Grassbox

The magazine of The Old Lawnmower Club

Number 72 Spring 2010

EDITORIAL

There isn't a great deal to say by way of an editorial this time, as much of what I would have said relates to the Annual Rally over the weekend of the 15th/16th May, which Keith has covered below. Never the less, I look forward to seeing as many of you as possible at Milton Keynes, and hope the weather is kinder to us this time than it has been in some recent years.

FROM THE PRESIDENT

Coming of Age!

This year is a very special anniversary in the history of our club as it is 20 years since we held our first annual rally. We had already held a couple of rallies for mowers at Milton Keynes Museum in 1989 but these were part of larger events. We had managed to find about half dozen local collectors to come along for these events and at one, I'm not sure now if it was May or September, we wondered if there might be room for a club specifically for collectors. I remember saying something like "well if we don't do it somebody else will" to Andrew Grout and volunteered to put some feelers out for prospective members. Within a few months we had managed to find around thirty or forty potential members and this led directly to the formation of the club and the idea of a proper club rally at the Museum in May 1990.

By the time the event came around we had about fifty members and a good proportion of these made the effort to come to Milton Keynes. Some of these have been to every event since. The rally has become the main event for many of our members and we have all made some great new friends over the years. I really do hope that as many people as possible can join us this May for an extra special celebration. And because it's 20 years since the first event, this year will actually be our 21st rally. We really have come of age at last. See you at Milton Keynes.

Annual Rally Theme

Following the success of the special theme at last year's annual rally we've decided to have another go. This year the theme will be "mowers that aren't red and green" which we hope has broad enough scope for as many members to take part as possible. It should make a colourful display and, before anyone asks, mowers that are completely red or completely green would qualify. More likely however, we would expect to see common machines such as the Qualcast Model E (blue and red, often) as well as rarer models such as a DB Swallow (blue and yellow). We'll set out a separate area for the coloured machines to be displayed. We expect that many members will have something that qualifies but don't worry if you don't have anything suitable because ordinary red and green mowers are welcome too. Finally, rust doesn't count as a colour on this occasion!

Tony Houghton

Following discussions with Tony Houghton's family we are planning to unveil a special memorial of some kind during the annual rally. As members will recall from the previous edition Tony was one of our founding members who died suddenly just before Christmas.

Keith Wootton

STARTING TIP

Now that spring is finally upon us, many of us will be dragging faithful old machines out of our sheds or garages for another grass cutting season. However, after the coldest winter for 30 years, and several months of standing idle, getting them to start may be easier said than done. Despite a clean plug, clean carburettor and many attempts, my Qualcast Commando refused to do anything but spit and splutter. So how do we successfully coax them into life. My favourite trick which has been about 99% successful is to remove the flywheel and points cover and to drench the electrics with WD-40 or similar. After leaving it for a few days to allow it to soak through, I give the points a really good clean and the engine should start easily. I have also used this method successfully with long dormant engines that have been standing in a garden shed for many years.

Ian Wallis

SNOWMOWER!

Member Andy Easton from Fife, Scotland, sent us this image of his Suffolk Punch put to a new use clearing compacted snow from his drive this winter. Andy says he removed the sole plate and by setting the mower very low to the ground, it picked up compacted snow that would otherwise have been hard to shift. The picture shows it with a boxful. I assume Andy won't have any trouble starting it in the spring either!

CONTACTING THE CLUB

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DIARY DATES

Annual Rally & AGM, Milton Keynes Museum: Saturday 15 & Sunday 16 May. See the adverts page for more details or contact Keith Wootton. T: 01327 830675 E: keith.wootton@oldlawnmowerclub.co.uk

John Lovell's vintage meet: Sunday 30 May
C: John Lovell. T: 01730 263508.

West Park Wolverhampton Vintage Rally: Saturday 5 & Sunday 6 June. All on grass, no cut off date for entries any displays welcome. C: Ray Williams, 47 Oldfalling Lane, Wolverhampton WV10 8BH. T: 01902 731663

Bramshott Open Gardens Weekend, Nr Liphook, Hants: Saturday 12 & Sunday 13 June. 30 different gardens to visit, lawnmower display and demonstrations in one of the large ones. C: Colin Stone T: 01428 604003

Banbury Steam Rally: Saturday 26 & Sunday 27 June. Details as usual from Robbie (see "souvenirs" in the contacts list)

West Dean garden event: Saturday 26 & Sunday 27 June (same weekend as Banbury) C: Richard Jones. T: 01243 575937.

