible for problems and accidents, but with self-driving cars there would be little doubt about who is responsible for an accident.

In any case, I am not ready to give up the steering wheel. Heck, I haven't fully accepted automatic transmissions. I am always more nervous as a passenger than driver, so it will take a lot of convincing for me to let a computer drive for me. I could imagine redundant processors constantly checking each other, but they better be really fast.

We are planning the annual meeting at our house on February 10. Show up at 4120 Pontiac Trail, Ann Arbor 48105 between 12 and 1 PM. The main dish will be provided. Please bring a dish to pass and your drink of choice. The most important part of the meeting will be to set up our calendar for 2018. Please consider hosting an event. If you have never hosted, don't worry about it being a big deal. There are plenty of members who can help and advise.

Chairman Bill

ROWDIES BUSINESS MEETING 2018!

SATURDAY FEB.10th-Noon

Bill & Mary Ellen Weakley's

4120 Pontiac Trail

ANN ARBOR, MI

STORY TELLING, GREETING - NOON

LUNCH - ABOUT 1PM

BRING DISH TO PASS &
BEVERAGE OF CHOICE

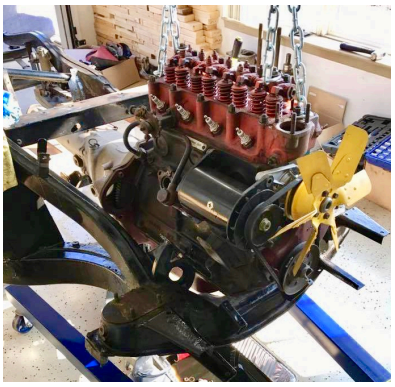
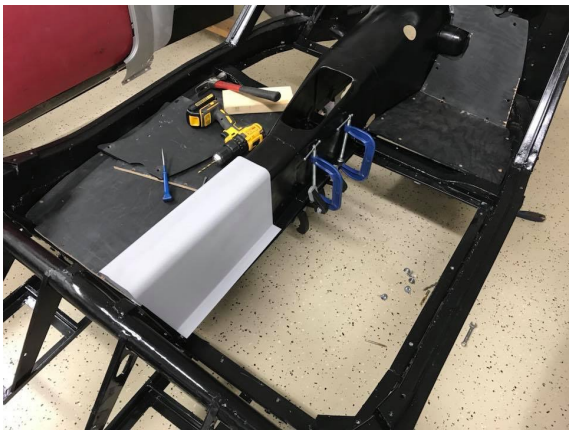
MEETING TO FOLLOW

QUESTIONS?

Bill & Mary Ellen - (734) 996-2524

The Work Goes On, and On, and...






For those of us who live on the west side of the state and haven't been to Bruce Mann's house in awhile, here are the latest pictures that he has sent to me of his 3rd restoration. It is readily apparent that Bruce is a ***Dynamo*** when it comes to rebuilding these little British automobiles. This is going to be number 3, with the 2 other completed examples shown parked in his garage again. My big concern over all this used to be how he could possibly manage 3 MGs at once. Up until now I knew that Willy has the black one, Bruce has the red one, but what after that?

Then I happened to notice 2 grandsons sitting in the driver's seat of the cars in the garage, and I was immediately relieved. They both seem *extremely* comfortable there, and appear to be more than willing to answer the time old question of "but who will be able to help me drive my nice new shiny and just restored beautiful MGs with me?" I think Bruce's problem is solved!

Ken Nelson

Satch Carlson satch@satch.us

> *All I know is what I have learned from graduate courses in the School of Implied Mechanics.*

In the beginning, there was the carburetor

I have just realized, with no small amount of alarm, that now that I have de-acquired my final Saab rally car, I have completely severed my lifelong connections with carburetors. In fact, a friend rather unkindly pointed out that I am now surrounded by entire generations of people, car-crazed fanatics among them, who have *never owned a carbureted car*.

The poor babies.

Of course, we of the Hemmings persuasion have a great love of automotive history, along with the occasional bout of masochism. Even if we are currently wrestling with the intricacies of fuel injection, most of us, I suspect, could write several chapters on our adventures—or misadventures—with that magical device that taught us all about the Bernoulli Effect. Okay, I know, I know: Mixing *benzina* with air relies mostly on the work of Giovanni Battista Venturi, but I always get the physics of the process confused. All I know is what I have learned from graduate courses in the School of Implied Mechanics.

Some of those mechanics are British.

Who among us has not marveled at the angelic simplicity of the SU carburetor—or, as the lads at Skinner-Union would spell it, the carburettor? And yet thousands, if not millions, of sports-car fans in the last half-century have leaned away from the British Isles, instead lavishing their affections on the creations of Eduardo Weber and his Italian masterpiece. In fact, there was definitely a certain status in my crowd attached to the ability to "tune" Weber carburetors, and now that the statute of limitations has set in, I am free to admit that there is no secret or magic to tuning Webers, or their Dell'Orto shelfmates: You only had to learn the rudimentary functions of half a dozen circuits and stock enough main jets, idle jets, emulsion tubes, air-correction jets, accelerator pump springs, accelerator-pump jets, accelerator cams, and a few other tiny bits, and you were golden.

The trick is to change only one thing at a time.

Of course, this meant that properly setting up, say, a pair of sidedraft DCOEs could take the better part of a week, if you had the patience to change… just… one… variable… at a time. Mind you, it was never easy to know exactly what to change; basically, you had to become a master at reading the legendary tales told by spark-plug colors, always searching for the exact stoichiometric mixture of fuel and air at varying engine speeds. And once you decided that you wanted things to be a bit richer in the midrange, say, you might select an emulsion tube to effect that change—but wait! The numbers on Weber emulsion tubes—these are skinny brass tubes with a series of holes in their sides designed to mix the gas with a certain amount of air on its way through the carburetor—have nothing to do with the difference from one tube to another; they're just numbers. If an F7 makes things richer at the bottom end, how about an F9? No clue—unless you can find some obscure reference to the characteristics of an F9, or desperate trial and error.

I spent years in this morass before learning about the pure, sweet simplicity of the SU.

With most carburetors, especially those brought into reluctant service by us hormone-addled hot-rod aficionados, if you open the throttle butterfly too quickly, all those beautiful theoretical physics of Bernoulli and Venturi get thrown out of whack; suddenly the incoming blast of air is alarmingly free of gasoline, since the fuel has not caught up with the air flow, and there is an alarming ka-HUFF as the engine stalls and coughs, often followed by a mighty ka-BANG as the tardy fuel blows up in the intake runners. Got a big ball o' flame out the top of those six Stromberg 97s, did you?! Kewl!

Now imagine opening those butterflies as wide as you like—but having the air flow increase in a gentle reaction to the actual demand of the engine—which, when you get right down to it, is nothing but an air pump anyway. That is, as air flow increases through the carburetor, a low-pressure condition is created atop a piston, which rises in consequence and lets in more air until the system is balanced. Moreover, the fuel jet is controlled by a tapered needle that rises with the piston, so the proper 15:1 air:fuel ratio is maintained at all engine speeds. Ah, the beauty of science!

And you thought British automotive engineering was a bit balmy.

Of course, there were practitioners of the black arts when it came to SU's, too. The exact shape and taper of those needles was a constant topic, as was the rate of the spring against which the piston would rise. Most passionately held was the secret of the oil that dampened the passage of the cylinder; most sources call for 20W oil, but at the risk of being thrown out of the Tuning Wizards Union, I will now tell you that I always preferred Marvelous Mystery Oil.

Alas, SU also made fuel pumps, and I must tell the novitiates that the SU fuel pump does not share the serene theoretical perfection of the SU carburetor. The SU fuel pump operates on a make-and-break electrical circuit that features a set of points that give you a satisfying *tick tick tick* to tell you that the pump is working, and an ominous silence when it's not. British-car fans often carry a favorite rock with which to tap on the fuel pump to get it going again.

See what you miss by being a member of the fuel-injection generation?

