BRITISH V8 NEWSLETTER

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VOLUME IX, NUMBER 2

MAY - AUGUST, 2001

KURT SCHLEY'S OLDS 215 MGB

FEATURED STORIES:

- KURT SCHLEY'S MGB WITH AN OLDS 215 V8
- TED LATHROP'S TR6 WITH A CHEVY 350 V8
- BRITISH V8 CONVENTION 2001 REPORT
- DO-IT-YOURSELF WIRING SYSTEM
- INTAKE MANIFOLDS

Address label

WANTED!

Any British V8 or V6 related articles, tech tips, photos, product or vendor recommendations.

"How it was done" articles - share your expertise with us!

Comments, opinions, or corrections to Newsletter articles.

This is YOUR newsletter - how successful it remains depends on YOU - SEND THOSE ARTICLES IN!

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BRITISH V8 NEWSLETTER

Volume IX, Issue 2 **April - May 2001**

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* No information available for these items this issue. Hopefully, the next issue will include these.

BRITISH V8 WEB SITES

How To Stuff A Small Block V8 Into A Small British Sports Car
http://members.aol.com/danmas

This is the "daddy" of all British V8 web sites, with links to over 200 British sports cars with V8 engine conversions. This site is ran by your editor, and is updated fairly often (next update will be in May). Please check it out, and see if you don't find something of interest there.
If you know of other British V8 sites that are not linked on this site, please let send the URL to DANMAS@aol.com, and a link to that URL will be added. If you would like to have your own car featured on this site, send conversion information to the above e-mail address.

FROM THE EDITOR

Welcome to the first issue of the **BRITISH V8** Newsletter, a metamorphous of the **MB V-8** Newsletter! The brainchild of Kurt Schley, the MG V8 newsletter has become, over the last nine years, ***THE*** major source of information concerning the insertion of V8 engines into one of the worlds most popular sports cars. I have been a subscriber since volume one, issue one, and have attended all but the first annual MG-V8 meet, even though my current project car is a Triumph TR6/Ford 302! Which brings us to the point of the name change. It has become quite obvious to me, as well as to many other MG owners, that there is a lot of interest in putting honkin' V8s in other British sports cars as well. On my own Internet web site, "How to Stuff a Small V8 into a Small British Sports car," there are links to nearly 200 cars, mostly British, with transplanted V8s.

As you all know by now, Kurt has been forced by increased job demands to relinquish editorship of the Newsletter. This then, seems like a perfect time to make the name change. Beginning with this issue, Don Rausch will take on the duties of Publisher, and I will be doing the editor thing. As can be expected with a change in editorship, there will be some changes in the format and layout of the Newsletter, but there will be no change in the editorial content, other than the inclusion of other marques.

I have in front of me volume one, issue one, and Kurt's original statement of purpose: "The purpose of The MG V-8 Newsletter is to serve as a source of information and communication for anyone interested in V8 or (V6) MG automobiles." Replace "MG" with "British" and you have the purpose statement of the revised Newsletter. From the very beginning, the editorial direction of the Newsletter has been towards modifications in the search of more power. You didn't - and you won't - find information as to what color the air cleaners should be, where to put the BL badges, or should the wiring harness be routed over or under the brake lines. Originality doesn't count! You didn't, nor will you, find articles on how to paint your car, how to install windshields, or any of the articles that you will find in most other British car enthusiast's publications.

What you did and will continue to find are articles on how to get the blamed V8 in the car in the first place, and how to get more power out of it after it's in there. There will be articles on how to make your car handle better, and how to make it stop better. Articles on getting the power to the ground - transmissions, differentials, tires, etc., how to make traction bars, solving cooling problems, making wiring changes - hard core "how-to" articles. The emphasis will be totally on making the cars perform, not on making them pretty. You will find the same emphasis at the meets sponsored by the Newsletter - the ratty MG with the most ingenious V8 installation will score more points than a shiny MG with a less ingenious installation. That doesn't mean that pretty doesn't count, it's just that pretty is, as they say, "outside the scope" of the Newsletter. We will be covering any British car with a V8 - factory or otherwise -and any car with a British V8, but the emphasis will be, always, on performance.

Those of us with cars other than MGs will certainly be gaining by the scope change, but so too will the MG owners. There is a lot of cross-fertilization that can occur with the inclusion of other cars. Let me give you just one example: I had been struggling for weeks with the radiator installation in my TR6/Ford 302, trying to come up with the best approach. One afternoon, while reading an article in Rod and Custom about a radiator installation in a '57 Chevy - bingo, the light went on. Now, my radiator installation is nothing like the one in the Chevy, and no, we won't be featuring '57 Chevies, but just seeing how they did it helped me figure out how to do it in my car. Just as I've gotten ideas from the Chevy - and some of your MGs as well - we can all get ideas from each other, regardless of the name on the bonnet.

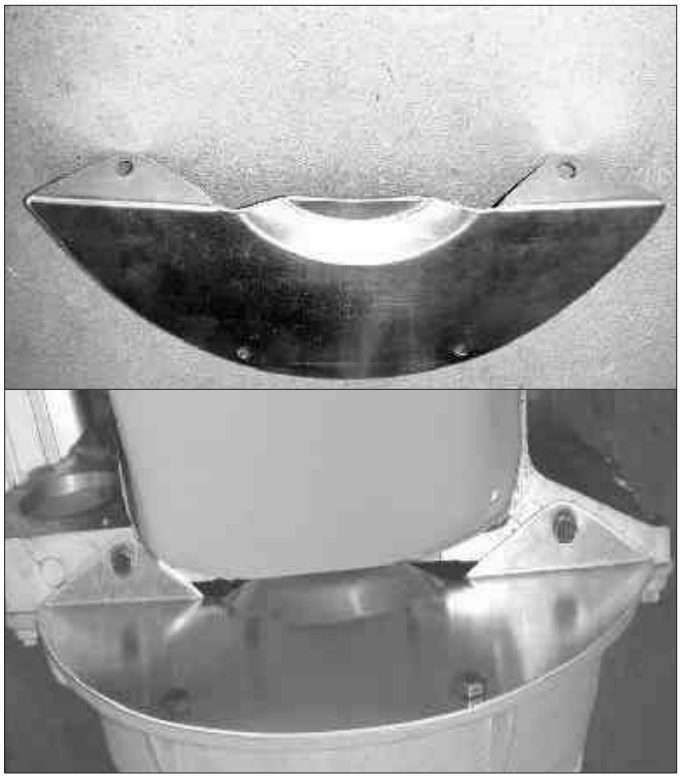
All of the above is moot, of course, if you don't subscribe. You won't subscribe if you don't like the Newsletter, so we are counting on you to let us know what you like and don't like. Feel free to contact Don or myself with your thoughts - whether it's about an article we've done, an article you'd like to see done, or just to bitch about the direction the Newsletter is taking. As always, articles are most welcome, and very much needed if the Newsletter is to survive, so get over there to your computer and start cranking! You know you've just made the coolest modification ever to your car, and we all want to know about it!

I think it would be appropriate now to give a big round of applause to Kurt, for all the effort he has put into this newsletter for the last nine years! Between the newsletter and the V8 meets sponsored by the newsletter, we are all a LOT better off now than we were nine years ago. Kurt, ours hats are off to you! Thanks a million for what you've done.

dm

NEW PRODUCTS:

Now available from D & D Fabrications, is this much needed rear cover for your bellhousing. Priced at only $20.00, including mounting bolts. For contact information, see the D & D advertisement on the back cover of this newsletter. V8



HOW IT WAS DONE #1

Owner: Kurt Schley
City: Madison Township, OH
Model: 1974 MGB
Engine: Oldsmobile 215

Engine: 10.25:1 compression, 185 H.P. version of 1962 Olds 215 from an F-85. Engine rebuilt to stock specifications. Dual Rochester 2-bbl carbs on Edelbrock manifold. Individual carbs are same as originally supplied on the Buick/Olds 215 low compression 2-bbl engines. Now equipped with .052" main jets and progressive linkage. No chokes on carbs. Offenhauser P/N 5188 cast aluminum valve covers. (P/N 5189 fit Buick/Rover) Tilton high-torque mini-starter. Buick V-6 Metric (stamped "Metric" on base) oil pump base with aftermarket cheap-o spin on remote oil filter adapter from J.C. Whitney. The two stainless braided lines lead to the oil filter mounted behind the passenger side headlight. The under-fender mounting keeps the engine bay from being cluttered as well as makes oil filter changes very easy. A chromed steel cover protects the filter from stone damage.

Kurt Schley's 1973 MGB V-8 with an Oldsmobile 215

The engine was mounted as low as possible using self-fabricated mounts bolted to rear vertical flange on crossmember. The mounts were bolted to the engine and the engine lowered into the bay until there was only 1/8" clearance between the front of the crankshaft and the steering rack. The trans tail was adjusted to give the proper U-joint angle and the crossmember was marked and drilled for the mounts.

Clutch/Bellhousing: Stock 215 dual 3-4 speed bellhousing. TR-8 flywheel with Borg-Warner P/N 250259B 10" pressure plate and 10.4" P/N 274152C clutch disc with 26 splines. (The 10.4" disc does fit the 10" plate.) Clutch is activated by a Weber hydraulic throw-out bearing. The Weber replaces a slave cylinder/ adjustable link/ clutch release arm arrangement originally used on the conversion. The slave cylinder system was a constant source of problems and the clutch "feel" was not good. In addition, clearance for the cylinder and linkages next to the trans was extremely tight and necessitated massaging of the tunnel next to the accelerator pedal. STRONGLY recommend the use of a hydraulic throw-out bearing if using the 215 bellhousing or the Transdapt aftermarket unit. The removable bottom cover on the stock 215 bellhousing allows a clutch change without pulling the engine.

Olds 215 with dual Rochester 2-bbl carbs, Edelbrock intake, and Offenhauser cast aluminum valve covers.

Transmission: The originally used transmission was a T-50 5-speed from a Monza. The shift pattern was unusual, as reverse was where most first gear positions are located. Unconsciously shifting into "first" at a light and pulling a hole shot resulted in exciting times if there was another car behind you!! First gear was so low it was unusable and it was only a year later I discovered I had a trans from behind a 4-cylinder Monza. This trans had lower gears than the V-8 version, hence the creeper gear first. In 1995 the MG received a Borg-Warner World Class T-5 5-speed from a 1991 Trans-Am. 0.73:1 fifth gear. Transmission can be removed from under the car in about 1/2 hour. The shifter is located about 1-1/2" to the rear and 1/2" to the right from stock position. A shifter plate large enough to cover the enlarged hole in the trans tunnel was fabricated from 3/32" stainless plate and fitted with an aftermarket rubber boot. The only modification needed to switch from the T-50 to T-5 was accommodation for the T-5's angled rear mount.