Vintage Lawnmower Weekend, Exbury Gardens, Nr Southampton, Hants Saturday 31 July & Sunday 1st Aug. A new event this year, any members welcome. C: Geoff Christopher T:01425 616364 or e-mail geoffrey@christopher5661.freeserve.co.uk

Alresford Agricultural Show, Titchbourne Park, Hants: Saturday 4 Sept. C: Colin Stone T: 01428 604003

Bedford Steam Rally, Old Warden Park: 18th & 19th September. C: Dick Hardwick T: 01462 816018 E: mailto:hadw2@aol.commailto:hadw2@ %20aol.comhadw2@aol.com. W: www.bseps.org.uk

Tilmow '10, The Rural Life Centre, Tilford, Nr Farnham, Surrey: Saturday 25 & Sunday 26 Sept. Combines with their Steam and Vintage Rally. C: Colin Stone

Malvern Autumn Show: Saturday 25 & Sunday 26 September. Details from Tony Hopwood. T: 01684 592134 (Upton on Severn).

GREENS SERIAL NUMBERS

It has been some time since this subject has been mentioned in Grassbox, and my interest in the topic has expanded beyond just the Silens Messors that we started with.

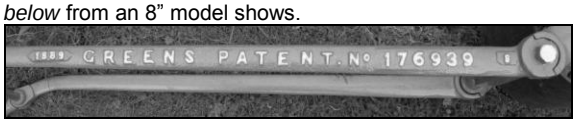
So, back to basics. Greens mowers from before 1939 (with one or two exceptions) have a unique number cast into some part of them, usually on the handle but sometimes on the side frame. Every number is different and they are more or less chronological. It should therefore be possible to correlate the numbers to known dates and known dateable changes of other features of the mowers, such as the presence or otherwise of a nameplate. However there are several different sequences, and as more models were produced after the First War, so the number of different sequences seems to increase, and the numbering becomes more haphazard. As the numbers were applied in the foundry, it seems unlikely that the complete machines actually left the factory in chronological order, so the numbers can probably only ever tell us a date accurate to a few weeks or months at best. Greens own servicing department certainly used the numbers to identify machines they had repaired, as surviving repair invoices show.

All Silens Messors up until some time in the mid 1920s are in a single sequence that appears to have started more or less when Greens mowers started to appear under their own name. All sizes from 6" to the biggest horse mowers appear to have been in the same sequence, so numbers must have been allocated in batches, which could explain the apparent gaps that crop up in places. The highest number so far found in this series is 464996. The number of mowers sold seems to have varied, but were roughly 5000 a year throughout the curved handle period, increasing to 7000 a year in the early 1890s, and probably dropping only slightly up to 1914.

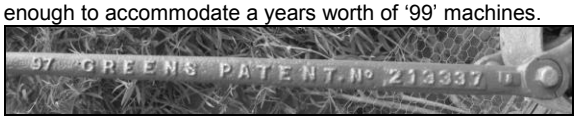
The easiest period to date machines from using their numbers is the 1887 – 1900 period, and while handles can be swapped between machines by repairers, we are lucky that some of the features that changed in this period and that can be dated are part of the same handle casting as the number.

Curved handles on an early 1880s 6" machine. The way the lettering is laid out has lead some people to believe the serial number is a Patent Number, which it isn't.

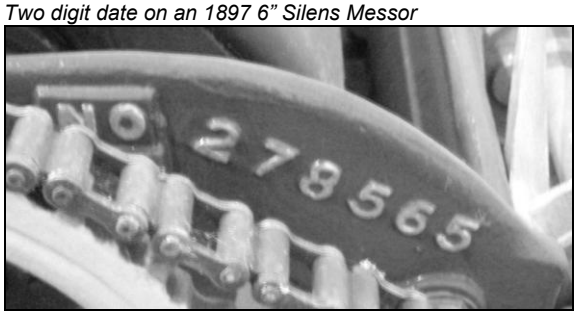
Firstly, the change from curved to straight handles. This occurred in 1887, with the straight handles being sold in that year. There appears to be no real number gap with this change, and for the first two years, straight handled mowers did not have the wire spanner loop cast into the handle. This appeared in 1889, and Greens helpfully put the date 1889 on the outside of the handle, as the image *below* from an 8" model shows.



