MG TA & TB Electrical Circuits

Richard Storms
Abingdon Rough Riders
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Version 1.0

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Revision Log

This is a working document, as such changes will be made as new information emerges, enhancement to improve the readability or errors are found. Below is a list of these updates.

September 13, 2020 – Version 1.0 Initial Issue

MG TA & TB Electrical Circuits

Introduction

Background

After I completed the articles on the TC and EXU Wiring, I thought it would be a challenge to do one on the TA and TB. Since I never worked on either model the first-hand knowledge was zilch. The only real documentation I had was some diagrams printed in a number of MG manuals and a few web sites. I soon found myself attempting to find how the CJR3 control box worked, a physical dipping headlight and a switch with a variety of internal connection combinations. But that's what made it fun.

Overall the wiring between the TA and the TB are identical except for the headlights and the Horn Push and Dipper Switch. These are covered in the individual circuits.

I believe I got it right, if not please let me know at TCStormer01@Gmail.com and I will update the document.

Nomenclatures

Some notes regarding labeling of item:

- In all cases "Left" is the passenger side, "Right" is driver's side.
- LH is Left Hand, RH is Right Hand
- Sw is Switch
- w/ stands for With
- The names Generator and Dynamo are interchangeable. I have chosen to use Generator
- Early TAs are cars made in 1936 only

References

Blower, W. E. 1952, *The MG Workshop Manual From "M" Type to "T.F. 1500"*

A website titled "The M.G. TA" located at:
http://www.billdavis.org/MGTA/index.html

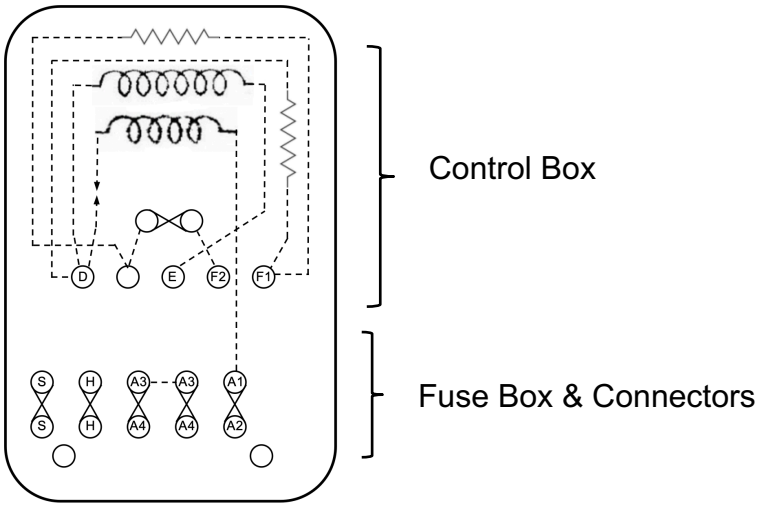
And of all things a website for the Austin Seven Club at:
http://www.austin7.org/Technical%20Articles/Dipping%20Solenoids/

Multiple Circuit Components

Four of the components are used in multiple circuits. Since each circuit description only deals with the wiring that is used by just that diagram, I'm including an overall look of all the connections used by each of these components.

CJR3 Control Box

The control box is broken down into two halves. The top is the actual control box used to limit voltage from the generator and housing the Cut-Out controls, while the bottom half acts as both a fuse box and a wire terminal connector.



Control Box Connections

TA & TB

Terminal	Wire Color	To
D	Yellow	Generator
		Charging Lighting & Ignition Switch (D) – Early TA Only
E	Black	Ground
		Petrol Pump
		Horn Push & Dipper Switch (5)
F2	Yellow & Green	Charging Lighting & Ignition Switch (F2)
		Generator
F1	Green	Charging Lighting & Ignition Switch (F1)

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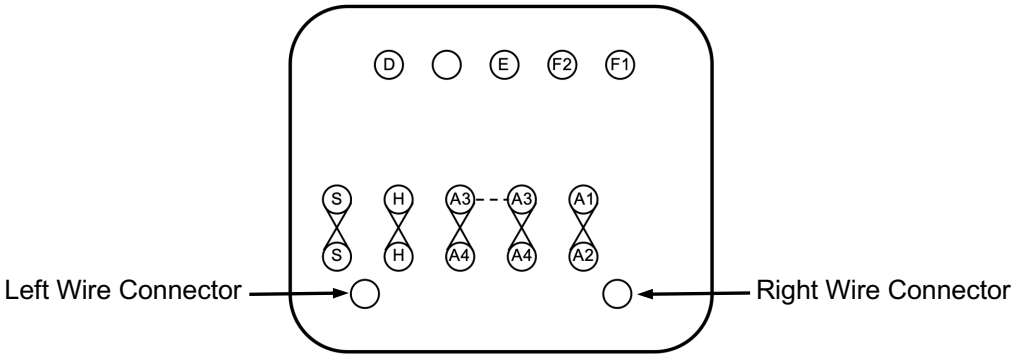


Terminal Connections

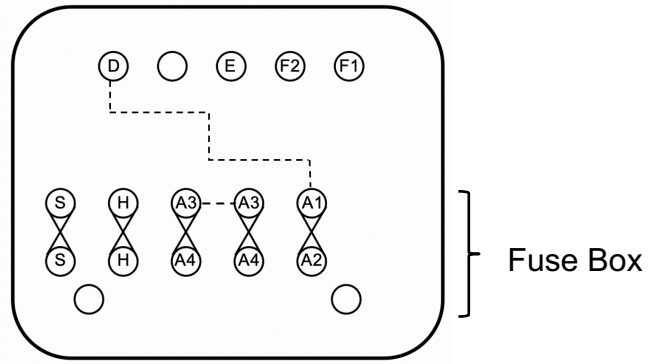
TA

Terminal	Wire Color	To
Left Side	Red & Black	Horn Push & Dipper Switch (2)
		Left Side Headlamp (Dipper Solenoid – Early TA Only)
Right Side	Yellow & Purple	Horn Push & Dipper Switch (5)
		Horn

TB

Terminal	Wire Color	To
Left Side	Red & Black	Horn Push & Dipper Switch (2)
		Right Side Headlamp (via connector – Also Late TA)
Right Side	Yellow & Purple	Horn Push & Dipper Switch (5)
		Horn

MG TA & TB Electrical Circuits



Fuse Box

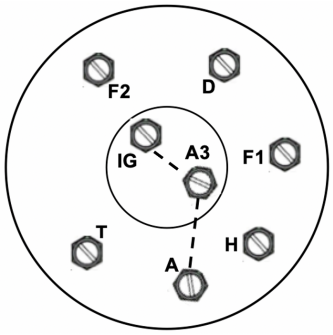
TA & TB - Top

Terminal	Wire Color	To
S	Red & White	Charging Lighting & Ignition Switch (T)
H	Blue & White	Charging Lighting & Ignition Switch (H)
A3.1	White	Coil
		Petrol Pump
A3.2	White	Charging Lighting & Ignition Switch (IG)
A1	White & Purple	Ammeter

TA & TB - Bottom

Terminal	Wire Color	To
S	Red	Tail Light
		Left Side Lamp
		Right Side Lamp
H	Blue	Left Side Headlamp
A4.1	Purple & Black	Fog Lamp Switch
		Horn
A4.2	Red	Screenwiper Motor
A2	Purple	Stop Light Switch

Charging, Lighting & Ignition Switch (CL&I Sw)



TA & TB

Terminal	Wire Color	To
F2	Yellow & Green	CJR3 – Control Box (F2)
D	Yellow	Ignition Warning Light
		CJR3 – Control Box (D)
F1	Green	CJR3 – Control Box (F1)
H	Blue & White	CJR3 – Fuse Box (H - Top)
A	White & Purple	Ammeter (A)
T	Red & White	CJR3 – Fuse Box (S - Top)
IG	White	Ignition Warning Light
		CJR3 – Fuse Box (A3.2 - Top)

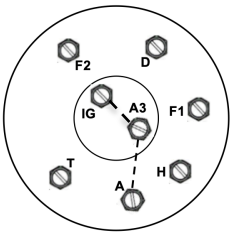
Note a connection is made from IG to A3 only when the Ignition is turned on.

Charging, Lighting & Ignition Switch Settings

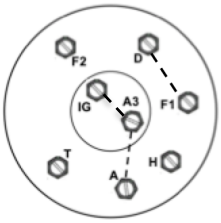
The CL&I Switch has four settings, Summer, Winter, Side and Head. When the switch is set to each of these, internal connections are made between the various terminals.

Note that the connection between IG and A3 is only made when the ignition switch is turned on. Also, A3 and A is always connected.