Exhaust: 1964 - 67 Buick 300 cast-iron exhaust manifolds. These manifolds have a port size 1/8" larger than the 215 manifolds and have a good flow path, probably much better than standard MG V-8 conversion tube headers, and are dirt cheap. The dump angle requires more firewall work than if conversion tube headers were used and a Byzantine three U-joint steering linkage is required. The manifolds lead into two 2-1/4" i.d. triple wall T321 flexible stainless steel tubing sections (specially run for this conversion), then into two Walker Turbo-mufflers mounted just forward of the battery boxes. The flexible tubing is covered with two wraps of Kevlar heat-resistant cloth, then an overall cover of T321 stainless steel braid. The Kevlar keeps exhaust heat from the floorpan of the car while the braid protects the cloth. The exhaust system ends at the back of the mufflers, have not had any problem with fumes in the car and the exhaust tone is great. (My opinion, not the neighbors.) In retrospect, should have made a crossover pipe before the mufflers to enhance low end torque.

Driveshaft: GM front section spliced to MG rear section, as detailed in Issue IV Vol. 2 of the Newsletter, then balanced.

Rear End: Stock 3.9:1 MGB. With .73:1 transmission 5th gear, car runs about 2500 rpm at 65 mph. Have not been able to break the differential either, despite hard use. With the T-5 trans, first and second gear run out a little fast but third and fourth pull strong and long. Acceleration in fifth gear at highway speeds is

good. Have a narrowed Ford 8" rear end sitting in the garage, but can find no really good reason to swap in.

Front Suspension: Moss tube shock conversion on rebuilt front end. Monroe-Matic shock absorbers. The two top mounting bolts on the shock towers loosen every 5,000 miles or so despite Lok-Tite and lock washers. 1" ADCO sway bar with urethane bushings. The engine is mounted so low that the tops of the stock lever shocks had to be lowered to keep the exhaust manifold from contacting them.

Originally installed Olds 2-bbl engine with Borg-Warner T-50 5-speed transmission. Note Buick 300 exhaust manifold.

Rear Suspension: Moss tube shock kit which required rewelding because of shoddy workmanship. Monroe shocks wore out after 5,000 miles. Replaced with Delco P/N 3062 air shocks originally for a Corvette. Fit right on after the top Moss shock mount was reversed to provide more travel. The air shocks are great if carrying a heavy load or for adjusting the rear suspension stiffness. The pair of shocks and the air line kit was $37.00 complete (in 1993) from Greg Hire (219) 483-1744. No problems at all after several thousand miles. Home built traction bars and a Panhard rod keep the rear end under control and located. The function of the Panhard rod is to keep the rear end from deflecting sideways in heavy turns, and it does that well. It also adds some stability to the rear end even under straight line acceleration and normal driving.

Engine wiring is run through a heat resistant fiberglass/silicone tubing and routed under intake manifold.

Brakes: Stock MGB with TR-8 pads in front. The Triumph pads are larger and have greater swept area. I did have to reduce the thickness of the pads by about .020" to make them fit, but others have reported that the TR-8 pads dropped right in. Noticeable difference in stopping distance for a minimal cash outlay. Rear brakes are stock MGB.

Tires/Wheels: Originally Datsun 260Z aluminum wheels with Goodyear 185/60 x 14 tires. Z-car wheels bolt right on but the flat-landing lug nuts require that the wheel be mounted by using two stock tapered MG lug nuts to center the wheel on the hub. Then two flat landing lug nuts are installed and tightened. The MG nuts are then removed and replaced with flat landing ones. Also should bore out the wheels bolt holes about .020". The MG wheel bolt o.d. is so close to the Datsun wheels bolt hole i.d. that chaffing during driving can occur. This will make the wheel extremely difficult to remove, especially when laying in a puddle trying to change a flat. Wheels were then changed to Prime aluminum aftermarket units with 215/40 x 15 Continental tires. No tire rub and they grip well. Wheels were polished.

Joe racer style sheet aluminum interior.

Cooling: Stock 1978 MGB radiator. There is an aluminum engine driven fan on the water pump which was cut down in diameter, to just clear the upper radiator hose, while still remaining as large as possible. If you cut down a fan, the blades must be cut the exact same length or unbalance will quickly ruin the water pump bearings. An overflow tank was constructed of 2-1/2" diameter stainless steel tubing with a radiator cap neck silver brazed on. The tank is mounted forward of the radiator support plate and to the right side. A filler was fabricated from 1-1/2" stainless tubing with a 1/2" pipe plug and mounted in the top radiator hose. This provides a high fill point to avoid air locks in the cooling system. Two stock MGB electric fans provide additional cooling in case of a summer time traffic jam. This system has proven very good at keeping the engine cool. The electric fans turn on very rarely. I believe a major contributor to the efficiency of the system are two cut-outs in the inner fender wells. The fender well areas next to the exhaust manifolds have to be dimpled inward in pre-'75 bodyshells in order to provide clearance for the headers/exhaust manifolds. I cut these areas out completely and replaced the solid sheetmetal with a double layer of expanded aluminum mesh, (actually gutter screen) painted black and riveted in place. The wheel wells are low-pressure areas when the car is moving, so the engine bay air (heat) is actually sucked out of the engine bay when the car is in motion. This in turn allows more air to flow through the radiator as well as getting the hot air out from under the hood. I would recommend this modification for all MG's V-8 or 4-cylinder.

Other Modifications: All engine wiring, i.e. alternator, distributor and coil high tension lead, are all encased in a silicone/fiberglass heat resistant cover. They are routed under the intake manifold and plug into a bulkhead electrical connector mounted in the firewall just under the heater box. The coil is mounted behind the firewall in the opening under where the heater was once mounted. (The heater was discarded). When the engine is being removed, a quick pull on the plug and all the engine wires are disconnected.

- All wiring was removed from the engine bay. A thirteen fuse, two breaker fuse panel was mounted in the passenger side footwell. Most of the home-built wiring harness was constructed of wire two gauges larger in size than stock. Every circuit except the alternator to battery wire and the feed wire to the ignition switch is fused. There is a remote starter switch installed in the engine compartment so that the engine can be turned over, or started, while roadside trouble shooting. The new system has worked flawlessly for four years. Prior to this I had electrical problems every 2 - 3 months.

- Aluminum paneled interior. Liked the looks of a friend's MGB racer but found that an aluminum floor and trans tunnel acts like a broiler in the summer sun; therefore the floor and tunnel are carpeted. Appearance is controversial. Some people like the functional clean look, other think is looks terrible. Did find out that if you rest a sweaty leg against the panels, they must be wiped down, otherwise the aluminum corrodes.

- Roll bar is approximately 6" higher than those sold in the catalogs and which fit under the top. Problem with those bars is that they are often lower that the top of the driver/passenger's head! That presents a problem if a rollover occurs. I have rolled a car once and it left an impression. (In my memory, not in my head!) I want plenty of clearance between the top of my balding head and the top of the rollbar. One problem is that the top frame will not fit over the rollbar. In those very rare instances when I do put a top on. I pull the frameless stock top taut over the rollbar and secure the header rail and snaps. The car looks a little deflated but it keeps the (majority of) the rain off.

Future Modifications: Within the next couple of years I plan on prepping another bodyshell and transferring most of the components over to it. Changes which are planned include:

- Using a D & D Fabrication oil pump base and oil filter adapter. This moves the oil filter forward enough to clear the cross member and a remote filter system is not needed. The filter can be positioned up, down or any position in between to clear hoses, sway bar etc. Much simpler and cleaner installation than a remote.

- Fabricating through-the-fenderwell RV8 type tube headers for maximum performance. The fenderwell openings will also function to exhaust hot air from the engine compartment, just as the present openings do,

- Welding in the mounts for the traction bars and extend the mounts forward on the underpan as on the RV8. This will add to the stiffness and stability of the bodyshell.

- Using a rubber bumper bodyshell and converting it to chrome bumper.

- Tie the rollbar into the frame forward of the firewall and add diagonal bracing to make a rollcage and add rigidity to the car. V8

MISCELLANEOUS

- Great article on rebuilding the T-5 transmission appeared in the February, 2001 issue of Car Craft magazine.

- For you Ford fanatics, the March issue of Muscle Mustangs & Fast Fords had some extensive articles on stroking the 302 raising the displacement to as much as 347ci. General theory as well as practical examples are given.

- Welding machine manufacturer Miller Electric has been heavily involved in motorsports for years. They now have a website to answer car and motorcycle related welding questions. The site is at: www.millermotorsportrs.com

- From Jim Stuart: On page 4 of the issue just received, I finally stopped looking at the picture, & read about the Rover oil pumps. I would like to offer a minor correction regarding the 1994 & up front covers. There are 3 versions of the late front cover with serpentine drive & the gerator oil pump that I know of, there may be more. The first covers had a provision for a distributor, I assume this was early 1994. Later covers had a boss where the dizzy would go, but the hole was not drilled. These versions were used on the 3.9 & 4.2 engines. A later version was shorter front to back, & had no provision or even space for a distributor. These must have been used with the 4.0 & 4.6 engines with some version of crank fire ignition.

  The point of all this, is that the first 2 versions can be fitted to any of the Rover 3.5, 3.9, 4.2 engines, as well as the Buick/Olds 215 engines. They do not require a longer crank, but they do require a longer crank key, as the key is what drives the oil pump. The longer key is standard with later Rover engines, but not the earlier 3.5, & not the GM engines.

  I now have a running, driving 215 Buick with the 1994 up front cover. All that was required was to have the original keyway lengthened on the crank & purchase a longer Rover key. That was the simple part. Fitting the engine with that cover was a whole new set of problems.

- From Brian Yeates: Kurt- you asked for an update on the T56. Well I've just had the conversion on the road for the weekend, and other than a few minor glitches and the desire to change mufflers and tailpipes, everything works awesome. So far I have retained the stock rear end to determine how everything feels as far as axle ratio goes. I thought first gear would be virtually useless, and while I CAN start in third from a stop, first gear ratio seems to be exactly where it should be. At 60 mph in sixth gear, the engine is turning 1600 RPM, which may be a little low for optimum power but in a car of this size it works extremely well and should contribute to exceptionally good fuel economy.