Sadly, they seem to have carried on putting 1889 on the handle until 1894, when it was replaced by a two digit '94'. This means that only the first 20% of mowers with an 1889 date are actually from 1889. The two digit dates carried on until 1898, after which it seems to have stopped. I have never seen a '99', and the gap between the last '98' number (223766) and the next number (227125) is not big enough to accommodate a years worth of '99' machines.



Two digit date on an 1897 6" Silens Messor



Pony Mower numbers are on the right hand side frame, as on this 24" example at West Dean, probably from 1904

There then follows one of the aforementioned gaps, and I suspect that 1899 takes us up to just over 230000, then 1900 starts with 250000. Just before the gap in the numbers, the cutting width started to be cast into the back of the cast iron concave and scraper plate. In 1905 all catalogue illustrations show the appearance of the elaborate Silens Messor nameplate, the first time the name of the mower was actually cast into the machine. (Prior to that it had only been on the grassbox transfer) This happened after a gap of 15,000 numbers at about 294000. These two gaps may have been numbers never assigned, reserved for other models and never used, or a combination. Another major change was the appearance of the removable delivery plate. This was available as an alternative to the cast iron concave for several years and consequently is of no relevance to dating.

After the mid 1920s, Silens Messors were numbered in a new series where a 4 digit number is preceded by a letter, and at the same time the fully adjustable handles became available, with two bolts at the bottom, but still with adjustable hand grips as well. By 1929, the handgrips were fixed as they are on the machine in this image of a P series 10” from about 1930.

The letters codes must have been allocated to different models, as many letters never appeared on Silens Messors, but some do appear on other machines.

A typical late letter coded Silens Messor with fixed handgrips, double bolt handles, multiple pawl rear roller and this one even has the later type hand wheel adjusters, though these may have only been fitted as standard to SM De-luxes and Supremes. C. 1930

One assumes that letters were originally allocated to certain models, then once all 9999 numbers for that letter were full, the model moved on the next available letter. In practice some letter codes only ever appear with quite low numbers, so it may be that sometimes the letter changed before the numbers were used up. Clearly, the Silens Messors were the biggest selling model at the time, so they got through more letters than most of the others did. As SM De-luxes and Supremes were in the same series of numbers and were always changing in the 1920s, sometimes more than once a year, it is possible to pin down some of the dates for certain letters. Greens letter codes so far recorded are as follows:

C: Silens Messor and SM De-luxe C.1925
D: New Century C.1925
F: Silens Messor and SM De-luxe
G: Silens Messor and SM De-luxe
M: Silens Messor and SM De-luxe. Also used on Late 1930s SM De-luxe and Mk2 Prince. C.1927
N: Silens Messor and SM De-luxe. Also used on Mark 1 SM Juniors some years later in 1930s.
P: Silens Messor, SM De-luxe and Supreme. C.1929-30
U: Silens Messor 1930s
V: Silens Messor. Also used on Mk 1 SM Juniors 1930s
X: New Century 1930s
Y: New Century 1930s

In 1930 both the SM De-luxe and Supreme wandered off to join the Multum In Parvo sequence for a couple of years (it seems purely because they shared the same shaped handles!) then after 1932 had their own apparently separate system which often appears to duplicate the numbers and letters already used in the 1920s. Princes and SM De-luxes in the late 1930s often have ‘M’ letters with numbers only a few digits removed from those used on Silens Messors in the mid 1920s.The mid 1930s Supremes just have a 4 digit number with no letter code at all, while SM Juniors also duplicate Silens Messor letter codes. The late 1930s domestic machines from the bottom of the range, such as the Popular II and the Defiance don’t seem to have numbers at all while some SM Juniors also appear to be numberless. The very last Silens Messors had ‘U’ and ‘V’ letter codes, and these must date a machine to the mid to late 1930s.

Other models
All greens mowers prior to the 1930s have numbers, so New Monarchs, New Centuries, Handy edge cutters, even line markers, (where the number is on the brass plate on top of the box) are worth a look. All the side wheel models right up to the Greenson and the Utility in the 1930s have numbers and these are located on the frame behind the wheel as shown on this 1930s New Century.