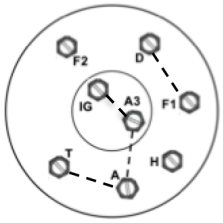
Ignition: On
Charge: Summer



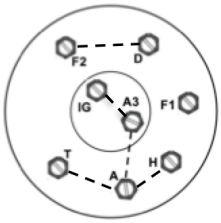
Ignition: On
Charge: Winter



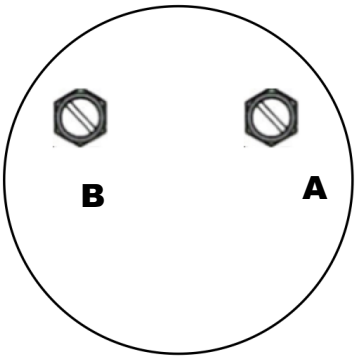
Ignition: On
Lamps: Side



Ignition: On
Lamps: Head



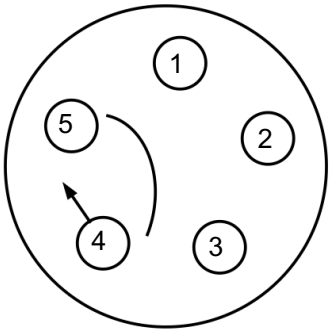
Ammeter



TA & TB

Terminal	Wire Color	To
A	White & Purple	Charging, Lighting & Ignition Switch (A)
		CJR3 – Fuse Box (A1 - Top)
B	Yellow & Black	Starter Switch
		Inspection Light Socket

Horn Push & Dipper Switch (HP&D Sw)



TA

Terminal	Wire Color	To
1		
2	Red & Black	CJR3 – Left Wiring Connection
3	Black	CJR3 – Control Box (E) – Early TA Only
4		
5	Yellow & Purple	CJR3 – Right Wiring Connection

Note: In the Early TA wiring diagram there is no ground connection for the horn push. The Black line from the E connector on the Control. Box connects to terminal 3 which controls the Solenoid circuit. There is no indication that a connection is made between terminal 3 and 4. This may be a drawing error.

TB

Terminal	Wire Color	To
1		
2	Red & Black	CJR3 – Left Wiring Connection
3	Blue & Black	CJR3 – Fuse Box (H - Bottom)
4	Black	CJR3 – Control Box (E)
5	Yellow & Purple	CJR3 – Right Wiring Connection

Basic Circuits

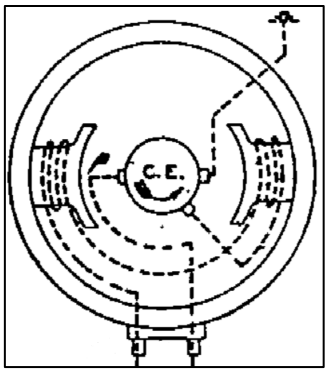
Battery Charging and Power Supply

There are a number of components that go into the makeup of this circuit and each has a part to play. The three main players are the Battery, the Generator and the CJR3 Control Box. In addition, it uses the Ammeter, the Charging, Lighting & Ignition Switch, and the Ignition Warning Light.

This circuit does more than just charge the battery. It is also responsible for providing and controlling the power for all electronic components in the car. To understand why things happen in this circuit it's necessary to examine both the Generator and the CJR3 Control Box.

Generator

The generator used by the TA & TB's is a 3rd brush "shunt-wound" type design. These generators output direct current in which the field and armature windings are connected in parallel, and the armature, connection "D", supplies both the load and the field current. The 3rd brush is a method for adjusting of the output amps, that is, the amount of power flow. It does not increase the amount of voltage. That is based on the spin of the armature.



Because of this it's necessary that you are aware of only two things:

- The two output terminals; "D" and "F2" must be connected to each other in order to complete a circuit thus produce electrical output, and
- That the faster the generator spins, the more power it will output.

CJR3 Control Box

The CJR3 Control Box, sometimes referred to as a "regulator," is the heart of maintaining a proper charge in the car's battery. It serves three functions;

- Voltage Regulator - Controlling the voltage output from the Generator through the use of resistors
- The Cut-Out – Provides the actual charging circuit for the battery, auxiliary power when additional components, such as headlights, are used, and protects the battery against Generator failure or when the car is running slow or idling, and
- Acts as a fuse box and terminal strip for connecting wire

Voltage Regulating Circuits

To control the amount of voltage from the generator the CJR3 use two resistors and the Charging, Lighting and Ignition (CL&I) Switch.

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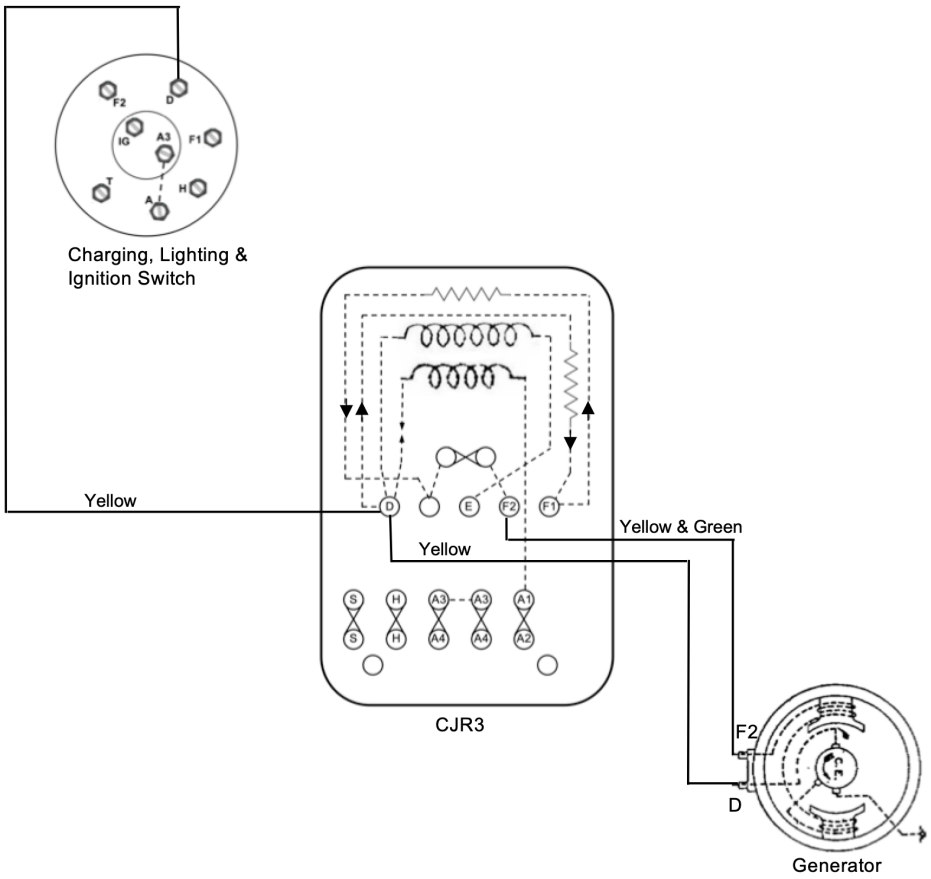
In all cases the regulating circuit begins with the Generator. Output is sent through terminal D to the Control Box where it is connected to terminal D, from there it connects to terminal D on the CL&I Switch. Depending on the setting of this switch different variations of resistance are setup to control the power flow from the generator.

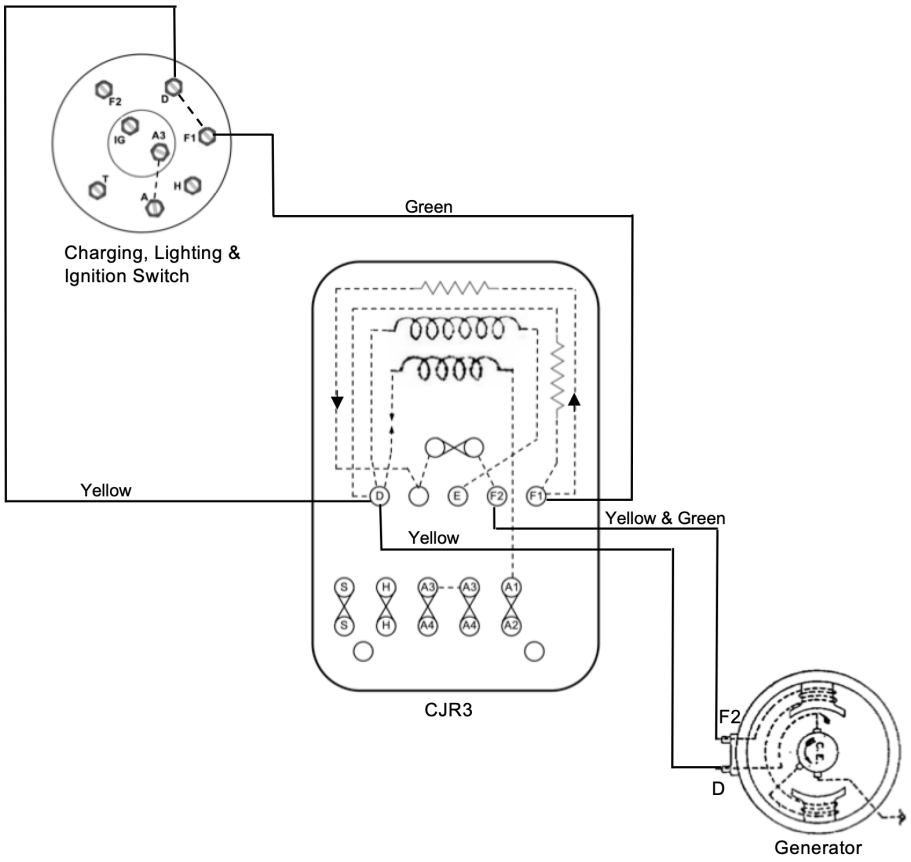
Charging set to Summer

When the CL&I Switch set at the Summer option, then maximum amount of resistance is encounter. The circuit from the CJR3 to CL&I is incomplete, so the output from the generator takes the alternative path from D on the CJR3 through the first resistor to the F1 connection, back through a second resistor to a wire connector, through the field fuse to F2 and finally back to the generator's F2 connection completing the full circuit.