Theory & Understanding Of The SU Carburetor

By P.G.G KNIGHT

INTRODUCTION

THE VAST MAJORITY of modem spark ignition internal combustion engines rely upon carburetters to provide them with the finely atomized fuel/air mixture which is necessary to enable them to perform satisfactorily. It is the function of the carburetter to provide good atomization and the correct mixture strength, under all operating conditions of the engine. The method used to do this in all carburetters is to speed up the velocity of the air by means of a venturi or choke, and to use the consequent reduction of pressure in the venturi to draw fuel from the float chamber through a suitable jet orifice into the air stream. Since the power that an engine can develop is dependent upon the quantity of air consumed, it is desirable that the mixture of fuel and air should be carried out with as little restriction as possible to the overall air flow.

On a fixed choke carburetter the venturi must be sufficiently small to ensure adequate mixing during conditions of low air consumption. On engines that require to operate over a wide speed and power range, it is inevitable that a choke sufficiently small for use with low air consumption will give an excessive depression at maximum air flow. An obvious solution to this problem is to arrange for the size of the choke to be increased at high engine output and decreased for bottom end performance.

GENERAL DESCRIPTION

It is now well over fifty years since the Skinner brothers first introduced their constant depression carburetter. The increasing number of cars using carburetters made to this same basic principle indicate that the idea was sound. The near constant depression, maintained in the carburetter under all operating conditions, is obtained by means of automatic regulation of the choke size. It is sufficiently high to ensure that good atomization is obtained, yet the depression is kept as small as possible in order to maintain engine filling at a maximum. At the same time as the main passage above the jet is varied so too is the area of the fuel jet by means of a tapered' needle, the whole being regulated by the rise and fall of the piston under the influence of throttle opening and manifold depression. This depression is itself dependent on the power requirement of the engine under the conditions at which it is being operated. In this system one jet only is used and the avoidance of multiple jets means that any possibility of flat spots, which may occur during the change- over from one jet to another, is eliminated. Correct jet discharge areas are obtained by the accurate dimensioning of the needle, which must be carefully matched to the requirement of the particular installation.

TYPES OF UNIT

Types of unit in current use are: (I) the H type, (2) the HD type and (3) the HS type. In addition a dual choke instrument designated the DU6 has been manufactured in very limited quantities. This latter type has, however, never been made in large production quantities, nor is it anticipated that it ever will be. (*Ed. Note: Our MGAs, of course, use the* **H type** *carburetor which is discussed further below).*

The H type carburetter

This is, perhaps, the most familiar type of S.U. carburetter, being the one which has been in general use for the longest period and therefore in larger quantity than any other type. It is shown in diagrammatic form in Fig. 22. It consists of body, piston/suction chamber, jet and float chamber assemblies, the fuel being fed from the float chamber through a passageway in the float chamber arm into the fuel passages of the body, and thence through cross drillings in the jet assembly.
It has been made in horizontal and semi-downdraught form with throttle disc sizes ranging from 1 in. to 2 in. diameter. As with all current S.U. carburetters its size is designated by the type letter followed by a number. This number indicates the diameter of the butterfly, and is the number of eighths of an inch that the diameter is larger than 1 in., e.g. an H1 instrument has a bore of 1 in. and an H8 has a bore of 2 in.

The height to which the piston is lifted is controlled by the amount of air passing beneath it. When the piston is at the bottom of its stroke, with the engine idling, opening the butterfly allows the manifold depression to be communicated to the main volume of the body and then through a cross drilling in the lower part of the piston into the suction chamber above the piston. This depression immediately lifts the piston, allowing a mixture of air and fuel to pass the lower side of the piston and relieve the depression. The piston height is therefore stabilized at a depression controlled by the weight of the piston, the load of the piston spring, and: the area .of the large and small diameters of the piston. It will be noted that the underside of the large diameter of the piston is open to atmosphere. The air/ fuel ratio is controlled by the diameter of the needle in the fuel jet. The optimum dimensions of this needle are normally found by experiment on an engine dynamometer, and by road testing of the vehicle. Once

(continued next page)

determined, a profile cam is made to give the desired needle dimensions, and production needles can then be very accurately reproduced to the desired shape.

From this it will be seen that once the correct needle has been specified, the jet has to be set to a datum dimension on the needle to ensure that the desired mixture is obtained throughout the range of the engine operating conditions. This position is set when the carburetter is tuned for idling.

Most S.U. carburetters incorporate a piston damper, the function of which is to restrict the speed of lift of the piston on snap throttle openings, and to allow the piston to fall at its normal speed on throttle closure. This one way damping is obtained by means of a non-return valve situated at the base of the damper. When the speed of piston lift is retarded an additional air depression is put on the fuel in the jet resulting in an increase in the quantity of fuel discharged. A richer mixture is thus obtained until the piston resumes its position of equilibrium. This enrichment is necessary to provide satisfactory pick-up. The piston damper also improves cold starting and driveability from cold.

It is of the utmost importance that the fuel jet is assembled concentric with the needle. In order to allow for liberal adjustment the complete jet assembly is manufactured with side clearance between the jet bearing and the carburetter body. Once the assembly has been correctly centred (with the jet full up and the piston resting on the bridge) it is locked in position by means of a large jet locking screw.

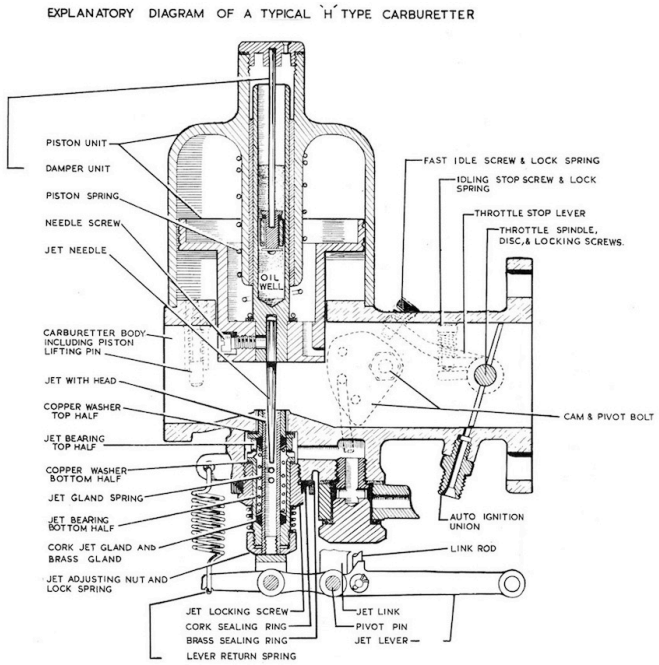


Figure 22. H type carburetter

The components of the H type jet are shown in order of assembly in Fig. 23. On most H type carburetters the float chamber is firmly secured to the body by means of a banjo bolt. On some engines, however, where vibration has led to malfunctioning of the float chamber, it has been found necessary to use a flexible mounting between the float chamber arm and the body of the carburetter. This has been achieved by means of rubber grommets secured by a shoulder bolt, or pillar bolt on later models.

Since the carburetter is of the constant vacuum type the depression at the jet never falls below its normal operating value, and it is for this reason that variations of fuel level in the float chamber are unimportant.

On many cars it is found desirable to use vacuum operated ignition advance to obtain optimum part throttle consumption figures. The take-off point for this vacuum is arranged slightly to the air intake side of the butterfly, and in such a position that opening the butterfly allows the throttle disc to pass over the vacuum take-off point so that it then communicates with the manifold depression. By this means the vacuum is small at the distributor during idling and full throttle conditions, and is large at part throttle, being at a maximum when the throttle is open a few degrees.

Enrichment of the mixture for cold starting and running is obtained by lowering the jet. The lever used to carry out this function 1s also provided with an additional link which operates the cam and opens the butterfly by a pre-determined amount. Some lost motion is built into this system, usually by means of additional clearance at one of the pivot points. This allows the throttle to be opened a few degrees before the jet is dropped, to provide for the semi-warm condition when no additional enrichment is required but the engine has not yet warmed up sufficiently to prevent the engine stalling at idling conditions.

One other item now fined to all S.U. carburetters is the piston lifting pin. This is used when the engine is not running, to lift the piston assembly for the purpose of checking that the needle is correctly centred and that the piston falls freely. It is also used to lift the piston a small amount when the engine is idling in order to check the mixture strength. On earlier models, before the fitting of the lifting pin, a hole was made in the carburetter body below the large diameter of the piston. The piston could thus be raised by means of a wire inserted through this hole.

