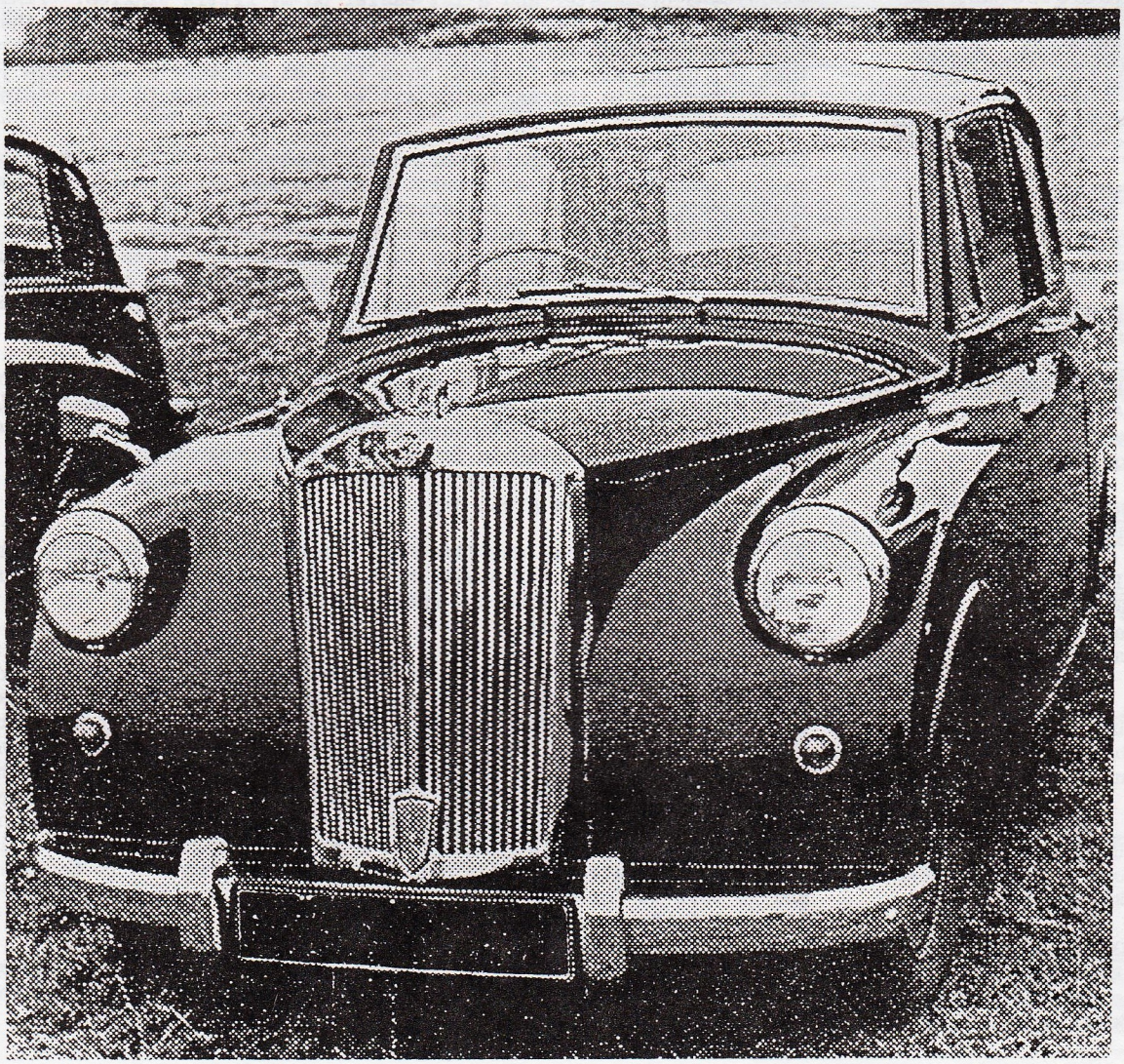
29
summer
82

p1 Water in Oil (See query. p1, issue 28)
p5 Filler for dents
p1 (past p6) Mayflower data
p8 Oil pump
p8 Valve Timing
p8 Distributor Driving Shaft (pt 1)

# Flower Power



## TRIUMPH MAYFLOWER CLUB

INSIDE
1st PART of a
REPAIR MANUAL.

SUMMER 1982 ISSUE No 29

FLOWER POWER ISSUE No 29
SUMMER 1982

**THE LIVELIEST READERS WRITE TO**

## CLUB OFFICIALS

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Vacant.

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HON S/HAND SPARES SEC
Vacant.

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## ED'S PIECE.

WELL here we are again, a little later than I had planned but I hadn't allowed for the beautiful weather we've been given lately. Make hay while the sun shines says the adage and that doesn't allow for typing, so consequently I've got a great tan, the neatest garden I've ever had, all the major jobs done on my car, (Escort), but not a lot of the F.P. typed. So here goes at last.

HAD to buy a new typewriter as I was hammering the hell out of my sister's portable. Spent a bit extra and spoiled myself on an electric machine. Makes me quite a bit faster and a lot easier on my little pinkies. Finished the Typing Course and took the Pitmans Elementary exam, won't know the result for some time but it doesn't really matter as I've reached the standard I required that is, using all my fingers, even if I am a little slow. Hope you can tell the difference in the mag after all my efforts. Now to Club business.

THOSE of you who have paid your subscriptions do mot be alarmed at receiving no new membership card or receipt for your payment, (that's not how I paid for the typewriter!). We've run short of cards and until we get back the printing blocks from a previous editor we can't print any more. I expect we'll end up having to print new ones anyway, and you'll receive them with a future copy of F.P.. Those who havn't paid their subs yet please make an effort to in the very near future so that I can publish an up-to-date list of members so that you can all see who your neighbours are.

TWO things you'll find at the end of the issue, one is an enrolment form for this years S.T.I.R. It has been included as it was felt that it is such an important event for all Standard Triumph owners that lots of you would want to enter. The Club once again is helping to run the event, so those of you who turn up should see some friendly faces. With or without a Flower do come along, it should be a great day.

THE second addition is the first instalment of a repair manual first published in 1952. Subsequent F.P.s will have more instalments and when completed,I think it will make a good and useful booklet for those of you who don't own a workshop manual already.

MANY Thanks to those of you who wrote and told me about oil filters. Someone suggests that the root cause of the excessive wear in my engine is the mixing of old and new oils. Whilst I know that this does not help the situation any, I believe the view held by Barry Frary, that short runs (less than 20 miles) cause excessive moisture build-up in the oil, and it is known that water contaminated oil is a sure killer of white metal bearings. I believe that any engine (old or modern) that is used continually for short trips should be taking for a long run at least once a month to heat the oil and block thoroughly to evaporate the water out. The only alternative is to drain the oil and to boil it for half an hour. Anyway thanks again for all the replies, all I've got to do now is to get hold of a filter.