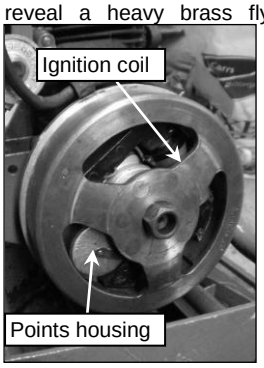
Motor Mowers
Some motor mowers were lucky enough to have two numbers. The earlier machines shared many parts with the Silens Messor, including the handles, and about half of all the 16” and 20” two stroke machines with cast iron frames have a Silens Messor sequence number on the handle, while the others just have a blank space. Greens seem to have identified their motor mowers not by the handle number but by the number on the brass plates which were almost always fixed to the tool box, and consequently are often missing, making the dating of motor mowers by number a tricky prospect. Later machines made in the 1930s with steel frames often never had tool boxes and on these the plate is screwed to the side frame, so they mostly survive. These numbered plates seem to have the letters ‘MM’, ‘LMM’ or ‘GLM’ preceding the numbers. I assume these stand for Motor Mower, Light Motor Mower and Greens Light Motor (or something similar), as ‘LMM’ and ‘GLM’ are found on the smaller models. I have yet to establish whether all motor mowers have numbers in one sequence or whether they are divided up by the different letter codes.

STRIPPING DOWN A VILLIERS FLYWHEEL MAGNETO

By Mark Peckham

These simplified instructions are intended as a guide for anyone attempting to strip down and repair such an ignition system. It is advisable to have a set of Whitworth combination spanners available. I have found these a huge benefit compared with using a “close match” metric or standard Imperial spanner. The use of adjustable spanners is particularly unsuitable when having to apply the rather large torques for removing or re-fitting the flywheel.

Ignition system access
Gain access to the ignition system by prising off the aluminium casing from the side of the engine. This will reveal a heavy brass flywheel with access holes for checking points. The contact breaker points are housed beneath the brass cap (*see left*) whose retaining arm must be swung sideways to open the cap. With a little careful manoeuvring, the cap can be removed through the access holes in the flywheel and the points gap can be checked and adjusted. The gap should be checked (probably 0.015”) and adjusted using the threaded adjuster and locknut as required.



Removing the flywheel
To perform any maintenance on the ignition system other than cleaning or adjusting the points, it is necessary to remove the flywheel. This is best achieved by jamming the flywheel (to prevent its rotation) with a wooden wedge between its outer circumference and a mower cross bar. Then, using an appropriate ring spanner (1/2" Whitworth, ideally), give a sharp strike to the ring spanner with a hammer in an anticlockwise direction to shock the nut undone. If successful, the nut will undo by about 1 or 2 full turns before apparently locking-up again. You need to shock this anticlockwise again which will then prise the conical flywheel mount from the mating taper on the crankshaft; the nut is captive but rotates within the flywheel.

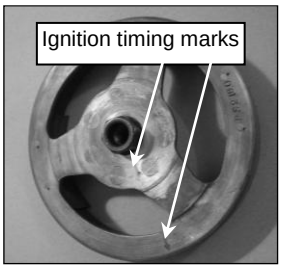


Fig. 1: The flywheel and ignition timing marks.

The magneto flywheel contains a pair of permanent magnets and the original Villiers maintenance advice was to place a piece of iron (e.g. a spanner) to bridge across the poles thus preventing loss of magnetic flux.

Removing the armature back plate
To inspect or service the ignition system, it is easiest to remove the whole magneto assembly from the engine. Disconnect the H-T lead from the spark plug. Loosen the set screw which is behind the armature back plate and clamps the back plate on to the engine's crank housing.

The back plate is also clamped to the crank housing with a support bracket. (On some Villiers ignition systems, there is an alternative clamping arrangement allowing some rotation of the back plate so as to "tune" the ignition timing.)

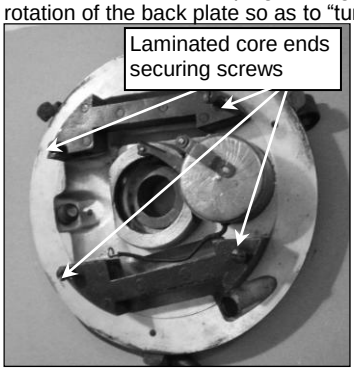


Fig. 2: Armature back plate with coil removed.

With a bit of back-and-forth rotation of the back plate around the axis of the crankshaft, the entire armature back plate should come away from the engine (see *Fig. 2*) and can be overhauled more easily on a well-lit and clean workbench (to avoid losing small but crucial parts).