SETTING OF S.U. CARBURETTERS

Once the correct carburetter needle and spring have been established, tuning of the S.U. carburetter is normally confined to correct idling adjustment. As a preliminary to making any alteration of this setting it is, however, advisable to ascertain thin the ignition system is in good order and correctly set, that the engine is in good mechanical condition, i.e. tappet clearances, compressions, etc., and that the carburetter is mechanically sound and its jet correctly centered. It is

(continued next page)

also necessary that the engine should have been run to obtain its normal working temperature.

Setting of H type carburetters

After the correct operating temperature has been attained, close the throttle completely by unscrewing the throttle adjusting screw until it is just clear of its stop. Open it by screwing down this screw 1 1/2 turns.

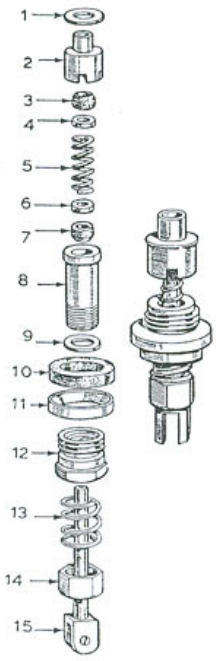
The piston and suction chamber should now be removed and the mixture control wire disconnected. Screw the jet adjusting nut until the jet is flush with the bridge of the carburetter, or 'full up' if this position is not obtainable. Replace the piston and suction chamber assembly and check that the piston falls freely on to the bridge of the carburetter. Turn down the jet adjusting nut two complete turns (12 flats). Re-start the engine and adjust the throttle adjusting screw to give the desired idling speed as indicated by the ignition warning light. Turn the jet adjusting nut until me fastest idling speed is obtained consistent with even firing. During this adjustment it is necessary to ensure that the jet is pressed upwards and is in contact with its adjusting nut. As the mixture is adjusted the engine will probably run faster; it may therefore be necessary to unscrew the throttle adjusting screw a little in order to reduce the speed.

Now check the mixture strength by lifting the carburetter piston (by means of the lift pin situated on the side of the carburetter body) by approximately 1/32 in., when if:

(1) The engine speed increases and continues to run faster, the mixture is too rich.

(2) The engine speed immediately decreases, the mixture is too weak.

(3) The engine speed momentarily increases very slightly, the mixture is correct.



1 Copper washer (top half).
2 Jet bearing (top half).
3 Cork jet gland.
4 Brass jet gland.
5 Jet gland spring.
6 Brass jet gland.
7 Cork jet gland.
8 Jet bearing (bottom half).
9 Copper washer (bottom half).
10 Cork sealing ring.
11 Aluminium sealing ring.
12 Jet locking screw.
13 Locking spring-jet nut.
14 Jet adjusting nut.
15 Jet and jet head assembly.

Fig. 23. H type jet components and completed assembly

When the mixture is correct the exhaust note should be regular and even. If it is irregular, with a splashy type of misfire and colourless exhaust, the mixture is too weak. If there is a regular or rhythmical type of misfire, together with a blackish exhaust, then the mixture is too rich. Reconnect the mixture control wire with approximately 1/16 in free movement before it starts to pull on me jet lever. Set the mixture control knob on the dash panel to its maximum movement without moving the carburetter jet (about 5/8 in.) and adjust the fast idling cam screw to give an engine speed of between 800-1000 rev/min (when hot). When setting the slow running of a vehicle, consideration of the type of power unit fitted should be made. Engines with large valve overlap will require a fast idle and it will be difficult to obtain an extremely smooth tickover.

Adjustment of jet and throttle interconnection

With the cam-type jet and throttle interconnection (shown dotted in Fig. 22) or its preceding rocker type, the outer adjusting screw (1) should be about 1/64 in. away (thickness of a visiting card) from the cam face or rocker face when the engine is warm and idling on a closed throttle; with the rocker type this figure should not be exceeded, but with the cam type a larger gap can be used if desired. If the jet adjusting nut is altered in position substantially then the screw (1) may also need suitable readjustment.

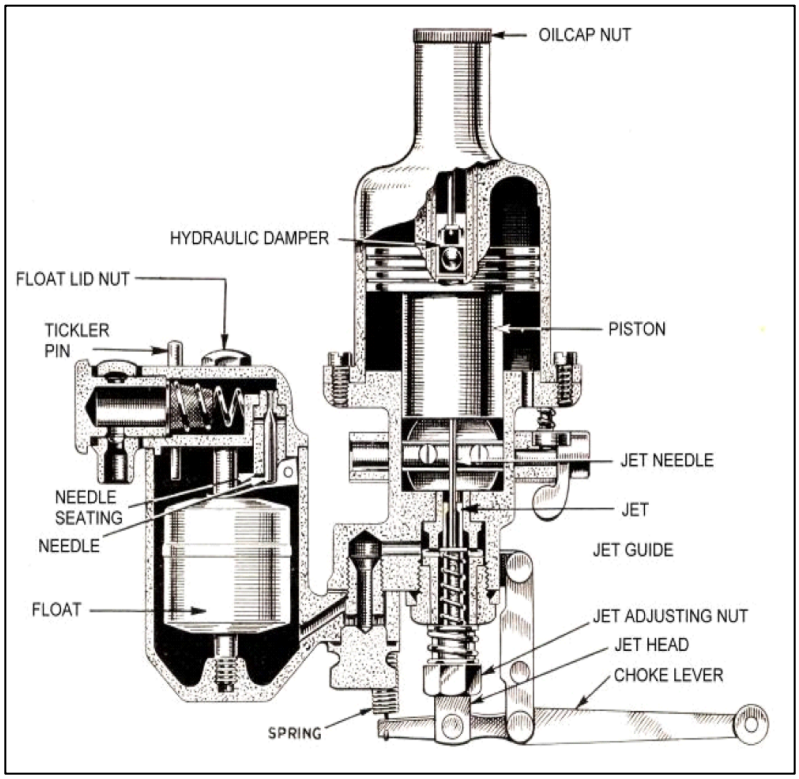
Piston springs

On 1 1/4 in., 1 1/2 in. and 1 3/4 in. diameter horizontal carburetters, the red (4t ounce) spring is normally used for initial testing and in most installations this load of spring will be effective, assuming that the size of carburetter has been correctly chosen. When the correct spring is fitted it is usual to obtain full piston lift at full throttle and at approximately three-quarters of the maximum rev/min. If the absolute maximum of power is required, however, it is more usual to choose a somewhat larger carburetter, which will not obtain full piston lift until nearer maximum rev/min.

Oil dampers

After the carburetters have been correctly set it is necessary to check that the oil damper reservoir in the piston rod has sufficient oil. This operation should, in any case, be carried out periodically at about every three months, and it is usual to use an oil of grade SAE 20 (it should be no thicker than SAE 30). The operation is not a critical one; simply unscrew the damper unit and pour oil into the hollow piston rod until it is within t in. from the top of the rod.

Your SU Carburetor At Work-Floating The Bowl



Correct setting of the float level is essential if the engine is to run well with good fuel economy. If the float level is wrong it can make starting difficult and lead to very poor mpg figures. All carburettor tuning should start with ensuring that the float level is correct.

The Workshop Manual talks of setting the level by measuring the gap between the lid of the float chamber and the bent down the portion of the fork against which the float pushes. The problem with this method of checking is that it assumes that all floats have the same buoyancy. In practice some floats float higher than others so a setting method which looks at the actual petrol level is needed.

Fortunately it is quite easy to see the actual level of the petrol in the carburettor. Remove the dashpot and the piston holding the needle and put these in a safe place, somewhere where the needle cannot get bent. Now look down into the carburettor and you will see the top of the jet with the small hole (90 thou.) into which the needle fits. You will also see the top of the guide in which the jet slides. If you pull out the choke so that the choke lever pulls the jet head down, you will see the jet slide down the guide. Make sure that the choke is working properly and that the jet slides down to its full extent.

With the choke fully in, pump up the petrol into the float chamber until it is full and look down into the carburettor and note the level of the petrol in the jet guide. It should be below the top of the jet. Now pull the choke right out and check the petrol level again. This time it should be level with the top of jet or slightly above.

If the level is too high or too low, bend the float lever a little at a time until the correct level is obtained making sure that the flat part of the lever which pushes the needle valve remains flat.