DON'T FORGET July 18th is our National Rally day. I hope to see many of you there this year, it's your only day as a Club so come along and make it a good one.

Ed.

★★★★ ★★★★

## WELCOME TO NEW MEMBERS

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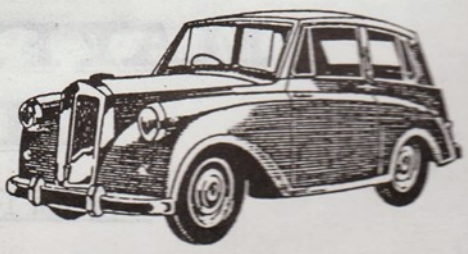


★★★★ ★★★★

## CHAIRMAN'S JOTTINGS.

It has been a good start to the Season of Rallying, I personally, having the pleasure of meeting Leslie Preece, Bill and Jenny Ridgeway and Barry Frary from Rotherham at the Weston-Super-Mare, Easter Rally, where once again Barry took the Distance Award , this is for the second year in succession. It must be catching. It is to be hoped that as many of our members as possible will be able to take their 'Flowers' to the local Events as well as our National Rally and show off their Pride and Joy, It is to be hoped that i if any of you are fortunate enough to gain any Pieces of Silver or other awards, they will let our Magazine Editor know, so that it can be recorded in our excellent Journal.

Now whilst on the subject of Rallies please make a note in your diaries for Sunday 18th July, Ragley Hall ALCESTER, Warwickshire, for our National Rally. Also a special Note to any member with a Model of the Mayflower to bring it along for the Dinky Concours, a small prize will be given for the best Judged Model.

There is another item I would like to draw your attention to, that is the Club T-shirts which I am now dealing with, I shall be bringing them along to the Rally, so if you come along you will be able to see them for yourselves.

Now there is another big Rally that is a must for all Mayflower Owners, that is the Standard/Triumph International Rally at Rousham Park, near STEEPLE ASTON, north of Oxford on September 19th. Shall I see you there?

There may be those among you that like me are a C.B. enthusiast, so you may be interested to know that I have my C.B. handle as 'Mayflower', so if any Breakers are passing through the Bristol Area and would like to put a call out for me, I shall be happy to make a 'Copy' with you. 10 - 10 and all the Golden Numbers. Call on 19.

R.A.C. Motoring Services has recently published a book titled'100 Years of Motoring - An R.A.C. Social History of the Car'. This bery thick tome I have read and recommend it for it's content. It covers many of of the aspects of early motoring and brings everything up to date with the present day. It is a must for the serious motorist, with plenty of Photo's and informative reading. Price is £13 post free by writing to D.J.SINDEN, PUBLICATIONS MANAGER, RAC MOTORING SERVICES,PO BOX 100, RAC HOUSE, LANSDOWNE ROAD, CROYDON, CR9 2JA. Please mention that you are a member of the T.M.C.

Now all I have to wish you all is, fine weather when going to Events and Rallies and the hope that I can meet as many of you as possible during the coming months.

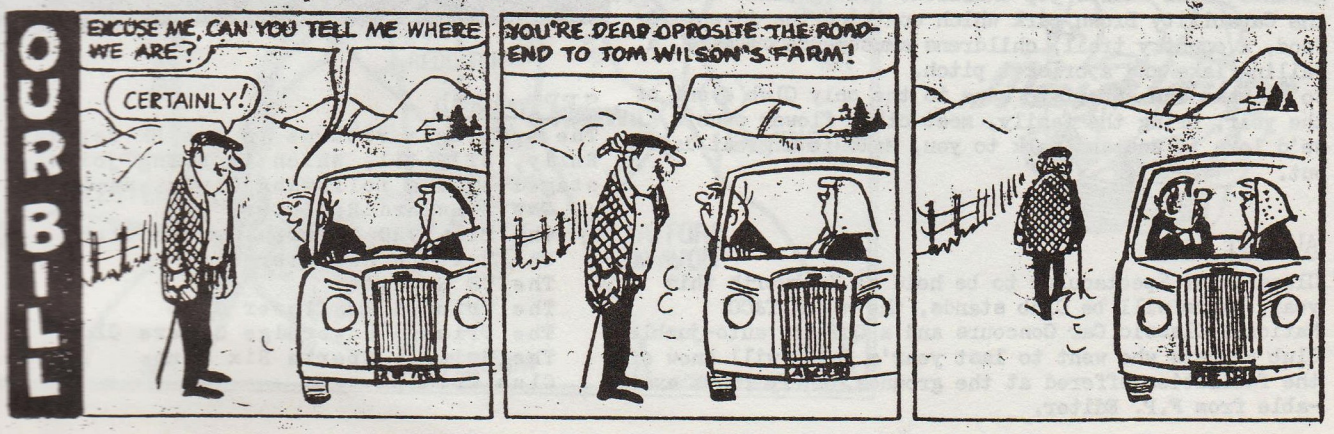
P.J.H.

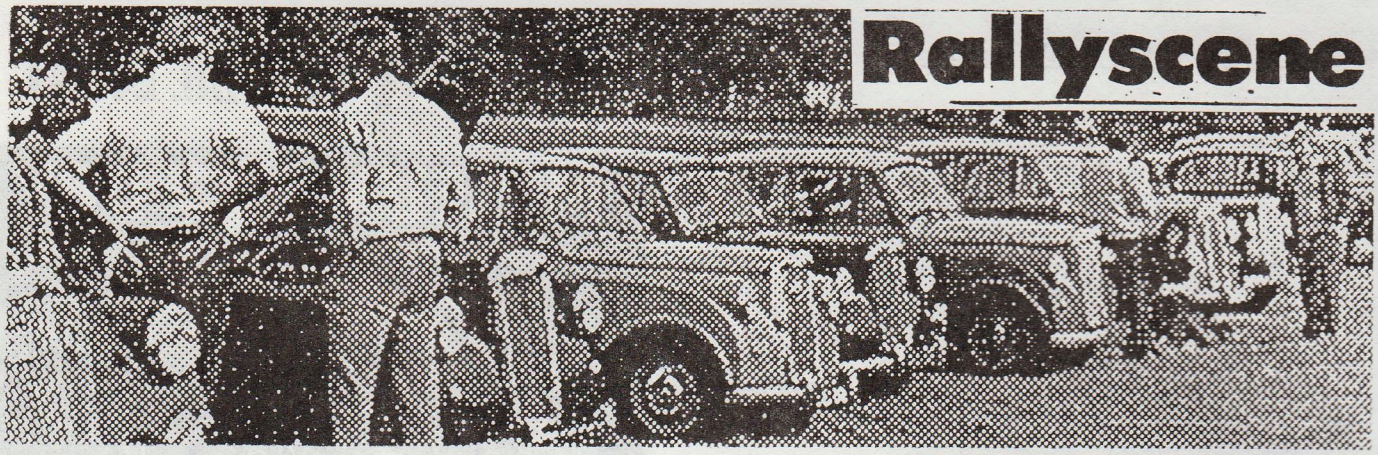
★★★★


## T-SHIRTS
## WITH CLUB 'MAYFLOWER' LOGO


Sizes: 38-40/40-42/42-44 £2.65, 28/30/32 £2.35 plus 35p for p&p. Cheques/Money orders made out P.J.Hall, 75 Morley Rd, Staple Hill, BRISTOL BS16 4QY.