Checking or replacing the ignition coil
If the engine is suffering from a weak (or no) spark, then the problem may be within the magneto coil. This can be checked using a voltmeter (to measure resistance) but it is necessary to remove the wire connection between the coil and the points. The primary winding should have a resistance of just a few Ohms (measured between ground (either end of the iron core) and the socket in to which the points wire was screwed.) The secondary winding resistance should be 3-5k Ohms and this can be measured between the side terminal connection to the H-T lead and ground. The most likely scenario with an old magneto coil is that it has some internal corrosion and the secondary winding (which is wound from extremely fine copper wire) has broken.

The coil can be removed from the "shoe" shaped laminated metal core ends by removing the nuts on the rear side of the back plate. You may need to use a screwdriver to counteract the torque on the corresponding screws which hold these core ends on to the back plate (see *Fig. 2*). The core ends will then lift from the back plate and the coil can be pulled free from these shoes. Replacement coils can be sourced via the internet but ensure that you specify the correct length and end diameters as there are various models available. Replacements are not cheap (perhaps £50) and beware of untested items for sale on auction sites. With the flywheel removed, you now have excellent access to the contact breaker points and can provide a proper inspection.

Contact breaker points maintenance
Disassemble the points by removing the contact breaker arm. It is held in position by a clip and spring. Note that the spring may easily be dropped on the floor – hence the need for a clean, well-lit work surface. Loosen and remove the two screws which hold down the brass strip and which also clamp the low tension wire and the connection to the condenser. This brass strip is isolated from ground by insulating posts which should be inspected for cracks or other degradation. Note the order of construction of these components so that it can be rebuilt easily.

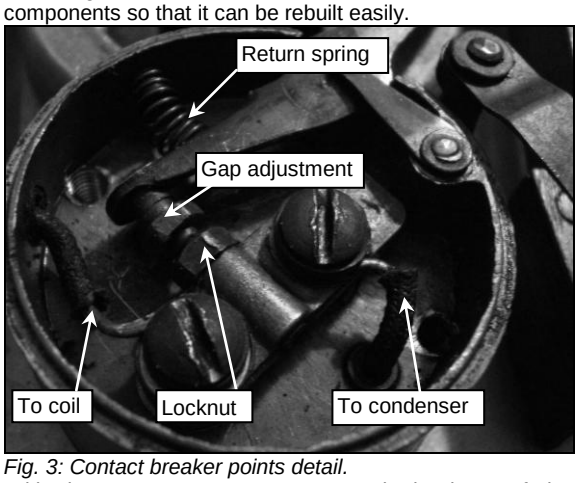
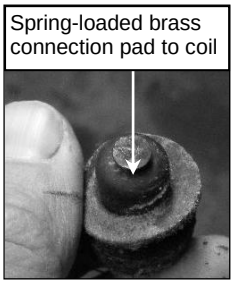


Fig. 3: Contact breaker points detail.

With the upper components removed, the base of the points housing can be unscrewed from the back plate and the capacitance of the condenser can be measured. The condenser rarely fails. During reassembly, pay particular attention to the cleanliness of the contact breaker points. Even a thin film of oil from dirty feeler gauges can foul the points surfaces sufficiently to prevent a good spark.



Inspecting the H-T cable
Inspect the H-T cable for continuity between the spring-loaded coil end and the spark plug connection end. Check also for cracks in the cable insulation. Replacement cables can be sought from the internet, but repairs can also be made to cracked or otherwise damaged H-T leads using appropriately-sized adhesive heatshrink.

Re-fitting the flywheel and final set-up
Hold the contact breaker arm open while refitting the flywheel on to its tapered shaft. There are timing marks on the flywheel which should be aligned with the notch on the crankshaft end. This will ensure correct spark timing. The flywheel nut will need to be tightened sufficiently to prevent any movement on the tapered shaft. If it is slightly loose, the flywheel may slip following a misfire, the timing will be compromised and the engine will run either roughly or not at all. Therefore, tighten the flywheel using the ring spanner and hammer arrangement described above for removal, but this time for tightening (clockwise). Finally, re-set the contact breaker points gap. Check for a spark by unscrewing the spark plug, attaching the H-T lead and resting the threads of the plug against the surface of the cylinder's cooling fins.

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