

Congratulations, you have just bought yourself a fun little machine. Here are a few tips that will help you get the most out of it, in no particular order:

DRIVING ON THE STREET

As you can see, this car has a very limited ground clearance, so care is needed when driving over rough roads or speed bumps. Normal city streets and highways are no problem, but avoid driving onto or off of driveways or roadways that have a steep slope from the main road.

If you wish, you can raise the ride height by adjusting the coil-overs, but at the risk of reduced handling performance.

PARADES

You won't be able to participate in parades if they are going to drive at speeds below about 8-10 mph. The car wants to buck at those low speeds if running at a steady pace. Driving through a crowded parking lot, for safety sake you should drive at that speed. I believe that the EFI can be tuned to eliminate that. More on that later

AIR CONDITIONING

Although the A/C unit cranks out ice cold air, it won't freeze you out on hot sunny days. Too much glass area for the sun, and too much air leaks around the windows, but it will keep you cool. Adjusting the mode switch to "BI" will put air out over your feet helping to stave off the heat from the engine, as well as blowing through the dash vents. Flipping the switch to "floor" will really cool off your feet, even on a hot day.

When changing fan speed from HI to OFF, be sure to pause a moment in one of the intermediate positions before turning off; if you go straight to OFF, the fan will continue to run on HI.

The fan speed control is loose, but only needs the set screw to be tightened to fix. Problem is, to do that you need to remove the fan control from the rear of the console, which means the console will have to come out. More on that later.

RADIO

I have disconnected the radio because the memory was placing a high current drain on the battery when the engine isn't running (about

150ma). That's ok as long as you drive the car often enough to keep the battery charged. If not, you will need to place the battery on a trickle charger. More on that later.

If you want to reconnect the radio, it just slides out of the console with out tools, and the connector plug will be seen behind the console.

I don't have an antenna hooked up, just a piece of insulated wire hanging out the back. It works well enough for local stations, but if you want reception in a remote area, you will have to install a real antenna. I never listen to radio when on a trip because it is too hard to find a good station, and they fade away quickly when you do. I just stick to CDs and flash drives.

RELAYS

The car uses three different types of relays, none of which are available from your local auto parts store. Relays rarely fail, but just as with every thing else, they may. I have included spares for each type just in case.

The "ice cube" relay for the cooling fan looks just like the 5-pin relays at your auto store, but it is not. The 5-pin relays from the auto store have an 87 and an 87a contact, while this 5-pin relay has two 87 contacts. The 87 contacts are hot only when the relay is actuated: the 87a contact is hot when the relay is not actuated.

RELAY PANEL

The relay panel is mounted above the passenger's foot well and is covered by a metal panel to provide protection from an errant foot. The panel is fastened by three phillips head fasteners: two 1/4-20 bolts in the front and one metal screw in the back. Except for replacing a relay, you will never need to access the relay panel.

FUSE BOX

The fuse box is located on the firewall on the passenger's side, and is covered by a removable lid. All fuses used in this car glow when they are blown, so finding the bad fuse is easy. To find any of the ignition on circuits, the ignition switch will need to be on to see the glow. I have laminated a chart showing the location and function of all fuses to help you find them without having to look at the

schematic. This chart is located in the cubby box for easy reference.

REMOVING CONSOLE/DASH

A lot easier on this car than on a regular MGB. All wiring to the dash connects to the rest of the car with plugs or a terminal strip for the LEDs.

The dash must be removed before the console can be moved. To remove, pull the head rail off by pulling forward - it is attached by a series of plastic pins/sockets and pulls off easily. Under it, you will find a series of screws that must be undone.

Under the dash on both sides are aluminum strips that connect the dash to the support bar. on the passenger side there is an electronic module attached which must be tied up out of the way. This module is for the heater control valve. The valve controller supplied by Vintage Air was defective, so I wired a replacement, bypassing the original control.

On the driver's side you'll find a small push button. this was intended to wire to a remote garage door opener back when they were large, clunky devices intended to be mounted on the sunvisor. By the time the car was finished I had replaced my door opener with a new one that had a key-fob sized remote. This clipped nicely over the upholstery panel so the button was not needed. I hate to have door openers hanging off the visor!

Before you remove the dash disconnect the plugs and undo the LED connections from the terminal strip. I have marked the LED leads with 1, 2, 3, 4, or 5 black marks to help identify which lead goes where.