Sent in by Phil from his local paper because of the similarity.






## MAY 9th

Brilliant weather at Crich Brought out 20 cars of Standard - Triumph origin including the Mayflowers of:

| | |
|---|---|
| Mr & Mrs S Langton | Burton-on-Trent |
| Mr & Mrs Smethurst | Blackburn |
| Mr A Leachman | Boston |

It was pleasing to see such good support from the T.M.C. All the cars were admired by visitors to the Tramway Museum. The usual confusion between Mayflowers and Renowns was observed; even when they were parked side by side!! All in all a most enjoyable day, thank you for participating.

Tom Robinson T.R.O.C.

(Thank you for asking us, Tom, I'm glad someone took advantage of your kind offer. Ed.)

## JULY 17th/18th

Unfortunately the Standard Motor Club is hold-ing it's National Rally the same weekend as ours, at Coombe Abbey Countryside Park, near Coventry. Further information in the next issue if I get any.

## JULY 18th

The beautiful 17th century home of the Marquess and Marchioness of Hertford at Ragley Hall, Alcester, nr Stratford-on-Avon is this year's setting for our National Rally held once again with the Razoredge Club. Timetable is as follows:

| | |
|---|---|
| 11.00-13.00 | Concours Judging |
| 13.00-14.00 | Lunch break |
| 14.00-16.00 | Driving Tests - Motorised games |
| 16.00-16.30 | Dinky Concours |
| 17.00-17.30 | Prize Giving |

Reg will be bringing a selection of spares for sale but if you would like him to bring you something particular let him know soonest and I'm sure he'll try his best to bring it. We also hope to have a auto-jumble stall so if you have anything you don't need but someone else might bring it along. Entry is free but entry to the grounds is £1 Adults 50p Children. The grounds include the Capability Brown park which contains the Adventure Wood, a country trail, childrens amusements, a maze, a sailing lake and a cricket pitch.

So do make the effort to come to the only Club event of the year, bring the family, meet other flower owners, we'd love to see and talk to you, Make it a great day out.

## AUGUST 1st

Classic Car Spectacular to be held at Knebworth this year, there will be Club stands, the ninth T&CC National Classic Car Concours and a Quality auto-jumble. Club members who went to last year's Rally will know of the facilities offered at the grounds. Entry forms avail-able from F.P. Editor.

1680 1982

*Lord and Lady Hertford invite you to*

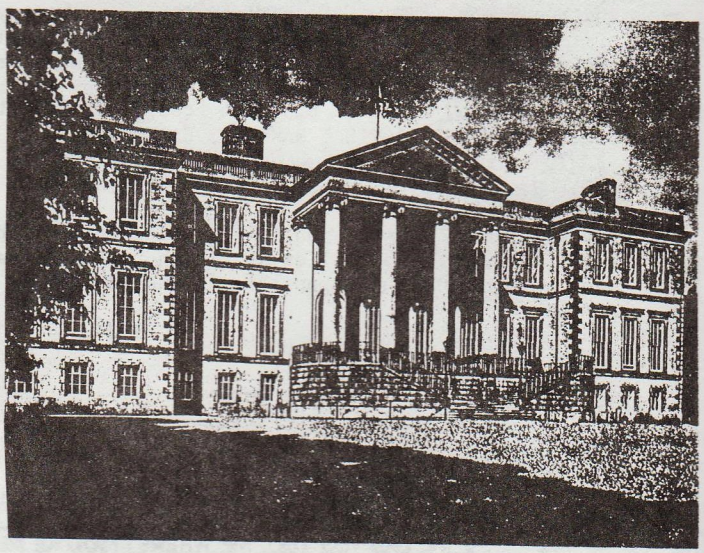
# RAGLEY HALL

ALCESTER, Nr. STRATFORD-ON-AVON

WARWICKSHIRE

**The beautiful 17th century home of the Marquess and Marchioness of Hertford is open to visitors throughout the summer. The recently restored rooms contain the famous Ragley collection of paintings and works of art. The Capability Brown park contains the ADVENTURE WOOD, a country trail, children's amusements, a maze, a sailing lake and a cricket pitch.**

*The East Front*



## SEPT 12th

The spotlight returns to the UK for the 1982 Rally, STIR V11, which is being jointly staged by the following Clubs and Registers :

The Standard Register
The Pre-1940 Triumph Owners Club
The Triumph Roadster Club
The TR Register
The Triumph Mayflower Club
The Triumph Razoredge Owners Club
The Triumph Sports Six Club
Club Triumph

The Rally will be held at the scene of the 1978 STIR at Rousham Park, near Steeple Aston about ten miles north of Oxford. Principal award at the Rally will be the coveted STIR Trophy, currently held by Jim Farley (TR3A) from Columbus, Ohio, for the best car on show and this will be returned to the UK for presentation at Rousham. There will be a full range of prizes for a variety of events and distance awards for those motoring from afar in the right vehicles. Bar and catering facilities are expected. Those wishing to take part are invited to write, enclosing an SAE, to Colin Eastwood, STIR Co-ordinator, 41 Hillside, Lichfield, Staffs., for full details and entry forms. The entry fee of £3 will be inclusive of entry to Rousham Park and Gardens for your car and all occupants, all competitions and souvenir plaque.

NOV 6th/7th

The Club will again be having a combined stand with T.R.O.C. at the Classic Car Show Brighton. We hope to have two Mayflowers and an 'under restoration' or 'as found' exhibit this year. Would anyone who has a good condition 'Flower' or a car under restoration or a complete wreck and would be pewpared to support us by bringing it along, please contact Malcolm Bath in the near future.

