TUNING BY THE NUMBERS: BREATHING, FIRE, FUEL
GOF CENTRAL 2018

a nearly foolproof way to tune your MG engine

We hope to accomplish:

Learn the basics of engine tuning

Discover a consistent process

Emphasize the value of note keeping

Lower the discouragement encountered

Raise the expectations of success

Have fun

Breathing

The engine is basically a big air pump

Before fuel and ignition is added, we need compression and controlled air flow both in and out

By adding fuel and ignition, we get rotational engine power

Compression

- Compression is checked with a compression tester (duh!)

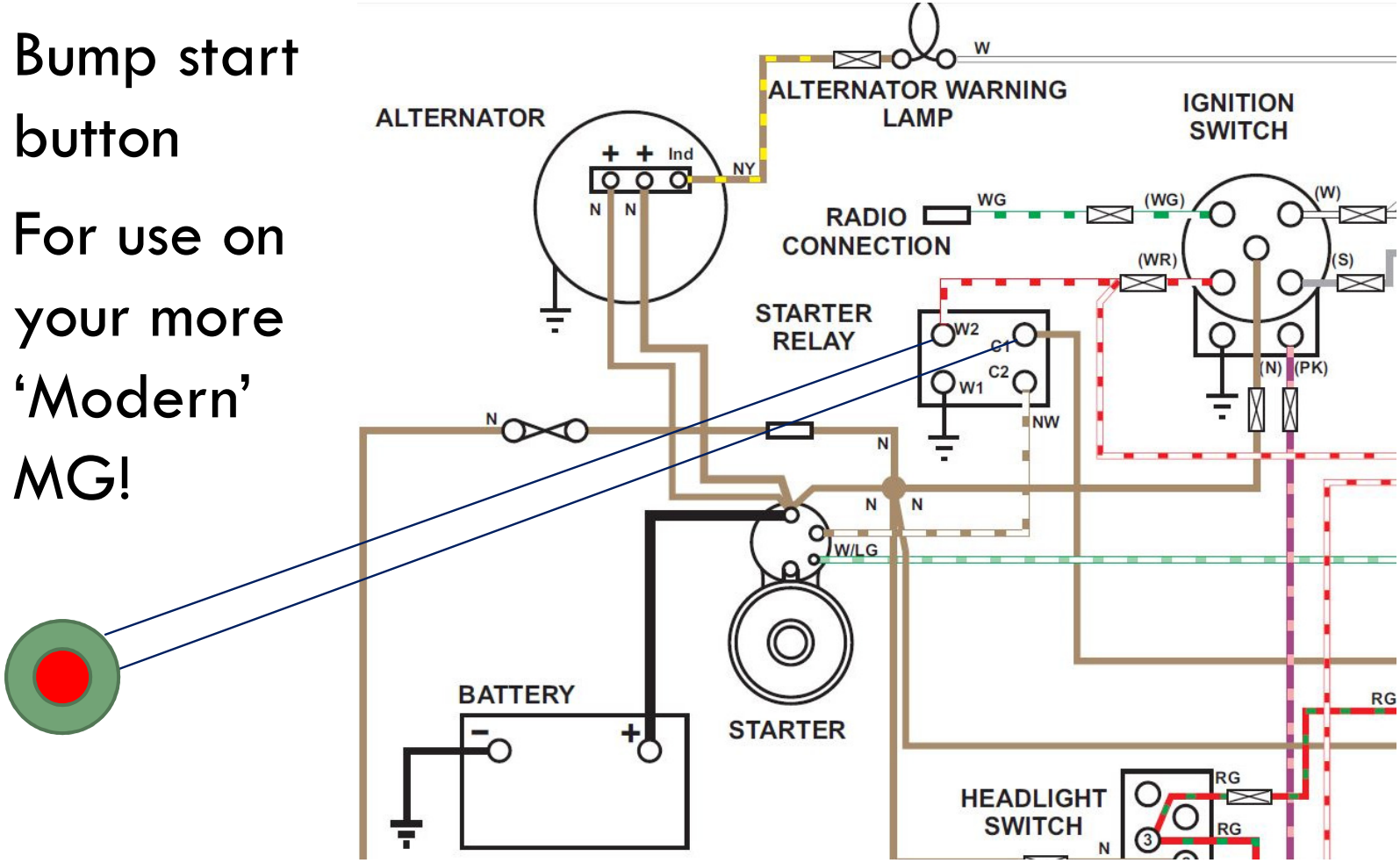
Pictures from Barney Gaylord's 'MGA with an Attitude' site

Compression

- Mark the number-one (front) spark plug wire with a piece of tape
- Remove the wires from the spark plugs
- Remove the spark plugs from the engine
- With the tester in the spark plug hole, WOT, turn the engine over six times
- Write the compression on a piece of paper
- Release the compression with the Schrader valve
- Repeat for all cylinders

Compression

- Bump start button
- For use on your more ‘Modern’ MG!



Compression

- Compression should be between 120 and 150 psi, depending on the model of the car and the condition of the engine
- More importantly the compression readings should be within ± 10% of each other
- 'Bad' compression may be rings, valves, cylinder scoring, a bad head gasket or other factors
- You may wish to recheck the compression after setting the valves in the next steps

Compression

- What all these numbers indicate is just how evenly each cylinder does its job moving air through the engine
- No, you can't calculate compression ratio from compression readings because of leakage built into the rings and valve overlap (nice try!)
- You can still tune an engine with 'bad' compression, it just may not respond as well to your efforts

Valve Adjustment

- Valves allow the air/fuel mixture to enter the engine
- And allow combustion gasses to leave the engine
- They seal the cylinder for compression and power
- Valve adjustment is done to cause the engine to pump air as efficiently as possible according to the cam's design
- Valve adjustment is easy to accomplish

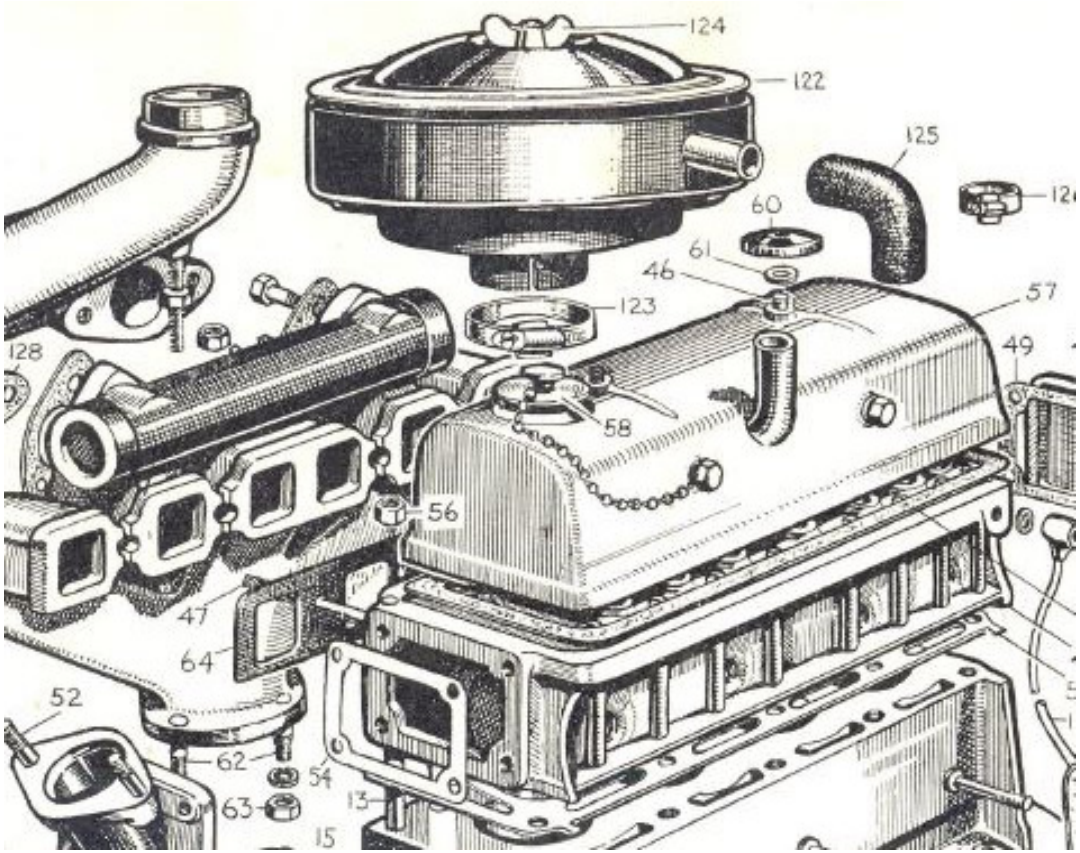
Valve adjustment

- The spark plugs are already removed from the engine due to the compression check
- The engine is cold, if not decrease the adjustment noted 0.002 inches
- Follow the cam maker's recommendations if known, otherwise:

Inlet and exhaust valve working clearance (hot)	Engines up to No. XPAG/TD2/24115 : ·019 in. (·48 mm.).
Inlet and exhaust valve working clearance (hot)	Engines from No. XPAG/TD2/24116 : ·012 in. (·30 mm.).

Valve adjustment

- Remove the valve cover:
  - Bonnet (optional)
  - Air Cleaner
  - Two Thumb Nuts
  - Cork Gasket Considerations



Valve adjustment

- Put the car in fourth gear and on a level surface, with the parking brake ‘off’
- Pull the car forward until one rocker’s adjusting screw and nut is noticeably higher than the others- that valve is fully open
- Adjust the OPPOSING rocker using the ‘rule of nine’

Valve adjustment- Rule of 9

Adjust	No.	1	rocker	with	No.	8	valve	wide	open
,,	,,	3	,,	,,	,,	6	,,	,,	,,
,,	,,	5	,,	,,	,,	4	,,	,,	,,
,,	,,	2	,,	,,	,,	7	,,	,,	,,
,,	,,	8	,,	,,	,,	1	,,	,,	,,
,,	,,	6	,,	,,	,,	3	,,	,,	,,
,,	,,	4	,,	,,	,,	5	,,	,,	,,
,,	,,	7	,,	,,	,,	2	,,	,,	,,

Valve adjustment

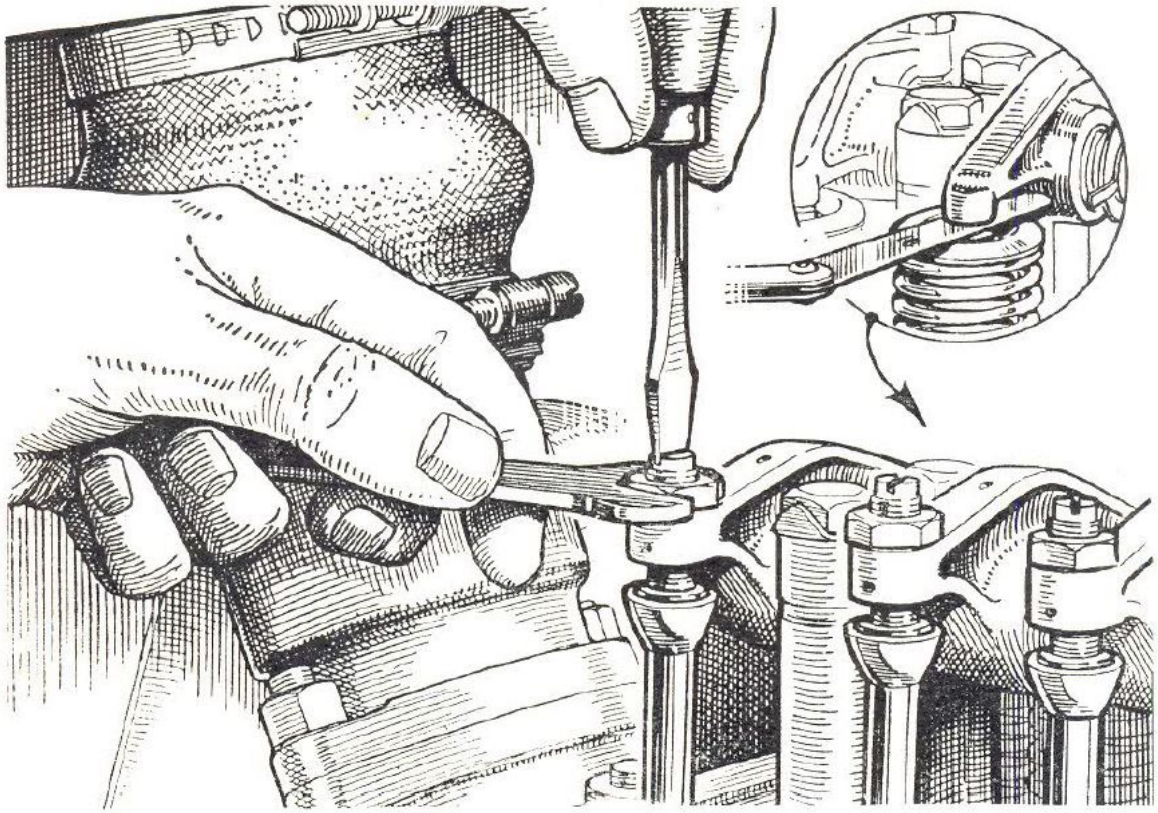


Fig. A.20.
The method of setting the tappets.

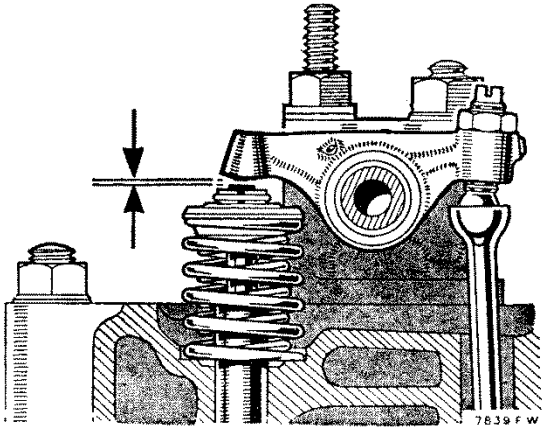


Fig. A.8

The clearance between the valve stem and rocker must be ·012 in. (·305 mm.) with the engine cold

1100. Issue 3. 52093

Valve adjustment- Go No-Go

- Check the clearance of the rocker on the valve
- .018 inch feeler gauge should slip in
- .020 inch feeler gauge should not
- By elimination, clearance is .019 inch
- This method removes much of the guess work of how the clearance should 'feel'

	Prior to 24116	24116 and after	"Twist"
Go	.018 inch	.011 inch	.014 inch
No go	.020 inch	.013 inch	.016 inch
Desired	.019 inch	.012 inch	.015 inch

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Valve adjustment

- Look at the 'Rule of nine' table and find the NEXT valve that will be open
- Hang the box end of a wrench on that valve
- Pull car forward until the wrench is at its highest point (valve open)
- This makes finding the point at which to adjust the opposing closed valve clearance easier
- You can also turn the crankshaft pulley nut to rotate the engine to the next position

Valve adjustment

Valve adjustment

- If you need to adjust a valve (or two or three…)

Provision for adjusting the valve clearance is made in the rocker-arm by an adjustable screw and locknut.