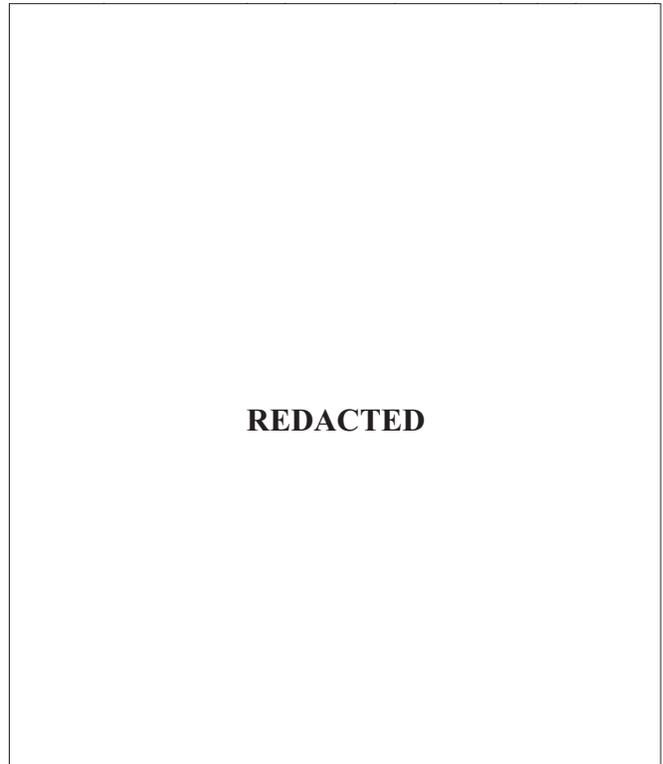
Once the dash is removed you can move the console. But be careful not to move it too far, as there is a capillary tube running from the A/C control to the evaporator coil - don't want to damage that. Four screws connect the console to the dash support.

BATTERY

I don't know if you are familiar with MGBs or not, but the battery is located under the package tray behind the passenger seat. To get to it, lift up the front portion of the rear deck and you will see a black panel with six Dzus fasteners. Undo these and lift the panel and you will see the battery.

Fortunately, you don't have to get to the battery to charge it - you can do it from the alternator. Just connect the positive clip from your charger to the post coming from the brass stud on the alternator. slip the rubber boot back on the yellow wire. The negative pole, of course, goes to a convenient point on the engine block.

REMOTE DOOR LOCKS/SECURITY



DASH LAYOUT

The switches are, from left to right:

Starter: 3 position SPDT mom on-off-on. Operating the switch either up or down will turn the starter, which ever seems comfortable for you.

Ignition: DPST 2 position maint on-off. This takes the place of the ignition key.

Door locks: 3 position SPDT mom on-off-on. Pushing the switch up locks the doors; pushing down unlocks.

Headlights/marker lights: 3 position DPDT maint on-off-on. Pushing down turns the parking

lights on. pushing up turns on both the parking lights and the headlight.

Windshield wiper: 2 position DPST maint on-off. This switch turns the wipers on to the low setting.

Windshield washer: 3 position SPDT mom on-off-on. I added this just in case I ever decided to add a WS washer. I never did, do this switch could be used for something else if you wanted to. It's wired to the plugs from the dash to the rest of the car.

Windshield wiper: 2 position SPDT maint on-off. The switches wiper speed from low to high.

Cooling fan: 2 position SPDT on-off. The switch will over ride the fan temperature switch on the radiator. I recommend turning the fan on when you know you will be sitting in traffic - it's easier to keep the temperature down than it is to bring it down

Courtesy lights: 2 position SPST on-off. Turns on the footwell and the hatch lights

Glovebox:

There isn't one, just the glovebox lid. all the wiring and A/C hoses filled up the space behind the lid, no room for a box. to replace it, I made a small cubby box to fit the space where the inoperative CD changer used to be. I made a wood cover for it that doesn't look to bad, but it really should be covered with upholstery to match the rest of the interior. The car comes with two yards of matching material and it wouldn't cost much to get an upholstery shop to make one for you if you'd

I could have redone the side panel to match the other side, but when the carpet was put down it didn't go far enough under the changer so there would have ben a bare spot. It's a matter of the lessor of two evils!

led indicators:

Amber: Ignition is on..

Green: Turn signals and hazard indicators.