★★★★



# FOR SALE

1954 Black with fawn interior. Unused since MOT, now expired. Good runner, reconditioned engine. £550 ono. Apply, Lesley Tagg, 27 Albert St, WARWICK. Tel 496468

FLOWER in pretty good condition, upholstery has all been done up, leather revitalised and new material on the backs of the front seats, carpets fitted, painted in as near to original as possible, new tyres, recondition-ed engine, brakes overhauled, layed up for 18 months. Numerous spares. £500 ono. D. Pattimore, 1 Ellerton Place, Vale Avenue, VALE, Guernsey.

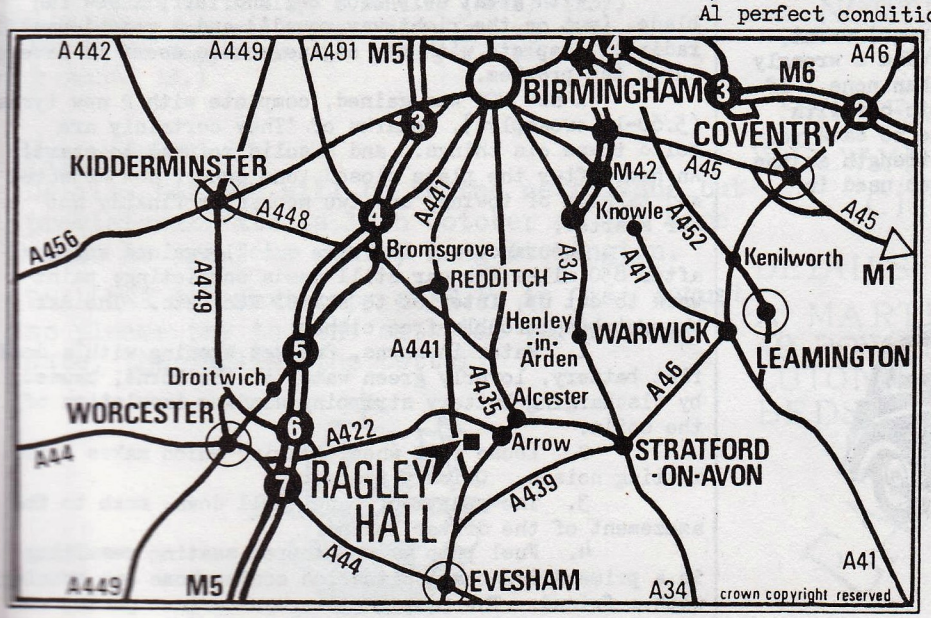
1953 Maroon, complete but requires work on sills, and bottom of doors. The engine turns over but not been run Trailer needed to move it. Old and new log book. Also another flower broken for spares with both log books. £140 the lot. Tel R. Eddison on Derby 514160.

1953 Grey, Immaculate. You will have seen this one at all our rallies as it is our dear old friend Frank Lane' (now deceased) car. It proved its reliability time and again by arriving at our rallies loaded to the 'gunnals' with second-hand spares, and its condition is proved by taking Runner-up place at last year's Concours. Sadly Frank's widow has to sell the car so sensible offers to her son on Wallingford 37777(Work) 37227(Home).

SPARES from a 1952 car with only a radiator missing from Mr. Dexter, Coventry 441582 £80 ono.

RUSTED old flower needed to be moved for the first time in 9/10 years, body rotted but internals all there. Being pressed to remove it. No money wanted but rather some florist had the bits than the Scrappies.. Please contact Mr Hadley, 6 Blakenall Lane, Leamore, WALSALL WS3 1HG Soonest.

W/S MANUAL 1st Issue 1945 (?) plus all later amendments Al perfect condition. £30 & £2p&p Tel ST. Austell 63720




# Useful Information

SEATBELTS AND YOUR CAR.

The following is extracted from an article written by Anders Clausager and printed in the C.V.C.C. News Letter.

The Compulsory Wearing of Seatbelts from August 82.

When the new Law comes into effect in August there will be no change in status for members cars. Cars registered (or built) prior to 1 January 1965 will not have to have seatbelts fitted; if such cars have seatbelts fitted the belts do not have to comply with the legal requirements for seatbelt standards. and if you drive a pre-1965 car you do not have to wear seatbelts, even if these are fitted.

Historically speaking seatbelts first appeared in Europe in the mid-1950's and in those days, most belts were the four-point full harness type with four attachment points on the floor or chassis of the car. At the same time American manufacturers began to introduce the lap belts (similar to aircraft seatbelts) which required two floor mounting points. The three-point type (lap and diagonal belt) now in universal use appeared towards the end of the 1950's, pioneered by Volvo among others; but this type of belt could not be installed in all cars as it relies on a suitable mounting point near to or above the waistline of the car, typically on the centre door pillar; therefore the three-point belt is mainly suitable for fitment to cars with unitary construction or monocoque bodywork, with a reinforced B-post. However, some cars with a separate chassis were redesigned to permit the use of this type of belt - for instance the VW Beetle; certain Renaults; the Triumph Herald.

Fitting Seatbelts.

If you have a pre-1965 car and you wish to fit seatbelts, in the main the advice is: Don't. You can only do so with a reasonable amount of safety if the car is already prepared for seatbelt mounting with built-in anchorage points; these appeared on most British cars in the 1960-62 period. In some cases it was stated that it was possible to modify the structure of older cars to incorporate anchorage points but unless you actually have the manufacturer's instructions and all the parts required, the advice is: Do not tamper.

For older vehicles the only possibility is really to go back to the 1950's technique of installing a full harness securely anchored to four mounting points on the floor or chassis. Frankly, it is very doubtful whether any car manufacturer, or seatbelt manufacturer, can now give you sufficient instructions to carry out this job on a car which is 20 or more years old; but you can always try to contact the manufacturer's service department, or a seatbelt manufacturer such as:

Kangol Magnet Ltd.,Northfolk St,Carlisle,Cumbria, CA2 5HX.

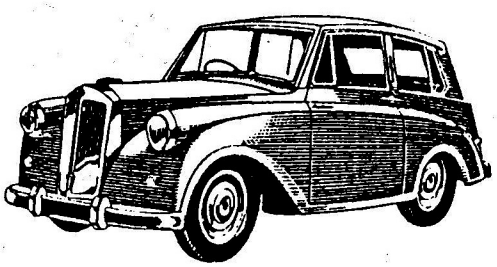
Britax, BSG International, Bishop St,B'ham,B5 7EH.

So to sum up our advice is:

DO NOT try to install seatbelts in an old car unless you are absolutely sure that it has adequate Mounting points; especially Not in an old car with a separate chassis.

DO NOT try to install a three-point belt if your car does not have a mounting point in the door pillar, on the B-post or in the vicinity.