  Since sending in my "how it was done" report, I've also fitted tube shocks to the rear. With very little modification, I put in NAPA # 82139 Classic Gas shocks, originally designed for 1968 to 1980 Triumph Spitfires. I did this by removing the bounce strap and relocating the original knee action shock/axle retaining plate and then mounting the new shocks between the upper bounce strap retaining brace and the axle plate, now located so the shock mounting hole is behind the axle. Weight distribution is also very good with 640kg on the front axle and 590kg on the rear with 1/2 tank of fuel and driver but no passenger. Feel free to pass this info to the new editor of the magazine. Once again, thank you for your service to us MG power nuts over the past number of years and maybe we'll meet face to face at some time in the future. V8

BRITISH V8 CONVENTION 2001

Are we having fun yet? You betcha!

Sebring, FL, March 4 - 8, 2001: V8 afficionados from around the country gathered at this historic race track for the 5th annual MG V8 meet. This year, for the first time, the event was open to all British cars with a V8 engine (Although they've been welcome at the previous events as well).

The parking lot was a popular place during the meet

Approximately 30 V8 engined automobiles showed up for the event, including MGBs, TR6s, TR8s, a Morgan V8, and even a two-cylinder Morgan with one wheel missing! Well, at least the two cylinders were arranged in a "V" configuration!

In addition to the traditional parking lot BS sessions, events at this meet included vendor tech sessions, a driving tour of the famous Sebring race course, a police escorted trip to the town of Sebring where the street was blocked off for a car show, a trip to the Group 44 aircraft hanger and Group 44 museum, and a banquet where Bob Tulius was the guest of honor.

The weather was just about perfect, if a bit chilly at times, and a welcome relief for many of us from more northerly climes.

For most participants, the high spot of the event was being allowed to drive on the race course - at a bit higher speed than originally anticipated, I might add! Most participants were still wearing ear to ear grins at the end of the day.

If you weren't there, you should have been! Whatever you do, don't fail to make plans to attend the 2002 meet. And, whatever you do, don't fail to fill out the enclosed 2002 meet questionnaire and return it to the newsletter, so we can make the next meet even better. Your answers will determine the format, location, and time for this event, so don't be shy! Let us hear from you!

Special thanks to Al Wulf for the photos I pilfered from his website: **http://mgcc.org/sebring/sebring.htm**

Yep, 'at are a V8, allright! Quite a few of the locals were impressed at seeing these little cars with big V8s in them.

Planes and cars - a nice mix! If you love cars, you almost have to love planes as well. Seeing the Group 44 racers mingled amongst antique airplanes was quite a sight!

Gear head heaven! Well, a guy can dream, can't he? We were impressed with the well equipped shop at the Group 44 hanger.

CUSTOM WIRING PANEL

After you've gotten the engine installed, there aremany other improvements to be made, not the least of which is an improvement to the stock wiring system. At the least, you'll need to make some modifications to the wiring to accommodate the new engine's electrical requirements - new starter, alternator, etc. At worst, your wiring looks like a bowl of three day old spaghetti after the mice have been in it. How much fun can you have with your increased horsepower if the car's electrical system won't let you use it?

To keep the juice flowing as it should, you have a few options: Patch what you have, replace the wiring harness with a new one and modify it for your application, or buy one of the many aftermarket wiring kits now available. Unless the original wiring is in pretty good shape, patching it will be a never ending task - patch this end today, that end tomorrow, etc. Buying a new harness will a bit pricey, and you will still have undersized and under-fused wiring. Most of the aftermarket wiring systems are, unfortunately, designed for street rods, and are overkill, having many circuits that are not needed for the typical British car.

In this article, I propose a new alternative - a home-built wiring system, specifically designed for ***YOUR*** car! What's new in this article is not that the wiring is designed for your specific car, but that ***YOU*** can do it yourself. The heart of the wiring system, the POWER BLOCK (fuse/relay/flasher pane)l, is quite generic, but with the information in this article, even the "electrically challenged" should be able to custom tailor the overall wiring to a specific application.

Completed Power Block, ready for installation. The wiring is coiled up, waiting to be routed as appropriate for your car.

Naturally, in a generic article the size of this one, every possible configuration/preference can't be addressed, but if you will write to the newsletter with your requests, I'll try to address the most popular requests in the next issue. For example, if enough people request information on retaining the existing hazard switch instead of the switch I have proposed, I will provide a circuit for that. Nevertheless, with the information supplied herein, you should be able to create a custom wiring system thatwillsatisfy any but themostfinicky owner.

In the centerfold (a first for the newsletter), I have shown a wiring diagram that represents how I would wire a 1974 MGBGT. The shaded area in the center of the diagram is the generic portion of the wiring, or what I call the "Power block." By examining how the power block connects to the rest of the wiring in this diagram, it should be pretty easy to see how the connections would be made for different model or make of automobile.

Power Block as installed in a TR3. In this car, the best location for the block was under the battery box, behind the dash.

CAVEAT: This article assumes a minimum amount of familiarity with electrical circuits and construction techniques. If you have any doubt about your ability, it is strongly recommended that you enlist the aid of a friend with the requisite experience.

CIRCUITDESCRIPTIONS:

For themostpart,theindividual circuits are straight forward, but some of them need further explanation.

Fuel pump circuit: The relay for the fuel pump is operated whenever the ignition key is on, but it has a couple of safety features. The relay will operate only if both the inertia switch and the cutoff switch are closed. The inertia switch will open whenever the car is subjected to a hard jolt, such as in an accident. preventing fuel spillage if a fuel line should be ruptured.

The cutoff switch (optional) provides for a small bit of theft protection. This switch should be hidden from view, but easily accessible. If this switch is open, the pump will not operate, and the engine will die in a very short distance when the fuel in the float chambers is exhausted, leaving the thief stranded in themiddle of the street.

To prevent embarrassment to yourself if you should forget to turn the switch back on before starting your car, the normally closed contact of the relay sends power to the warning buzzer. Additionally, if the inertia switch should actuate from a hitting a pothole or such, the buzzer will also sound, reminding you to reset the switch.

Driving lights: The relay for the driving lights receives power from the driving light switch, which receives power only if the high beams are on. When you switch to the low beams, as when meeting a car, the driving lights automatically go out as well. If you prefer not to have driving lights, the switch, relay, and associated wiring may be omitted, although I recommend wiring them in for possible future use.

Headlight fuses: If you'll notice, there are none! I am ***STRONGLY*** opposed to the use of fuses in the headlight circuit. Having the headlights go out while doing some spirited driving on winding back road on a moonless night because a wire momentarily bounced into contact with ground can be ***fatal***!

Hazard switch: Do yourself a favor and discard the stock hazard switch. The majority of turn signal problems are due to faulty hazard switches. Replace it with a DPDT (double pole, double throw) switch from Radio Shack or similar, and wire it as shown on the "typical" diagram. Just be sure ***NOT*** to get one with a "center off" position, as neither the turn signals nor the hazard flasher will work with the switch in the off position.

Cooling fan: I have provided two options for this circuit. If you prefer that the fan run only when the ignition key is on, wire terminal 30 of the relay, using 14 strand green wire, to the "B" terminal of the turn signal flasher. If you want the fan to run whenever the thermostat calls for it, ignition key on or off, wire terminal 30, using a 14 strand purple wire, to terminal "B" of the hazard flasher.

WIRING CONNECTIONS:

Wires leaving/entering the power block are to be connected as follows:

Note: the first letter(s) below indicate the wire color code, and the following numeral indicates the wire size in accordance with the British wire standards. Unlike American wire which is sized by gauge, British wiring is sized by the number of 0.30mm strands contained within the wire.

Color codes:

N	*Brown*	*LG*	*Light Green*	*G*	*Green*
U	*Blue*	*W*	*White*	*B*	*Black*
R	*Red*	*Y*	*Yellow*	*K*	*Pink*
P	*Purple*	*S*	*Slate*	*O*	*Orange*

Wire size:

9 = 9 strands - rated to carry 5.75 amps
14 = 14 strands - rated to carry 8.00 amps
28 = 28 strands - rated to carry 17.50 amps
44 = 44 strands - rated to carry 25.5 amps
65 = 65 strands - rated to carry 35.00 amps
84 = 84 strands - rated to carry 42.00 amps
120 = 120 strands - rated to carry 60.00 amps

B-9: Ground connection.

BG-9: Connects to the thermostat/switch for the cooling fan, and is grounded to operate the fan relay.

BY-9: Grounded to operate the fuel pump relay. If you choose not to use an inertia switch or a cutoff switch, this wire should be connected directly to ground.

G-14: Provides power to loads that are operable only when the key is on. Typically supplies power to the windshield wipers/washer, gauges, brake failure lamp, and low oil pressure lamp. Maximum load on this wire should be less than 5 amps.

G-28: Provides power to loads that are operable only when the key is on. Typically supplies power to the heater fan, brake lights, reverse lights, and, if applicable, the back light heater. Maximum load on this wire should be less than 15 amps.

GN-14: Feeds the turn signals, and should be connected to the GN wire coming from the turn signal switch in the steering column. Maximum wattage for the TS bulbs should be 27 watts (1157 bulbs).

N-28: Provides power to the "BATT" terminal of the ignition switch.

N-120: Main power feed from the alternator/battery. This wire carries ***ALL*** of the current used by the car.

NR-28: Provides power to the headlight switch.

P-28: Provides power to loads that are operable with the key on or off. Typically supplies power to the "flash-to-pass" switch, clock, courtesy lamps, and memory power for the radio.

PB-9: Grounded by the horn button, and operates the horn relay.

PN-28: Supplies the flasher voltage to the turn signal lamps, via the hazard switch. See text for details.

PY-28: Supplies power to the horns when the horn relay is operated. The other side of the horns should be grounded. Maximum current on this wire should be no more than 15 amps.

R-28: Power from the headlight switch to the fuse for the parking/marker and dash lights.

RG-28: Provides power to the parking/marker lights, and to the dash lights via the dash light dimmer.

S-14: Connects to the optional fuel pump warning buzzer. See text for details.

U-28: Power to the headlights via the dimmer switch. Maximum load should be 15 amps.

UB-28: Provides power to the driving light relay from the driving light switch.

UN-28: Operates the headlight relay from the headlight switch.

UP-28: Provides power to the optional driving lights. Maximum load on this wire should be no more than 15 amps.

W-14: Operates the ignition relay from the ignition switch.

WG-28: Power to the ignition coil.

YN-28: Provides power to the cooling fan. Maximum load on this wire should be no more than 15 amps.

YR-28: Supplies power to the fuel pump. Maximum load on this wire should be 15 amps.

CONSTRUCTION DETAILS:

Panel: The wiring panel (see page 14) is made from a piece of 16 gauge steel, purchased from a home building supply store such as Lowes or Home Depot. For ease of fabrication, it is designed as a flat sheet, which means you will need to use spacers or other form of stand-offs to accommodate the fasteners used to hold the components on the panel. If you want to be real fancy, you could make the panel with feet, eliminating the spacers.