If two carburettors are fitted repeat this process on the other one. You can now go on to synchronizing the carburettors and adjusting the mixture.

Skinner's Union Wonderful Fuel Pump

Reprinted from "Classic British Sports Cars" - By Clifford Knight *(NOTE: JAN-FEB '16 ANTICS had another article about SU fuel pump types and functioning by Dave Dubois)*

Overhaul of SU Fuel Pumps Used On MG TA, TB, and TC Type Midgets

S.U. electric fuel pumps are amongst the most reliable fuel pumps found on older cars providing they are properly serviced and maintained. When supplied new with MGs they could be expected to easily outlive the engine without adjustment. Our cars and all their components are now well past their design life, yet many of us are still using original fuel pumps. They will still operate, albeit unreliably, with eroded and incorrectly set contacts, poorly adjusted diaphragms and partially blocked filters. Often a sharp tap will restore a stalled pump to life for another month. This ability to just about keep working with no maintenance, has unfairly given the product a reputation for poor reliability.

The following instructions should allow any enthusiast to restore an SU fuel pump to as new specification and reliability. The work requires no special tools and very little skill. Even if you are new to old car maintenance and restoration, please try overhauling your SU fuel pump yourself. You will derive a lot more satisfaction than paying an expert to do the job or buying a renovated pump.

There is nothing more satisfying than sitting behind the wheel of a TA, TB or TC on an open country road listening to the change in the frequency of the tick from the fuel pump as you pull up hills or accelerate to pass a slower vehicle..... and knowing that the tick sounds correct because it is correct because you made it so.

DESCRIPTION

The S.U. fuel pump used in MG TA, TB and TC cars was a 12 volt, low pressure Type L electric pump designated AUA 25. The same or similar pump was used on many British cars from 1930 to 1960 and they are readily available at autojumbles.

All early cars were fitted with pumps with brass bodies. A two part aluminium body was introduced in 1948, but no alterations were made to the part numbers and the exact introduction date is unknown.

A side effect of the improving octane levels of post war fuels was a tendency for vapour locks to form in under bonnet pumps. A high pressure pump was introduced on the TF, installed at the rear of the car near the petrol tank, thus preventing fuel vaporisation problems due to higher under bonnet temperatures. That pump had a slightly longer body than the L type (2¾ in. as against 2¼ in.). Many post 1950s British cars used HP pumps with 2¼ in bodies. Care should be taken to distinguish the correct pressure type for use on TA, TB and TC cars as the higher delivery pressure of the HP types may cause flooding at the carburettor and the reduced lift may cause fuel starvation with a low fuel level in the tank.

A GUIDE TO DISTINGUISHING L FROM HP TYPE PUMPS

The following identifiers should help when purchasing second hand pumps with tags missing.

All HP type pumps incorporated a condenser and had a bulge in the cover alongside the terminal post, whilst all L type pumps had flat end covers.

Earth screws on L type pumps were the same size as the flange fixing screws - 2 BA. HP pumps used smaller 4BA screws. Very early L type pumps used an extended stud in place of an earth screw.

L type pumps were supplied as either 6 or 12 volt. The voltage was marked on the moulded end cover. Also wiring insulation was red for 12 volt and green for 6 volt (when 6 volt pumps ceased all insulation was changed to black plastic).

L type pump outlet valve cages had 2 holes and HP pumps had 4 holes.

Note 1: The Morris Minor AUA 66 pump is identical apart from the delivery pipe connection, which can easily be changed. This is probably the most widely available SU pump.

Note 2: I have seen several minor differences in the outside of the magnet assembly case. Some have a short pipe for the outlet; some have a small web near the flange. They all seem to be interchangeable with one exception (see below). I have no idea which is "correct".

ORIGINAL SPECIFICATION - TYPE L PUMP

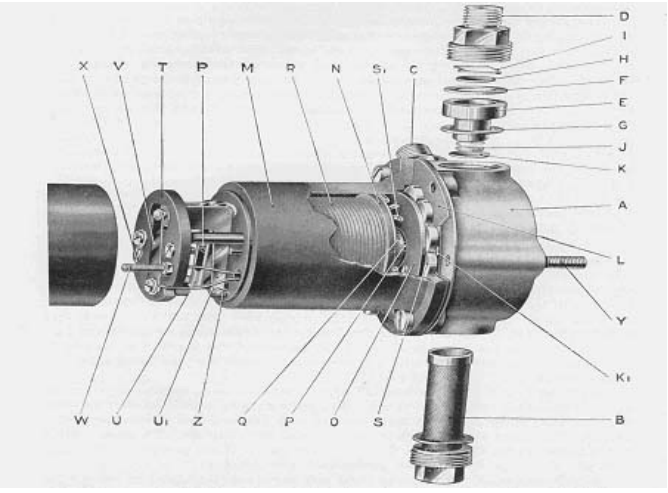
Maximum suction lift from bottom of fuel tank to pump: 42 in.
Delivery head from pump to carburettor: Max. +6 in., Min -12 in.
Output: 8 gallons per hour
Bore of pipe: 0.25 in.
Maximum line pressure: 1.5 lb/in²
Nominal voltage: 12 V
Minimum voltage: 9.5 V

CONSTRUCTION OF THE FUEL PUMP

The pump consists of four main assemblies: the body A, the diaphragm assembly L, the magnet assembly M and the contact breaker assembly T.

(continued next page)

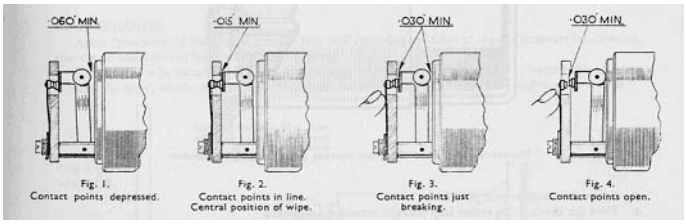
The body is either a hollow brass stamping on early pumps, or a two part aluminium casting held together by the screws which secure it to the cast-iron coil housing. The screws are longer than those used with the brass type and are not interchangeable. A filter B is screwed into the bottom. The inlet union C is screwed in at an angle on one side and the outlet union D is screwed into the top. The outlet union screws onto the delivery valve cage, which is clamped between two fibre washers. In the top of the delivery cage is the delivery valve, which consists of a thin brass disc H held in position by a spring clip I. The suction valve is a similar disc K and rests in a seating machined in the body. Holes connect the space between the valves and the pumping chamber which faces the diaphragm and magnet assembly M.
The diaphragm assembly is clamped at its outside edge between the magnet housing and the body and in the centre between the brass retaining plate and the steel armature. A rod is permanently attached to the centre and passes through the magnet core to the contact breaker which is located at the other end. A spring is interposed between the armature and the end plate of the coil. The diaphragm assembly should be replaced as a single unit.
The magnet assembly consists of a cast-iron pot having an iron core on which is wound the wire coil which energises the magnet. Between the magnet housing and the armature are eleven spherical-edged rollers S which locate the armature centrally within the magnet. Some later pumps used a plastic guide clip in place of these rollers. I have also seen magnet assemblies with a larger diameter spigot, which I suspect is the HP magnet assembly. That magnet can foul the normal bore in the L diaphragm assembly. I'm not sure which model this was as I bought it as a supposedly restored brass bodied AUA 25 unit without any labels. Do check that your replacement diaphragm can seat properly and does not foul at the spigot in the magnet assemble.



OVERHAUL AND ADJUSTMENT

The contacts are relatively easy to clean and reset without disturbing other settings. The filter and valves can also be cleaned and replaced without full disassembly of the pump. Replacement of contacts, rocker mechanism or diaphragm will require the pump to be fully dismantled.
Cleaning and Resetting Contacts
Remove terminal nut, connector, shake proof washer, rubber seal or tape, and bakelite end cover from pump.
Unscrew 5 BA screw securing washer, coil wire, and contact blade to the pedestal.
Clean contacts with light emery.
Replace blade, screw, coil wire and washer.
Ensure that the blade just rests on the ledge on the bakelite pedestal when the contacts are open. If the blade has become distorted it may be necessary to bend it slightly. Do not over tension.
Ensure that the wiping action of the contacts is symmetrical when they fully open and shut. The contacts should be in line at the point that contact is just made or broken. There is considerable adjustment available in the blade mounting to achieve this important setting.
Finally check that the points open clearance is 0.030in min.