Remember, there is no legal requirement, existing or proposed,for you to do so; and a wrongly installed seatbelt is more dangerous than none. If you are the proud possessor of a classic car with original seatbelts,do not rely on these to save your life; the material tends to lose its strength as the years go by. If the belts have once been used in earnest - change them!



## Letters

Dear Gus,

Remember me? Yes that guy in Lincolnshire who promised that mag with the 'Flower' article for you to print, well it's here at last, with my apologies. I can only say that a bit of rot set in and every thing suffered from neglect, but now, hopefully, I am in first gear and heading in the right direction.

Turning to my car, a 1953 deluxe model, a strange relationship has developed. The bodywork has survived quite well with only the rear corners and offside sill needing welding. These and the dents, mysteriously gained, were then brought out to line with filler. If anybody else is using this stuff, Knock it out, and throw the can away, or save it for a modern heap,and learn to leadload. That stuff shrinks,expands and generally does what it likes!

A fairly good home respray in black cellulose and finished. Not so! When purchased the engine was supposedly seized. This freed itself when it was turned back, perhaps a timing chain riding up on its cog. A compression test showed 125 p.s.i. on each cylinder and with a new carburettor (£35 & £10 delivery) the engine runs fine albeit noisy, (tappets and timing chain). After a thorough brake overhaul and a pair of new front shockers the night came for a pre-MOT road test. She was pulling well and after slowing to a steady 20mph to allow a car to pass, an emergency stop was tried. The car stopped well, no problem there, but why is the fan blade bent? and where is all that water coming from?

With great help from Reg and Terry a new fan blade, (put on the right way round!) and a second-hand radiator complete with new engine mounts seems to have cured the problem.

A new MOT was gained, complete with 2 new tyres (5.60-15 crossplys), remarks of 'They certainly are solid these ols things.' and a solid refusal to start! An hour after the place closed, one owner( now dejected and talking of towing) and two mechanics finally got her started.

Insurance and Tax were quickly gained and now after 850 miles the car still needs completing; paintwork to cut up, interior to start! Etc, Etc. The car has not been trouble-free either;

1. Water in horns. One wet evening with a dead flat battery, loverly green water in the horns, caused by discharging battery stripping winding insulation of the coils.

2. Loose rear wheel bearing which makes interesting noises. Quickly traced.

3. The rear roof panel fell down, much to the amazement of the driver behind.

4. Fuel pump valve stopped seating resulting in a prime-drive-coast situation coming home one evening with a friend. The pump was overhauled (new parts) and worked fine until same friend got in again!

5. The original brake light switch- the only brake item not to be replaced - failed.

6. The replaced horns failed, so did the operating relay and the horn push ring.

Some people may think that I do no maintenance or work on the vehicle but most of my spare time is devoted to 'pottering' around on it.

There is still a lot to do, including adjusting tappets, replacing temperature gauge, chrome-work etc. But we are mobile, spreading the old car word, and having fun. We are attending rallies and I hope to send you some reports!

Can I finally and most importantly, thank the club committee and fellow members because without you our cars would not be as enjoyable.

Happy Fowering, Andy Leachman (375)

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Dear Mr Deegan,

Please find enclosed my membership subscription, sorry to note the trouble to keep going due to the membership being so 'spread out', but the spring issue of the F.P. has more in its few pages of value to us 'Flower' owners in keeping them going than pages of chit chat. I for one appreciate this or any letters of tips or hints on Maintenance etc.

I regret that now living in the sticks and owing to ill health precludes me from attending a rally or other function, my maximum range is about 20 miles, but my old car is on its third time round the clock, runs like a dream and has never let me down, any wonder I think it is a gem and would never part with it.

Yours sincerely, B.W.GILL (254)

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Dear Mr Deegan,

I enclose my subscription for this year. Am I the first? perhaps I should have a prize for being so quick. I have not written to you before, with you being "new" to the list of Club officials but my Mayflower has been in "suspended animation" for so long that I've not had any reason to. Perhaps I will have more reason to this year, as I hope to finally get round to having my Mayflower,"Tracey" roadworthy again this year. I hope to have her ready for this year's rally but I can't really see it being possible, as she looks more like a candidate for the local scrap-yard, but I'm determined not to be beaten by the situation, and am writing this with my fingers crossed.

Well I'd better close now, and hopefully, I'll have something to write to you about later in the year.

Yours faithfully, L.Bentley (Mrs.) (267)

(Nice to hear from you anyway, sorry but you were beaten by Ron Hagger, and I'd give you a prize anyday if I could. Ed.)

TAILPIECE

Details for AGM will be in the next issue but provisional date is 17th October at the same venue as previous years, Long Itchington.

DEADLINE for next copy of F.P. is 31st August so please try to send material before that date, the earlier the better.

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# TRIUMPH MAYFLOWER

## GENERAL DATA, DIMENSIONS AND SPECIFICATIONS

**NOTE.—All dimensions are in inches unless otherwise stated.**

| | |
|---|---|
| Make | Triumph. |
| Model | Mayflower. |
| Year of manufacture | 1950 to 1952. |
| Turning circle | 34′ 0″. |
| Location of serial number | On bulkhead. |
| Track, front | 3′ 9″ (3′ 10″ from chassis number TT 5553). |
| Track, rear | 4′ 0″ (4′ 1″ from chassis number TT 5553). |
| Wheelbase | 7′ 0″. |
| Ground clearance | 7.00. |
| Height | 5′ 2″. |
| Width | 5′ 2″. |
| Length | 13′ 0″. |
| Weight | 2142 lbs. |
| Fuel consumption | 35 M.P.G. |

### Torque Poundage, Bolts and Studs

| | |
|---|---|
| Cylinder head | 35 to 38 lbs./ft. |
| Connecting rod | 35 to 38 lbs./ft. |
| Main bearing | 90 to 100 lbs./ft. |
| Manifold | 18 to 20 lbs./ft. |
| Sump | 16 to 18 lbs./ft. |
| Water pump housing | 12 to 14 lbs./ft. |
| Flywheel securing | 42 to 46 lbs./ft. |
| Clutch to flywheel | 20 to 22 lbs./ft. |
| Bell housing | 18 to 20 lbs./ft. |

### Capacities

| LUBRICANTS | QUANTITY | S.A.E. No. |
|---|---|---|
| Engine | 6 pints | Over 70° F. S.A.E. 40.<br>40° F. to 70° F. S.A.E. 30<br>10° F. to 40° F. S.A.E. 20<br>10° F. to 10° F. S.A.E. 10 |
| Gearbox | 1¼ pints | Over 10° F. S.A.E. 30<br>Below 10° F. S.A.E. 20 |
| Rear axle | 1½ pints | Over 10° F. S.A.E. 90 EP.<br>Under 10°F. S.A.E. 80 E.P. |
| Fuel tank | 9 gallons | |
| Cooling system | 12 pints. | |