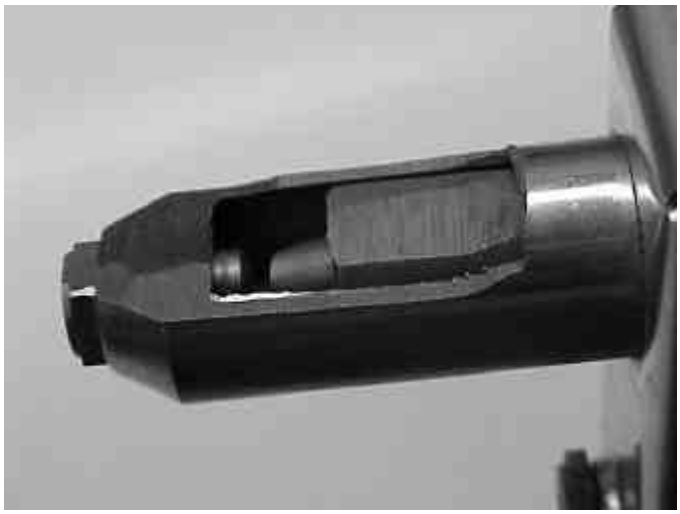
This particular size and shape is just a suggestion, and you can modify it to fit if you have a particular location in mind for your own panel. You could separate the fuses from the relays and flashers, and make the panel in two pieces if you wish.

The location of the holes for the flasher and relay sockets was deliberately planned to allow the flashers and relays to stick out from the panel so that they would be easy to grip

when you need to replace them. In general, these components are a tight fit in the sockets, and a bit of force is needed to remove them - they can be hard to remove in tight quarters.

If you wish to use a three-terminal flasher instead of the two terminal flashers shown, you will need to move the flasher mounting holes back from the edge as shown, because the three terminal flashers are a bit longer than the two terminal flashers.

You can use either screws and nuts or rivets to fasten the components in place on the panel. If you use screws and nuts, you will have to use special "clinch" head screw on the relay sockets, as there is little clearance for the screw heads when the relays are installed. If you use rivets, you will have to modify your rivet gun a bit to install the relay sockets - there isn't room for a standard rivet gun nose. See the photo below for details.

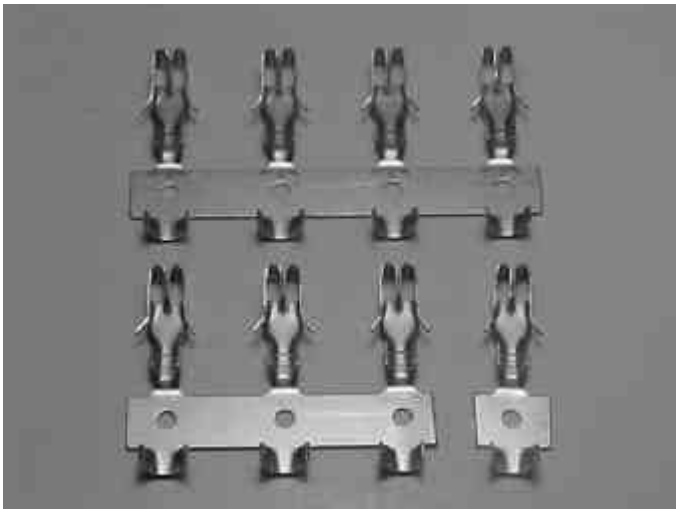


Modifications required to the rivet gun to rivet the relay sockets in place. Cinch head screws will eliminate the need for this.

Relays: Standard automotive type relays are used for everything except the fuel pump relay. For the fuel pump, you will need a SPDT relay, often referred to as a "changeover" relay. This relay has a normally open and a normally closed contact. The normally closed contact is used for the warning buzzer circuit. You may use a changeover relay in all sockets if you wish, as the circuits will all work fine with them. If you should inadvertently use one of the standard relays in the fuel pump circuit, the only problem will be that the warning buzzer won't work - all other fuel pump functions will still work ok.

Fuse Blocks: When you buy your fuse blocks, they will come with four individual terminals and one "bus bar" with terminals for four fuses, as shown above right. For the "purple" fuse block, use the four terminal strip intact. For the "green" fuse block, you will need to cut the strip as shown. Three of the terminals will supply power to the "green" loads, and the fourth will be used for the parking light fuse. When you cut the strip, be sure to remove material between the two pieces; otherwise, the terminals may come into contact with one another, causing misoperation of the associated circuits.

Wire Terminations: The techniques for terminating wires in the fuse blocks, relay sockets, and flasher sockets are a bit different than the normal practice for terminating wire connectors. The flasher wiring is covered below, but the techniques for the other two are illustrated in the photo to the right.



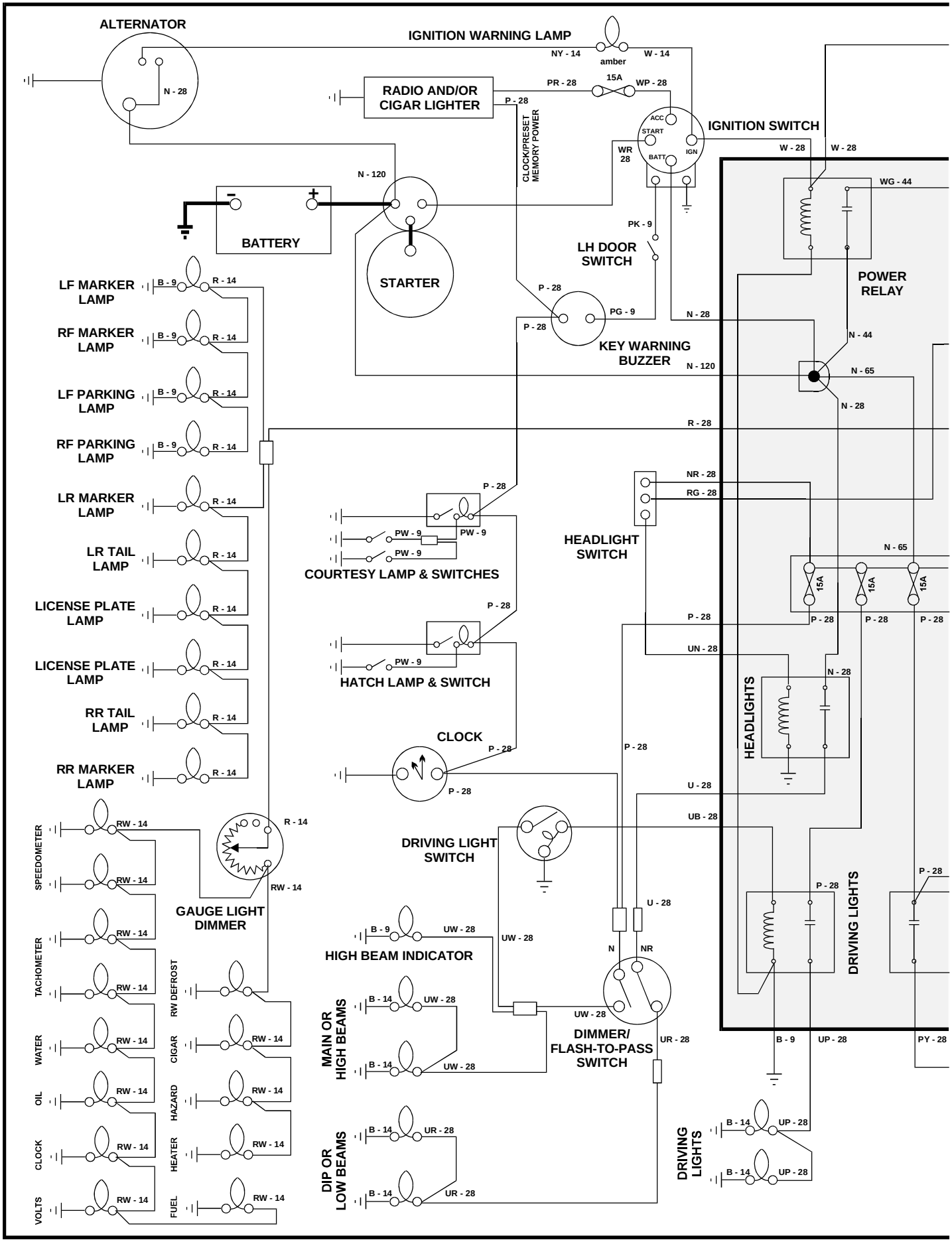
Fuse block terminal/buss bar. At top is the standard configuration, and below is a bar modified for this application