Setting the wipe of points



Valves and Filter
Remove inlet and outlet unions C and D
Remove the circlip I in the outlet valve cage and examine the inlet and outlet discs H and K for wear
Replace as necessary
Examine the valve seat in the body and the valve cage E for corrosion
Clean as required. If the seat in the body is too pitted to clean up it will be necessary to replace the body
Remove filter and clean with brush. Replace if damaged
Replace any damaged washers and reassemble in correct order as shown in main assembly drawing

Replacement of Diaphragm and/or Contact Breaker Mechanism
Safety note
The original diaphragms fitted to SU pumps are attacked by some of the aromatics used in modern fuels. Failure

(continued next page)

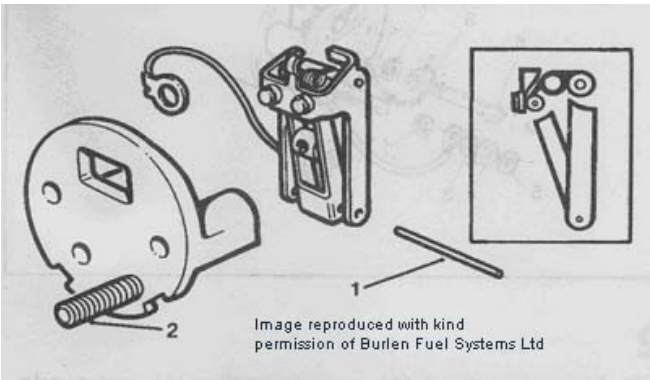
of the diaphragm could allow petrol to pass through the coil into the contact cover where sparking may ignite the fuel or flow out of the vent onto the hot exhaust pipe. Replacement diaphragms for older SU pumps using materials designed for modern fuels are readily available. If you intend to use a second hand or old SU pump you are advised to replace the diaphragm, regardless of apparent condition, with a new one sourced from a reputable supplier.

Dismantling

Remove bakelite end cover as previously described
Undo 6 x 2BA screws securing magnet assembly to base. These slot headed screws can be very tight in the later aluminium bases due to corrosion. Use a good quality screwdriver or small impact driver to prevent damage to the screw head slots
Carefully prise the base away from the diaphragm and magnet housing
Carefully prise the edge of the diaphragm away from the magnet housing
Unscrew the diaphragm assembly anticlockwise from the magnet housing. The end of the diaphragm rod will unscrew from the contact rocker assembly. Be prepared to catch the armature guide rollers as they fall out. If resistance is felt, lubricate the threaded end of the rod in the contact assembly. Remove return spring and impact washer
Unscrew 5 BA screw, securing washer, coil wire tag, and contact blade from the pedestal
Unscrew 2BA brass nut, washer, wiring tag, and lock washer from terminal post and carefully remove the post from the pedestal
Remove 2 screws, washers, lock washers, and wire securing pedestal assembly to magnet housing. Carefully remove pedestal assembly
Rocker mechanism can now be replaced if required by sliding the hardened pivot pin out

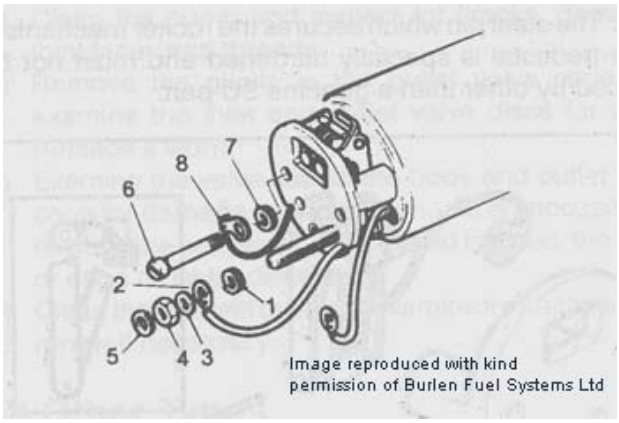
Reassembly and adjustment

Inspect bakelite pedestal, rocker mechanism, pivot rod and contacts and replace any damaged parts.



Clean contacts as required.
Invert pedestal and fit the rocker assembly to it by pushing the steel pin through the hole in the rockers and pedestal struts.
Position the central toggle so that, with the inner rocker spindle in tension against the rear of the contact point, the centre toggle spring is above the outer rocker spindle as in the inset below.
Check that the throw over mechanism is not binding. If necessary the rockers can be squared up by bending the arms carefully with thin nosed pliers.
Assemble the square headed terminal stud to the pedestal.

Refit pedestal to magnet assembly using the 2 x 2BA screws. One screw has a spring washer under the head whilst the other, which serves as the earth terminal, should have a spring washer in contact with the pedestal and the tag of the earth wire from rocker mechanism directly under the screw head. Do not over tighten as the pedestal is easily cracked.
Refit the spring washer, coil wire tag, lead washer, and dished brass nut to the terminal screw. The correct order is shown below:



1 - spring washer, 2 - terminal tag, 3 - lead washer, 4 - coned nut with cone towards lead washer. Fit bakelite end cover then sealing washer 5

Assemble diaphragm spring with the large diameter towards the coil. Position the impact washer onto its groove in the armature on the diaphragm assembly. Insert spindle into coil assembly and position the 10 armature guide rollers into their locating groove (or fit plastic guide clip on later units). Screw the diaphragm assembly spindle into the contact rocker assembly.
Hold the magnet assembly horizontally and press the diaphragm firmly with the thumb and check to see if the contact rocker throws over.
If the rocker throws over, screw the diaphragm assembly in until it just ceases to throw over under thumb pressure. Back of until it just throws over, then unscrew by 4 holes.

(continued next page)

Continue unscrewing a little until the diaphragm lines up with the holes in the magnet assembly. Check that the rocker still throws over under thumb pressure. This adjustment must be made with the contact blade removed.

Refit blade and adjust contacts as already described.
Align coil assembly with base and fit screws finger tight. Take care that the rollers remain in position and do not trap the diaphragm. Note that the drain hole in the coil assembly should the same side as the filter in the base. Insert a matchstick under one of the rocker mechanism rollers to hold the contacts together and connect the pump temporarily to a 12 v supply. This will excite the armature and pull the diaphragm in. Whilst the diaphragm is under tension tighten the 6 screws securing the coil assembly to the base.
Test the pump.

The important aspects of fitting the diaphragm are:
1) The contact breaker blade must be removed when the diaphragm is adjusted.
2) The diaphragm must be pressed with a steady pressure and not jerked when setting.
3) The diaphragm must be stretched to the limit when the body screws are tightened.
When satisfied, check that all internal wiring is tidy, refit the bakelite end cover, lock washer and brass nut.
Refit sealing band or tape the end cover gap.

NOTES ABOUT CONTACT LIFE
The pumps fitted to T-ABC cars had no spark arresters. The current switched is about 3 amps so some contact erosion will occur. Providing the car is used regularly, the wiping action should keep the points in good condition for considerable mileage. When car radios first started to appear, SU fitted a capacitor to reduce sparking. To retrofit this you will need a later end cover with a bulge. The capacitor is wired across the points and is not polarity sensitive.
Most SU pumps supplied now are fitted with a zener diode as original equipment. For positive earth installations as on MG T Types fit a 24 volt zener diode. The positive terminal (usually marked with a band) should be connected to the rocker blade screw and the negative to the terminal stud. It should be possible to fit the diode within the standard cover.
Some later pumps were fitted with double contacts. Whilst this may increase contact life on an L type pump, the reason SU introduced the change was to accommodate higher currents in heavier duty coils.

A NOTE ABOUT SPARES
Burlen Fuel Systems are the owners of SU and are responsible for the distribution of SU products throughout the world. They also publish an excellent workshop manual and reference catalogue for SU products used on classic British vehicles. They can supply everything from individual washers to complete pumps and even electronic contactless conversions.
Burlen Fuel Systems http://www.burlen.co.uk/
I have no connection whatsoever with this company other than as a satisfied customer.