### Engine

| | |
|---|---|
| Type | Side valve. |
| Bore | 2.48 (63 m.m.). |
| Stroke | 3.94 (100 m.m.). |
| Number of cylinders | 4. |
| Firing order | 1, 3, 4, 2. |
| Nominal H.P. | 9.84. |
| Capacity | 76.1 cu. in. (1247 c.c.). |
| Compression ratio | 6 to 1. |
| B.H.P. | 38 at 4200 R.P.M. |
| Maximum torque | 700 lbs./ft at 2500 R.P.M. |
| Maximum B.M.E.P. | 116 lbs./sq. in. at 2500 R.P.M. |
| Ignition setting | 2° before T.D.C. (Full retard). |
| Location of engine number | Adjacent to oil filler. |

## Crankshaft

| | |
|---|---|
| Journal diameter | 1.9995 to 2.0000. |
| Permissible wear | 1.9975. |
| Bearing internal diameter | 2.0015 to 2.0020. |
| Permissible wear | 2.003. |
| New clearance | .0015 to .0025. |
| Worn clearance | .005 dry. |
| Internal diameter of main bearing housing | 2.1460 to 2.1465. |
| Bearing undersizes | —.020, —.030, —.040. |
| Rear journal length | 1.59475 to 1.59375. |
| Rear bearing cap width (Plus thickness of two thrust washers) | 1.584 to 1.590. |
| New clearance (End float) | .004 to .006. |
| Main bearing width | 1.380 to 1.370. |
| Crankpin diameter | 1.750 to 1.7495. |
| Permissible wear | 1.748. |
| Bearing internal diameter (Big end) | 1.7510 to 1.7515. |
| Permissible wear | 1.753. |
| New clearance | .001 to .002. |
| Permissible worn clearance | .006 dry. |
| Internal diameter of big end bearing housing | 1.856 to 1.855. |
| Bearing width (Big end) | .939 to .929. |
| Big end bearing undersizes | —.020, —.030, —.040. |
| Crankpin width | 1.1257 to 1.1348. |
| Worn dimension | 1.127. |
| Connecting rod width | 1.117 to 1.115. |
| Worn dimension | 1.113. |
| New clearance | .008 to .010. |
| Journals and crankpins (Ovality and taper) | .002 maximum. |

## Little End

| | |
|---|---|
| Bore for bush | .8755 to .8745. |
| External diameter of bush | .8780 (go) to .877 (no go). |
| Internal diameter of bush | .7498 to .7502. |
| Permissible wear | .750. |
| New clearance | .0002 at 68° F. |
| Gudgeon pin diameter | .7501 to .74985. |
| Permissible wear | .749. |
| Worn clearance | .002. |

## Piston Rings

| | |
|---|---|
| Type | Plain compression. Slotted oil control. |
| Number of compression | 2. |
| Number of oil control | 1. |

| DIMENSIONS | TOP RING | 2nd RING | OIL CONTROL RING |
|---|---|---|---|
| Nominal diameter | 2.480 | 2.480 | 2.480 |
| Width | .0787 to .0777 | .0787 to .0777 | .156 to .155 |
| Wear limit (width) | .075 | .075 | .154 |
| Groove clearance | .001 to .003 | .001 to .003 | .001 to .003 |
| Ring gap (fitted): | | | |
| Minimum | .004 | .004 | .004 |
| Maximum | .008 | .008 | .008 |

## Pistons and Cylinders

| | |
|---|---|
| Size F: | |
| Bore diameter | 2.4799 to 2.4802 minimum. |
| Size G: | |
| Bore diameter | 2.4802 to 2.4806 minimum. |
| Size H: | |
| Bore diameter | 2.4807 to 2.4810. |
| Size F: | |
| Top diameter of piston | Over 2.4774 to 2.4777. |
| Size G: | |
| Top diameter of piston | Over 2.4777 to 2.4781. |

| | |
|---|---|
| Size H: | |
| Top diameter of piston | Over 2.4781 to 2.4785. |
| New clearance | .002 to .003. |
| Size F: | |
| Bottom diameter of piston | Over 2.47865 to 2.47895. |
| Size G: | |
| Bottom diameter of piston | Over 2.47895 to 2.47935. |
| Size H: | |
| Bottom diameter of piston | Over 2.47935 to 2.47975. |
| New clearance | .001 to .0015. |

## Valves

| | |
|---|---|
| Type | Poppet. |
| Material: | |
| Inlet | Silichrome steel E.N.52. |
| Exhaust | E.N.59. |
| Position | Side. |
| Timing: | |
| Inlet opens | 10° B.T.D.C. |
| Inlet closes | 50° A.B.D.C. |
| Exhaust opens | 50° B.B.D.C. |
| Exhaust closes | 10° A.T.D.C. |
| Tappet clearances | .015 cold, inlet and exhaust. |
| Clearance for timing | .020 cold. |

## Valve and Valve Guides

| DIMENSIONS | INLET | EXHAUST |
|---|---|---|
| Stem diameter | .2475 to .2465 | .2475 to .2465 |
| New clearance in guide | .002 to .004 | .002 to .004 |
| Guide diameter | .2495 to .2505 | .2495 to .2505 |
| Angle of face (included) | 90° | 90° |
| Top of valve guide to cylinder block upper face | .97 | .97 |
| External diameter of valve guide | .4385 to .4395 | .4385 to .4395 |

## Valve Springs

| | |
|---|---|
| Fitted length | $1\frac{9}{32}$. |
| Fitted load at fitted length | 22 lbs. (+2 lbs. —1 lb). |
| Valve lift (nominal) | .25 +.010. |
| Load at full lift | 37 lbs. |
| Number of free coils | 7. |

## Camshaft

| | |
|---|---|
| Front journal diameter | 1.6845 to 1.684. |
| Permissible wear | 1.681. |
| First journal bearing bore | 1.6882 to 1.6873. |
| Permissible wear | 1.691. |
| New clearance between journal and bearing | .003 to .004. |
| Maximum worn clearance | .010. |
| Intermediate and rear journal diameters | 1.497 to 1.4965. |
| Permissible wear | 1.494. |
| Intermediate and rear journal bearing bores | 1.5010 to 1.4995. |
| Permissible wear | 1.504. |
| New clearance | .0025 to .0045. |
| Maximum worn clearance | .010. |
| End float | .003 to .0065 (new) .012 (maximum permissible). |