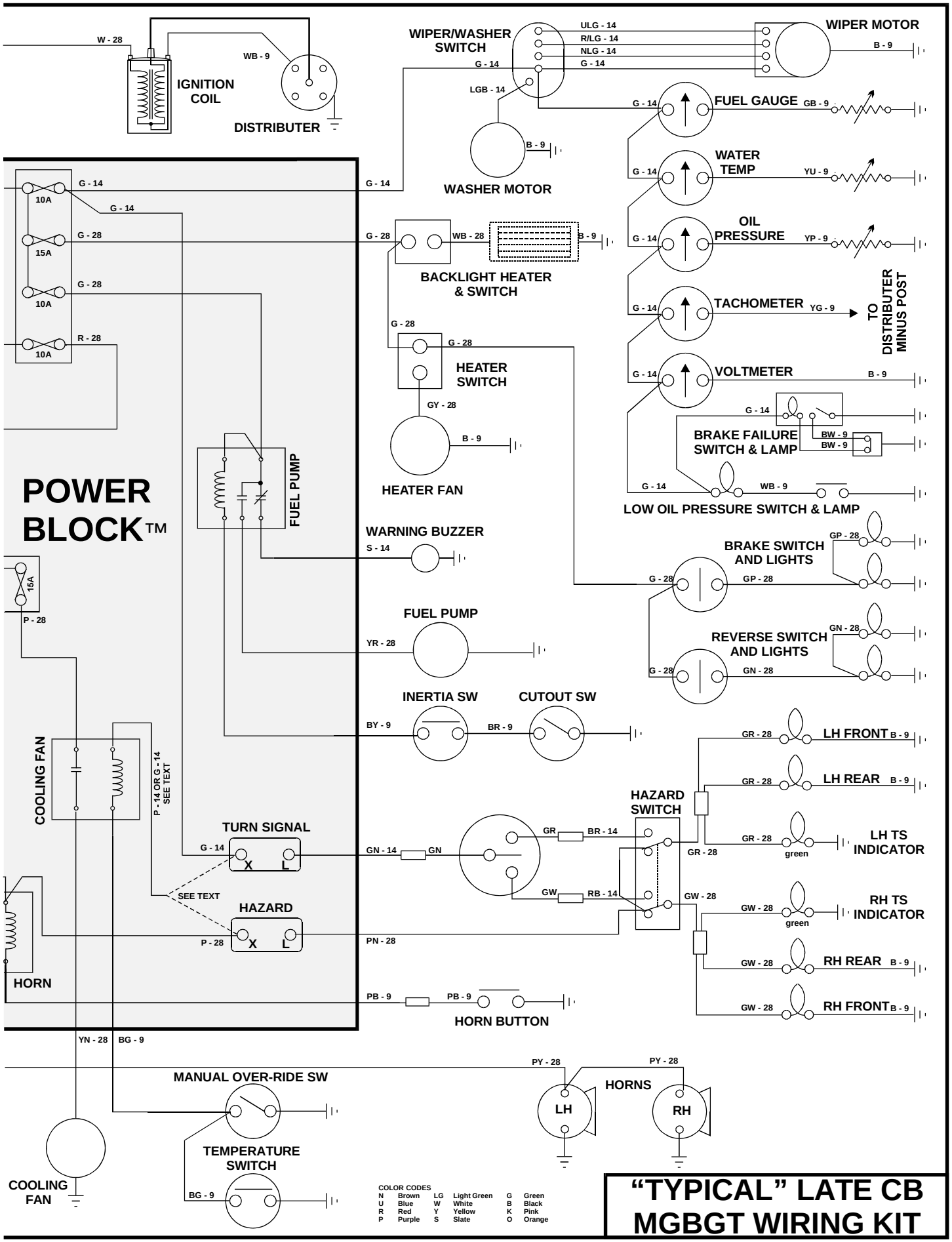
Standard crimping tools won't work here, nor will simply soldering the wires. It will be necessary to "crimp" the terminals onto the wire using a small pair of pliers (duckbill pliers work best), and then soldering them. Crimping alone isn't adequate with the pliers, so it is mandatory that you also solder. When terminating a single wire, it is recommended that you use one of the crimps around the wire, and the other crimp around the insulation (as shown in the photo below). When you are terminating two wires, you won't be able to fit the insulation of both wires under the crimp, so it will be necessary to strip both wires a bit longer, and use both crimps to hold the bare wires.

Crimp the wiring/terminals using a pair of pliers. The lower crimp should be over the insulation for a one-wire crimp, and over the bare wires only for a two-wire crimp.

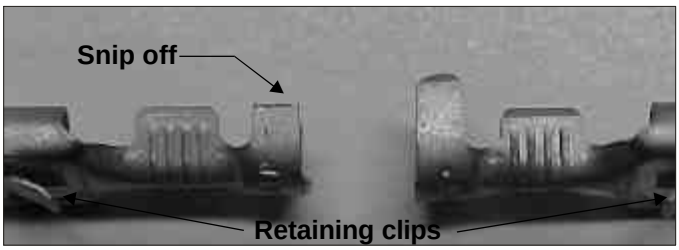
Another helpful hint: when crimping around the insulation on a small wire, it helps if you use a pair of diagonal cutter to cut the ends of the crimp off, as shown next page, before folding over the insulation. This just makes a neater job.

After you have soldered the wires in place, insert the terminals into the backs of the sockets firmly, pushing until you hear them click in place. If you should insert one into the wrong position, it can be removed using the same technique outlined below for removing the flasher terminals, except the retaining clips are in a slightly different position on the terminals.


ALTERNATOR
N - 28
IGNITION WARNING LAMP
NY - 14
amber
W - 14
RADIO AND/OR CIGAR LIGHTER
PR - 28
15A
WP - 28
P - 28
CLOCK/PRESET MEMORY POWER
IGNITION SWITCH
ACC
START
IGN
BATT
WR 28
W - 28
W - 28
WG - 44
N - 120
BATTERY
STARTER
PK - 9
LH DOOR SWITCH
POWER RELAY
P - 28
PG - 9
P - 28
KEY WARNING BUZZER
N - 28
N - 44
N - 120
N - 65
N - 28
R - 28
LF MARKER LAMP
RF MARKER LAMP
LF PARKING LAMP
RF PARKING LAMP
LR MARKER LAMP
LR TAIL LAMP
LICENSE PLATE LAMP
LICENSE PLATE LAMP
RR TAIL LAMP
RR MARKER LAMP
B - 9
R - 14
NR - 28
RG - 28
HEADLIGHT SWITCH
P - 28
PW - 9
PW - 9
PW - 9
COURTESY LAMP & SWITCHES
N - 65
15A
15A
15A
P - 28
P - 28
P - 28
P - 28
UN - 28
N - 28
HEADLIGHTS
HATCH LAMP & SWITCH
CLOCK
P - 28
P - 28
P - 28
U - 28
UB - 28
DRIVING LIGHT SWITCH
RW - 14
R - 14
RW - 14
GAUGE LIGHT DIMMER
SPEEDOMETER
TACHOMETER
WATER
OIL
CLOCK
VOLTS
RW DEFROST
CIGAR
HAZARD
HEATER
FUEL
B - 9
UW - 28
UW - 28
HIGH BEAM INDICATOR
U - 28
N
NR
DRIVING LIGHTS
P - 28
P - 28
B - 14
UW - 28
B - 14
UW - 28
MAIN OR HIGH BEAMS
UW - 28
DIMMER/ FLASH-TO-PASS SWITCH
UR - 28
B - 9
UP - 28
PY - 28
B - 14
UR - 28
B - 14
UR - 28
DIP OR LOW BEAMS
B - 14
UP - 28
B - 14
UP - 28
DRIVING LIGHTS



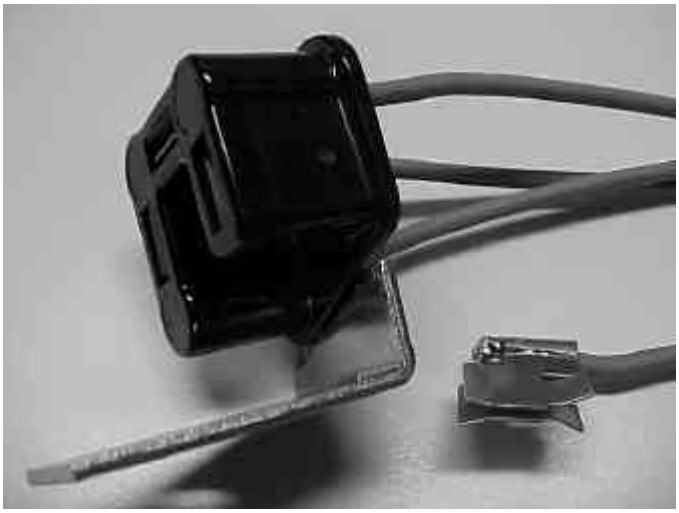
"TYPICAL" LATE CB MGBGT WIRING KIT



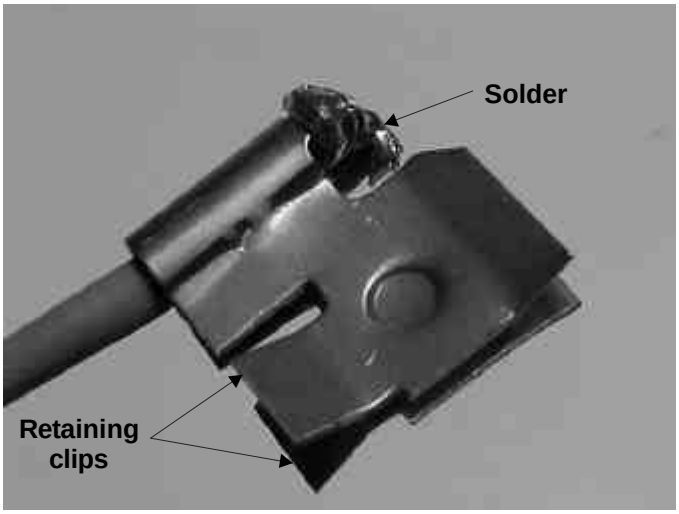
For small wires, snip off a portion of the crimp - it will make a neater crimp this way.

Flasher Sockets: When you receive your flasher sockets, they will have 8" wire leads already attached. You can leave these leads on and splice them into the remainder of the wiring if you wish, but there's a neaterway.

For a much neater installation, remove the terminals from the flasher sockets and replace the wires with your own wires, of the correct color code. To remove the terminals, use a sharp pointed object (or, for an easier job, use two) to press on the terminal retaining clips and pull the terminals out.When you look at the sockets, it will be obvious how the terminals are held in place.

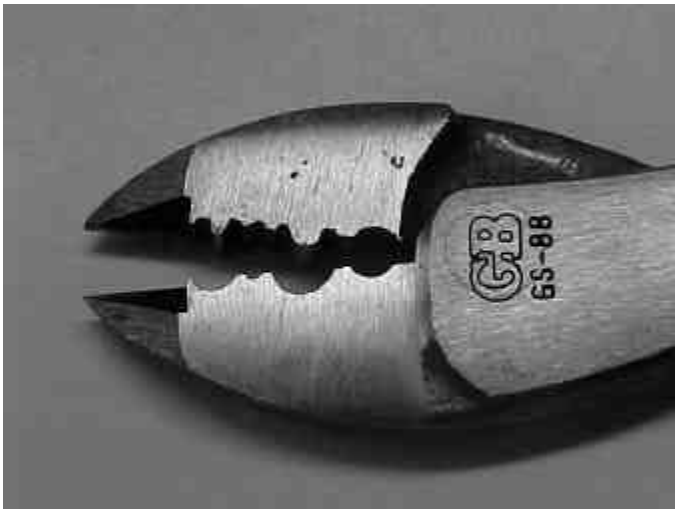


Flasher socket, with a terminal which has been removed from another socket as outlined in the text.



Flasher socket terminal, as removed from a socket.

After the terminals are removed, you will see how the wires are soldered in place (quite sloppily, actually). Using your soldering gun, unsolder the wires and remove them, shaking the terminals while the solder is still hot to remove the excess solder. Now, it's a simple task to solder in your own wires.Asanadded bonus, trouble shooting later on will be much easier if you have the correct color coded wires.