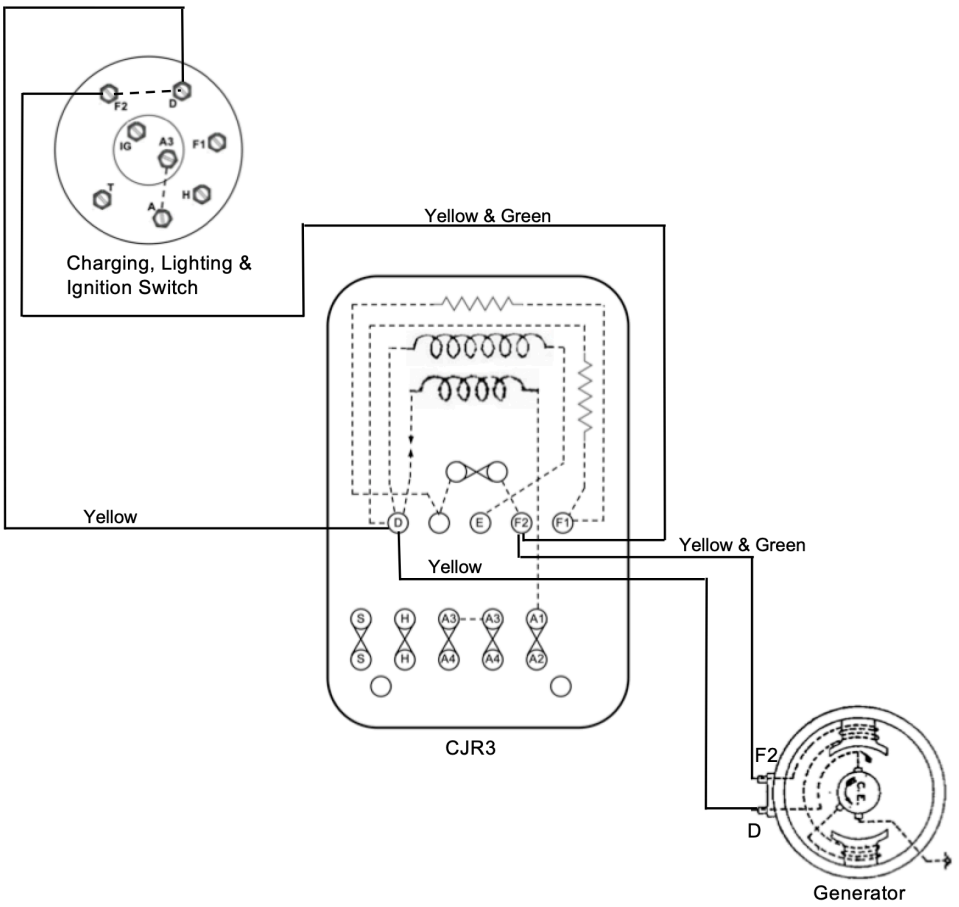
Charging set to Winter or Side

When the CL&I Switch is set to Winter or Side option, then minimal amount of resistance is encounter. On this option a connection is made between D and F1 on the CL&I Switch. This allows for a flow back to the CJR3 and connecting to the F1 terminal. The flow then proceeds through a single resistor to a wire connector, through the field fuse to F2 and finally backs to the generator's F2 connection completing the full circuit.



Charging set to Head

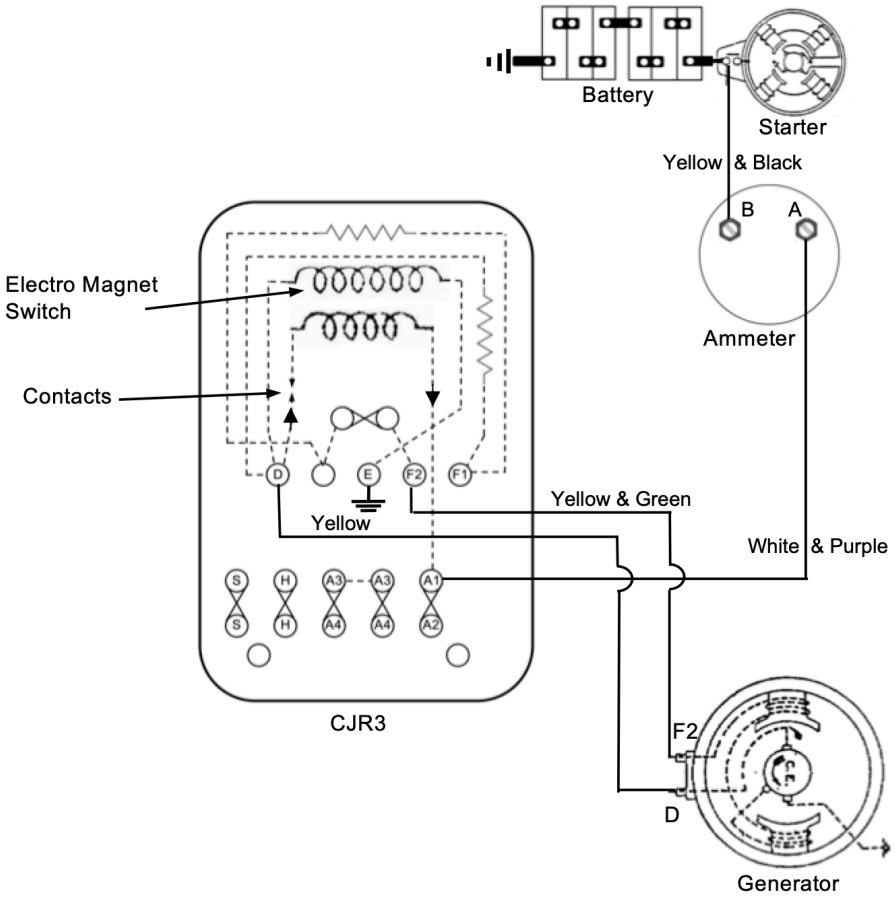
When the CL&I Switch is set to Head (for Headlights) option, then no resistance is encounter. On this option a connection is made between D and F2 on the CL&I Switch. This allows for a flow back to the CJR3 and connects to the F2 terminal. This option bypasses all the resistors and the field fuse then returns directly to the generator's F2 connection completing the full circuit.



The Cut-Out Circuit

The Cut-Out controls the flow of power to the battery for recharging and the auxiliary power required when additional electrical components (e.g. Headlights) are in use. It also performs the important task of not letting the battery discharge through the generator field windings should the generator fail or when the engine is running at slow RPM's.

An electro magnet switch powered by the generator controls the Cut-Out. When sufficient power is sent from the generator to the winding around the magnet switch, it will create sufficient magnetic pull to close the contacts and allow the power to flow from the generator to the CJR3 D terminal, then out via the A1 terminal and to the A side of the Ammeter.

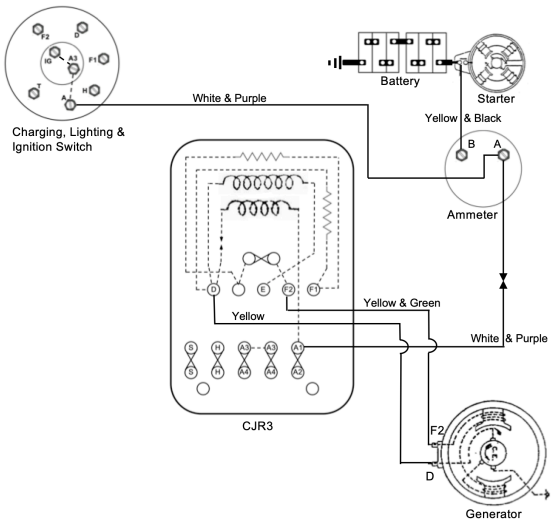


The other major function of the Cut-Out is protecting the Battery. When the Generator fails to produce enough power, either by slower speeds or failure, then the Contacts will open. If this did not happen, then power from the Battery would flow backwards through the system. From the Battery to the Starter Switch, across the Ammeter, to the CJR3 Terminal A1, then the D terminal and back to Generator and to the ground. This would result in draining the Battery.

The Charging and Auxiliary Power Circuits

Now that we have power from the Generator through the CJR3 Control Box feeding the system via Terminals A1, let's see how this circuit works.

Output from the Generator through Terminal A1 on the Control Box is sending power to the A side of the Ammeter, which is then connected to the Battery via the B terminal. At the same time the Battery is attempting to send power in opposite direction. But this means that we have power from both the Battery and the Generator being sent into the same circuit. When this happens, one of three things will occur.



- If the output from the Battery and the Generator are both the same, then the two opposing electrical forces will result in no current flow through the Ammeter, and the gauge will show neither negative nor positive charging. Output from the Generator will, however, flow from Terminal A on the Ammeter and then to connection A on the CL&I Switch and on to various components by way of the IG, H and T connections.