The tappet adjusting screw is released by slackening off the hexagon locknut with a spanner, while holding the screw against rotation with a screwdriver.

The valve clearance can then be set by rotating the screw carefully while checking the clearance with a feeler gauge at the valve stem.

The tappet screw is then relocked by tightening the hexagon locknut, again holding the tappet screw against rotation with the screwdriver. Test the clearance again to ensure it has not changed.

Valve adjustment- John Twist

4. Counting from the front of the engin, turn the crankshaft until Nos. 8 and 6 valves are open, i.e. the valve springs fully compressed.
5. Using a 0·010 in (0·25 mm) feeler gauge, check the gap between the rocker pad and valve tip of Nos. 1 and 3 valves.
6. If adjustment is required, insert a screwdriver blade in the slot in the adjustment pin and slacken the locknut. Turn the adjustment pin clockwise to decrease and anti-clockwise to increase the gap.
7. Check and adjust the remaining valve clearances in the following sequence:
   Adjust Nos. 5 and 2 valves with Nos. 4 and 7 valves open.
   Adjust Nos. 8 and 6 valves with Nos. 1 and 3 valves open.
   Adjust Nos. 4 and 7 valves with Nos. 5 and 2 valves open.

This is an example; In any case, adjust the gap according your workshop manual, your personal beliefs, or your cam manufacturer!

Valve Adjustment- Clik Adjust

- Some folks have tried the "*Clik-Adjust*" tool
- It seems to offer a good way to hold the valve adjuster still when you tighten the nut
- Counting the 'clicks' can compensate for a worn adjuster and valve interface.

Picture courtesy Bob Lewis

Fire

With each gulp of air controlled by the intake valve and movement of the piston, fuel also enters

When the mixture is compressed, it is ready for ignition

Points allow the coil to discharge a powerful voltage to the spark plugs

Flame fronts, being a constant phenomenon must be advanced, or started sooner, the faster the engine is turning (up to a point, when the flame front becomes ‘fixed’)

All this happens courtesy of the ignition system

Spark

- Potential for spark comes from your car's coil
- As the points open, the field associated with the primary coil collapses
- By inductance, the secondary field in the coil is energized
- The secondary coil is what generates the spark across the spark plug gap
- A condenser is present to protect the points from (arcing) pitting and wear

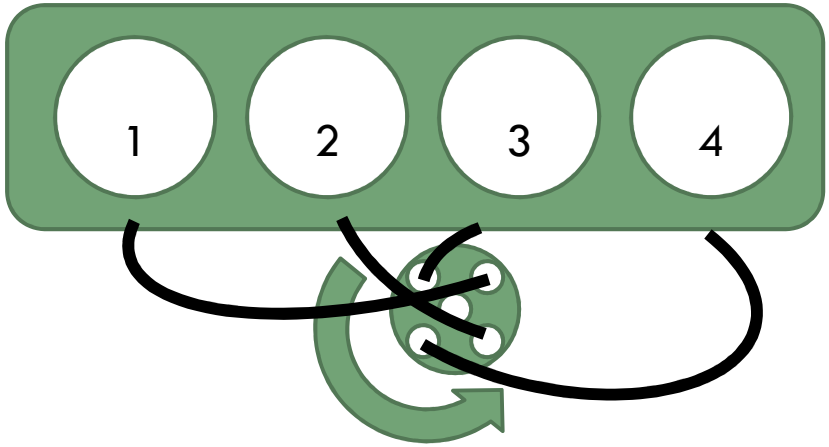
Distributor

- The distributor has the following jobs:
- Create the spark by opening and closing the points
- Direct the spark at the spark plug that is on the compression stroke 1-3-4-2 CCW
- Advance the spark so the maximum cylinder pressure due to combustion occurs as the cylinder is traveling downward
- Hint: Use an Advanced Distributor's Red Rotor

Distributor Pictorial

Front

1-3-4-2 CCW XPAG; XPEG



Clamp Position

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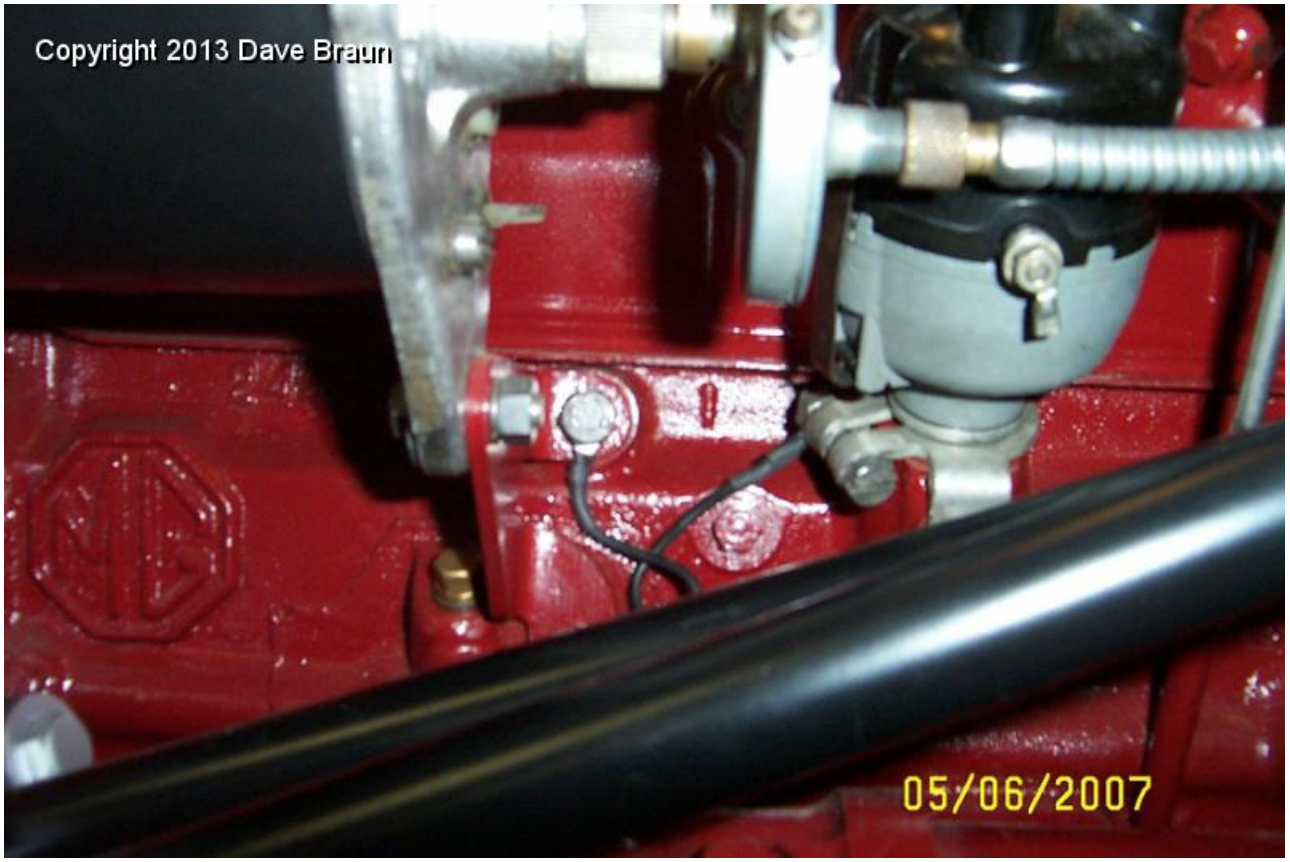
Shouldered Bolt for Distributor

Ground Wire for Distributor



Adjuster on XPAG (TC) Clamp

Modified Distributor Clamp

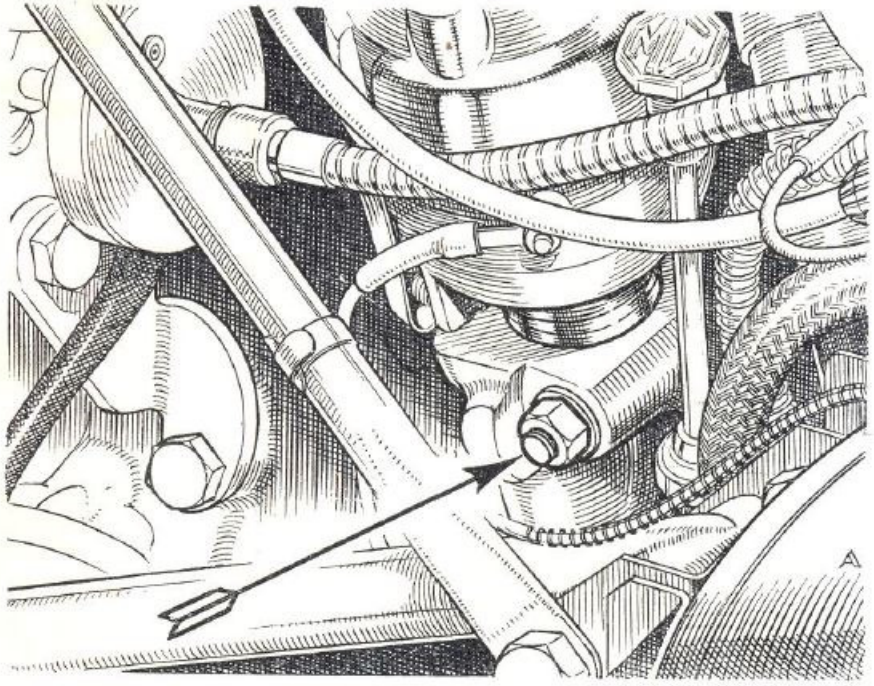


Fig. C.19.
The later type fixing for the distributor, consisting of a cotter bolt engaging the distributor body stem.

Section C.13

MODIFIED DISTRIBUTOR FIXING

A new standardised method of distributor fixing has been incorporated in all M.G. Midget (Series **"TD"**) cars, commencing at Engine No. XPAG/TD2/20942, and all Series **"TF"** cars.

The modified fixing consists of a tapered cotter bolt passing through the distributor housing boss in the cylinder block and contacting the stem of the distributor, and it replaces the split adjusting clip hitherto employed.

Distributors using the cotter pin attachment are released by slackening the cotter bolt inwards to free its tapered surface from the stem of the distributor.

While the location of the distributor rotor will not be disturbed owing to the action of the offset driving tongue, release of the distributor body and stem will affect the ignition point, and it is therefore essential to mark the distributor body and the face of its housing before removal to ensure correct ignition timing on replacement. The distributor housing face is marked with a scale to facilitate this.

Wires

- Your spark plugs and wires should be in good 'knick'. Check for consistent resistance.

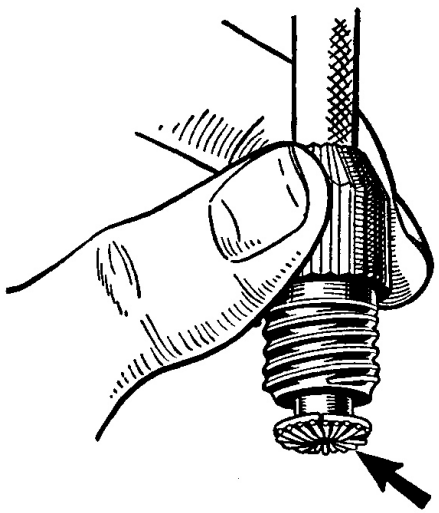


Fig. B.6
The correct method of fitting a high-tension cable to the ignition coil terminal nut

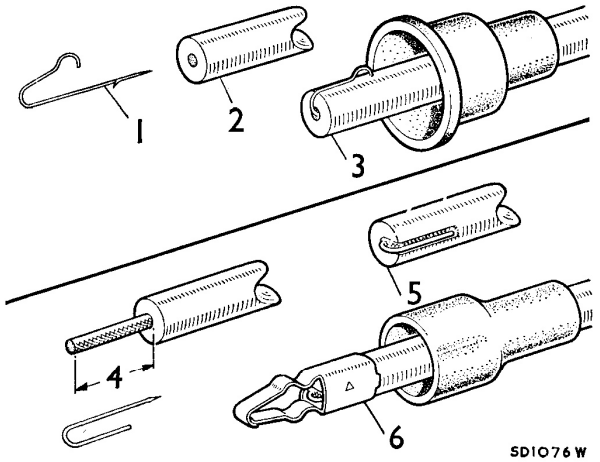


Fig. B.8
The correct assembly method for later-type suppressed high tension cables

Coil lead

1. Fish-hook connector.
2. Flush cable end.
3. Assembly of fish-hook and lead cover.

Plug leads

4. Insulation removed for ½ in. (12.7 mm.).
5. Inner cord folded onto cable, staple pushed into the centre of the cord as far as possible.
6. Cord and staple must make a good contact with body of connector.