Blue: Hi beam indicator

Left side red: Cooling fan is on.

Middle red: System shut down.

Right side red: Parking brake is on.

You may see the cooling fan led glow faintly at highway speed, as the fan is acting like a generator back feeding the circuit. This is a good thing, as it shows you that the fan circuit is intact.

I hope you never see the middle red led come on. That means your EFI has been shut down by the impact switch, which means you ran into solid object or a severe pothole hard enough to trigger the impact safety switch. To reset it, reach up under the dash on the driver's side and find the small cyclinder like device with a red top and press the button on top.

CONSOLE LAYOUT

The switches are, from left to right:

Drivers window: 3 position DPDT mom on-off-on. Up raises the window and down lowers it

Drivers seat heater: 3 position DPDT maint on-off-on. down for low heat, mid for off, and down for high heat. I haven't used them for years, so I don't know if they work or not. They did last time I used them. I installed them for my wife who has a back problem and the heated seats were a comfort on long trips, which we don't take anymore.

Passenger seat heater: Same as driver's side.

Passenger window: Same as driver's side.

POWER OUTLETS:

Top socket: has power only when the ignition is on

Bottom socket has power all the time, ignition on or off.

SWITCHES

All switches are Carling Technologies metal sealed with 1/4" spade terminals. I buy mine from Waytek Wire, but you can find them on other sites as well.

HORN:

If you press the center of the horn button, the horn will work every time, but if you press the rim, it may or may not work

CD CHANGER

The CD changer was defective from the factory, but by the time the car was finished the warranty was off. I removed it and replaced it with the cubby box mentioned earlier. The multi plug connector cable is still there if you want to put another changer there (is the new changer is compatible with the cable)'

COURTESY LIGHTS

The courtesy light come on when either the driver's door or the hatch is open, and with the dash switch. The passenger door doesn't operate the lamps because we overlooked the ground wire for the passenger side door jam switch.

SPARE TIRE

There is no room for a tire as big as those on the car, so I created a "space saver" spare. It's only meant to get you to a safe place where you can find help. The wheel studs that or one the car are to long to use the standard lug nuts with the spare, so a set of open ended lug nuts are provided.

JACKING POINT

I don't know if you are familiar with MGs, but the jacking point on the original was a tube welded to the bottom of the car for use with a special jack. I took the tubes off because I thought they were ugly, but the jacking point is still the same. It's located just below the front edge of the window on both sides. If you run your hands under the car at that point you can feel the location of a crossbeam, and that's where you want to place the jack. I keep a small piece of wood in the trunk to put between the jack and the car to prevent scratching the paint.

I also include a length of dowel rod in the trunk with a steel pin on one end and a dimple on the other. The pin goes into the hole on the frame rail and the dimple goes under the pin on the boot floor. This is to hold the floor up while you get things out of the trunk.

GASSING UP

Because of the narrow space between the fender and the upholstery the filler tube had to make a sharp turn getting to the tank. To fill up, you need to angle the fuel nozzle CCW so you can get the nozzle deeper into the tube. If you just push it in as usual, it will hit the back of the bend and fuel will spill out. Even then you have to pump slowly to avoid spills. Still though, better than the original.

HEADLIGHTS

The headlight dip switch is located on the steering wheel tilt lever - push once for high, push again for low, and vice versa.

If the driver's door is open when the headlight or parking lights are on, a chime will sound to tell you to turn them off before leaving the car. However, should you want to leave the lights on for some reason without the engine running, just close the door. This is better than having the chime sound when the lights are on but the engine is off because sometimes you want the light on without the engine running.

Unfortunately, we tied the buzzer switch to the same ground as the as the courtesy lights, so the buzzer will sound if you are using the courtesy lights with the lights on.

PARKING BRAKE

This is one of Wilwood's failures. I have found on the internet that many people have the same problem I have, that the brake simply doesn't work well. It's mounted in a "free-floating" fashion, which means it's loosely mounted, which means it rattles. To stop the rattle, we stuck short pieces of rubber fuel line between the caliper and the hacking plate. If you ever hear a loud rattle from the rear, that means the hose pieces hard fallen out. You can find the data sheet for this disappointment at https://www.wilwood.com/Calipers/CaliperList?s_ubuntu=Mech%20Spot

NEUTRAL SAFETY SWITCH

The transmission is equipped with a safety switch that will not allow the starter to engage unless the transmission is in neutral.