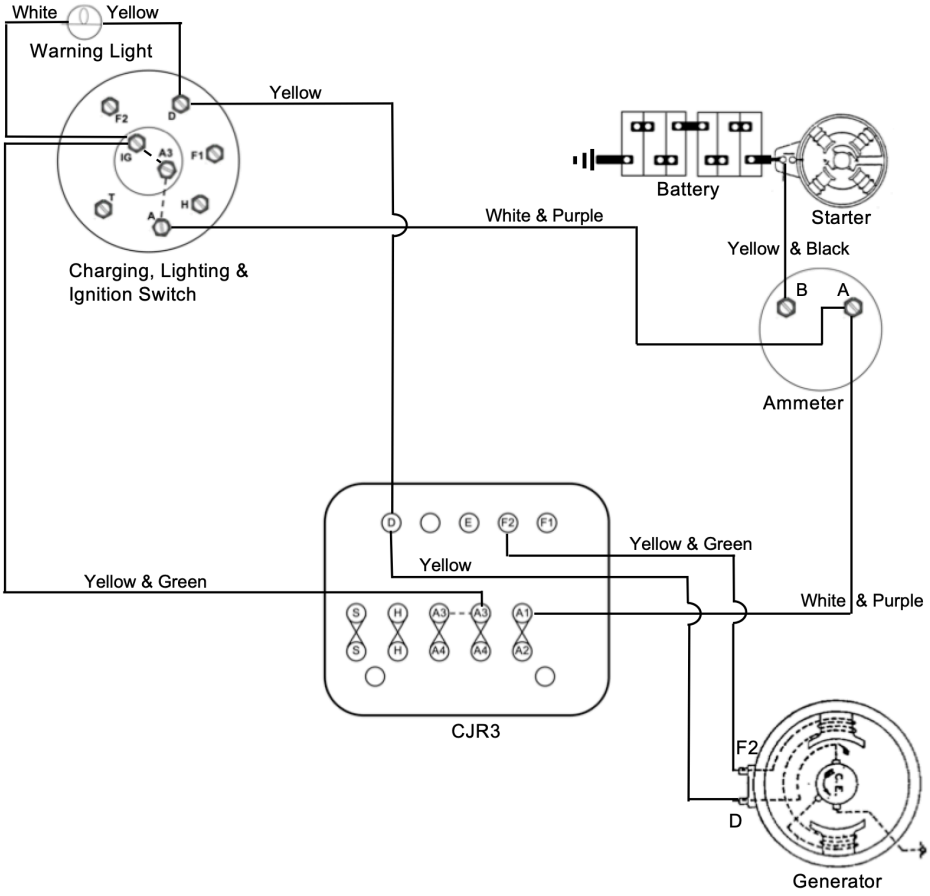
- If the Generator output is greater than the Battery, then the circuit will flow from the Generator to the Battery via the Ammeter that will register a positive battery charging. The electrical output will also flow across to the CL&I's Terminal A and to the rest of the car via connections IG, H and T.

- If the Battery is greater than the Generator output, then power will flow from the Battery, through the Ammeter to Terminal A then across to CL&I's A and out via connections IG, H and T. This will result in the Ammeter showing a negative charge, the Cut-Out will disconnect not allowing the battery to flow backwards through the CJR3 control box, and the battery will provide all power to the car.

The Ignition Warning Light Circuit

Starting at the Battery, power flows to the Ammeter terminal B, across the gauge, out terminal A, then on to the CL&I's A terminal. With the ignition on, power will flow to the IG connection and then to one side of the Ignition Warning Light. If the car has not yet started, then the circuit continues from the Warning Light to Terminal D of the CL&I Switch, on Terminal D of the CJR3 Box and back to the Generator and a ground. This completes the circuit and the light will go on.

When you start the car, and the generator begins to produce output, power will be sent in the opposing direction from the generator's terminal D into the CJR3 terminal D and on to the CL&I's terminal D. When sufficient power is generated then the two circuits will cancel each other out and the light will turn off.



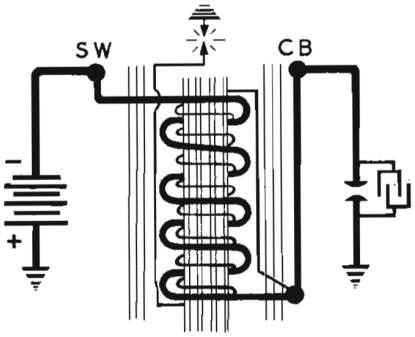
Ignition

The Ignition Circuit is rather simple one, wire wise, only a few connections. But like the Charging circuit there is an element that deserves a more in-depth review, the Coil.

Coil

The purpose of the coil is to build up enough power to create a spark across the sparkplug gap in order to ignite the air / fuel mixture in the cylinder. To accomplish this there are three parts:

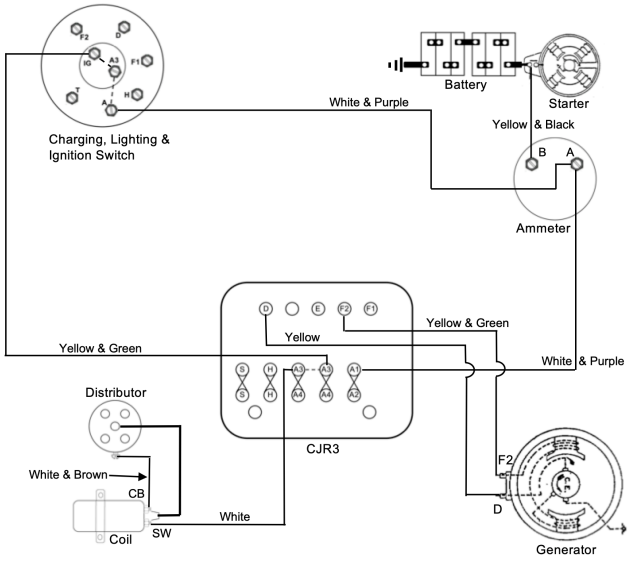
- The Primary Coil
- The Secondary Coil, and
- A Magnetic Field generated by the Primary Coil.



Both the Primary and Secondary Coils are windings around an iron core. When power is applied to the Primary Coils (show in bold) this creates a strong magnetic field within the iron core. When the distributor points open, the current will stop flowing and the Magnetic Field collapses. However, the collapse will induce a current impulse in the fine windings of the Secondary Coil that can, based on the number of windings, produce an output of 20,000 volts exiting the Coil through the H.T. (High Tension) and connection on the top of the Distributor.

Ignition Circuit

As with all circuits we begin with the battery, across the Ammeter and connects to the CL&I Switch at Terminal A. When the key is turned on, power flows to the CJR3 A3.2 fuse top, across the internal connection to fuse A3.1 then on to the SW (Switch) side of the coil and the primary coil.



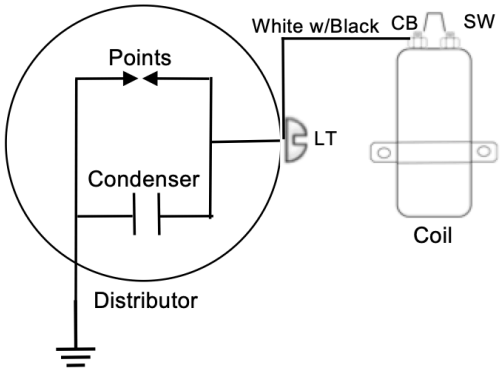
Power builds in the Magnetic Field, and when the Starter Switch is pulled the Distributor will rotate causing the Contact Points to open and close. This action will cause the Coil to perform in the manner noted above.

When the Magnetic Field collapses and converts to high voltage via the Secondary Coil it exits the Coil through the H.T. connection and

enters the Distributor Cap via its H.T. connection. From there it is sent to the sparkplugs by way of the rotor.

Condenser

There is one more item to cover, the Condenser under the distributor cap. The term Condenser is an engineering term that covers a number of items, one of which is the cylindrical item attached to the points. In electronics it's called a capacitor.



Capacitors are used in electronic circuits to store and release electricity in order to ensure that the flow of electricity is smooth. This is especially important in items such as sound systems, computers and measuring devices where uninterrupted supply is critical.

In our case the capacitor or condenser is used to protect the points by draining off unwanted voltage. When the points open and the Primary Coil circuit disconnect, and the large surge of power leaves via the Secondary Coils, a new induced voltage occurs in the Primary Coils, which can rise to as high as 250 to 300 volts. This happens just as the points open and this voltage enters the Distributor via the L.T. connection. Without the capacitor, the volts would spark across the points in an attempt to reach the ground causing severe damage to the points. With the capacitor, the extra voltage is stored in the capacitor and then released on the other side and to the ground.

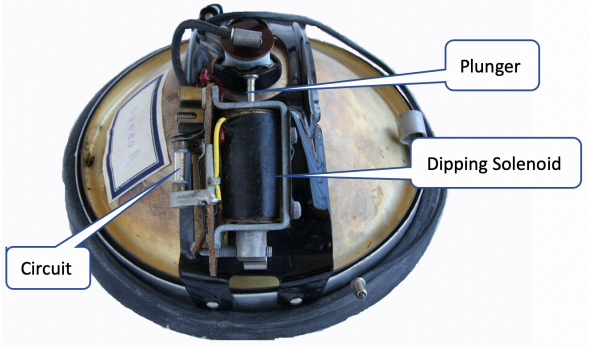
Headlights – Early TA Mechanical Dipping Headlight

Power Source: Battery and/or Generator

Ignition On or Off: Either
Switch Settings: Charging, Lighting & Ignition Switch: Head

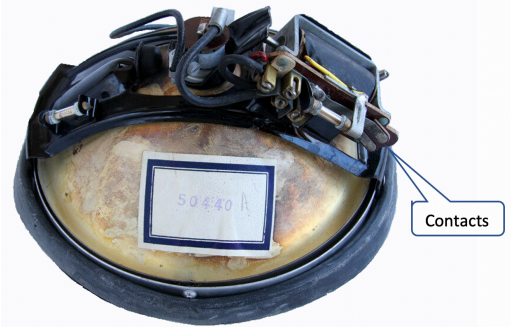
Background / Description

Before the wide spread use of dual filament headlight bulbs, the act of dipping your headlight to oncoming cars was accomplished in one or both of two ways. The first was easy. When you switched from Main to Dip one of the headlights, the offside, was switched off. The second method involved a combination of electrical components and a mechanical device referred to as a Dipping Headlight. The MGTA combined the two.



The Dipping Headlight was a device attached to the back of the nearside headlight reflector. It consisted of the bracket, four electrical connections, a solenoid with a plunger, a fuse, a resistor and two contact switches. When at rest (both contacts closed), a spring on the bracket keeps the plunger pulled out from the solenoid and the reflector in a "normal" position.