Spark Gap

- Gap your spark plugs to .025 inch

Spark Plugs

- Spark Plugs specified depends on 'Reach' of the Installed Head:
- ½ Reach Champion L86; ¾ Reach Champion N5

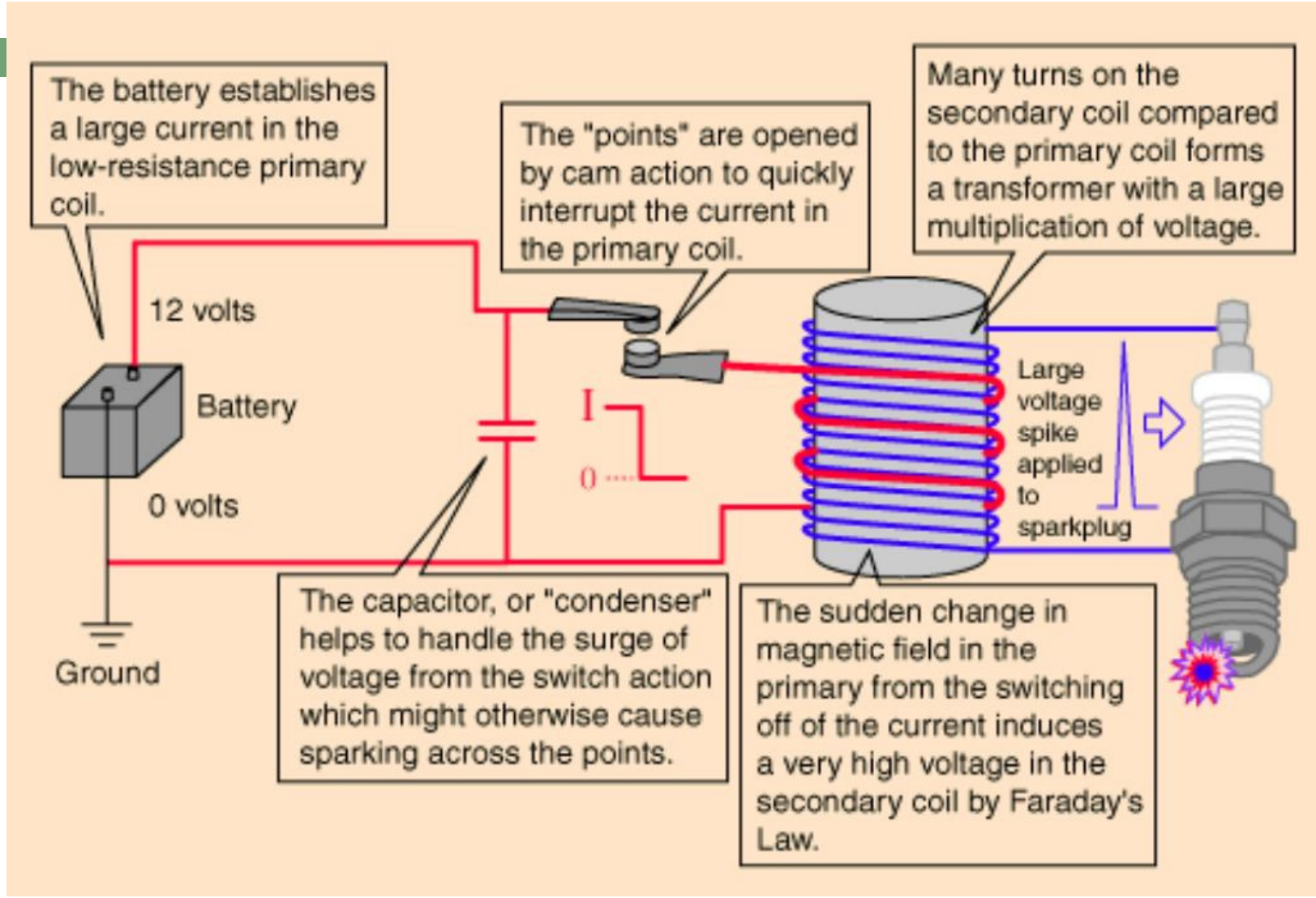
Sparking plugs

The standard sparking plugs for the M.G. "**TD**" Midget on engines prior to No. XPAG/TD2/22735 are Champion L.10S, 14 mm., $\frac{1}{2}$ in. reach.

Engines from No. XPAG/TD2/22735 onwards are fitted with the Champion NA.8, 14 mm., $\frac{3}{4}$ in. reach plug.

C.1

Coil

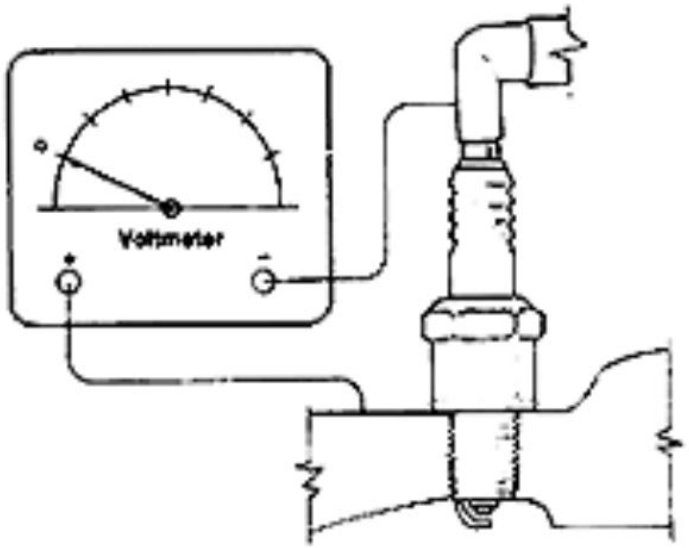

The battery establishes a large current in the low-resistance primary coil.
The "points" are opened by cam action to quickly interrupt the current in the primary coil.
Many turns on the secondary coil compared to the primary coil forms a transformer with a large multiplication of voltage.
12 volts
Battery
0 volts
Ground
I
0
Large voltage spike applied to sparkplug
The capacitor, or "condenser" helps to handle the surge of voltage from the switch action which might otherwise cause sparking across the points.
The sudden change in magnetic field in the primary from the switching off of the current induces a very high voltage in the secondary coil by Faraday's Law.

Coil Information

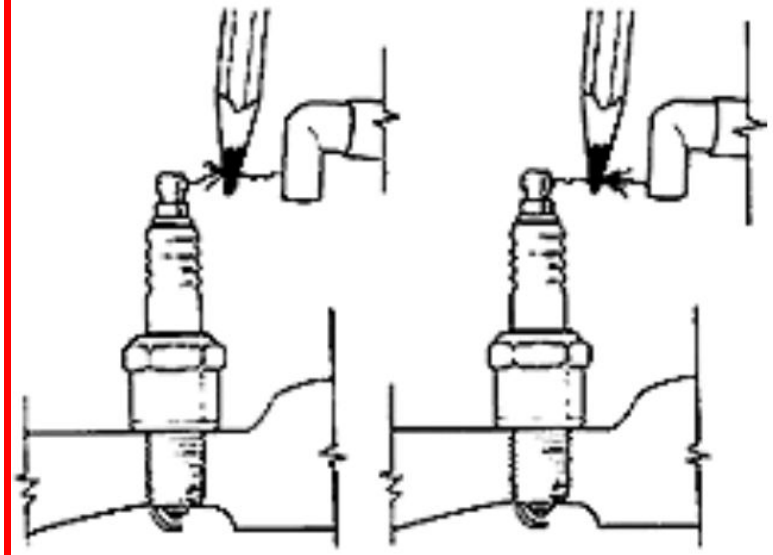
- Know your coil values (non T-Series):
- Some coils are meant to be fired with a reduced voltage (about 6-8 volts), delivered by means of a ballasted resistor wire; however while starting they receive a full 12 volts as an assist
- These coils have resistance across the terminals of 1.3 to 1.8 Ω; normal coils will show 3 to 3.6 Ω
- Set up your power to your coil accordingly

Coil Polarity – Test While Cranking

- Some people have reversed their T-Series from Positive Ground, to Negative Ground



Upward Swing –
Correct 15% Gain



Faint Spark Towards Spark Plug –
Correct 15% Gain

Points

- Adjusting points affects timing, adjust points first
- Loosen points plate
- Use go, no-go method of slipping in a .014 inch feeler gauge, and then trying a .016 feeler gauge
- If the .014 goes in, and the .016 won't; you must be at .015 inch point gap
- Tighten points plate

Distributor	40162D	40162E
Go	.010 inch	.014 inch
No go	.012 inch	.016 inch
Desired	.011 inch	.015 inch

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Adjusting Points

- This may be easier with the distributor removed from the engine

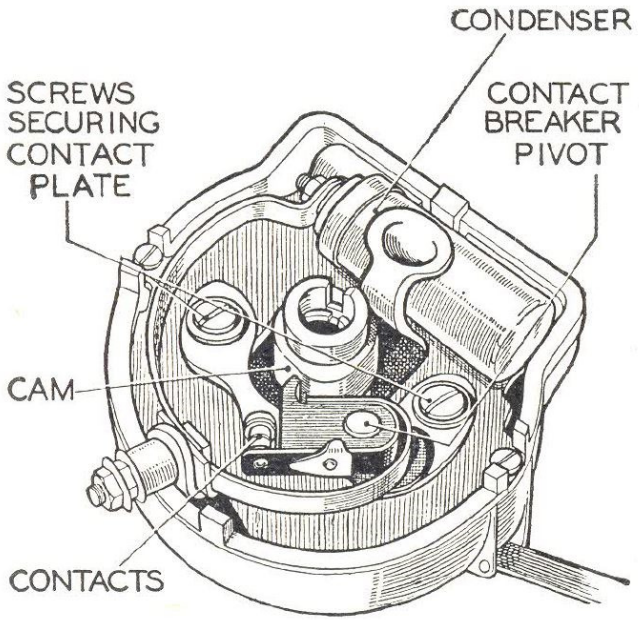


Fig. C.1.
The distributor with the cover and rotor arm removed, showing the contact breaker mechanism.

1. If the contacts are dirty or pitted, polish with a fine carborundum stone
2. Turn engine to fully open the contact breaker points
3. Check gap per the table
4. With the heel on the lob, slacken the two screws securing the contact plate
5. Adjust the position of the plate until the gap is the thickness of the gauge
6. Tighten the two locking screws

Reinstalling the Distributor

- The distributor is easy to reinstall

1. Place the engine at TDC and assure that #1 is on compression
2. Turn the distributor rotor until it is pointing at the #1 position
3. 'Feel' the distributor so that the nearest tooth is engaged
4. Turn the body until the locking screw will enter
5. Securely tighten the clamp bolt on earlier models or the cotter bolt on later models

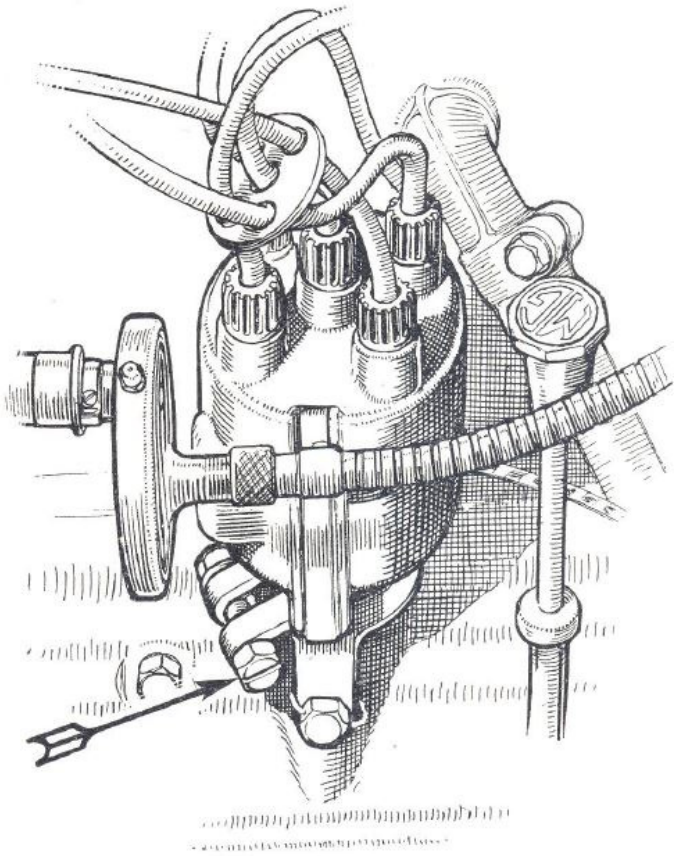


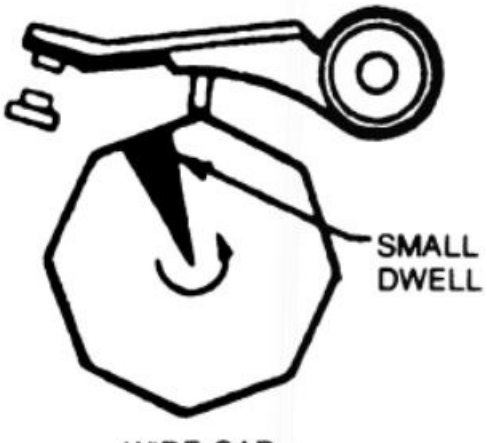
Fig. C.14.

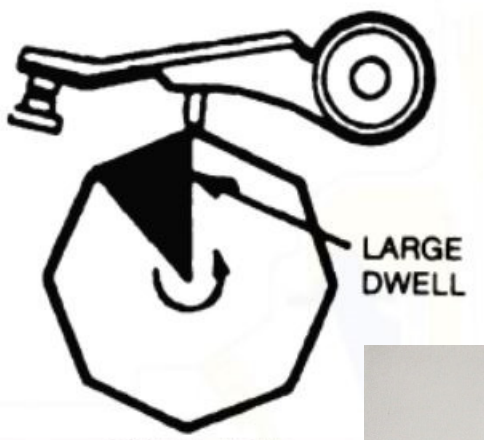
Points Closed is Dwell

- You can check your point setting with a Dwell Meter
- Dwell is the amount of time in the ignition cycle the points are closed
- Dwell meters can be inaccurate as they age so use with a grain of salt
- Dwell on an TD or TF (High Lift Cam) is about 60°± 3°
- Dwell on a TC (asymmetric or symmetric cam) about 47°± 3°

Points Closed is Dwell

- Dwell





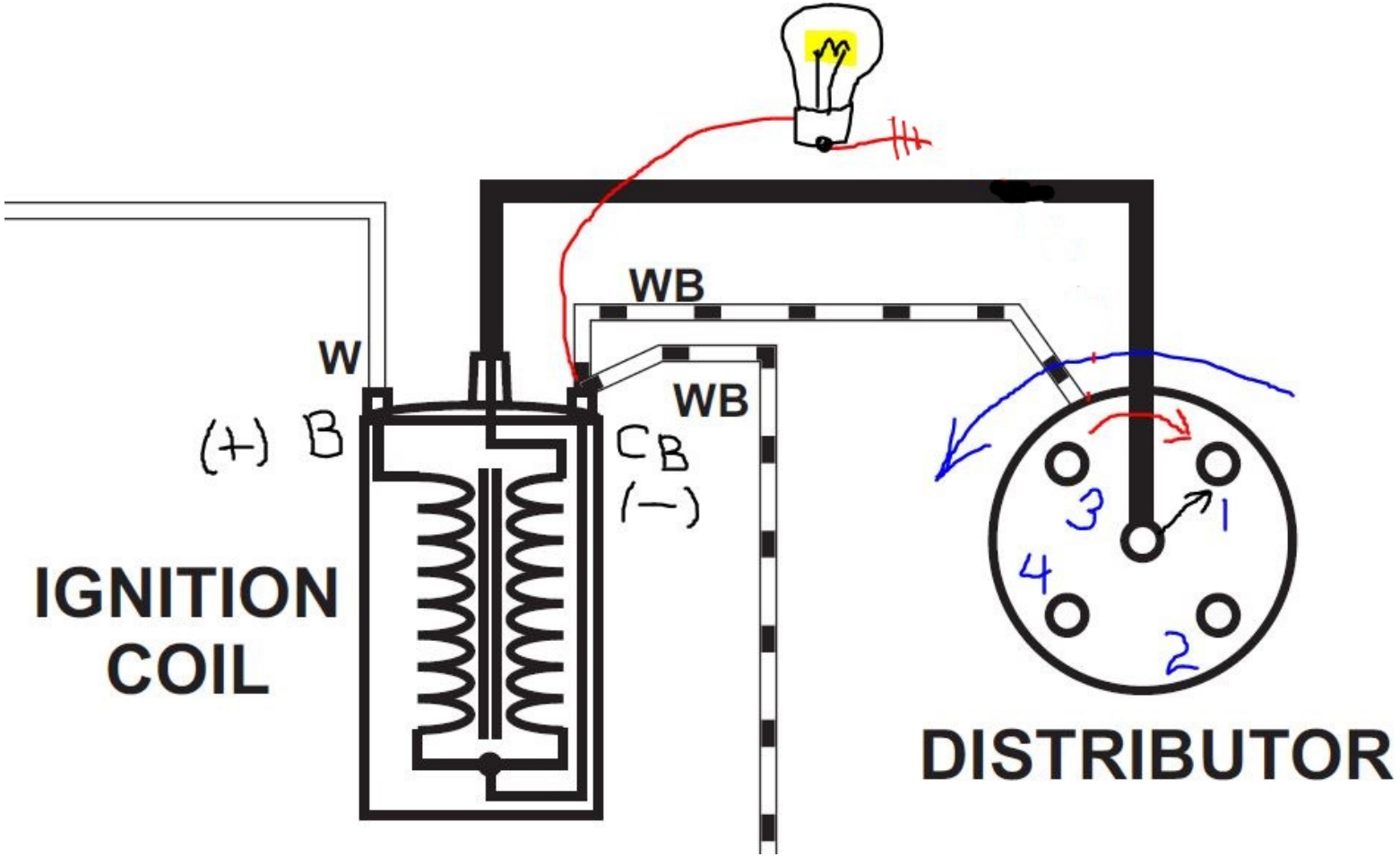
Spark Advance

- Spark advance is needed to provide the combustion at the peak cylinder pressure
- The distributor has mechanical advance, our T-Series do not have a vacuum advance
- Because the distributor rotates at half engine speed, 10° of distributor advance is the same as 20° of crankshaft advance
- We measure timing in crankshaft degrees
- Advance is programmed in for us in the distributor