## Lubrication System

| | |
|---|---|
| Type | Forced feed. |
| Type of pump | Hoburn-Eaton double rotor. |
| Pump drive | Gear from camshaft. |
| Outer rotor: | |
| Outside diameter | 1.598 to 1.599. |
| Housing internal diameter | 1.600 (+.001 —.000). |
| New clearance | .002 to .003. |
| Depth of rotor | 1.0 (—.0005 —.0015). |
| Housing depth | 1.0 (+.001 —.000). |
| New clearance | .005 to .0025. |

**Note.**—A combined worn clearance of .004 indicates the necessity for cover and housing face lapping.

| | |
|---|---|
| Inner rotor: | |
| Major diameter | 1.171 to 1.172. |
| Minor diameter | .729 to .731. |
| Clearance on rotors: | |
| Maximum clearance, new | .001 to .004. |
| Minimum clearance, new | .0025 to .0005. |

**Note.**—Where clearance in excess of .010 exists, new parts should be fitted.

## Cooling System

| | |
|---|---|
| Type | Fan, pump and thermo-syphon. |
| Water pump, type | Centrifugal. |
| Water pump drive | V-belt from crankshaft. |
| Water pump, type of bearing | Ball. |
| Number of fan blades | 4. |

## Sparking Plugs

| | |
|---|---|
| Make | Champion. |
| Model | NA8. |
| Reach | $\frac{3}{4}$ inch. |
| Size | 14 m.m. |
| Gap at electrodes | .025. |

## Distributor

| | |
|---|---|
| Make | Lucas. |
| Model | DKYH4A. |
| Contact point gap | .012. |
| Condenser capacity | .23 m.f.d. |
| Distributor rotation | Counter-clockwise at the top. |

## Carburettor

| | |
|---|---|
| Make | Solex. |
| Type | 32 FAI0. |
| Settings: | |
| Choke | 21. |
| Main jet | 105. |
| Correction jet | 220. |
| Pilot jet | 45. |
| Air bleed | 210. |
| Needle valve | 2.0. |
| Starter air jet | 4.5. |
| Starter petrol jet | 120. |

## Fuel Pump

| | |
|---|---|
| Make | A.C. |
| Type | Y. |
| Service number | 1524712. |
| Operation | Mechanical. |
| Pressure | $1\frac{1}{2}$ to $2\frac{1}{2}$ lbs./sq. in. |

## Clutch

| | |
|---|---|
| Make | Borg and Beck. |
| Type of hub | Sprung. |
| Model | $7\frac{1}{4}$ A6-G. |
| Clutch pedal free travel | 1.00. |
| Clearance between toggle levers and release bearing | $\frac{1}{16}$. |
| Type of release bearing | Graphite. |
| Number of springs | 6. |

## Gearbox

| | |
|---|---|
| Type | Synchromesh. |
| Ratios: | |
| Top | 1 to 1. |
| Second | 1.67 to 1. |
| First | 3.54 to 1. |
| Reverse | 4.11 to 1. |

| | |
|---|---|
| Selector mechanism: | |
| Selector rod diameter | $\frac{9}{16}$ (—.001 —.002). |
| Bore for selector rod in casing and bush, spring fitted | $\frac{9}{16}$ ±.0005. |
| New clearance | .0025 to .00225. |
| Plunger spring, fitted load | 10 lbs. |
| Width of grooves in "Second" and "Top" synchro sleeve and "Reverse" gear for change speed forks | $\frac{9}{32}$ (+.004 +.006). |
| New clearance | .010 to .016. |
| Width of selector fork sides | $\frac{9}{32}$ (—.006 —.010). |
| Mainshaft: | |
| Constant pinion shaft bore | .9245 to .9250. |
| Constant pinion bush outside diameter | .9240 to .9235. |
| New clearance | .0005 to .0015. |
| Constant pinion bush bore | .6887 to .6880. |
| Mainshaft spigot | .6875 to .6870. |
| New clearance | .0005 to .00175. |
| "Second" and "Top" bush external diameter | $1\frac{1}{2}$ (—.0017 —.0029). |
| "Second" and "Top" bush bore | $1\frac{1}{2}$ ±.0005. |
| New clearance | .00125 to .00275. |
| "First" gear bush external diameter | 1.5675 (—.001 —.0017). |
| "First" gear bush bore | 1.5675 ±.0005. |
| New clearance | .0005 to .00225. |
| Speedometer bearing internal diameter | $\frac{15}{32}$ ±.0005. |
| Speedometer driven gear shaft diameter | $\frac{15}{32}$ (—.0007 —.0017). |
| New clearance | .00025 to .00225. |
| Countershaft: | |
| Shaft diameter | .7913 (+.000 —.0005). |
| Bore in casing for shaft | .7923 to .7915. |
| New clearance | .00025 to .00175. |
| Bore of countershaft gear for needle rollers | 1.0284 to 1.0289. |
| Thickness of front thrust washer | .066 to .068. |
| Thickness of rear thrust washer | .105 to .107. |
| Overall width of countershaft gear | 6.5837 to 6.5817. |
| Overall width of thrust washers and countershaft gear | 6.7587 to 6.7527. |
| Internal width of gearbox casing for countershaft gear | 6.758 (+.011 +.013). |
| Countershaft gear end float | .006 to .010. |

## Propellor Shaft

| | |
|---|---|
| Make | Hardy Spicer. |
| Type | KR1110. |
| Number of universal joints | 2. |
| Tube diameter | 2.00. |
| Overall length | $47\frac{1}{8}$ (Face to end length). |

## Rear Axle

| | |
|---|---|
| Type | Hypoid semi-floating. |
| Side bearings | Taper roller. |
| Number | 2. |
| Pinion bearings | Taper roller. |
| Number | 2. |
| Crown wheel and pinion | Pinion set by shims. Crown wheel set by shims. |
| Axle shaft end float | Nil. |
| Crown wheel run out | Not more than .003. |
| Backlash between crown wheel and pinion | .004 to .006. |
| Distance from ground thrust face on bevel pinion to centre of crown wheel bearings | 3.4375. |
| Diameter of differential bearing | 2.8446 to 2.8440. |
| Dimension from centre of crown wheel bearings to machined face of casing | 1.489 to 1.491. |
| Axle shaft end nut tightening torque | 125 ft./lbs. |
| Pinion nut tightening torque | 65 to 80 ft./lbs. |