Clifford F Knight
(E-mail: cliffknight@tiscali.co.uk)

When Skinner's Union Lets You Down

BACK UP FUEL PUMP
by Dave DuBois

Talk about what spares to carry on a trip and just about everyone agrees that a spare fuel pump should be one of the primary items to carry. Of course, with space at a premium in our favorite cars, we have to balance the number of spares we carry with the space available. With some judicious packing and use of various nooks and crannies, one can find a lot of room to tuck various items. I would like to suggest that instead of just carrying a spare fuel pump and taking up space that could be available for other spares (or another bottle of wine), install the fuel pump permanently instead. Since all the fuel pumps used on our cars make use of just check valves and can be hooked up in line with the primary fuel pump, whichever pump is used just pumps through the disabled pump. The addition of a single pole, double throw (SPDT) switch to switch the power from one pump to the other completes the installation and make changing pumps on the go a simple flip of the switch, you don't even have to pull to the side of the road to do it. If, instead of a simple SPDT switch, you use one with a center off position, you get the added advantage of a simple anti-theft device.
In adding a back up pump to our MGB, I used one of the Facet (little square, run all the time, make a lot of noise) pumps that I picked up at NAPA for around $40.00. The part number of the pump, is 610-1051. It is a low pressure (1.5 lbs – 4 lbs) pump and will work for any MG from T series to MGB and MGC. You can also use the AIRTEX model E8016S 2.5-4.5 psi. It is $30.99 from AutoZone or the Carter (Federal Mogul) model P60504, also 2.5 – 4.5

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psi and available from NAPA. There are any number of pumps on the market that can be used, including another SU pump, just specify a pump with the above pressure range. My one caveat about using another SU pump as a back up is to use one that is solid state. The points in the original pumps tend to develop a film over times of disuse and as such would probably be dead when you needed it.

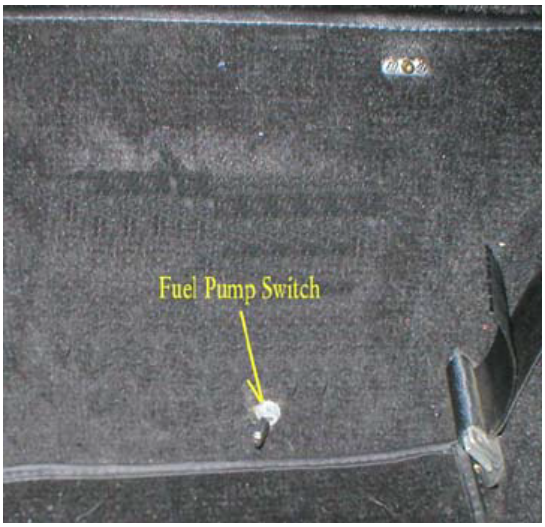
I mounted the pump to the back side of the battery enclosure on our MGB, using some sound mounts that I had on hand so we wouldn't have to listen to the constant clatter of the pump. The sound mounts are available from Pegasus Racing at www.pegasusautoracing.com/home.asp. Click on Air & Fuel Delivery on the left side of the page, then on Fuel Pump Accessories. The mounts show up under part number 1130 and sell for about $13.00 (sound mounts are also available from NAPA under P/N 35144). If you are adding the back up pump to an MGA or a T series car, you will have to scout out a convenient spot under the car, preferably (but not necessarily) at the rear of the car near the fuel tank. I cut the fuel line from the tank to the original pump and used some flexible fuel hose to route the fuel through the back up pump and back to the original pump to complete the plumbing. While you are modifying the fuel line, this would be a good time to install a shut off valve in the fuel line also. I used a ¼" ball valve that I got from Lowes (Campbell Hausfeld P/N MP 3217) and the necessary adapters to fit it in the line. You can also get a valve with compression fittings from NAPA. The valve is a Weatherheal A6770 It is really great to be able to remove a fuel pump without taking a bath in gasoline.

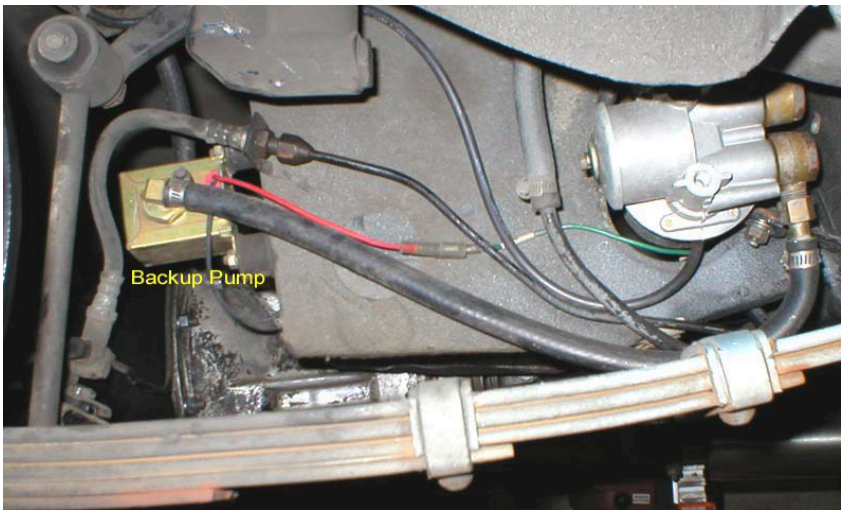
To wire the spare pump up, attach the ground wire for the pump to one of the attachment points where the pump is attached to the battery housing. Make sure that you have the attachment point

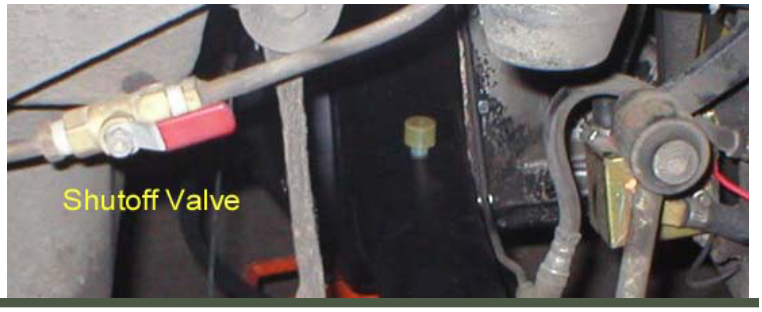
used for the ground cleaned down to shiny metal and smear some Kopr-Shield (a conductive, anti-corrosion surface compound, Thomas & Betts P/N 201-31879) or a similar product on the attachment point. Mount your single pole, double throw switch in a convenient spot where it is easy to get to and not real obvious (I mounted mine in a hole drilled through the rear bulkhead on the passenger side, just above floor level). Disconnect the power lead from the original pump and route it to the common terminal of the switch. Run a wire from one of the other two terminals to the original pump and a wire from the other terminal to the back up pump.

You are now all set for the next time that pesky SU pump fails. Just flip the switch and continue on home, where you can remove the offending pump for repair (see my companion articles, SU Fuel Pumps 101 and Fuel Delivery Troubleshooting Guide for a list of people who do SU fuel pump repair or restoration) or replacement. If you want to continue driving your MG while the pump is being repaired or while waiting for the replacement to arrive, get a double male union (Moss P/N 376-300) and install it between the input and output lines to the pump that has been removed.

Revised Feb. 2014







The Rowdie Christmas Party 2018

There are times in my memory when the Rowdies' Christmas party has been held during frigid temperatures and snowy days when I would find myself driving back home in my Detroit daily driver through near white-out conditions, hoping I wouldn't slide off the road or into a snow plow. Yes, my friends, there have been days in early December not fit for man nor beast to be on the roads, yet I would bravely venture forth on my journey into that wintery wasteland because I knew how important it was for me to arrive at the last bit of automotive respite that I would have until the start of a new year and our February business meeting. Days when I knew it would be weeks and perhaps months before I would get to converse with fellow automotive aficionados who recognize the history and value of these little cars which have formed their own place in the world of motor sports events and history.