GB crimping tool from Lowes, Home Depot, etc

Crimping tools: Rather than using the typical auto parts store crimping tool, I recommend going to Home Depot, Lowes, or similar, and buying a GB crimping tool as shown above. This tool has the advantage that it crimps "along" the wire, rather than "across the wire. This spreads the crimp over a larger area, and make a much better crimp. When crimping with this tool, make sure that the seam in the terminal is on the concave side of the jaws, rather than on the convex side.Otherwise, the tool will split the terminal, and make a very poor crimp. I also recommend that you use non-insulated terminals, solder them after crimping, and then slipping heat shrink tubing over the terminal.

Bullet/Sleeve connectors: The only reason for using connectors is to ease assembly - either on the factory assembly line or in your garage. Connectors are also the most common place for electrical problems, so you will be doing yourself a favor if you eliminate as many as you can, wiring directly to the components as much as possible. Still, there will be places where the standard British bullet/sleeve connectors will be needed.

British Wiring supplies two different kinds of bullets - those intended to be soldered, and those that may be soldered ***or*** crimped. I recommend buying the latter type, and soldering them, rather than buying the solder only type. They just work better. When you solder, use a low temperature, rosin core, solder, such as the 60/40 solder sold by Radio Shack. This is a small diameter solder, and works very well for automobile wiring purposes. ***Do not*** use acid core solder!

When soldering these bullets onto the wire, strip just enough of the wire so that the insulation is just inside the bullet when the tip of the wire is fully inserted. Hold the soldering gun next to the bullet while you try to feed the solder into the hole in the end of the bullet. As soon as the bullet is hot enough, the solder will start to flow, andwill be drawn up into the bullet. Feed just enough solder to fill the bullet, but try not to feed enough that it wicks up the wire very far. A little bit of experimentation will show you just how much solder to feed. See photo next page.

WIRE

Meters required per color per size							
Color/size	9	14	28	44	65	120	**Price**
Black	2	2	2				3.80
Black/Green	3						1.35
Black/Orange	1						0.45
Black/Red		2					1.20
Black/White	3		1				2.20
Black/Yellow	2						0.90
Blue			2				1.70
Blue/Black			2				1.70
Blue/Brown			2				1.70
Blue/LG		2					1.20
Blue/Purple			4				3.40
Blue/Red			3				2.55
Blue/White			3				2.55
Brown			2	1	1	3	4.70
Brown/LG		2					1.20
Brown/Red			2				1.70
Brown/Yellow		3					1.80
Green		4	4				5.80
Green/Black	4						1.80
Green/Brown		2					1.20
Green/Purple			3				2.55
Green/Red			4				3.40
Green/White			4				3.40
Green/Yellow			2				1.70
LG/Black		2					1.20
Purple			4				3.40
Purple/Black	2						0.90
Purple/Brown			2				1.70
Purple/Green	1						0.45
Purple/Pink	2						0.90
Purple/Red			2				1.70
Purple/White	4						1.80
Purple/Yellow			4				3.40
Red			5				4.25
Red/Black		1					0.60
Red/Green			2				1.70
Red/LG		2					1.20
Red/White		3					1.80
Slate		2					1.20
White			4				3.40
White/Black	1		2				2.15
White/Green				1			1.00
White/Purple			1				0.85
White/Red			2				1.70
Yellow/Blue	3						1.35
Yellow/Brown			3				2.55
Yellow/Green	3						1.35
Yellow/Purple	3						1.35
Yellow/Red			4				3.40
Total cost for wiring:							$99.25

Note: Quantities shown are adequate for a "typical application. For more precise values, you will need to measure your specific installation before ordering.

HARDWARE

Part Name	Vendor	Part #	Quan	Price	Total
Mounting plate	building supply	n/a	1	7.98	7.98
Cable clamp - #12	building supply	n/a	1	0.50	0.50
Fuse blocks	auto parts store	n/a	2	3.98	7.96
Power terminal	American Autowire	500155	1	13.50	13.50
Flasher sockets	Ron Francis WW	FC-32	2	9.00	18.00
Hazard switch DPDT	Radio Shack	optional	1	3.00	3.00
Fan override sw	Radio Shack	optional	1	2.50	2.50
Driving lt sw	auto parts store	optional	1	2.95	2.95
Fuel pump buzzer	Radio Shack	optional	1	5.95	5.95
Flashers	auto parts store	552	2	1.95	3.90
Relay sockets	British Wiring	817	6	3.25	19.50
Relay (SPST)	British Wiring	818	5	8.00	40.00
Relay (changeover)	British Wiring	820	1	10.00	10.00
Wire bullets (9 strd)	British Wiring	309	10	0.12	1.20
Wire bullets (14 strd)	British Wiring	314	10	0.12	1.20
Wire bullets (28 strd)	British Wiring	328	20	0.12	2.40
Sleeve, single	British Wiring	311	10	0.30	3.00
Sleeve, double	British Wiring	312	5	0.50	2.50
Inertia switch	Moss Motors	900-240	1	59.95	59.95
					205.99

VENDORS

American Autowire Systems
150 Heller Place, #17 West
Bellmawr, NJ 08031
1-800-482-9473

Ron Francis Wire Works
167 Keystone Road
Chester, PA 19013
1-800-292-1940

British Wiring
20449 Ithaca
Olmpia Fields, IL 60461
1-708-481-9050

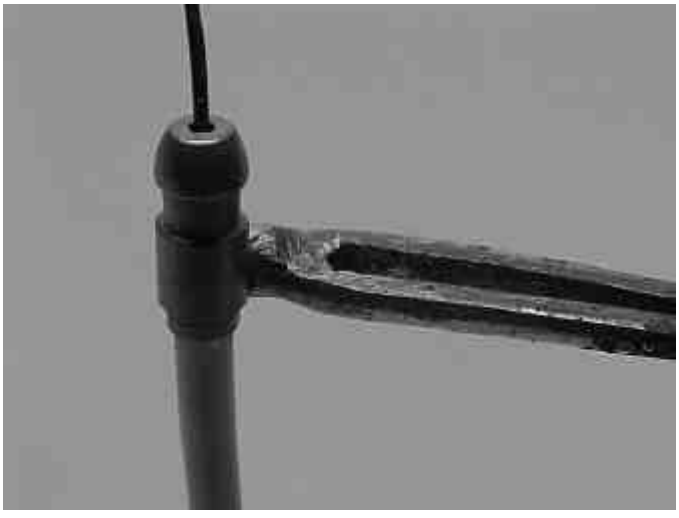
Moss Motors
PO Box 847
440 Rutherford Street
Goleta, CA 93116
1-800-667-7872

PARTS LIST

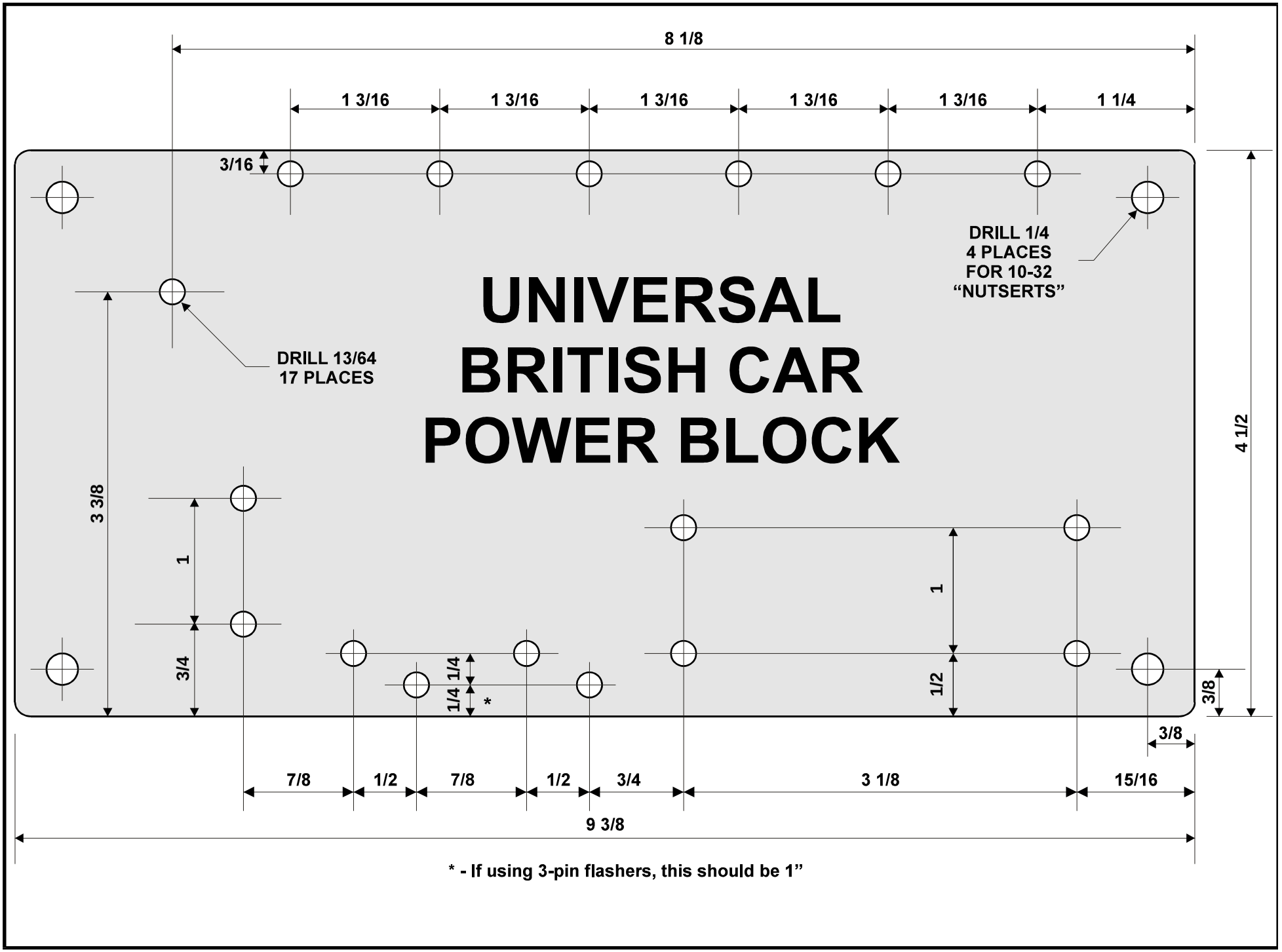
(Miscellaneous small hardware items are not listed)

I believe I've covered everything you need to know to build the Power block, and to install it in your car. If you have any questions, let me know and I'll try to answer them.