## Steering and Front Suspension

| | |
|---|---|
| Type of steering box | Bishop cam. |
| Model | T. |
| King pin inclination | 7°. |
| Camber | 2°. |
| Castor | Nil. |
| Steering, back lock | 31°. |
| Steering, front lock | 24°. |
| Front wheel movement | 3.00, bump; 2.25 rebound. |
| Section of coils | .50 ±.005. |
| Number of free coils | 8¾. |
| Mean diameter of coils | 3.50 ±.010. |
| Rate | 238 lbs./ins. (approximately). |
| Free length | 12.25. |
| Fitted length | 8.5 ±$\frac{3}{32}$. |
| Static deflection | 3.74. |
| Fitted load | 890 pounds. |
| Solid length | 5.25 maximum. |
| Weight | 5.85 pounds. |

## Rear Suspension

| | |
|---|---|
| Type | Semi-elliptic. |
| Leaf: | |
| Number of leaves | 8. |
| Width of leaves | 1½. |
| Thickness of leaves | 1 to 4, .231; 5 to 7, .208; 8, .188. |
| Static deflection | 6.65. |
| Static load | 690 lbs. |
| Laden camber | Zero ±.25. |
| Rate | 104 lbs./ins. |

## Brakes

| | |
|---|---|
| Type: | |
| Foot brake | Hydraulic. |
| Hand brake | Mechanical. |
| Drum to lining clearance | Minimum. |
| Brake pedal clearance | .50. |

## Wheels and Tyres

| | |
|---|---|
| Type of wheel | Pressed disc. |
| Make | Dunlop. |
| Tyre size | 5.50 x 15. |
| Make | Dunlop. |
| Pressures: | |
| Front | 20 lbs./sq. in. |
| Rear | 25 lbs/sq. in. |

## Electrical System

### Fuses

| | |
|---|---|
| Number used | 2. |
| Circuits | Aux. Ign. and horns. |

### Starter

| | |
|---|---|
| Make | Lucas. |
| Model | M35G. |
| Voltage | 12. |
| Drive, type | SB. |
| Direction of rotation, commutator end | Counter clockwise. |

## Dynamo

| | |
|---|---|
| Make .. .. .. .. .. .. | Lucas. |
| Model .. .. .. .. .. .. | C39PV. |
| Voltage .. .. .. .. .. | 12. |
| Direction of rotation, commutator end .. | Counter clockwise. |

## Battery

| | |
|---|---|
| Make .. .. .. .. .. .. | Lucas. |
| Model .. .. .. .. .. .. | GTW7A. |
| Capacity .. .. .. .. .. | 38 ampere hours at 10 hour rate. |
| Number of plates per cell .. .. .. | 7. |
| Earth terminal .. .. .. .. | Positive. |
| Height .. .. .. .. .. .. | $9\frac{1}{4}$. |
| Width .. .. .. .. .. .. | $6\frac{7}{8}$. |
| Length .. .. .. .. .. | $10\frac{3}{4}$. |

## Horns

| | |
|---|---|
| Make .. .. .. .. .. .. | Lucas. |
| Model .. .. .. .. .. .. | WT614. |
| Current consumption .. .. .. | 6 amps. each. 12 amps. total. |

## Windscreen Wiper

| | |
|---|---|
| Make .. .. .. .. .. .. | Lucas. |
| Model .. .. .. .. .. .. | CR5. |

## THE OIL PUMP.

### To Remove the Oil Pump.

Drain and remove the sump and then withdraw the pump, which is secured to the cylinder block by three studs, nuts and lock washers.

### To Dismantle the Oil Pump.

Remove the split pin which locates the floating oil intake pipe in the pump cover assembly, and withdraw the intake assembly.

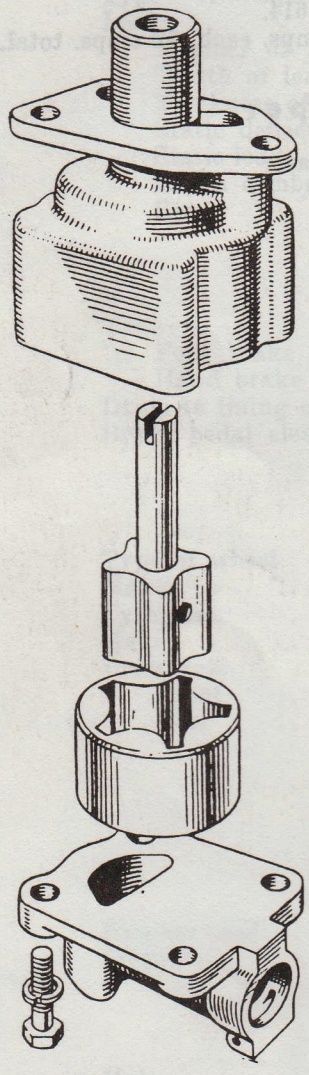

**FIG. 1.—Exploded view of the oil pump.**

Remove the four setscrews which secure the cover assembly to the pump casing and detach the cover assembly, thus providing access for the withdrawal of the two rotors.

## THE ENGINE.

### To Set the Valve Timing.

When the timing gears are marked, turn the crankshaft until Nos. 1 and 4 pistons are on T.D.C. and fit the crankshaft gear.

Fit the camshaft timing gear and chain on to the camshaft spigot, matching up the centre punch and scribed markings on the camshaft and timing gear faces. The alternative pair of setscrew holes in the camshaft gear provide a half tooth variation in timing.

Having suitably matched the timing markings, with the driving side of the timing chain tight, the two securing setscrews and locking plate should be fitted, the setscrews tightened and their heads locked by turning up the corners of the locking plate.

When the timing gears are not marked, place Nos. 1 and 4 pistons on T.D.C. In this position the keyway on the forward end of the crankshaft will be pointing vertically upwards.

Rotate the camshaft until the tappets for No. 4 cylinder are on the concentric portions of their respective cams. Set the two tappets for this cylinder to the working clearance of .015. Similarly set the tappet clearances for No. 1 cylinder.

Turn the camshaft until the exhaust and inlet valves for No. 4 cylinder are equidistant from their respective seatings. (A feeler gauge may be used to check this clearance.)

Engage the timing chain with the crankshaft wheel and fit the camshaft gear in such a way that when this is spigotted on to the end of the camshaft, the setscrew holes in the camshaft wheel are exactly aligned with those in the camshaft, with the driving side of the chain tight. The employment of the alternative pairs of setscrew holes in the camshaft wheel provides a half tooth variation in timing, and by turning the wheel back to front quarter and threequarter tooth alterations are available.

Apply the timing wheel setscrews and locking plate. Tighten the setscrews and locate with the locking plate.

### To Remove and Refit the Distributor Driving Shaft.

Withdraw the distributor assembly after disconnecting the H.T. leads from the coil and sparking plugs and the L.T. leads from the coil and removing the two securing nuts and spring washers.