Oh how I would yearn for the day of our party to arrive, so I could once again tell tall tales of glorious victories over the forces which seem to constantly try to keep our MGs immobile and encased in dusty cobwebs in our garages instead of out on the twisty roads where they belong! Sir Lucas, Skinner's Union, Mr. Mowog, and even Lord Nuffield himself have designed the archaic components on our cars, guaranteed to fail in the midst of many a journey. It requires cunning and skill on the owner's part to best these formidable foes. Without the chance to relate our success stories in overcoming the *Dark Forces* to each other, how will the saga of these darling English cars be kept alive? Indeed, how can one summon the courage for an MG startup in the spring? How will we remember which bits require a good thrashing with a hammer, or simply a slight tweaking of a wire with our fingers, to arise from a long winter's nap, if we can't discuss all this at the Rowdie Christmas Party?

Well...having said all that, I have to state that this December's Christmas party was a piece of cake, with a sunny day, no snow, near balmy temperatures, and dry salt-less roads all the way. So forget all that I blathered on about in the paragraphs above. This was a gorgeous day to be out on the road, and 4 of our membership emphasized that by arriving in their British vintage works of automotive history. Jeff and Debbie Smith brought their MGA, Bill and Mary Ellen Weakley drove their MGC, Tom Fant drove his MGB, and Ken and Kathy Nelson arrived in their 'quality' Rover P5 Coupe (Ken had just put the MGA in storage that week and it was not readily available, or it would have come instead). It was for the rest of the group to envy them as they instead drove home in complete comfort in a contemporary vehicle, absolutely assured they would make it without any trouble. How *boring* to not have that extra adrenaline boost every time you hear the glorious little English engine cough and sputter for just a moment before springing back to life to continue on its journey? Or not. But I digress.

This year's Christmas event was again held at the Chelsea Depot along the old Michigan Central RR tracks, and across from the Chelsea Farmers Supply Co. It is a convenient central location, and the arrangements made by our hosts (Kevin & Norma Peck, John Alexander & Carolyn King, and Jeff & Debbie Smith) were nicely done. The catered meal was excellent, and we had "the right crowd and no crowding" as the Brits would say. The gift exchange went off smoothly and, as always, there was one especially popular gift (an English style license plate with "Rowdies" printed on it, and intended for the front of an MGA) that made the rounds through the hands of at least 14 of the group before finding its ultimate resting place. In fact, I can't remember who actually ended up with it at the end-but no matter, it was wonderful entertainment while it lasted, and a great time was had by all.

There were about 45 members in attendance, and the Spiral Jack Shaft Award was handed out to Rob and Denise Cote for failing to remember to renew their membership this year, while still remembering how to get to the annual Christmas Party. Once again, no matter-we were all happy to see them there. The pictures follow-Looking forward to seeing you all again in the spring!

Ken Nelson

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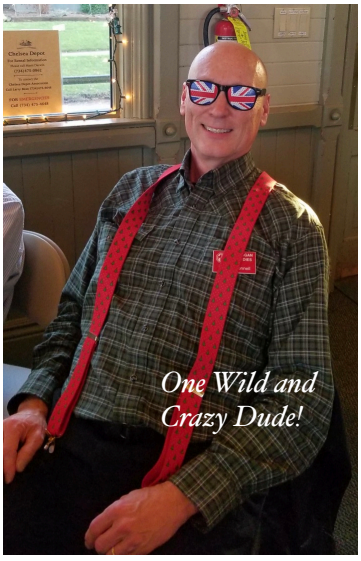
Some of the Loot



One Wild and Crazy Dude!

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The Spiral Jack Shaft Award Gets Presented

Pictures by Ken Nelson, Mac McDonnell, Stephanie Smith, and Mary Ellen Weakley

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Our Christmas Party Hosts


Sometimes the surprise is just too much to bear

Will the Real owner of the Rowdie license plate please step forward?

Motor Oil and Filters

Reprinted from Hoosier MGs e_News May-June 2017

NUTS 'n BOLTS

MOTOR OIL: The lifeblood of all automobiles including our MG's. Oil and/or petroleum products in their many forms have several uses in the MG's. On most MG's we put light or heavy oil in the tops of the carburetors. We use a light oil in the transmission. We use a heavy oil in the rear end or differential. We use grease, which is also an oil product, (A true grease consists of an oil and/or other fluid lubricant that is mixed with a thickener, typically a soap, to form a solid or semisolid.) to lubricate our wheel bearings, and other parts on the MG. We also use a very light oil to make door, bonnet, & boot hinges easy to open or close. Most important of all, we use motor oil to lubricate our engines from excess friction that would cause the motor to fail.

Ok, now that we know a little about motor oil, how often do we change it in our MG's? It used to be, many years ago, the car dealer stressed that the oil be changed every three months or 3,000 miles. Regardless if you drove it less than 3,000 miles you still had to have it changed at three months. Engines were not as clean burning as they are today and oils tended to have detergents and other additives in them. Each oil company touted that their oil was far superior to the rest.

How did we keep our oil clean and free from dirt, metal fragments and other items that may get into the oil? Along came the oil filter. The first oil filters were simple, generally consisting of a screen placed at the oil pump intake. On November 27, 1923, American inventors George Greenhalgh and Ernest Sweetland filed U.S. Patent #1721250 for an automotive oil filter and called it the Purolator, a portmanteau of "pure oil later." Some vehicles such as my 1955 Pontiac did not have a filter but relied on a screen in the sump and the fact that the oil was changed per dealer recommendations. The first filters were a series of seven

twill weave cloth- covered, perforated plates encased in a heavy-duty cast canister. Some of us should be very familiar with the canister filter on early model MG's. They always left a mess removing them, and you had better get all the oil gaskets lined up properly or you would have an oil mess on the garage floor when you started the engine.

Finally, the spin-on filter was made. WIX invented the easily detachable 'spin-on' filter in 1954. Automotive historian Matt Joseph believes Chrysler may have been first to use them. This subsequently became the prevalent design, though not always standard equipment. By the early 1960s, there were dozens of different oil filtration system designs and a myriad of trade names. You could find goofy ads in pulp magazines offering magnetic filters, "Snow Cone" shaped filters, bronze filters and others. But in a practical sense, at that time there were two basic types of practical, mass-produced oil filter materials: cotton waste and activated clay. Interesting is the fact that I found 12 companies that

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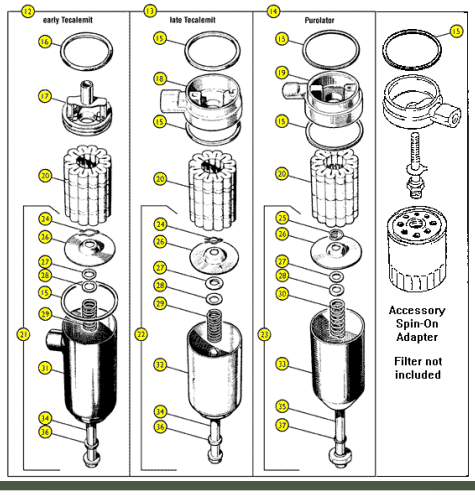
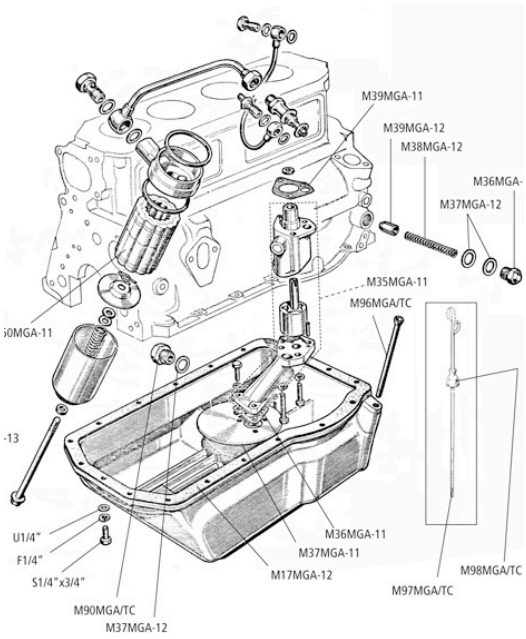
manufacture automotive oil filters in the U.S. Those 12 make filters under numerous names, such as WIX makes filters under the NAPA name.