When activated, by switching from Main to Dip, a ground connection is made completing the solenoid circuit. The solenoid then pulls the plunger down causing the reflector to tilt. At the same time a piece of nonconductive material is pushed between the fixed and moveable parts of the two contacts, opening both.

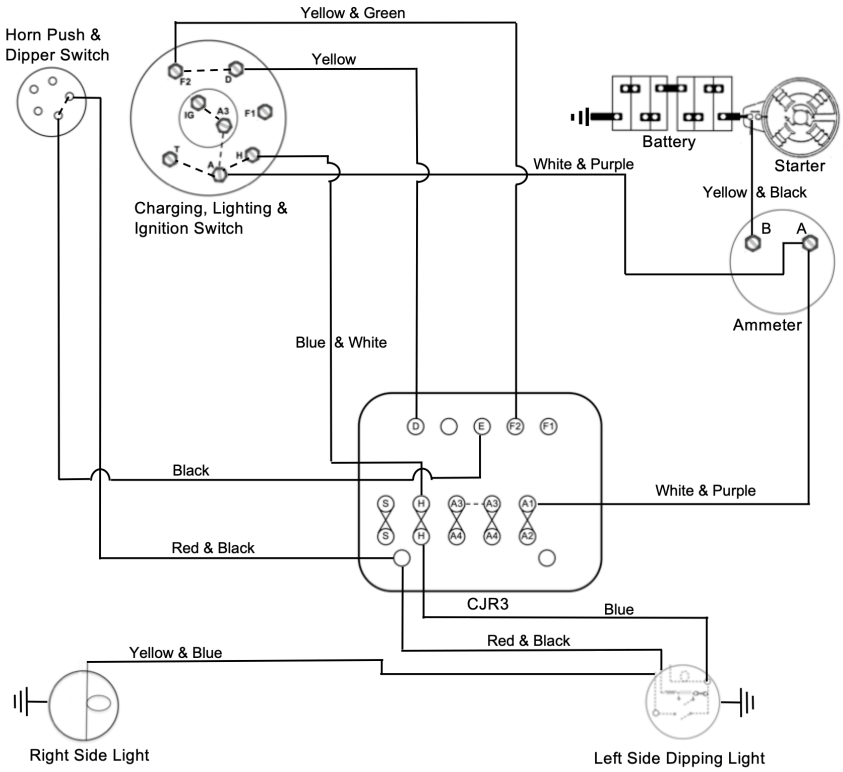


The dipping headlight was only installed on cars manufactured in 1936 (they were also used on the VA). In 1936, England passed a law outlawing the dipping unit from 1937 onward, so if you have one it's rather rare.

MG TA & TB Electrical Circuits

General Circuit

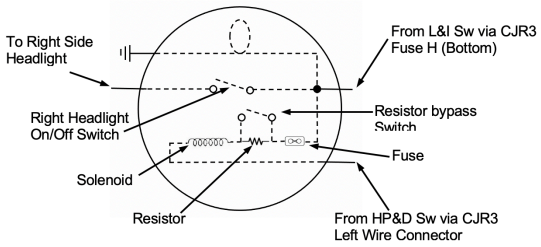
Power starts at the Battery to the Ammeter terminal B, across the Ammeter to terminal A where it joins with output from the generator. From there it crosses to the CL&I Switch. When the CL&I Switch is set to Head (Headlight), power flows from the CL&I Switch A to the H terminal to the CJR3 H fuse (top) across the fuse and to the Left-Hand Headlight. The light circuit is complete with the Headlight Bucket grounded to the frame. This line also feeds the dipping solenoid.



Power continues on to the Right-Hand Headlight via a contact connector switch in the dipping solenoid unit and again the circuit is complete via the bucket grounded to the frame.

Dipping Solenoid Circuit

When the Horn Push and Dipper Switch is set to D (dip), then a ground connection is made from the CJR3 E terminal through the switch and to the Left-Hand Headlight dipping solenoid unit. This initiates the "dipping solenoid" causing the right-hand headlight to turn off and the left headlight reflector to dip as described above. The purpose of the resistor and its bypass switch is due to the increase voltage sent to the solenoid with the right-hand headlight turned off. So, when the bypass switch is closed this causes the power to pass through the resistor lowering the voltage. It maintains enough voltage to keep the plunger down, but not enough to burn out the solenoid.



MG TA & TB Electrical Circuits

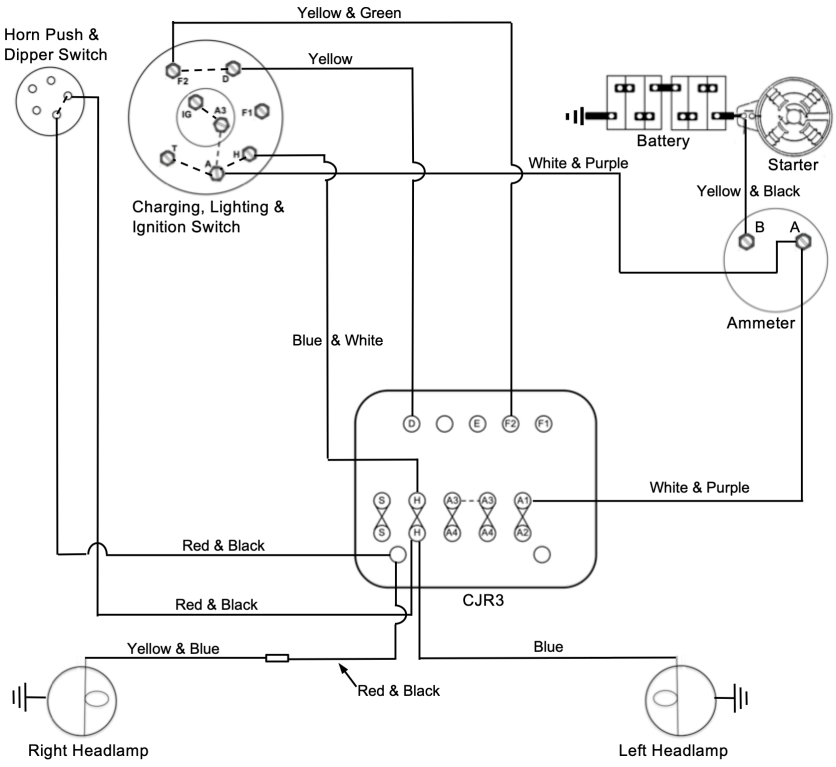
Headlights – Late TA & TB

Power Source: Battery and/or Generator

Ignition On or Off: Either
Switch Settings: Charging, Lighting & Ignition Switch: Head
Horn Push & Dipper Switch: D or H

Power starts at the Battery to the Ammeter terminal B, across the Ammeter to terminal A where it joins with output from the generator. From there it crosses to the CL&I Switch. When the CL&I Switch is set to Head (Headlight), power flows from the CL&I Switch A to the H terminal then to the CJR3 H fuse (top) across the fuse and to the Left-Hand Headlight. The circuit is complete with the Headlight Bucket grounded to the frame.

Assuming the Horn Push & Dipper Switch is set to M (main), the power from the bottom of the CJR3 H fuse connections flows to the Dipper Switch then to the left hand connection on the CJR3 Box and on to the right side headlamp. The grounding of the headlight bucket completes the circuit. When the Dipper Switch is set to D (dip), then the circuit is broken and the Right-Hand headlight is turns off.



Side and Tail Lights

Power Source: Battery and/or Generator

Ignition On or Off: Either
Switch Settings: Charging, Lighting & Ignition Switch: Side or Head

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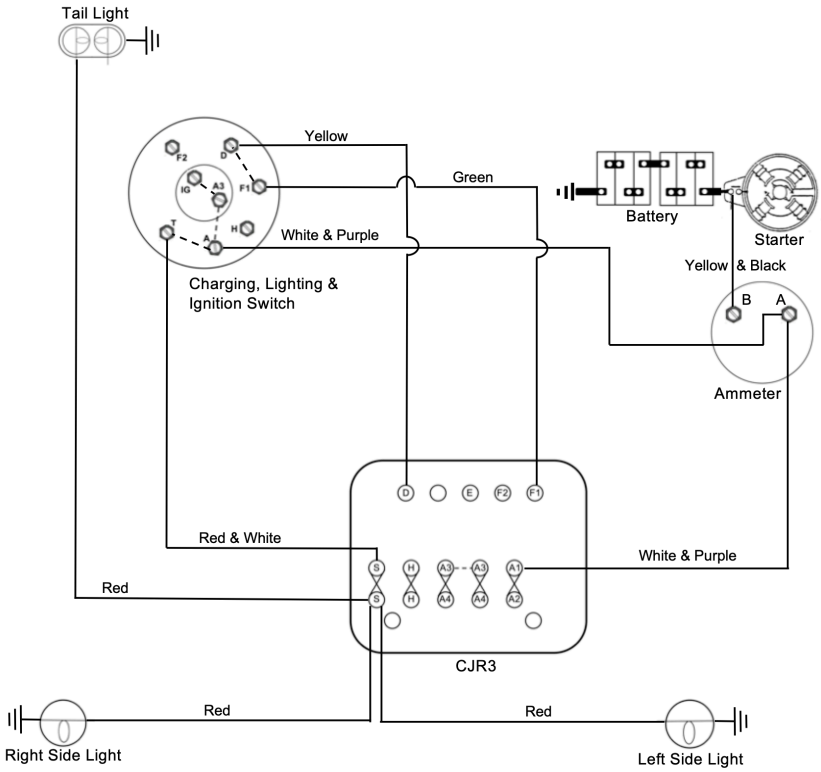
Power starts at the Battery to the Ammeter terminal B, across the Ammeter to terminal A where it joins with output from the generator. From there it crosses to the CL&I Switch at connection A.