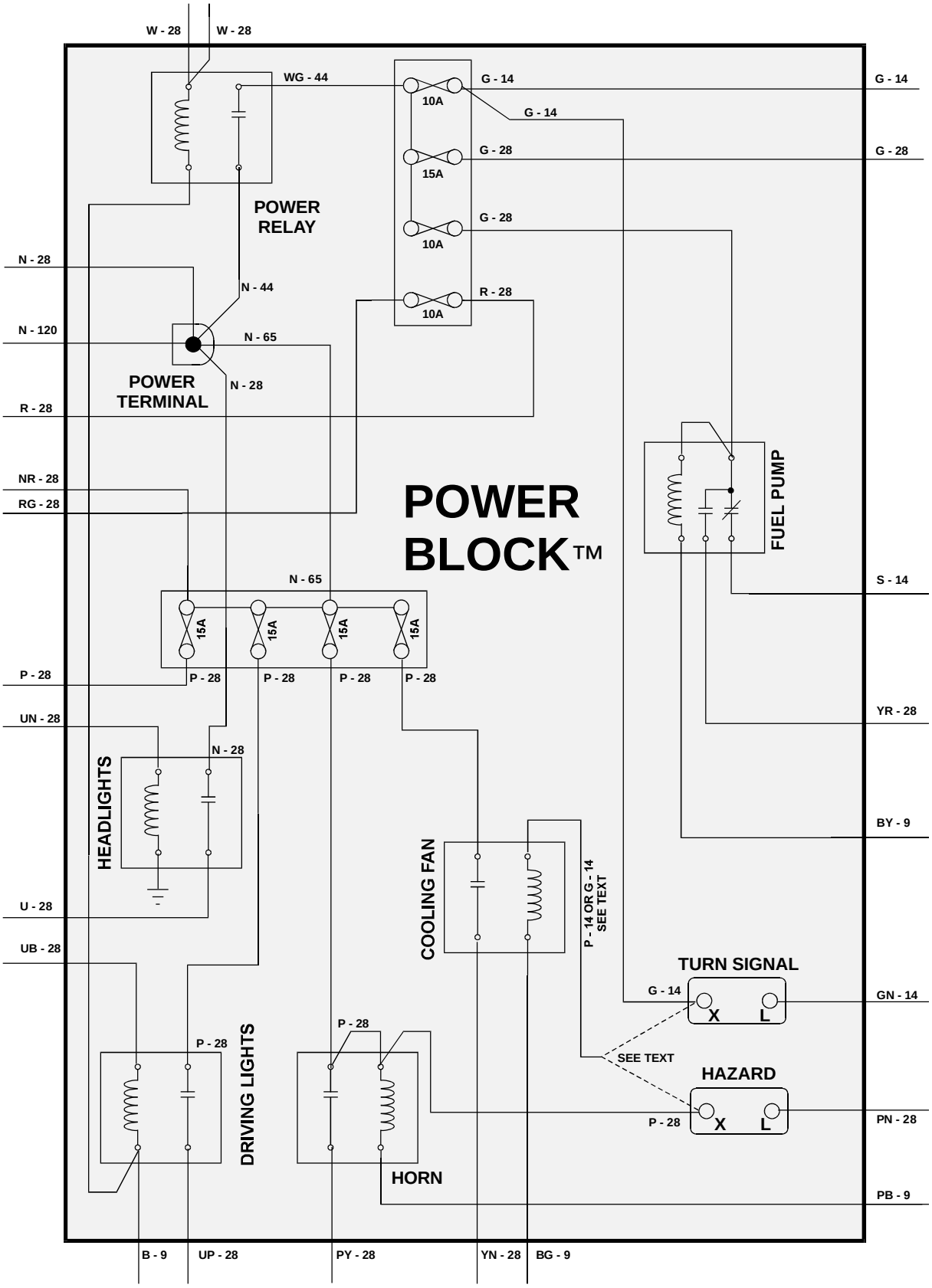
Keep in mind as you compare the cost of this panel with some of the commercially available wiring systems, or to a stock replacement harness, that this wiring system is complete, and will replace **ALL** of the wiring in your car. None of the other approaches will include, for example, the inertia cutoff switch, nor will they have six relays. If you wish to, you can use much of your existing wiring, and save quite a bit of money. Even if you should decide to use the entire system as shown here, the cost is very comparable to many of the aftermarket systems. If you buy a replacement harness, you will have to modify it to your application. You didn't stick a V8 in your car so you could have one "like everybody else," so why should your wiring be like "everybody else?" V8



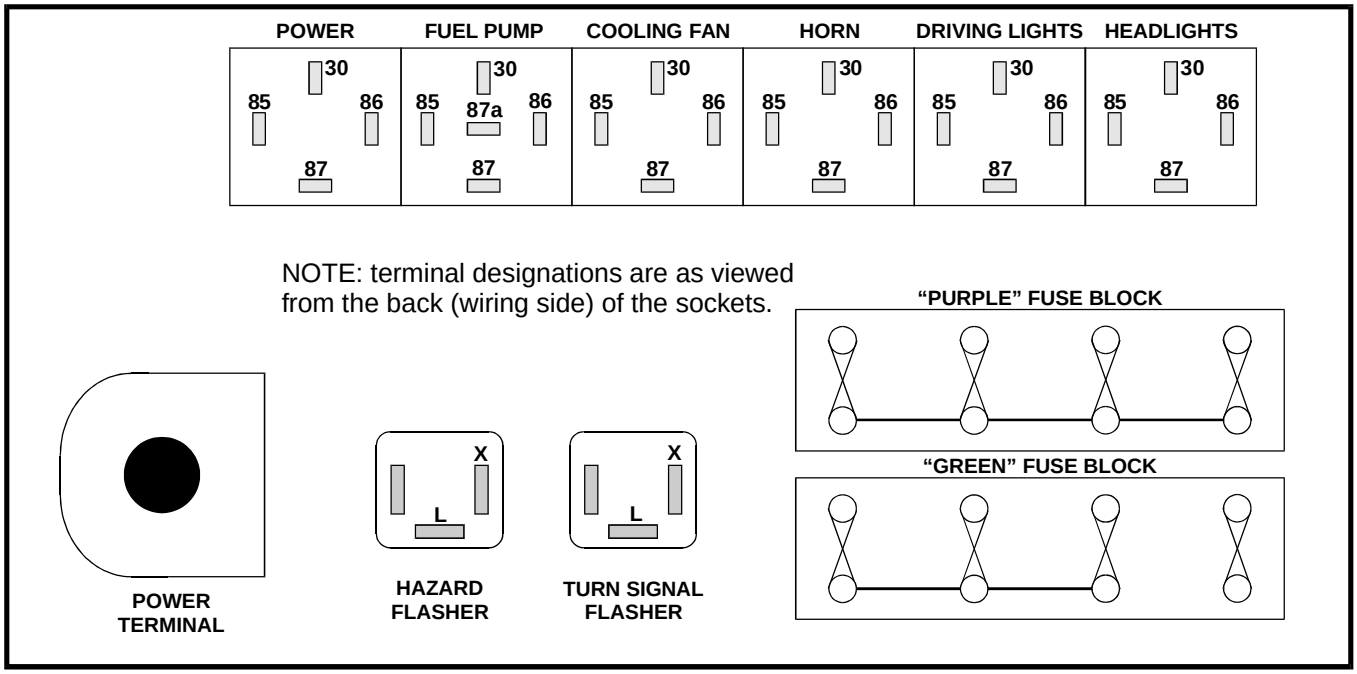
Proper technique for soldering bullet connectors



* - If using 3-pin flashers, this should be 1"



BASIC POWER BLOCK WIRING DIAGRAM FOR USE WITH ANY MAKE OR MODEL



Power Block Connection details - shown approximately half scale

HOW IT WAS DONE #2

Owner: Ted Lathrop
City: Wayland, MI
Tel: 616-792-6632
Model: 1976 Triumph TR6
Engine: Chevy 350

Engine: 1972 Chevy 350 block, with 1996 Corvette aluminum heads.Bored 0.30 over. Camshaft from Competition Cams (0.454" lift, and 218º) with hydraulic lifters. The Corvette heads were chosen because they had large valves, but rather small ports. This combination provides power and torque in the lower RPM range, as compared to heads with larger ports. Competition Cams' roller rockers were used. The block was used because I just happened to have it laying around the shop.

Ted Lathrop's Triumph TR6 with a Chevy 350 V8

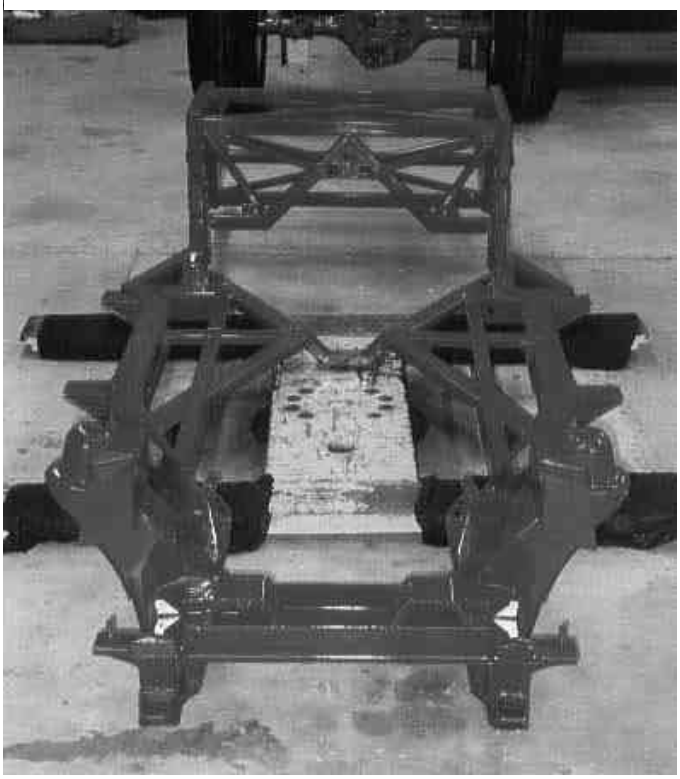
The engine was owner-built, to a proven formula, and should produce in the neighborhood of 330 HP, although the engine has not been dyno tested to confirm this.

330HP Chevy 350, Edelbrock Performer intake manifold, Holley 600CFM center pivot carburetor, BW T5 transmission

Clutch/Bellhousing/Flywheel: The clutch is a 10.5 inch unit from Centerforce. A McCleod hydraulic throw out bearing is used along with the stock TR6 master cylinder. The bellhousing is a hydraulically formed steel piece from Lakewood. The steel plate provided with the bell housing was replaced with an owner fabricated aluminum piece for weight reduction.

Transmission: BWT5 five speed from a 1982 V8 Camaro. Fifth gear was changed to a 0.80 ratio. With a 3.5 rear axle, 0.80 works out perfectly for highway use.