Static Timing

- Place a light bulb between the distributor terminal and the coil terminal on your system
- Turn engine to 8-10° before TDC, #1 firing
- 3.75 inch pulley x π / 360° x 8 = 0.26 inch
- Tweek the rotor clockwise, switch on ignition
- Turn the distributor counter-clockwise until points block is just before the cam lobe
- Turn the distributor clockwise until bulb lights
- Tighten distributor locking nut

Static Timing Technique



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Spark Plug Reinstallation

- A dab of anti-seize is popular, carefully wipe your hands or the next thing you touch will be permanently stained!
- Tighten the plugs until they are snug. New plugs have a different feel than old plugs
- Do not crack the ceramic
- Attach the wires starting with the 'marked' number 1; proceeding counter clockwise around the distributor 3-4-2 and make sure the main coil wire is intact

Dynamic Timing

- Highlight the crank pulley marks with white paint
- Place timing-light inductive pickup on number one spark plug wire
- Attach timing-light leads to the brown wires at the fuse block and a good ground respectively
- Disconnect and plug vacuum advance source
- Loosen distributor, start engine, and turn distributor until desired timing is indicated on marks usually about 10-14° BTDC @<1,000 RPM

All-In Advance

- Check timing at full mechanical advance
  - Run engine at 3500 RPM or until timing marks stop advancing
  - Fine tune distributor setting until the 'all in' timing is 33-35° BTDC (low compression);
    Back off if pinging (high compression)
  - A dial back timing light is good for this, or extend your marks by using math:
    $\pi d/360 \times 34 =$ where to put the 'all in' timing mark

Timing Marks T-Series

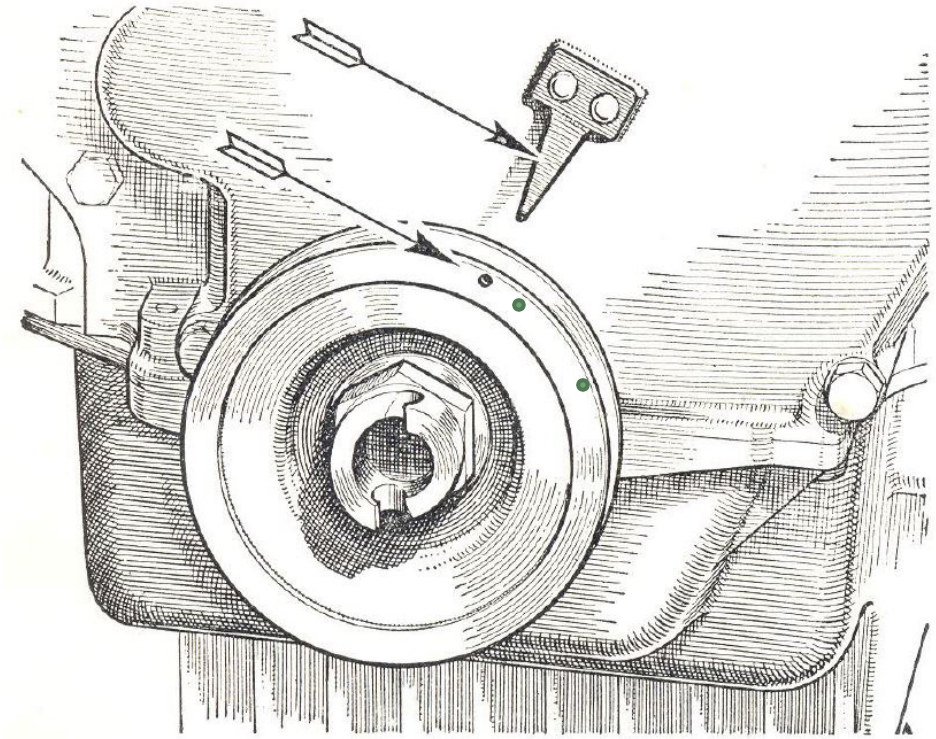


Fig. C.13.

The timing mark on the rim of the crankshaft pulley and the pointer on the chain case which indicate top dead centre for Nos. 1 and 4 pistons when they coincide.

Recheck and Record

- Once the 'all-in' firing advance is set (33-35° BTDC) and pinging checked, go back to the idle setting and re-check your timing
- Write down the setting and the idle RPM
- This is the proper timing at idle for your engine with your distributor, and points setting
- You can use this value to quickly check or set timing in the future

Fuel

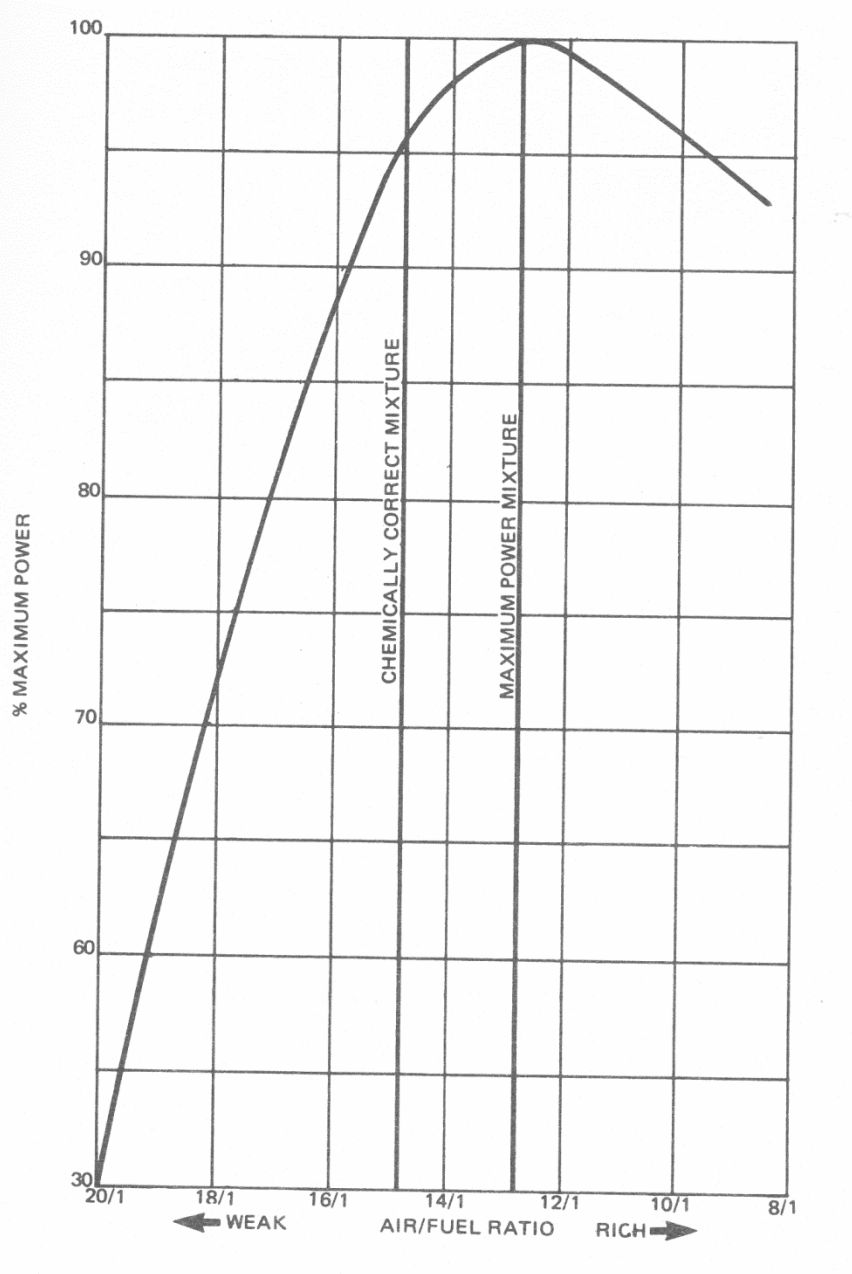
The engine needs an air/fuel ratio that is slightly rich at idle and full acceleration; and close to stoichiometric at cruise

The job of delivering the fuel to the air coming into the engine belongs to the carburetors

The carburetors are always the last item to be adjusted in a tune-up

Stoichiometric A/F

- What is Stoichometric?
  - Compare at Best Power
  - Compare at idle



Basic Semi Side Draft

- The SU Carburetors have four basic moving parts

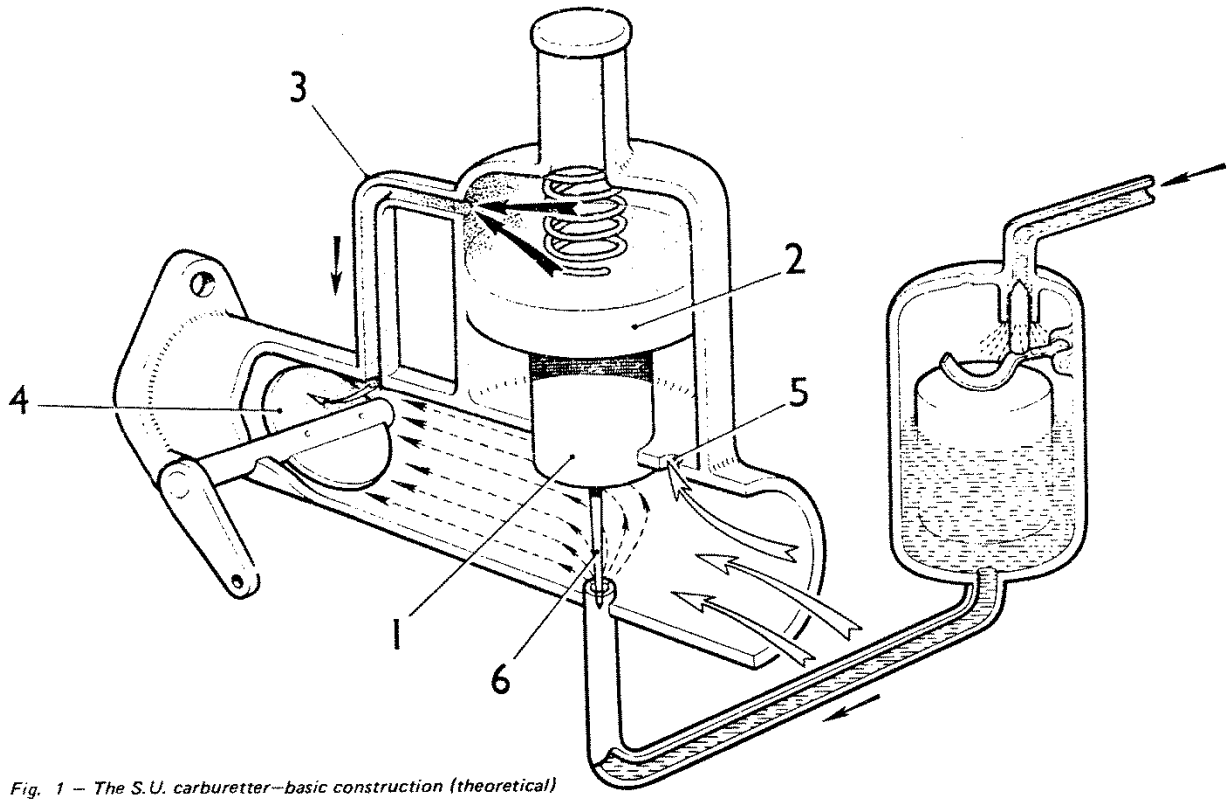


Fig. 1 – The S.U. carburetter–basic construction (theoretical)

Four Basic Moving Parts

- The float and float bowl needle
- The jet for setting and enrichment
- The piston and metering needle to set running condition A/F mixture
- The throttle disk and spindle to regulate air into the engine

SU H2 Series

- The SU H2 Carburetors

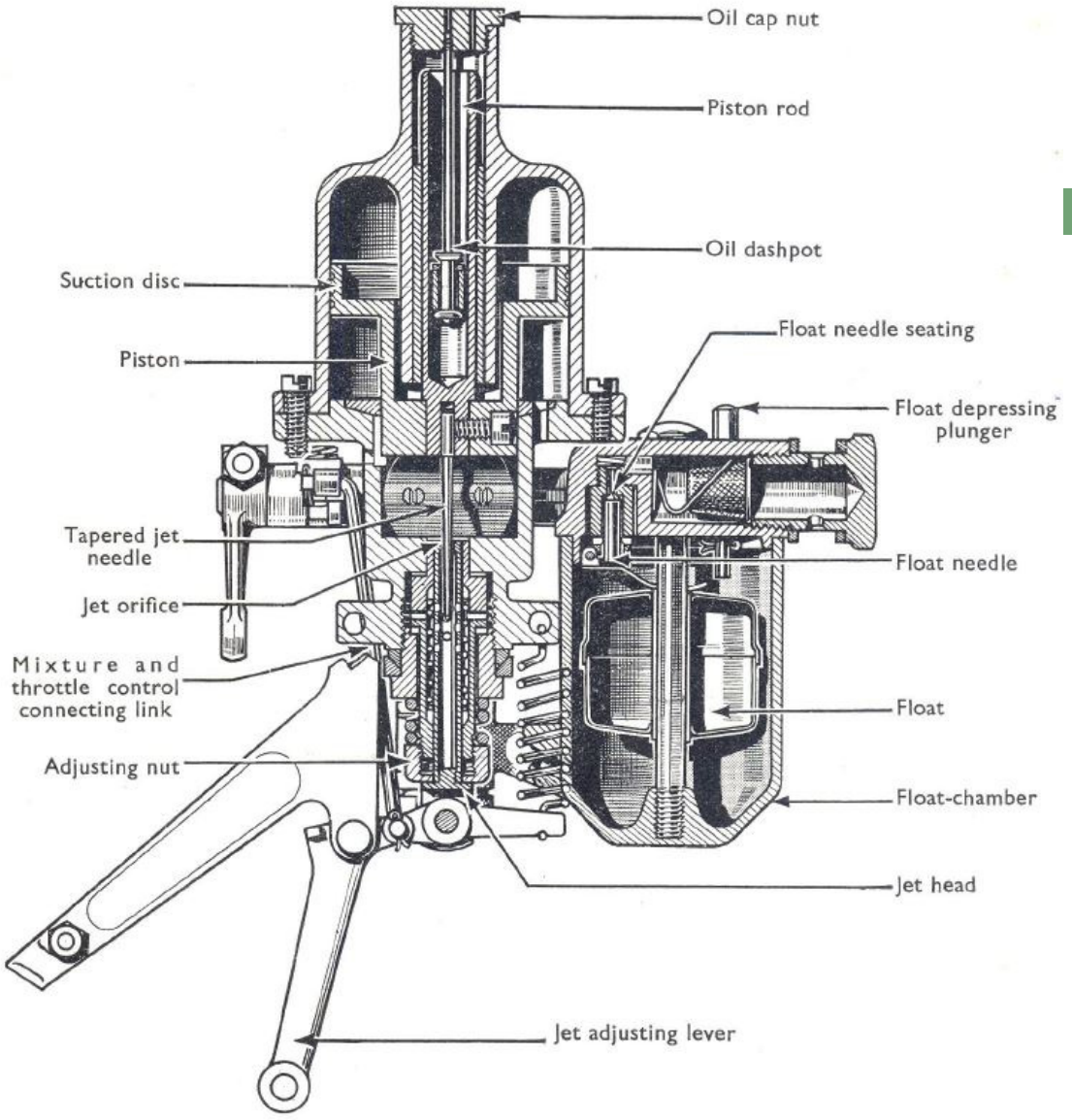


Fig. B.11.
The S.U. carburetter.