When the CL&I Switch is set to S (Side Lights) or H (Headlights) a connection is made between CL&I Switch T's connections A and T. From connection T it continues to the top of the CJR3 S fuse connection. From bottom of the fuse power continues on to the left and right front Side Lights and the Tail Light.

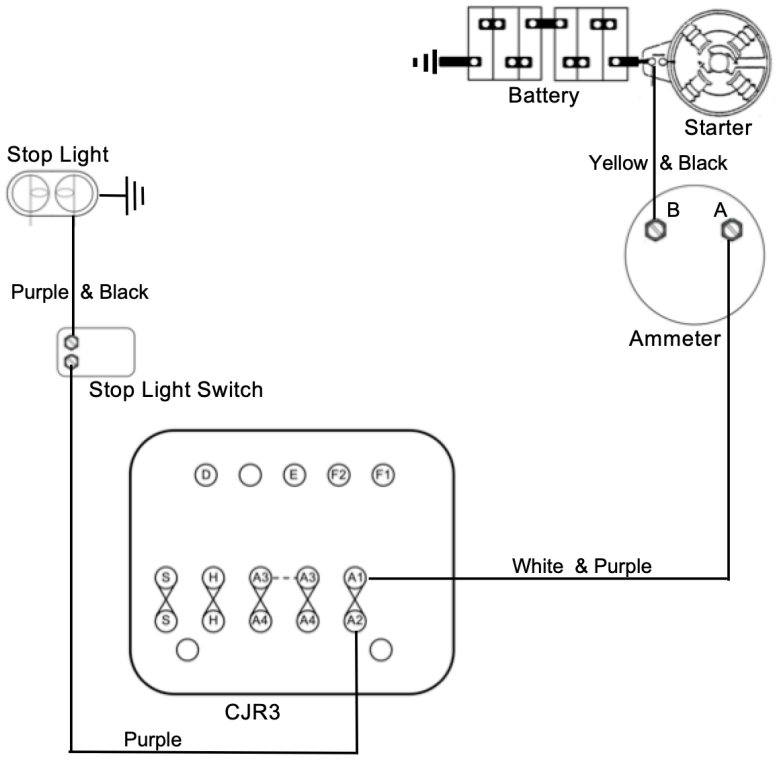


Stop Light

Power Source: Battery and/or Generator

Ignition On or Off: Either
Switch Settings: N/A

Power starts at the Battery to the Ammeter terminal B, across the Ammeter to terminal A. From there connects to the CJR3's A1 connection and fuse, across the fuse to connection A2 and then to the brake light switch. When the brakes are pressed, power is sent to the Stop Light, which is grounded to the frame.



MG TA & TB Electrical Circuits

Horn

Power Source: Battery and/or Generator

Ignition On or Off: On
Switch Settings: Horn Push & Dipper Switch: Horn Button Pushed

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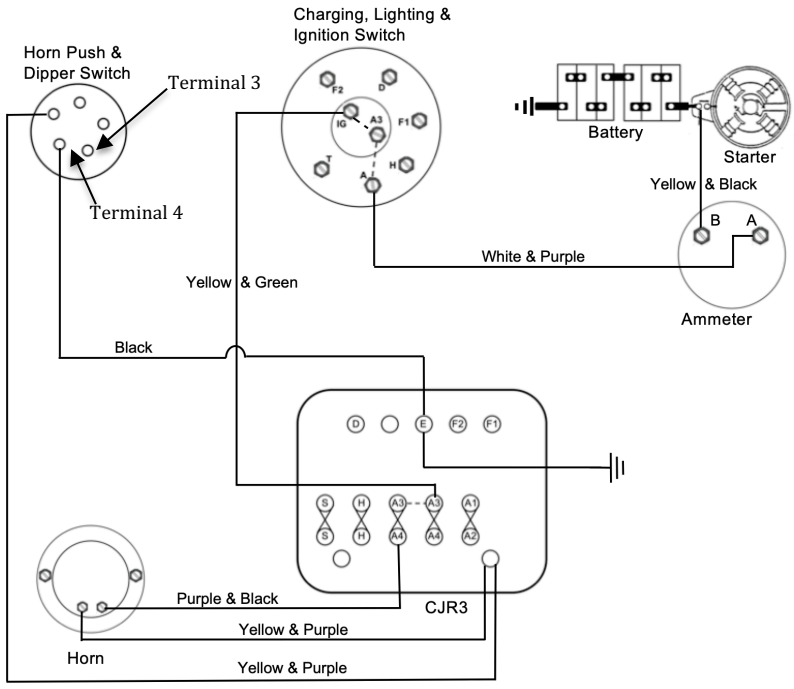
Power starts at the Battery to the Ammeter terminal B, across the Ammeter to terminal A where it joins with output from the generator. From there it crosses to the CL&I Switch at connection A, then across to connection A3 and to IG. IG is connected to A3.2 then across to A3.1 via internal connection, out A4.1 to one side of the horn. When the Horn Push & Dipper Switch is pressed, then a ground connection is made between the CJR3's E terminal and the other side of the horn, thus completing its circuit.

Note: This circuit is for late TA and TB. On the early TA, the Black connection from the control box connects to terminal 3 on the HP&D switch to control the Solenoid circuit. The wiring diagram does not show any ground connection to terminal 4.

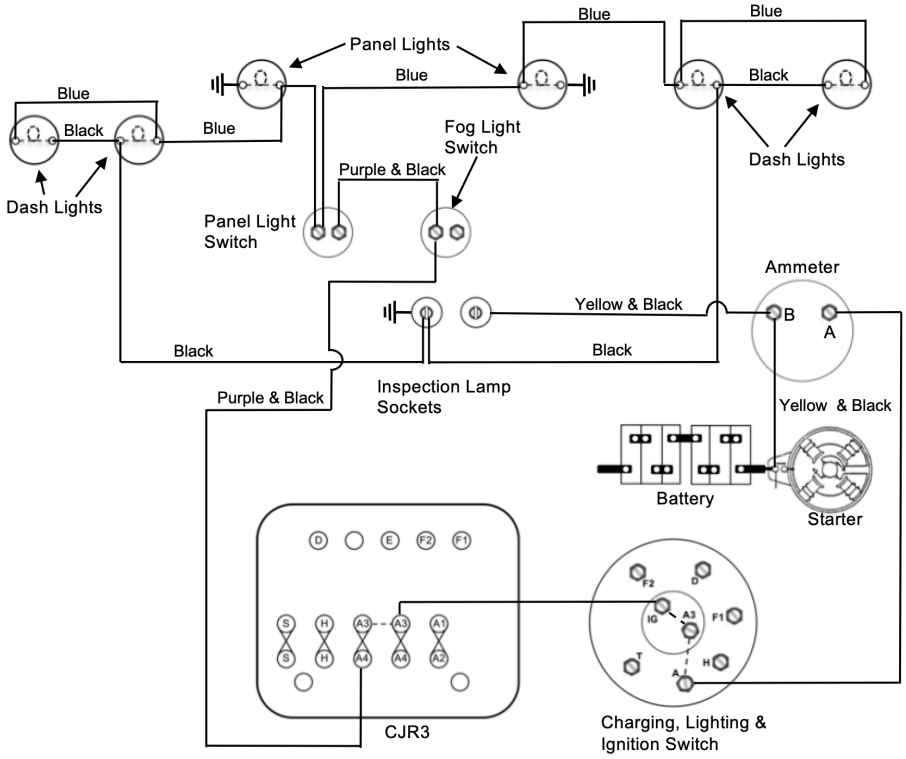


Dash/Panel Lights and Inspection Sockets

Power Source:	Dash/Panel Lights:	Battery and/or Generator
	Inspection Sockets:	Battery and/or Generator
Ignition On or Off:	Inspection Sockets:	Either
	Dash Light Switch:	On
Switch Settings:	Inspection Sockets:	N/A
	Dash Light Switch:	On

For the Dash/Panel Lights power starts at the Battery to the Ammeter terminal B, across the Ammeter to terminal A where it joins with output from the generator. From there it crosses to the CL&I Switch at connection A, then across to connection A3 and to IG. Then it connects to the top of A3.2 fuse and an internal connection to the top of fuse A3.1, finally across the fuse and on to the Fog Light Switch and to the Panel Light Switch. The Dash/Panel lights are grounded via the Inspection Light Sockets.

The Inspection Sockets are feed directly from the battery via the B connection of the Ammeter. The groundside is grounded via the panel.