CLUTCH

The crew at Fast cars likes to set up the clutch pedal so it is engaged immediately as the pedal comes off the floor. If you have trouble shifting, it's probably because you haven't depressed the pedal sufficiently.

BRAKES

The master cylinder is stock MGB, and is a bit smaller diameter than one would expect with the larger disk brakes. This means that the pedal will have more travel than it would have with a larger bor MC. This also means that for a given pedal pressure you will have a higher brake line pressure. It may seem like the brakes or soft when you first try them, but you will become accustomed to them and you'll find that they do a good job of stopping

FLUIDS

Both the clutch and brake master cylinders use DOT3 fluid.

The transmission uses auto transmission fluid At5

The engine uses five quarts 10W-30 or 10W-40 oil.

Differential uses 85W-140, with CE-5012 friction modifier additive.

Gas: Ford recommends 93 octane

EFITUNING

The EFI is tuned with a small hand held proگرامing box which plugs into the CPU with a

computer plug. The cable from the CPU can be found under the carpet behind the dash support. Pull it out and plug in the programming box. You will need someone to drive while you make changes, OR make changes while you drive. Instructions for programming can be found in the Edelbrock installation and instruction manuals I've included.

PAINT CODE

Paint used is Omni AU base coat OEM 6R4, code number MBC5648, Color is 2003 Toyota Prius electric green mica.

INSTRUCTION MANUALS/DATASHEETS

I have included factory instruction manual for most items on the car or factory data sheets. For anything that doesn't have a manual I will try to answer any questions you have as best I can. For any thing else, you can contact Fast Cars, inc at www.fastcarsinc.com.

Also included is a complete set of drawings for the wiring system, including schematic, panel wiring, and wire routing drawings.

It has been commented on by some that the switches and light on the dash and console have no indication as to their function. I've always replied that no one except me needs to know. However, since I let others drive the car, I have printed copies of the dash layout and had them laminated to store in the cubby box for their use.

TIRE SIZE -	215	60	15	SPEED/RPM CHART													
TIRE DIAMETER -	25.16																
TIRE REVS PER MILE	802																
TIRE WIDTH -	8.46																
REAR END RATIO	3.25																
GEAR	GEAR RATIO	RPM/10MPH	RPM AT MPH														
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
1	2.95	1281	1281	2562	3843	5124	6405	7686	8967								
2	1.94	842	842	1685	2527	3370	4212	5055	5897	6739	7582	8424	9267				
3	1.34	582	582	1164	1746	2328	2909	3491	4073	4655	5237	5819	6401	6983	7564	8146	8728
4	1.00	434	434	868	1303	1737	2171	2605	3040	3474	3908	4342	4777	5211	5645	6079	6514
5	0.73	317	317	634	951	1268	1585	1902	2219	2536	2853	3170	3487	3804	4121	4438	4755
GEAR	OVERALL RATIO	MPH/1000RPM	MPH AT RPM														
			1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
1	9.59	7.81	12	16	20	23	27	31	35	39	43	47	51	55	59	62	66
2	6.31	11.87	18	24	30	36	42	47	53	59	65	71	77	83	89	95	101
3	4.36	17.19	26	34	43	52	60	69	77	86	95	103	112	120	129	137	146
4	3.25	23.03	35	46	58	69	81	92	104	115	127	138	150	161	173	184	196
5	2.37	31.55	47	63	79	95	110	126	142	158	174	189	205	221	237	252	268

BRAKE LIGHTS	10A 1	10A 2	STARTER SWITCH
A/C BLOWER FAN	25A 3	10A 4	A/C CONTROLS FAN RELAY
LH SEAT HEATER	10A 5	10A 6	RH SEAT HEATER
STARTER RELAY	20A 7	10A 8	RADIO POWER
EFI CONTROL RELAY	10A 9	10A 10	GAUGES
TS FLASHER REMOTE CONTROL	10A 11	10A 12	WS WIPERS WS WASHER
CIGAR LIGHTER SEAT HTR LEDS	10A 13	20A 14	POWER WINDOWS
PARKING LIGHTS RADIO MEMORY	10A 15	10A 16	CIGAR LIGHTER
HAZARD FLASHER DOOR LOCKS	10A 17	30A 18	COOLING FAN
RELAY COIL PWR REM CONT PWR COURTESY LIGHTS	10A 19	20A 20	HORN