Theory of Operation

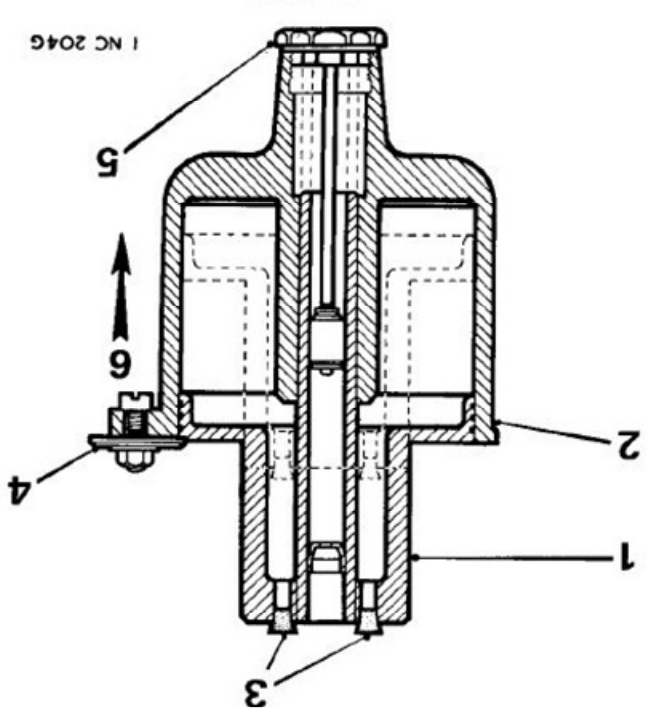
- The piston rises, finds equilibrium and falls based on the positive pressure under the piston
- Once the pressure under the piston is equalized by the pressure in the suction chamber, the piston becomes stationary
- The entire range of airflow can have a 'matching' fuel input based on the tapered needle rising and falling with the piston

Theory of Operation

- This equalization of pressure above and below the piston gave rise to the Zenith Stromberg term 'Constant Depression' hence their carburetors are typically called '150-CD' or '175-CD'
- Where SU decided to create this carefully metered air bleed by machining parts to close tolerances, Zenith Stromberg uses a rubber diaphragm

Constant Depression

- The drop test diagram (inverted) clearly shows SU's approach



Needles Program Entire Range

- With a given set of needles a stock engine will get the proper amount of fuel for any condition ‘programmed’ into the needles
- For non-stock engines a bit of searching and imagination may be needed
- The point is, once the needles are selected or ‘programmed’ adjusting at idle is all that is needed for the full range of operation

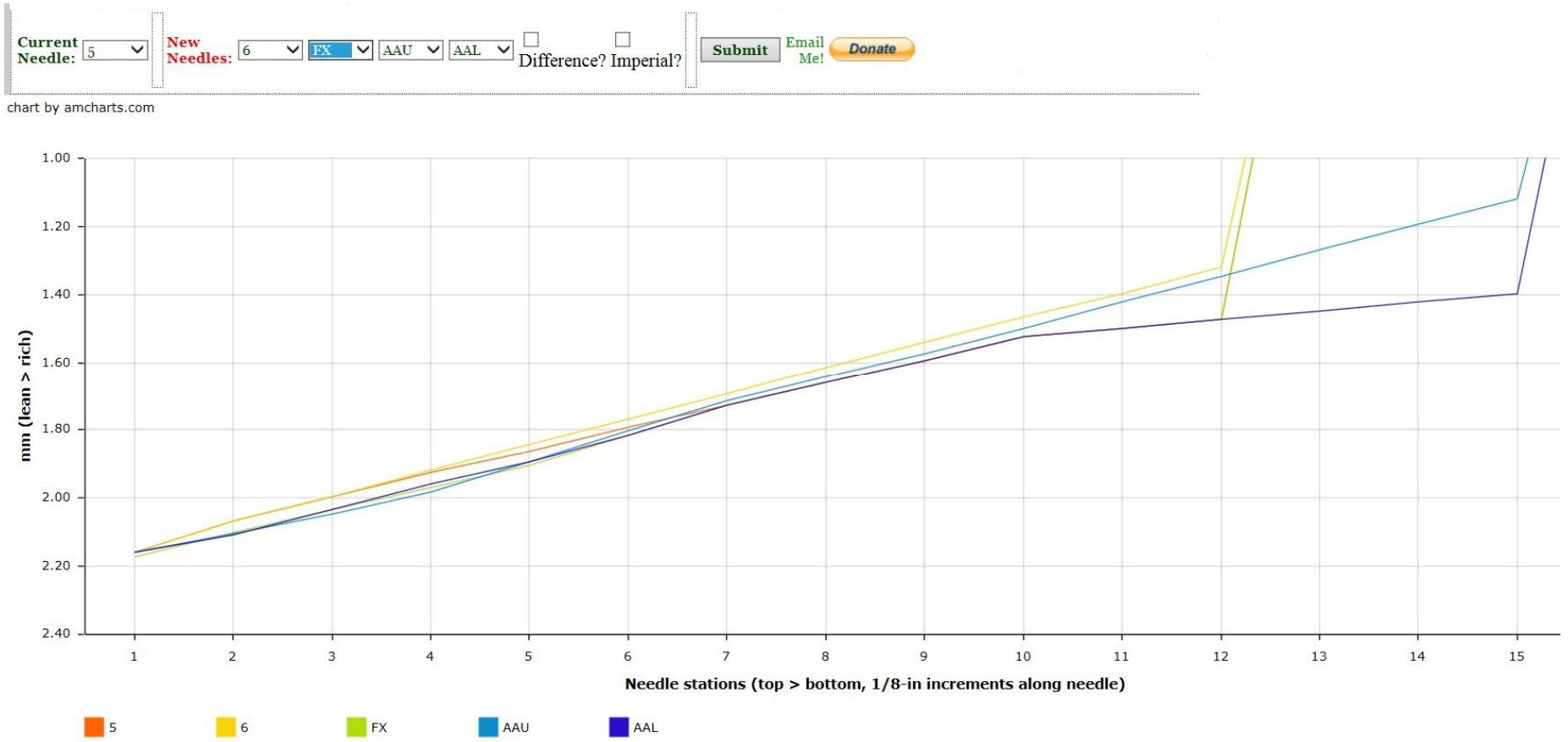
Needles

- The factory provided guidance for standard, rich, and lean settings; TC – TD first; TD Mk II, TF Second

Carburetters	S.U. semi-downdraught.
Carburetter needles	Standard—ES. Weak—AP. Rich—EM.
Carburetters	**S.U. semi-downdraught.**
Carburetter needles	**Standard—G.J. Rich—H.I.—Weak—G.L.**

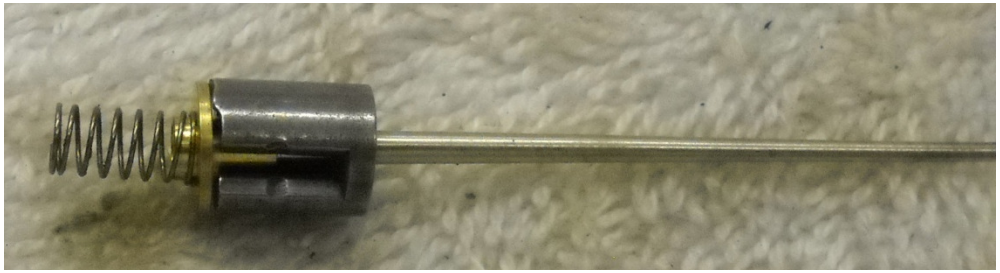
Needles Comparator

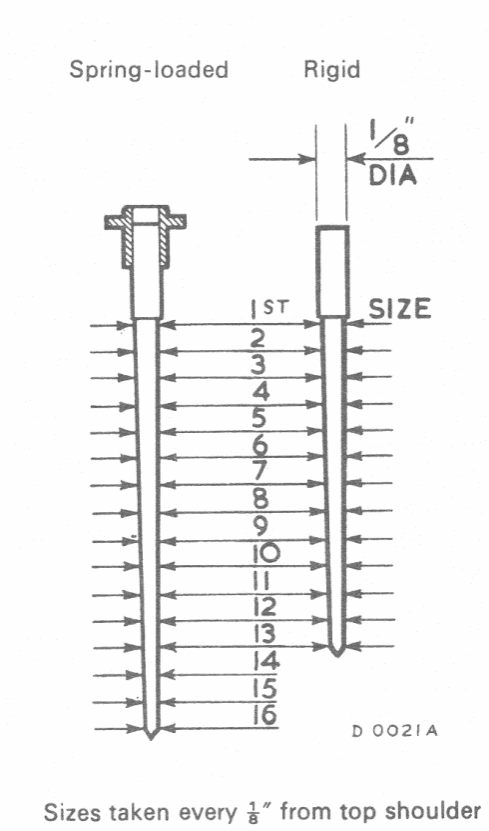
- On-line needle comparator: www.MintyLamb.co.uk



Fixed and Biased Difference

- Original needles are ‘fixed’ and shorter
- Fixed requires ‘centering the jet’
- Later needles (MGB) are ‘biased’ or spring loaded and longer
- Except for idle, typically only stations 3-10 are utilized





Sizes taken every $\frac{1}{8}$″ from top shoulder

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Depth of Fuel in the Jet

- The depth of fuel in the jet has an impact on how much fuel is placed into the airstream via the annulus formed by the jet and the needle
- The column of fuel in the float chamber on external float carburetors like the H or HS series controlled the depth
- The depth of fuel should be 0.16 ±0.04 inches below the height of the bridge

Depth of Fuel in the Jet

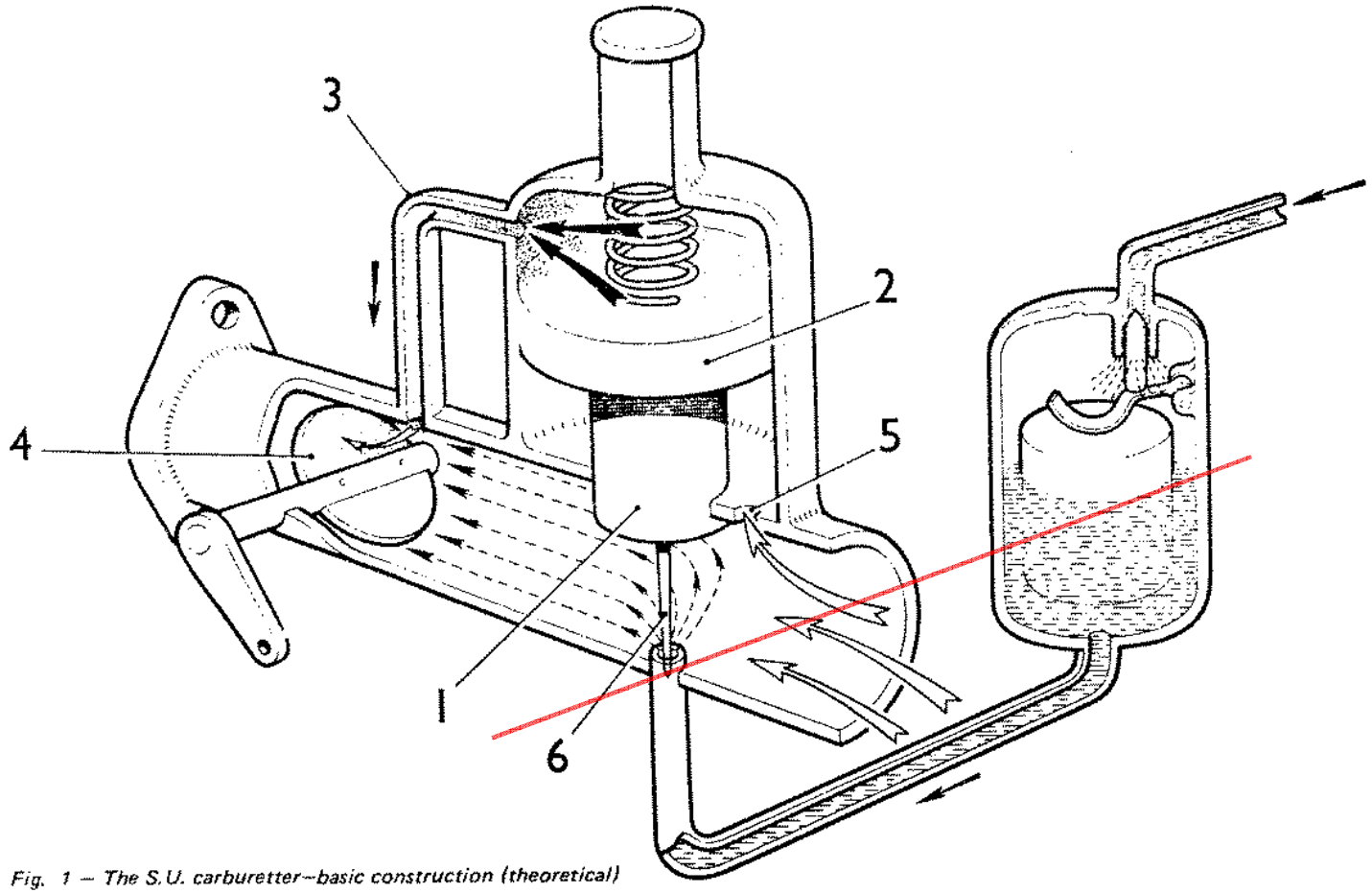

Fig. 1 — The S.U. carburetter—basic construction (theoretical)