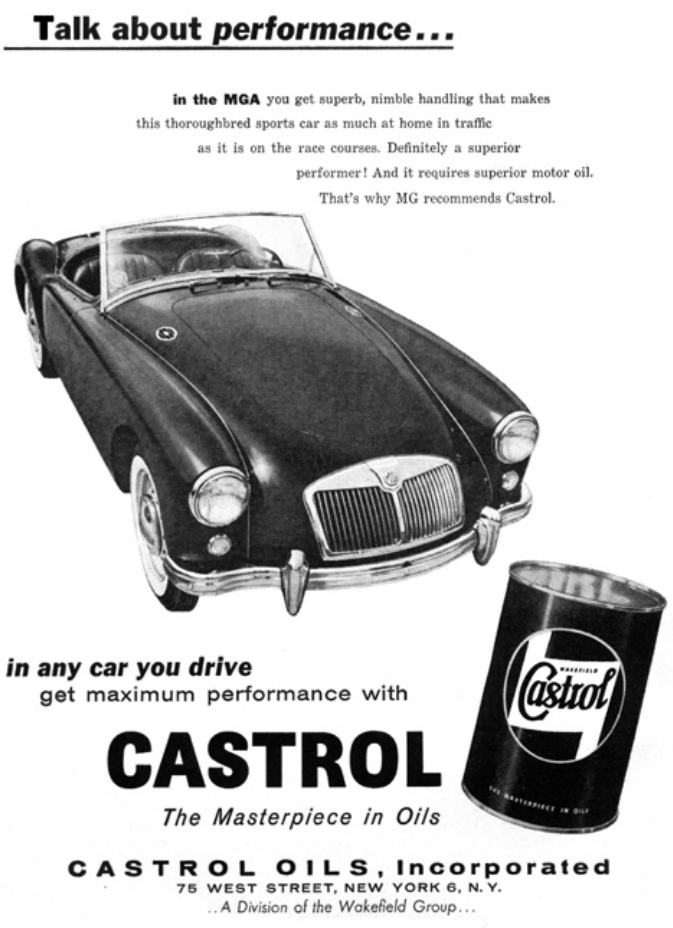
You probably change your oil in the MG every 3,000 miles but todays' engines now recommend changing your oil anywhere from 5,000, 7,000 and now Mobile 1 and one other company advertise changing your oil every year. Keep in mind these are synthetic or semi- synthetic oils. Synthetic oil was first synthesized or man-made as a replacement for mineral oil by a German Scientist in the late 1930's & early 1940's. In 1929, Standard Oil of Indiana claims to have made the first marketable synthetic oil but sales were not going good and the product faded away. Chevron oil says their synthetic came on the shelves in 1960. Finally, in the mid 70's synthetic oils were formulated and commercially applied for the first time for automotive uses.

Last of all, scientists are working on Bio- based oils. They can be products derived from renewable oils, such as the fatty acids from fats and oils, reacted with synthetic alcohols or polyols to produce esters that can be considered bio-lubricants. Also, the natural vegetable oils can be treated to produce a modified product that is still biodegradable and renewable. Walmart sells a Bio-Based High Temperature Oil, called Bio-Synxtra gear lube 75w-90. Application: Manual Transmissions, Differentials, Transfer Cases, (including limited slip (LS) units), and transfer cases, spiral bevel and hypoid gears, differentials and is compatible with hydrocarbon and synthetic PAO based gear oils. They also sell an ultimate biodegradable G-Oil 5W- 30 Motor Oil, the world's first and only American Petroleum Institute's SM Certified bio-based motor oil and is the green solution for all gasoline engines requiring 5W-30 motor oil as well as 5W- 30 Full Synthetic motor oil. It is rather expensive at close to $40.00 a quart. The way it is advertised you could darn near pour it down the sink. Interesting.

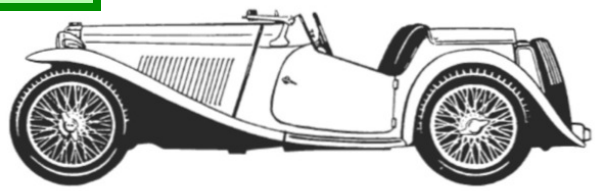
That's all for now. I will continue this discussion in the next newsletter.







NOL (Duckhams) Oil and MG



TC Tidbits

MG history and originality ramblings . . .

By Tom Wilson (and TC0272, TC0273, & TC0279)

NOL products were the officially recommended lubricants for all MGs. What's the history?

NOL branded oils and lubricants are synonomous with MG and Morris cars from the 1940s and 50s. What is *NOL*, and where did it come from? NOL products were specially branded lubricants developed by Duckhams Oils and marketed together with Morris Motors (later becoming the Nuffield Organization, then BMC).

William Morris (1877-1963) started making cars in Oxford about 1910. He rapidly built up market share, holding over 50% of Britain's market by 1924. Though Morris had a policy of buying up suppliers, he never did so with his lubricant supplier, Duckhams. Instead they developed a mutually beneficial relationship for their companies that lasted well past both their deaths.

Alexander Duckham (1877-1945) went into business as an analytical chemist in 1898, primarily in lubricants. He developed a reputation for an ability to create and manufacture lubricants for specific applications – first for early aircraft, then motorcars, then a variety of military machines for WWI. His company's foothold was established in the very early years of lubrication technology.

Morris turned to Duckham for development of special oils and greases for his Morris cars around 1921. Like Duckham, Morris also believed in the combination of good quality and brand marketing. By 1931, Morris selected one of the Duckham oils as the sole recommended oil for his Morris and Wolseley marques, branding them as "*Morrisol*." The testimonials and marketing information all pointed to this selection as recognition of quality oils for the cars. Yet underlying these statements there was a brand development strategy and agreement to share profits of all Morrisol branded products. This worked quite well – and profitably – for both companies right up into the 1960s.

After the war (World War II) the Nuffield Organization recognized a name change for Morrisol was appropriate as Nuffield encompassed several car brands - MG, Morris, Riley, Wolseley, and Morris Commercial. Several names were created - *NOL*, *NOIL*, and *NUFFOL* - and applications for trademarks made. NOL was the only name awarded a trademark registration; that decided the name. Originally designated to stand for ***N***uffield ***O***rganisation Oi***L***, it was eventually changed to represent for ***N***uffield ***O***fficial ***L***ubricant. A new product and profit sharing agreement was made between Duckhams and Nuffield in September 1945, and the NOL brand started appearing on Nuffield vehicles in early 1946.

The NOL quart metal can under the bonnet for spare oil was a staple of this agreement for years. Morris provided the clip; Nuffield the can. NOL branded oil filler caps, also used, today are rarely seen today on TCs, TDs, or TFs.

Here are some interesting notes from a Nuffield Organization executive meeting in September 1947 about the logistics of the NOL branding and issues:

N.O.L. publicity on vehicles ex works.

- Windscreen running-in labels, manuals, and lubrication schedules are being issued by all factories, both Home and Export, in accordance with dicta discussed and agreed at our meeting in October, 1945.
- The clip under the bonnet for the spare quart can of NOL is being fitted by Morris, Wolseley and MG. With regard to Riley, I still hope that they will in due course find the necessary space. With Morris Commercial we have agreed that it was not worth the candle owing to the attractiveness of the quart can to the lorry driver.
- The Board of Trade still will not allow any small steel containers of 1 gallon or under for lubricating engine oil - other than for export. Containers made of composite materials or aluminum are is too expensive.
- Until the issue of cans for home is resolved, a tie-on label/card will be placed on the clip, and car owners will send their names to us for supply of the spare quart can as and when they become released.

Stamping on oil filler caps USE NOL Oil.

- This is being done by Morris Motors and Wolseley - not as yet by Riley, who hope to rectify the position in future productions.
- MG stamp their own MG marking and I propose to ask Mr. Ryder (then Managing Director of MG) if he will fit engine oil recommendations in lieu.
- There has been delay in getting the NOL filler cap stamp on Morris Commercial vehicles but this is now in hand.

How profitable was this relationship? Significant, to say the least. Nuffield was paid £10,000 for first six months of 1946 (equivalent to about $510,000 in 2011). Even in 1944 – at the height of war rationing – Nuffield received £7,082 ($220,000 today) which represented 55% of the brand's profits. I wonder how "profit" was calculated? Morris/Nuffield also received much in the way of free research and development of suitable lubricants at no cost. Duckhams gained access to the then leading edge of the automobile market for product development, and no doubt generated significant sales of NOL products. Both companies did well in this arrangement, which carried forward into the early years of BMC.

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BMC

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