Exhaust: Commercial stainless steel headers were purchased, and extensively modified to fit. Corvette side-pipe mufflerswere used, running straight under the car, and out the back. These produce a very pleasing, very mellow sound - no need for a stereo system!



Custom frame, with coil-over rear suspension set-up, and extensive strengthening.

Driveshaft: A GM front section was mated to a Ford rear section, and the assembly was then balanced.

Frame: The frame is owner built. Portions of the original frame were used, such as the front suspension components and the side rails (although modified), but the majority of the frame is of my own design. The rear of the frame was built to accommodate a four-link suspension system and a Ford 9 inch axle. As you can see from the photo, the side rails were extensively modified and strengthened. The Stock TR6 frame is rather flimsy, and flexes quite a bit. This frame design significantly reduces the flexing.

Rear End: A Ford nine-inch unit was narrowed, and installed with 3.5 gearing. New axles were installed, with a five bolt Chevy lug pattern. Combined with the tire size and transmission ratios, the 3.5 gearing works out just about perfect. Cruising at 70, the engine is turning 2480 RPM. At this RPM, there is plenty of power for passing without having to downshift into fourth.

Front Suspension: The lower A-arm mounts were modified to move the pivot point inwards 3/8 inch to provide improved camber setting. The upper bushings were owner made of Teflon, lower bushings are Delrin. After several years of use, they still show no signs of wear. The shocks are Koni units.

The front sway bar was taken from a sprint car, using owner fabricated aluminum control arms.

RearSuspension: Carrera coil-overs on a four-link system.

Brakes: Corvette disc brakes on all four wheels, front vertical linkmodified to accept Chevy spindles and hubs.

Tires/Wheels: 245/60/15 rear, 225/60/15 front. Lightspeed 3-piece wheels from Taylor wheel company, 8 inch in rear, 7 inch in front.

Cooling: Griffin aluminum cross-flow radiator, electric fan in a puller configuration. Front of radiator is fully shrouded, so ALL air passes through the radiator. Hood scoop is vented at rear. No cooling problems at all.

Chevy 350 with a Griffin aluminum radiator & electric fan. No cooling problems at all with this setup

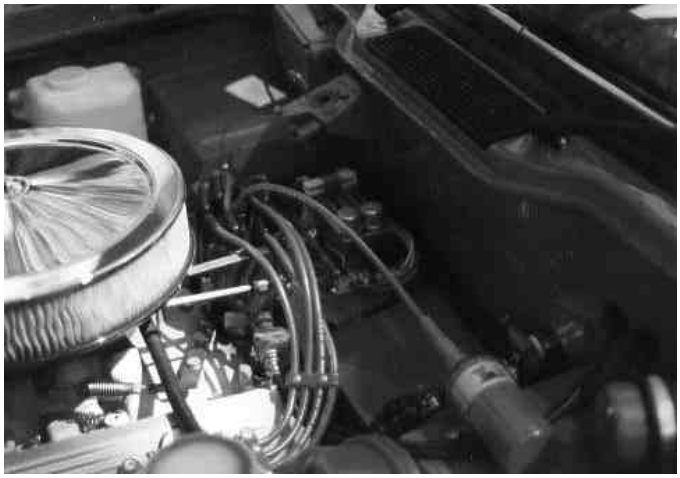
Interior: Stock gauges except for the fuel gauge, which is a BMW gauge with a TR6 face. The TR6 gauge would not read right with the BMW sending unit installed in the custom made fuel tank. Stock mechanical tach retained, with an owner-built adapter to mate it to a mechanical tach drive Chevy distributer. Leather seats are from a BMW 318, year unknown.

Dash was a gift from my wife Judy, and is a laminated dash with California fiddle back walnut veneer, made by Keller &Associates.

Steering column is a tilt unit from an early Chevy van (no ignition locking mechanism). Many hours of custom work went into modifying the column and fabricating adapters to fit the TR6.

Interior, with fiddleback walnut dash and leather BMW seats

Body: Three piece rear bumper welded into one piece. Ugly bumper over riders eliminated front and rear, and holes welded shut. Side marker lights removed and hole filled. Unused holes under hood filled. Canvas top. Body area behind the seats and in the trunk was modified to allow room for the four-link suspension setup. Custom aluminum fuel tank was made to fit the odd space left over.



Ron Francis Wire Works wiring panel, owner built mechanical tach adapter.

Electrical: Ron Francis Wire Works fuse block and wiring harness mated to stock wiring. Fuse block located on shelfwhere battery was originally located. Battery relocated to trunk.

About the owner: Ted has spent a lifetime involved in the building and racing of circle track stock cars. This car reflects that lifetime of experience. He is now "semi"-retired, and works out of his home shop in Michigan. He is currently developing a coil-over front suspension setup for the MGB (see photo below), and manufactures a complete 8 inch Ford rear axle for the MGB as well. If you are interested in a British V8 conversion but don't feel you have the time or the talent for it, contact Ted and let him build it for you. See his ad on the inside front cover of this newsletter.

Complete MGB coil-over front suspension system under development by Ted Lathrop

INTAKEMANIFOLDS

Intake manifold design is part science, part art, and a little bit of magic. Intakes are available in a dizzying array of types and designs. Looking through some of the catalogs, there are listings for Torker, A-CELerator, Tunnel Ram, Hi-Rise, Performer, Performer RPM, Port-O-Sonic, Cross Flow, 360° Equa-Flow, Ram Jet - and the list goes on. Choosing the correct intake for your conversion can be a daunting task. Get the right one, and your engine will be a sweet performer, choose the wrong one, and your engine will be a pig. In his book "How To Build Horse Power," David Vizard reported as much as 70 HP difference between various intakes on a small block Chevy.

Generally, intake manifolds come in two major categories: single-plane or dual-plane. In a single-plane manifold, there is just one hole under the carburetor; in a dual-plane, there are two holes under the carburetor. In the single-plane configuration, all cylinders of the engine draw from all barrels of the carburetor. In the dual-plane configuration, the opening under the carburetor is divided into two halves, such that one half of the cylinders draw from two barrels (primary and secondary), while the other half draw from the other two barrels.

At low rpm, the intake vacuum signal from each cylinder is fairly small. Dividing this small signal between both primaries in a single-plane manifold results in a weakened air flow through the carburetor, resulting in poor low RPM performance. At high RPM, the intake vacuum signal is high enough to draw properly through all four barrels - primaries and secondaries - so the engine runs strongly at the elevated RPM range.

The converse is true for a dual-plane intake. At low RPM, the vacuum signal from each cylinder is sent to only one side of the carburetor, resulting in a good air flow. At high RPM, however, air flow through only one side of the carburetor may be restricted, choking the engine.

As with anything, comprises may be made, but, basically, if a single-plane intake is designed for low speed operation, the high speed benefits will be lost, and if a dual-plane intake is designed for high speed operation, performance will be reduced at low speed.

All of the other intake designs mentioned earlier are based on one or the other of the dual/single-plane principle. The first consideration, therefore, in selecting an intake should be your preferred driving style. For most of us, low speed torque will give the most pleasing results - how many of us will consistently operate our engines in the 5000 and RPM range? Once that has been decided, your search for an intake can begin.

You have two options for selecting an intake. The first option is to spend time on a dyno, swapping intakes until you find the right one. If this option is open to you, then you probably won't be reading this article. The other option is to compare results found by others, using the same or similar engine combination - cam, compression ratio, bore/stroke, etc - as you are using. If you have a Chevy or a Ford V8, you're in luck, because all of the major "hot rod" type magazines run frequent articles on performance testing of various intakes, and a search through back issues at your local library should give you all the data you need for your decision.

For those of you using the BOP/Rover engine, you're not as lucky, as the mainstream magazines seldom report on these engines. Here, your best source of information is this newsletter, and contacts with other BOP/Rover owners.

BOOK SHELF

Engine Swapping, Peterson Publishing Company, ISBN 0-8227-6014-2

An excellent source of tips, techniques, and how-tos. Notwritten specifically for British cars, it does, however, include two Jaguar V8 conversions. This book has a wealth of information, covering all aspects of engine swapping. A cover-to-cover read of this bookwouldbe a great help before beginning your own swap.

RUBBER TO CHROME BUMPER CONVERSION:

From the greasy hand of Dan LaGrou comes this handy little adaptor bracket for attaching an early chrome bumper to a later model rubber bumper MGB body. The sketch provided by Dan, right, pretty well describes how to make the bracket - nothing at all sophisticated about it.

To use it, simply bolt it to the existing bumpermounting points on the body, using the two 0.468 inch holes, and bolt the chrome bumpermounting bracket to the 0.53 hole.

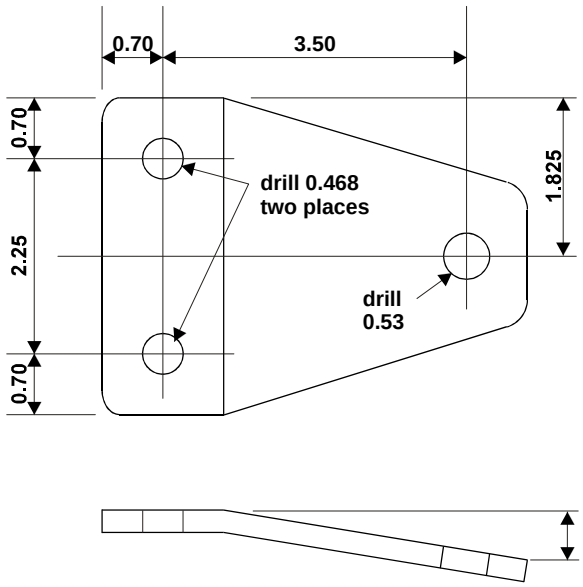
In addition to the bumper mounting bracket, you will two filler pieces to weld under the taillights to fill the gap left by the removal of the rubber bumper. These filler pieces are available from British Victoria (part number 11-652) or from Steelcraft (part number MB-101). These items cost around $10.00 each, but may require some “fiddling” to get them to fit properly.

You will also need the two little chrome pieces that fill the gap between the bumper and the body, and these may be purchased from either of the majorMGparts suppliers.

If you have web access, you can check out photos of a similar conversion on the website:

http://www.mgb-chrome-alone.freeserve.co.uk/5-3.htm

This website also has a link to articles on converting the front bumper as well. Unfortunately, the owner of the website didn’t give his name, so credit for the site can’t be given here. V8



Fabricate from 1/4” steel plate
Sketch not drawn to scale

ROVER 3.5L Rebuilt Engines US$1,500

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