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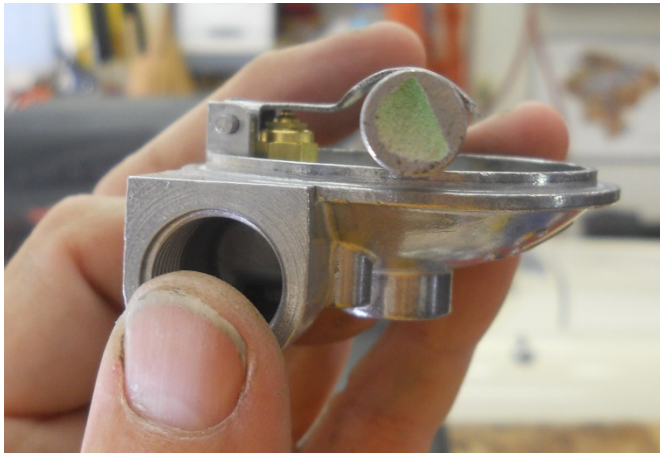
Measuring Float Height

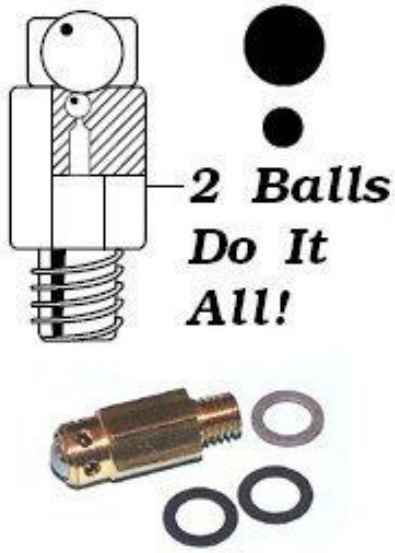
- H Series (MGA, T-Series)



H Series
7/16 inch

Float Needle Valves

- Two common types:



A word about Gross Jet float valves

Verify Fuel Height in Jet

- To check, fuel level height:
- Remove the suction chambers and the pistons, keeping them organized
- Lower the jet position as you would for enrichment and measure the level of the jet when it is level with the fuel- use a dial caliper
- Adjust float dimension as necessary
- Remove fuel from float bowl with a suction bulb if you need to readjust the fuel level; use the car's fuel pump to refill the float bowl

Set Jet Height at Bridge for Mixture

- Next set the jet height below the bridge at 0.065 - 0.070 inch (but set each the same)
- Or, look at the jet in the bridge, turn the adjusting nut until the Jet is level with the bridge, and then lower the adjusting nut eight flats

H Series

Adjusting Jet Height

- On SU H and HS Series carburetors the adjusting nut is below the jet bearing tube

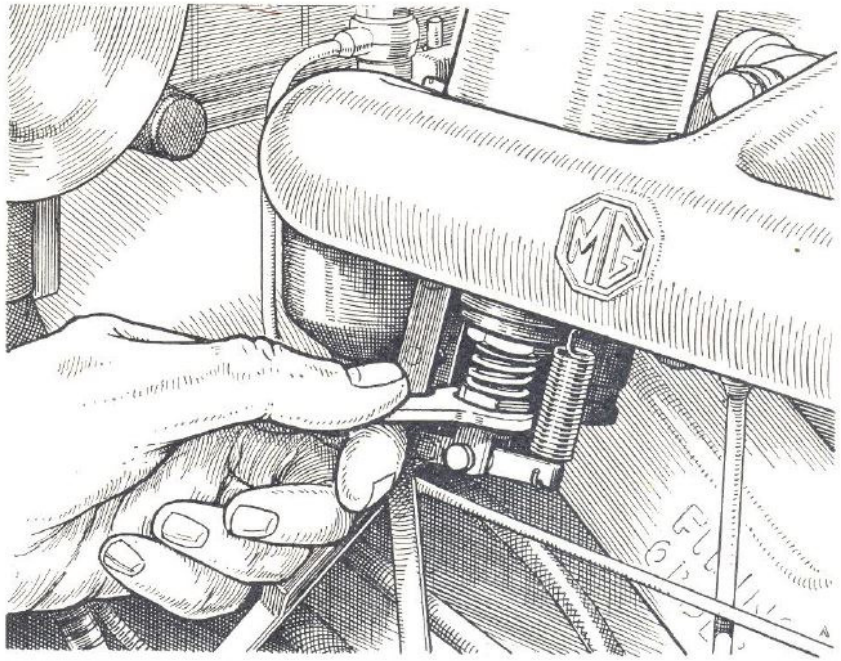
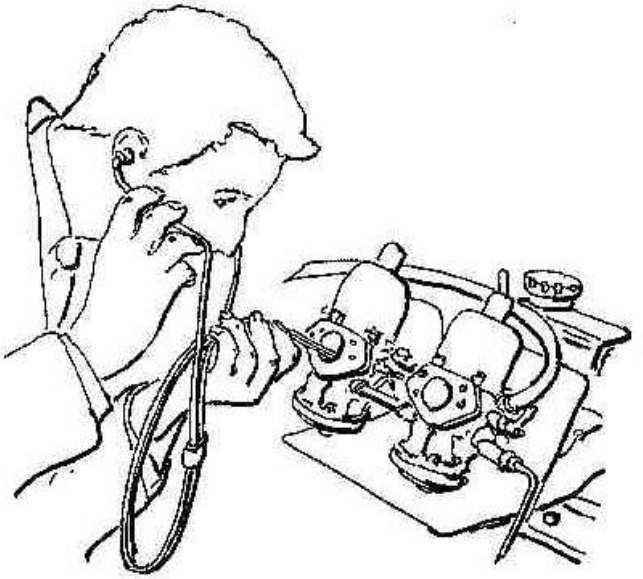


Fig. B.13.
Setting the jet.

Balance Multiple Carburetors

- Reinstall the suction chambers and pistons
- With the air cleaners off, start the engine and allow it to warm up
- Balance the airflow between the two carburetors by loosening the connection shaft and adjust the idle of each with a Unisyn, cat's whiskers or listening tube
- Retighten the connection between the carburetors
- From here, make all idle adjustments equally on both carburetors
- Make sure the fast idle circuit is not fouling the adjustment

Balance



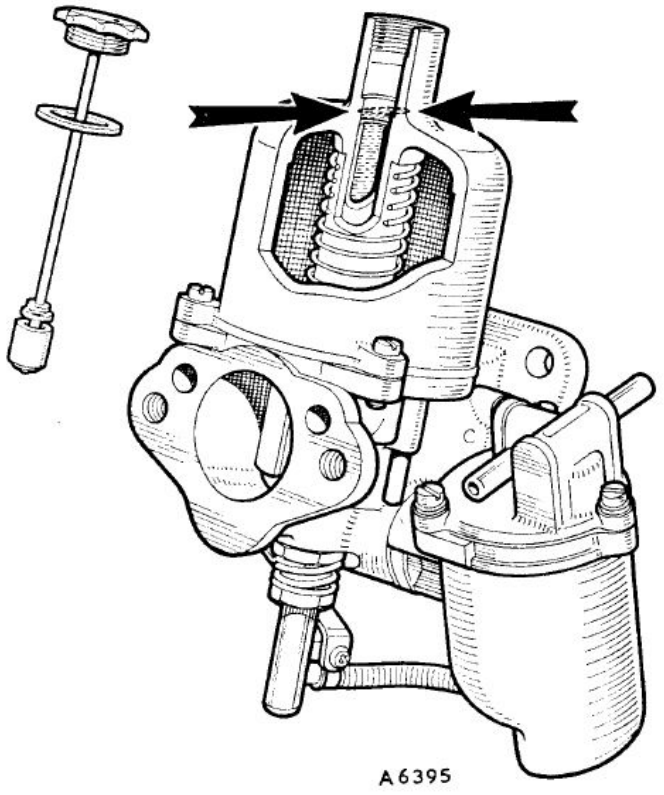

Sight tube
adjust free floating
indicator to center
by rotating air adjust
Air flow
adjuster
Fixed
Rotates

Adjust the Mixture H or HS Series

- Allow the engine to idle at 850-900 RPM; reset if necessary (timing also affects idle)
- Raise the adjusting nut two flats and note any RPM changes
- If there are none, lower the adjusting nut four flats and note any changes
- Where you find a rise in RPM stop there and lower the adjusting nut one flat for a slightly richer setting
- Always count your flats!

Dampener Oil

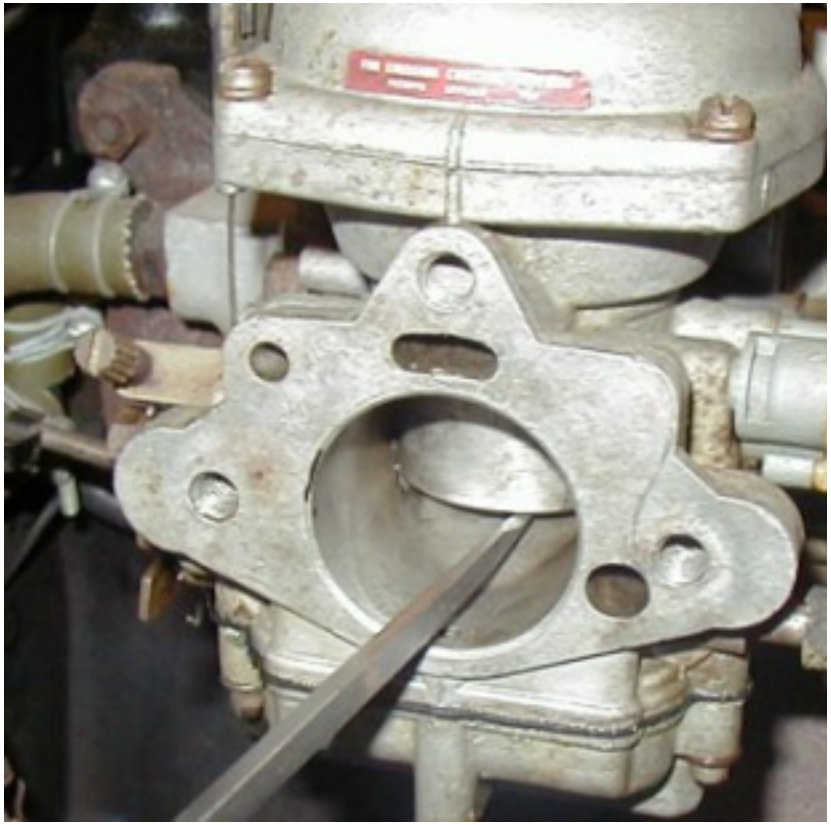
- Clear the engine between adjustments; bump the throttle bell cranks
- Some carburetors respond better with the dampeners filled with oil, try adding oil before continuing
- Which oil? I use the same as the oil I place in the engine; Twist uses 80w gear oil

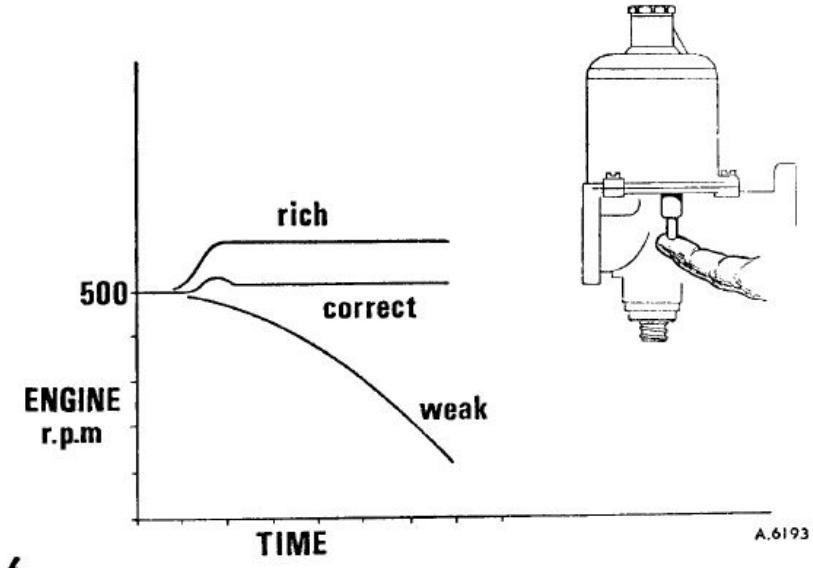


Idle Speed and Mixture Check

- Adjust the idle speed as needed to as low as reasonable
- Use a flat blade of a screwdriver just under the piston, and with a twisting motion raise the piston 1/32nd of an inch
- Note the response of the engine as follows
  - No change or rise- slightly rich
  - Slight rise and then fall off- perfect
  - Drop in RPM with no recovery- slightly lean

Idle Speed and Mixture Check





6

A. Check for correct mixture by gently pushing the lifting pin up about $\frac{1}{32}$ in. (·8 mm.) after free movement has been taken up.

B. The graph illustrates the effect on engine r.p.m. when the lifting pin raises the piston, indicating the mixture strength.

RICH MIXTURE:	r.p.m. increase considerably.
CORRECT MIXTURE:	r.p.m. increase very slightly.
WEAK MIXTURE:	r.p.m. immediately decrease.