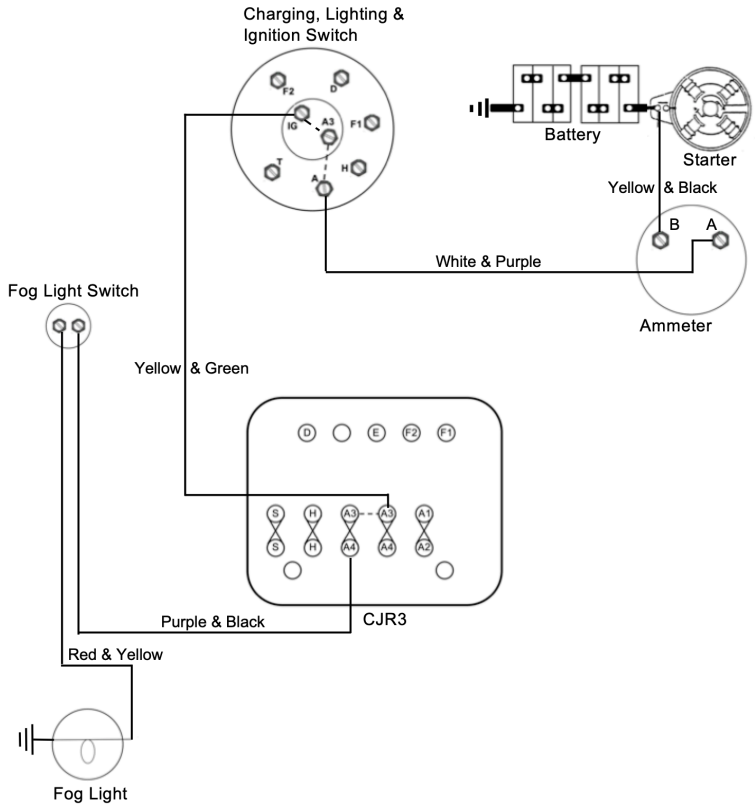


Fog Light

Power Source: Battery and/or Generator

Ignition On or Off: On
Switch Settings: Fog Light Switch: On

Power starts at the Battery to the Ammeter terminal B, across the Ammeter to terminal A where it joins with output from the generator. From there it crosses to the CL&I Switch at connection A, then across to connection A3 and to IG. From IG it connects to the top of the CJR3's terminal A3.2 that is internally connected to terminal A3.1. At the bottom of A3.1 a connection is made to one side of the Fog Light Switch. When the Fog Light Switch is turned on, then power is sent to the Fog Light which is grounded to the car frame.



Map Lights

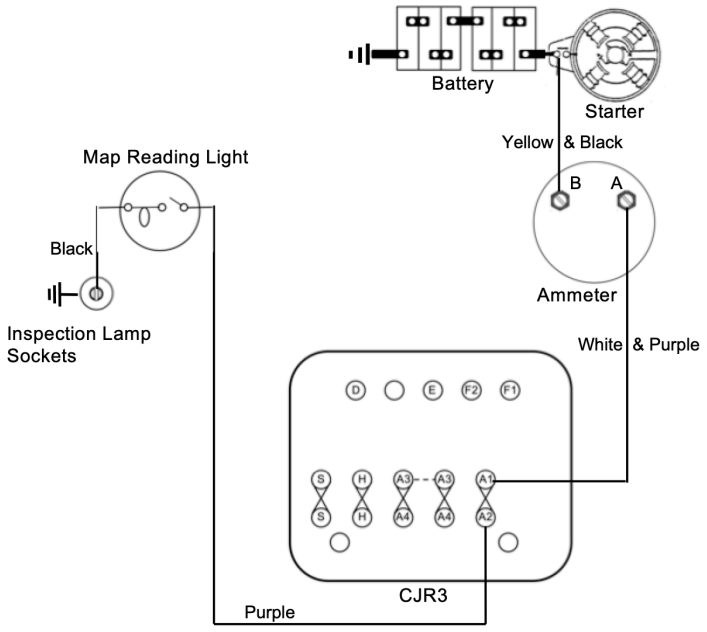
Power Source: Battery and/or Generator

Ignition On or Off: Either
Switch Settings: Map Reading Light Switch: On

Power starts at the Battery to the Ammeter terminal B, across the Ammeter to terminal A where it joins with output from the generator. From there it connects to the A1 terminal on the CJR3, across the fuse to the A2 terminal and then on to the Map Reading Light. The other side of the light is connected to the Inspection Lamp Socket where it is grounded to the panel.

There are no external switches, instead relying on the internal switch in the Map Reading Light.

Note: The wire from A2 to the Map Reading Light show Purple & Black (32) in the TA Wiring Diagram and Purple (31) in the TB Diagram.



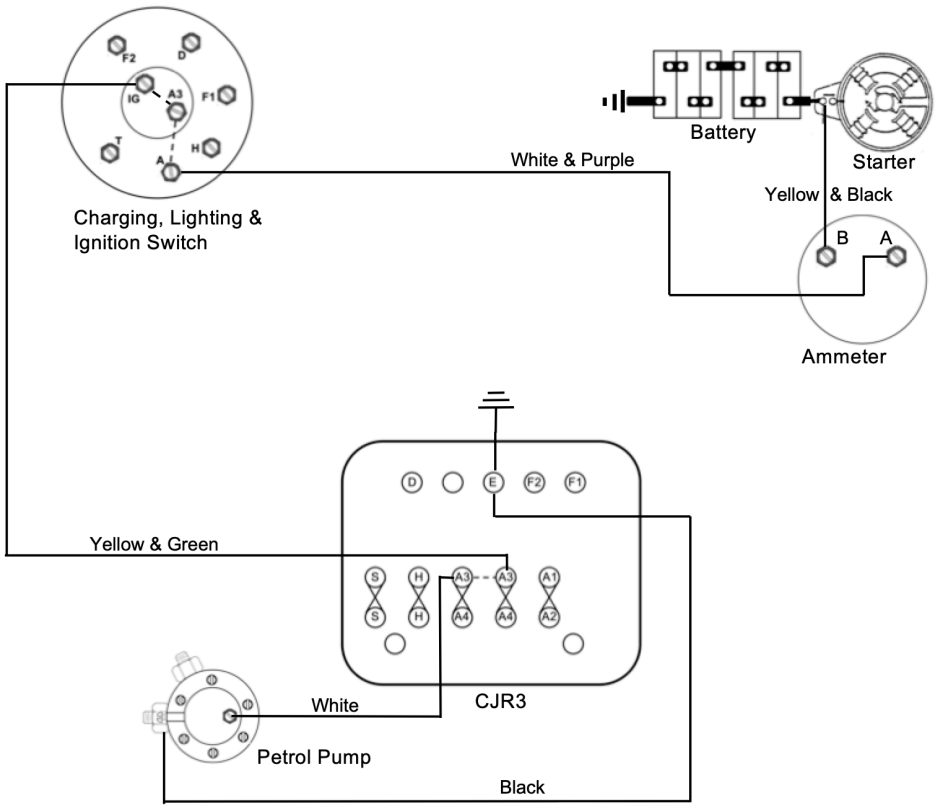
Petrol Pump

Power Source: Battery and/or Generator

Ignition On or Off: On
Switch Settings: N/A

Power starts at the Battery to the Ammeter terminal B, across the Ammeter to terminal A where it joins with output from the generator. From there it crosses to the CL&I Switch terminal A.

With the Ignition Switch turned on, power exits at connection IG and attaches to terminal A3.2 on the Control Box. It crosses to the A3.1 terminal, then directly to the top of the Petrol Pump. The pump is grounded via a line to the CJR3 E terminal.



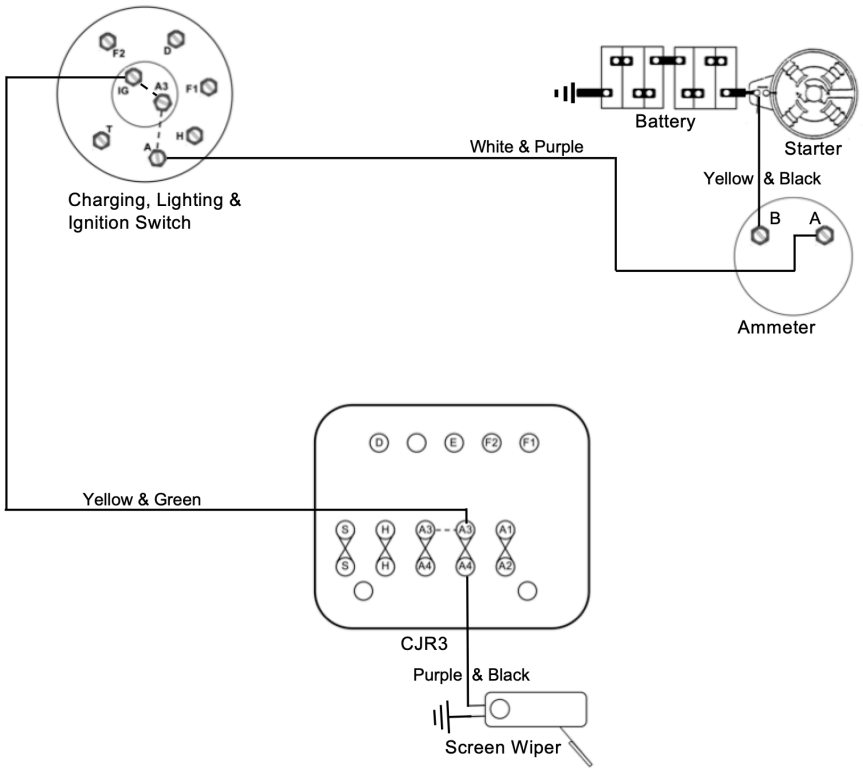
Screenwiper Motor

Power Source: Battery and/or Generator

Ignition On or Off: On
Switch Settings: Screenwiper Switch: On

Power starts at the Battery to the Ammeter terminal B, across the Ammeter to terminal A where it joins with output from the generator. From there it crosses to the CL&I Switch connection A then to A3 and finally IG. The IG terminal is connected to the CJR3 connection A3.2. Power continues across the fuse to the Screenwiper Motor, which is grounded to the car's frame.

Note: The wire from A4 to the Screenwipper Motor show Red (1) in the TA Wiring Diagram and Purple & Black (32) in the TB Diagram.

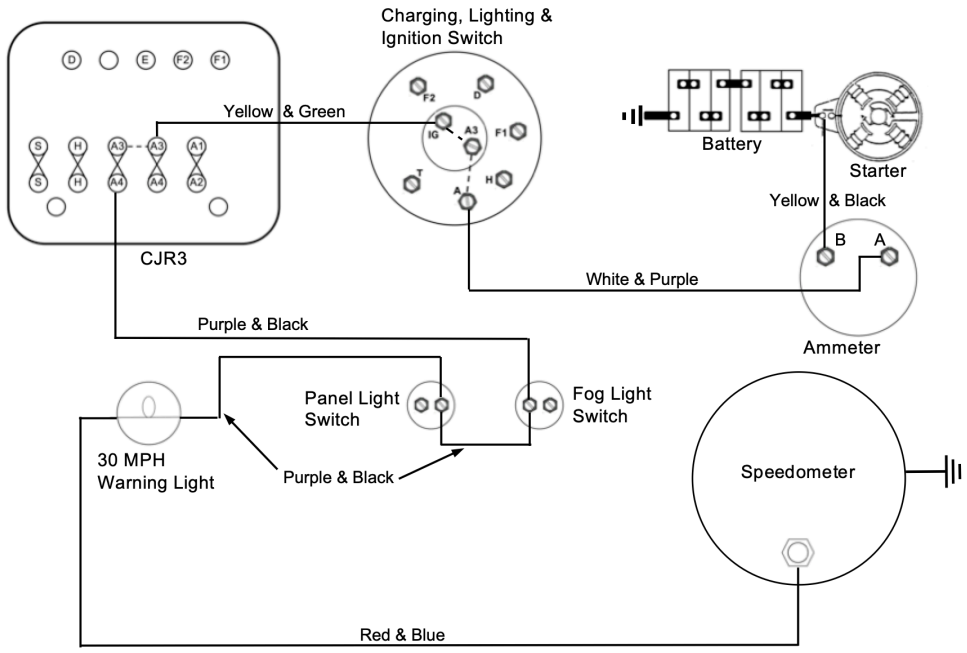


30 MPH Warning Light

Power Source: Battery and/or Generator

Ignition On or Off: On
Switch Settings: N/A

Power starts at the Battery to the Ammeter terminal B, across the Ammeter to terminal A where it joins with output from the generator. From there it crosses to the CL&I Switch connection A then to A3 and finally IG. The IG terminal is connected to the CJR3 connection A3.2, which is connected to A3.1. From terminal A4.1 it connects to the Fog Light Switch, then to the Panel Light Switch and finally to one side of the 30 MPH Warning Light. The other side of the light is connected to the Speedometer where an internal connection is made with the ground when the car reaches or exceeds 30 MPH.



Appendix

Used Wire Numbers and Colors by Wire Number

Nbr		Color
1		Red
2		Red & Yellow
3		Red & Blue
4		Red & White
7		Red & Black
8		Yellow
9		Yellow & Blue
10		Yellow & Green
12		Yellow & Purple
13		Yellow & Black
14		Blue
15		Blue & White
19		Blue & Black
20		White
22		White & Brown
23		White & Purple
25		Green
31		Purple
32		Purple & Black
33		Black

MG TA & TB Electrical Circuits

Colors Used in Circuits

By Color

Nbr	Color		Circuits
1	Red	(1)	Screenwiper Motor – Early TA Side and Tail Lights
2	Red & Yellow		Fog Lamp
3	Red & Blue		30 MPH Warning Light
7	Red & Black		Headlights – Early TA with Dipping Headlight
8	Yellow		Ignition Warning Light Voltage Regulating
9	Yellow & Blue		Headlights
10	Yellow & Green		Voltage Regulating
12	Yellow & Purple		Horn
13	Yellow & Black		Inspection Sockets
14	Blue		Dash / Panel Lights Headlights
20	White		Ignition Ignition Warning Light Petrol Pump
22	White & Brown		Ignition
23	White & Purple		Charging and Auxiliary Power
25	Green		Voltage Regulating
31	Purple	(1)	Map Light – Early TA Stop Light
32	Purple & Black	 (1) (1)	30 MPH Warning Light Dash / Panel Lights Horn Map Light – Early TA Screenwiper Motor – Late TA (?) / TB Stop Light

(1) The wiring diagrams for the TA and TB show this as a difference. This may be an error when the diagrams were created or an actual change. The only TA diagram I could find shows the dipping headlight which was eliminated during the TA production to be the same as the later TB. If this was an actual change I could not determine when the changeover occurred, thus the (?).

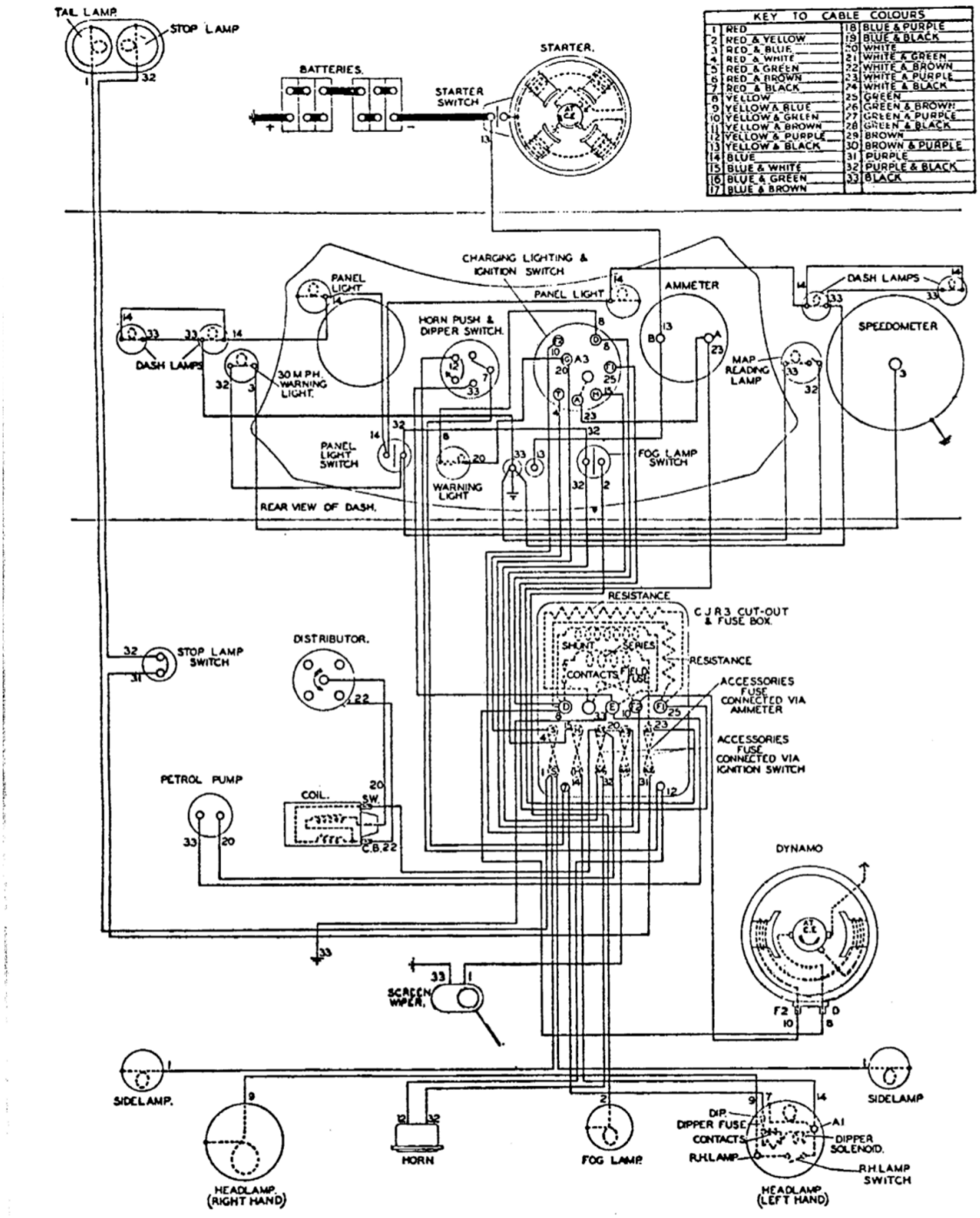
Colors Used in Circuits

By Circuit

Circuit		Nbr	Color
30 MPH Warning Light		32 3	Purple & Black Red & Blue
Charging and Auxiliary Power		23	White & Purple
Dash/ Panel Lights		14 32	Blue Purple & Black
Fog Lamp		2	Red & Yellow
Headlights (Main and Dip) – Early TA with Dipping Headlight		7 9 14	Red & Black Yellow & Blue Blue
Headlights (Main and Dip) – Late TA & TB		9 14	Yellow & Blue Blue
Horn		32 12	Purple & Black Yellow & Purple
Ignition		20 22	White White & Brown
Ignition Warning Light		20 8	White Yellow
Inspection Sockets		13	Yellow & Black
Map Light – Early TA	(1)	32	Purple & Black
Map Light – Late TA (?) / TB	(1)	31	Purple
Petrol Pump		20	White
Screenwiper Motor – Early TA	(1)	1	Red
Screenwiper Motor – Late TA (?) / TB	(1)	32	Purple & Black
Side and Tail Lights		1	Red
Stop Light		32 31	Purple & Black Purple
Voltage Regulating		8 10 25	Yellow Yellow & Green Green

(1) The wiring diagrams for the TA and TB show this as a difference. This may be an error when the diagrams were created or an actual change. The only TA diagram I could find shows the dipping headlight which was eliminated during the TA production to be the same as the later TB. If this was an actual change I could not determine when the changeover occurred, thus the (?).

TA Wiring Diagram



MG TA & TB Electrical Circuits

TB Wiring Diagram