C. Readjust the mixture strength if necessary.

Verify Jet Height

- Continuing for H, HS and HIF Series
- Again, remove the suction chamber and piston
- Measure the height of the jet below the bridge
- If it is less than .050 inches below the bridge, your float level may be high
- If it is greater than .080 inches below the bridge your float level may be low
- Ideal range is .060 to .070 below the bridge
- Reinstall the suction chamber and piston

Finalize Idle Speeds

- Check the idle speed
- Make sure the fast idle cam or lever is not fouling the normal idle speed
- Engage ¼ to a third of enrichment, but just before the jets drop for enrichment
- Look for 1500 to 1800 fast idle at this point

Finalize Idle Speeds

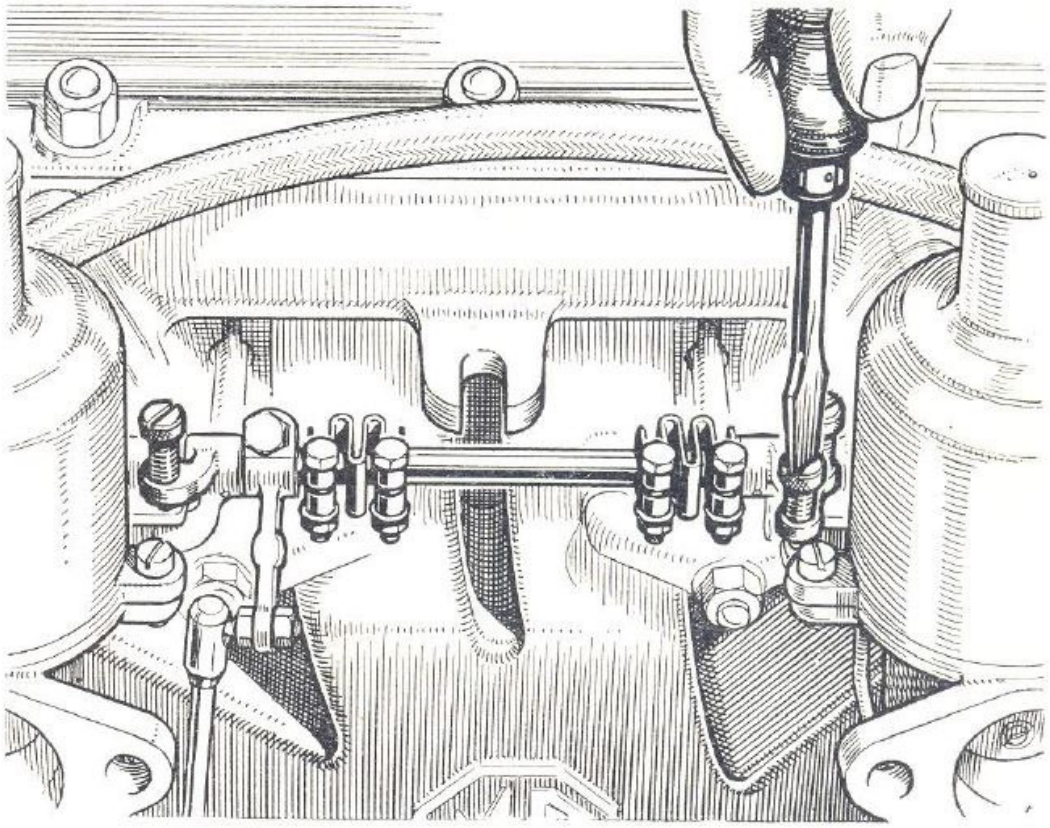


Fig. B.14.

This illustration shows the setting screw for the interconnected rich mixture and throttle control.

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Finalize Idle Speeds

Record Your Numbers

- If your car accelerates nicely at a different setting, and gets reasonable mileage, no problems- every engine has different needs
- The important thing is to know the settings for your engine once you achieve them

Hopefully-

We have identified the key concerns on setting up or tuning an engine; Breathing, Fire, Fuel

We have shown you some consistent approaches to adjusting Breathing, Fire, Fuel and explained why the order is important

We have provided you with real life numbers to use in your tuning and adjustments

We have convinced you to keep notes of your efforts

Engage a mentor if you would like to learn more

Now Go Out and Drive!

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Back-up

HIF by-pass

- Additional HIF information

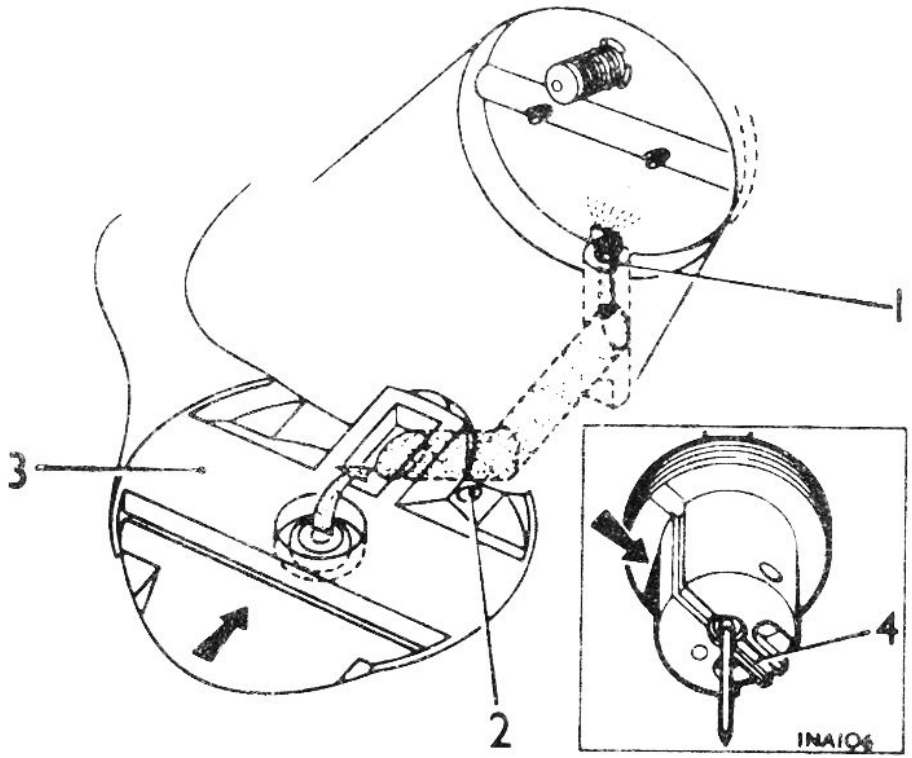
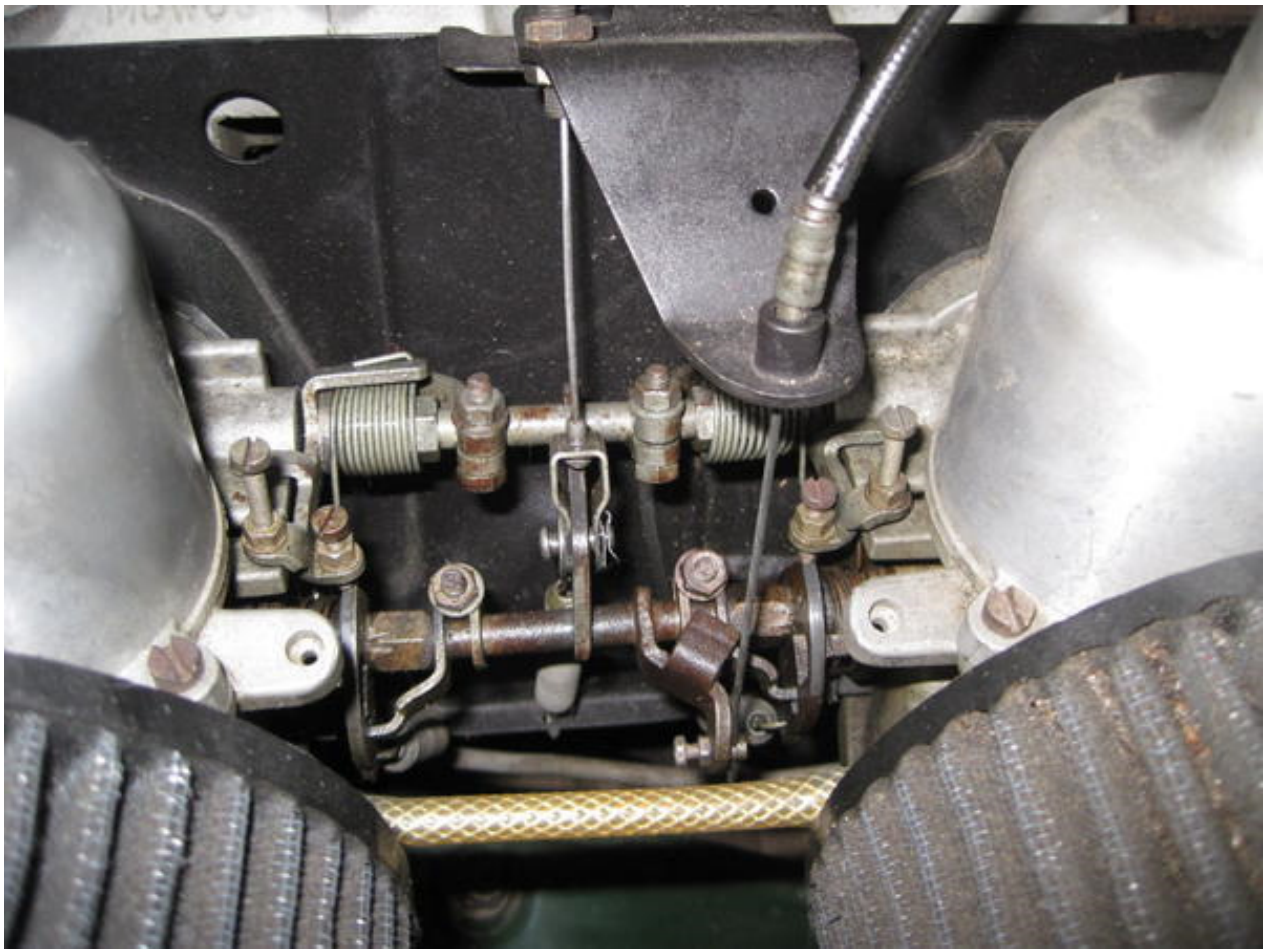


Fig. 77 — Part throttle by-pass emulsion system

1. *By-pass emulsion outlet*
2. *Cold start enrichment outlet*
3. *Carburetter bridge*
4. *Slot in piston*

HIF Linkage



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Float Chamber Adaptors for HS Carburetters

AUD 2062
HS Float Chamber Adaptor
30 deg. for L.H. Chamber Carb
or Horiz. for R.H. Chamber Carb
Diecast - solid

AUD 2063
HS Float Chamber Adaptor
30 deg. for R.H. Chamber Carb
or Horiz. for L.H. Chamber Carb
Diecast - solid

AUD 2071
HS Float Chamber Adaptor
10 deg. for R.H. Chamber Carb
or 20 deg. for L.H. Chamber Carb
Diecast - solid

AUD 2072
HS Float Chamber Adaptor
10 deg. for L.H. Chamber Carb
or 20 deg. for R.H. Chamber Carb
Diecast - solid

AUC 1366 Red
AUD 2676 Green
HS Float Chamber Adaptor
20 deg. for R.H. Chamber Carb
or 10 deg. for L.H. Chamber Carb
MG Midget, MGB, Sprite Rear Carb
**Flexible neoprene rubber*

AUC 1367 Black
AUD 2677 Grey
HS Float Chamber Adaptor
20 deg. for L.H. Chamber Carb
or 10 deg. for R.H. Chamber Carb
MG Midget, MGB, Sprite Front Carb
**Flexible neoprene rubber*

AUC 1316 Orange
AUD 2178 Brick Red
HS Float Chamber Adaptor
30 deg. for L.H. Chamber Carb
or Horiz. for R.H. Chamber Carb
Morris Mini Cooper LH Carb
Triumph Spitfire RH Carb
**Flexible neoprene rubber*

AUC 1336 Mauve
AUD 2179 Blue
HS Float Chamber Adaptor
30 deg. for R.H. Chamber Carb
or Horiz. for L.H. Chamber Carb
Morris Mini Cooper's RH Carb
Triumph Spitfire LH Carb
**Flexible neoprene rubber*

AUC 1318
HS Float Chamber Bolt Grommet
All HS Type Carbs with flexible Chambers
Under head of bolt for flexible adaptor

AUC 1534
H Type Flexible Grommet
Austin Healey Sprite Mk1, MGA 1500,
MGA Twin Cam, Triumph TR2, TR3, TR4

*The AUD part numbers are a much harder compound. Refer to carburetter spec sheet for correct fitment.

Piston Stops

- Piston Stops

Using Jet Bearing Centering Tool

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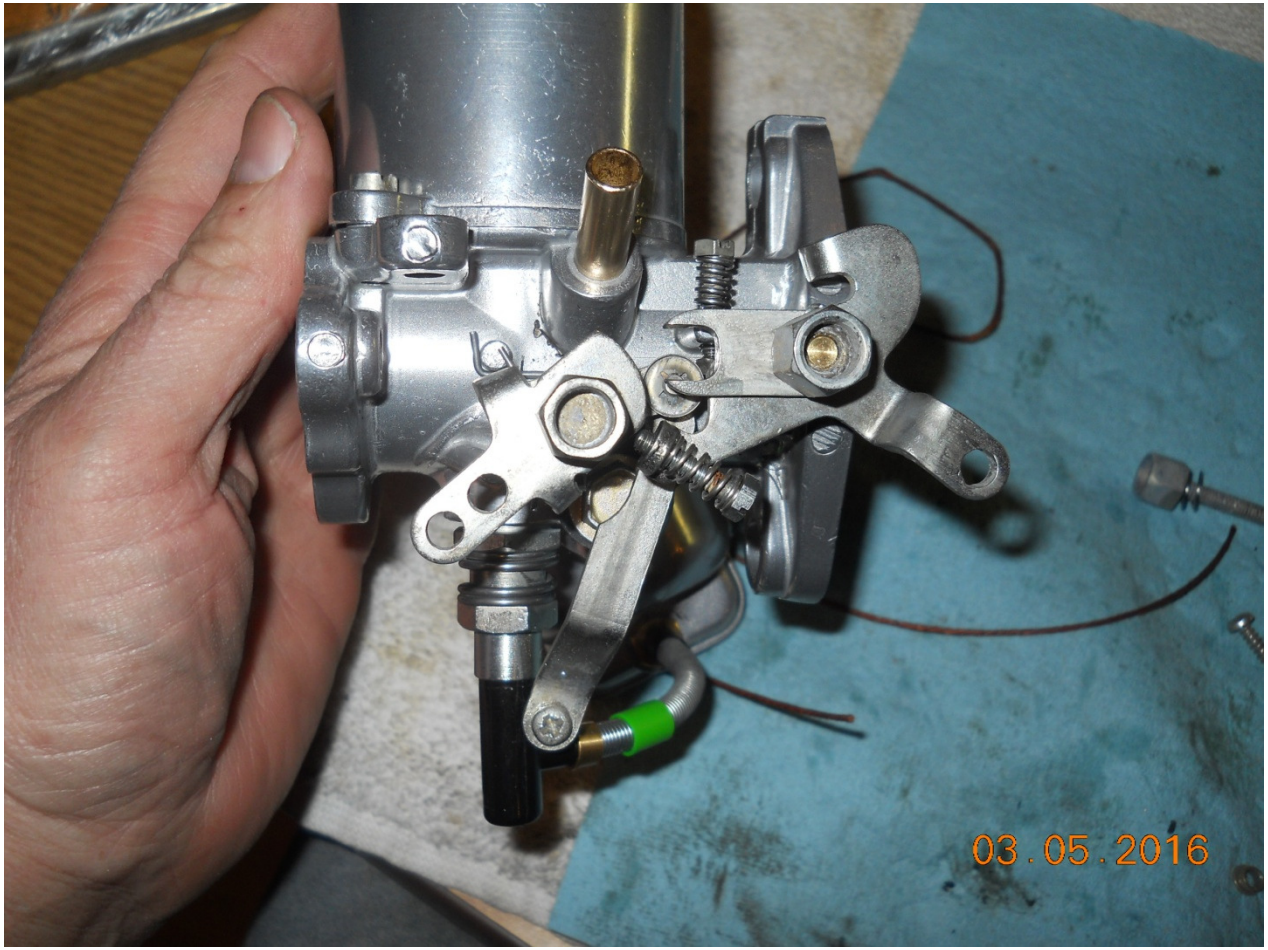
HS2 Enrichment Linkage



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HS4 Enrichment Linkage

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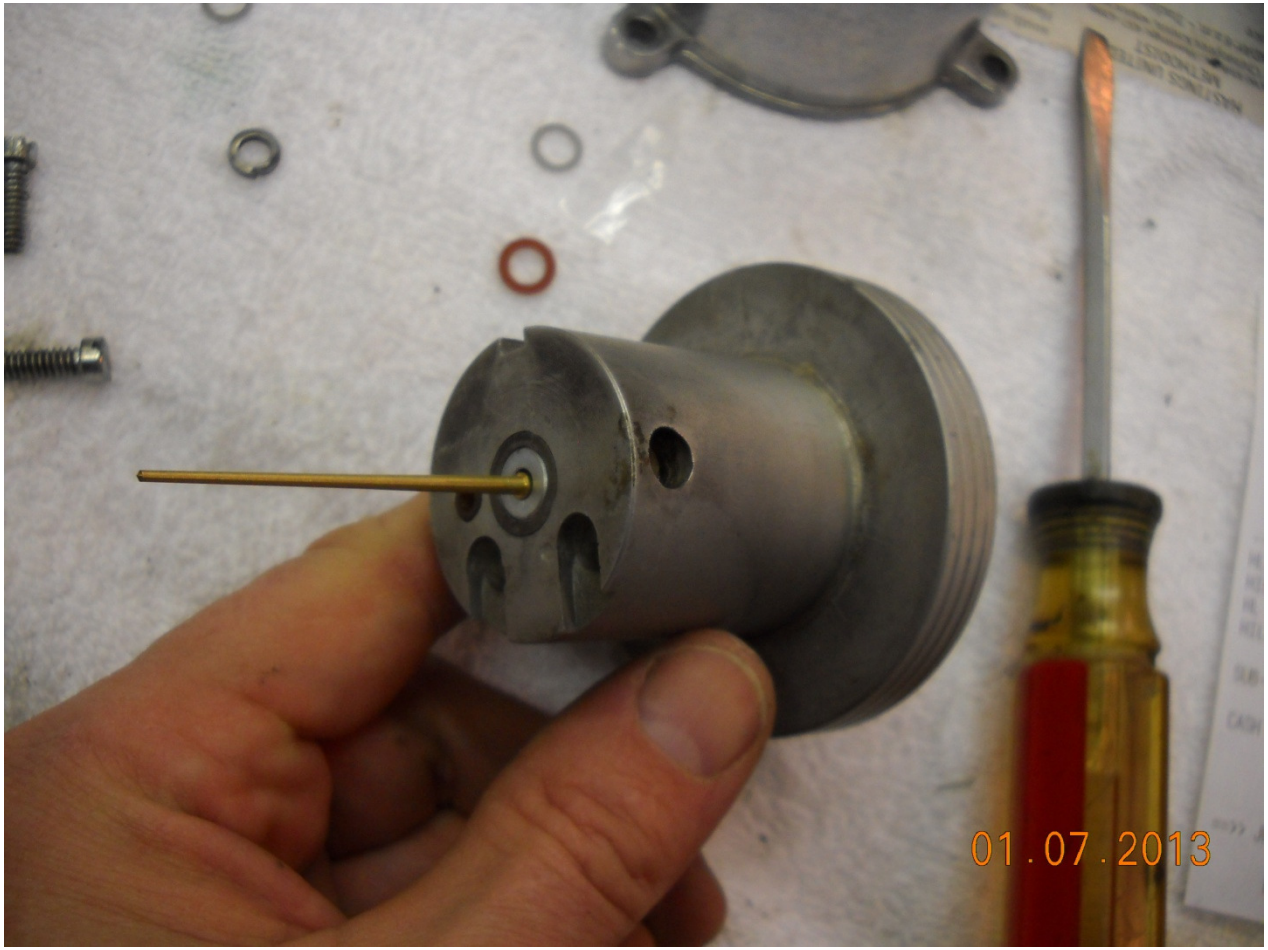
Proper Depth of Biased Needle



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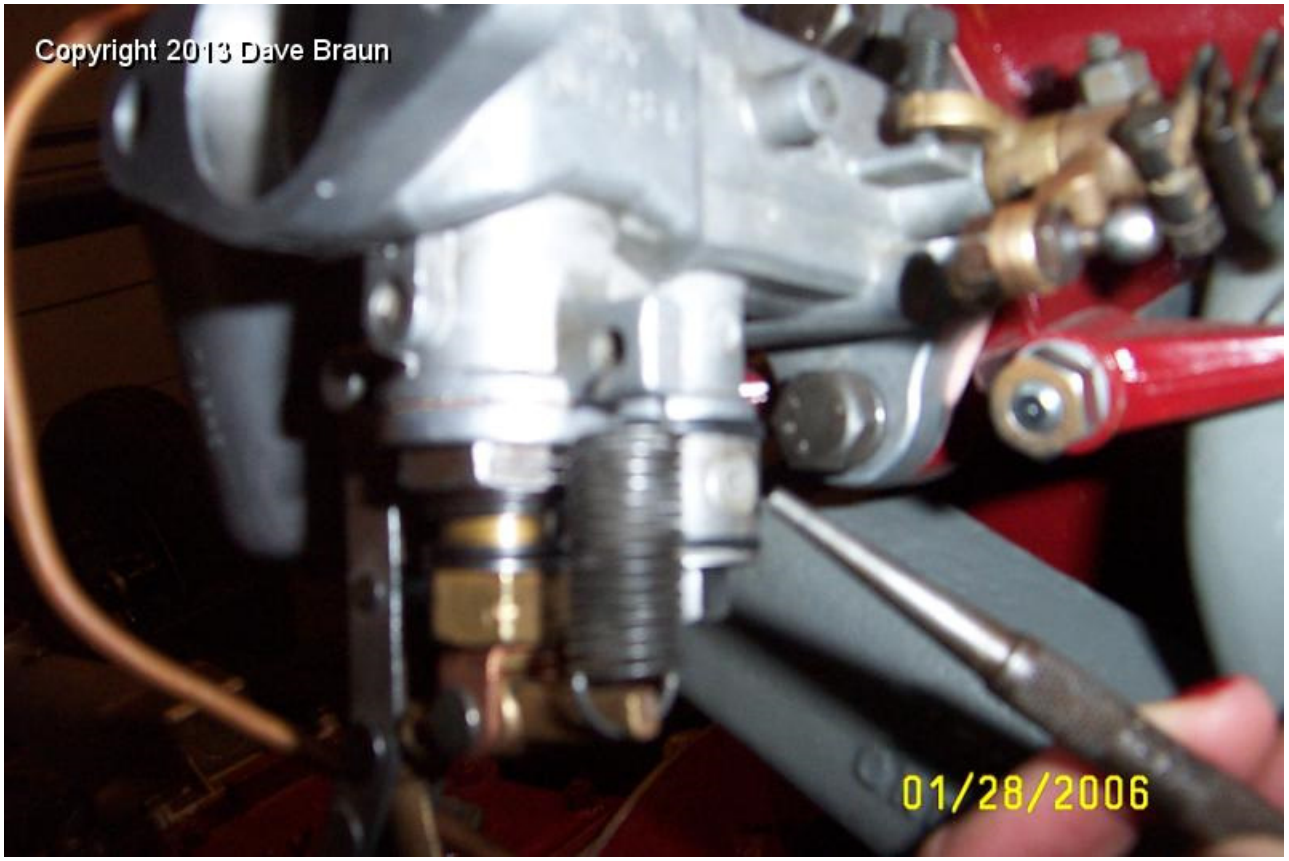
Transverse Tube Leaks

- XPAG H Series



XPAG Manifold Balancer Nut

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Vent Pipes

Vent Pipes


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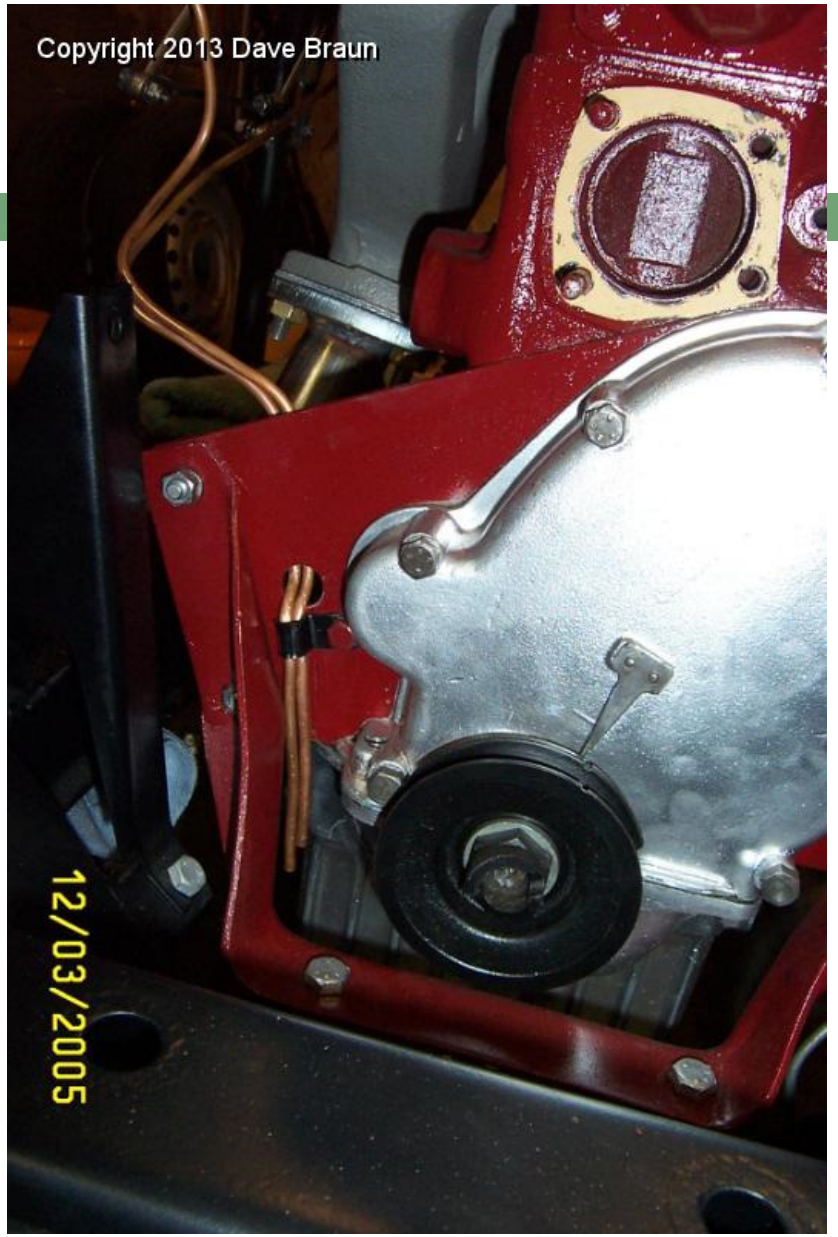
12/03/2005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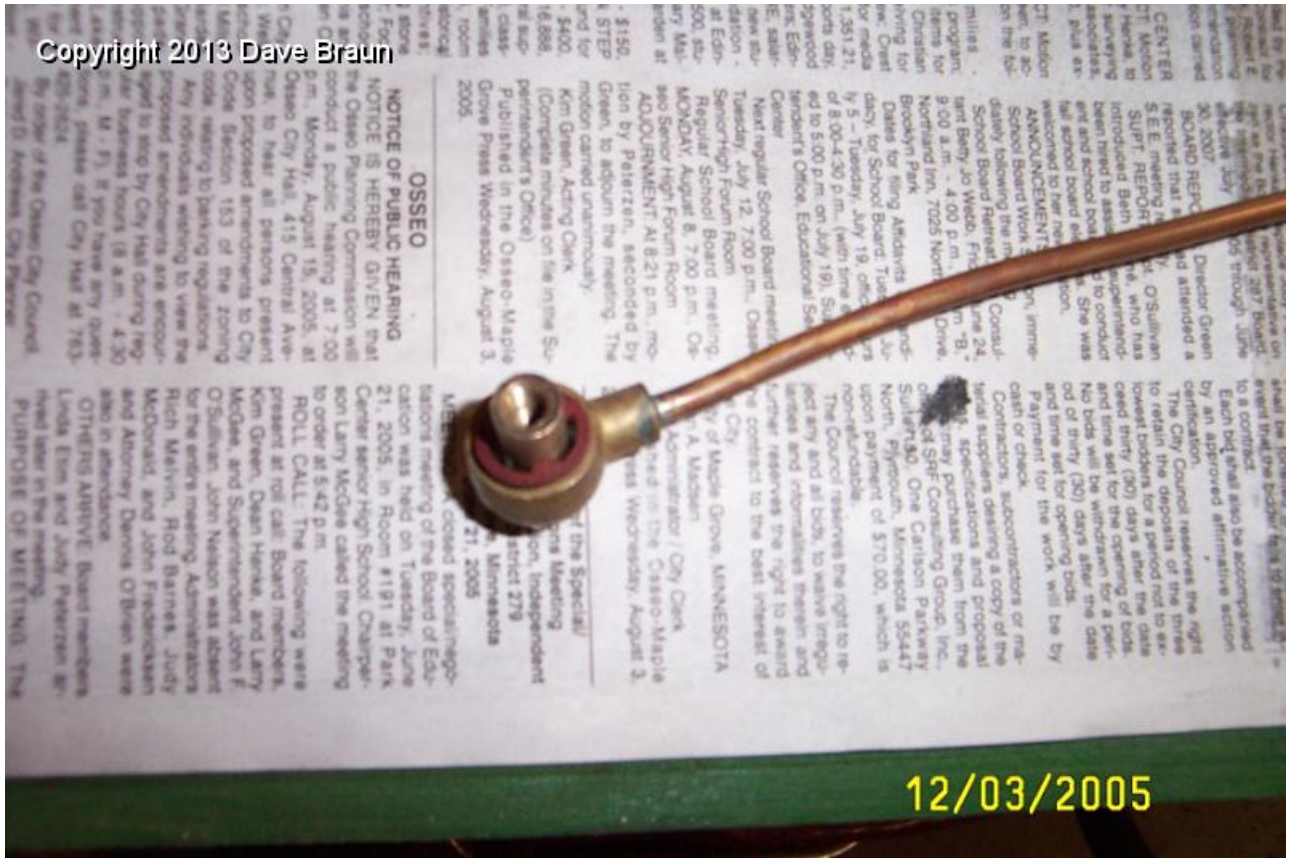
Vent Pipes



MG 2016 presentation by David Braun, Sky Harbor, Minnesota

Fast Idle

Fast Idle