

# PILGRIMS PROGRESS

70 years old  
and still  
going strong  
- with a little  
help and  
faith.

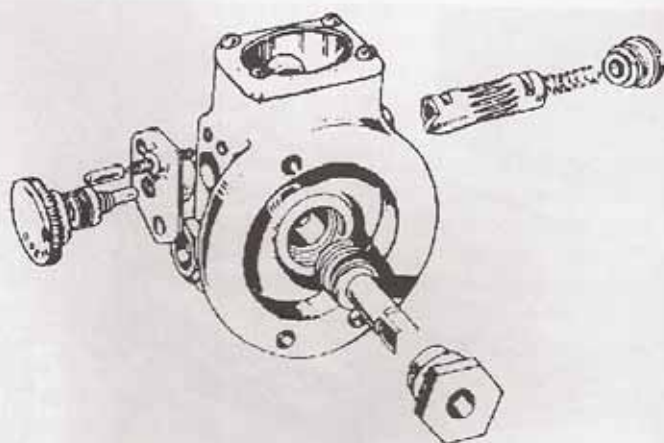
It was in 1926 that the Pilgrim mechanical oil pump first made a splash in the motorcycle market, the "Pump with the little Window" said the advertising slogan and that very feature alone was probably the one which secured its immediate success - by the end of 1927 over sixty manufacturers had adopted it on their machines.

The sight feed window was important in that riders who were used to watching the regular and comforting drip:drip:drip of oil through a glass sight feed on the tank top, would equally wish to be satisfied by a similar vision once the supply of vital lubricating oil was entrusted completely to a mechanical device located way down on the engine timing chest. A quick glance was all it took to check that the Pilgrim was indeed delivering the goods and with peace of mind the rider went happily on his way, removed completely from the erstwhile regular chore of charging a semi-automatic pump by hand. Generally, the Pilgrim fed oil directly into the crankcase, but sometimes its supply was directed particularly into the crankshaft for improved big end lubrication, or alternatively a feed pipe might be taken to the cylinder wall. On Scott two-strokes, J.A.P. Speedway engines and some twins a duplex form of the pump was adopted, but in all instances the principles of operation and construction remained the same.

Basically the Pilgrim consists of an alloy body in which a worm driven plunger is given a reciprocating movement. The plunger has two ports cut into it, which are arranged to open and close at the correct moment so that oil is sucked from the supply side, passes through the sight feed and is pumped out of the delivery pipe (or drillway) and into the engine. The reciprocating movement is provided by an end cam which bears on a projection on the plunger, the two components being kept

in contact by a compression spring. The stroke of the plunger and therefore the rate of feed being varied by a control screw having a knurled knob at its outer end for finger adjustment. If the Pilgrim design has any weakness at all it is in the metal from which the end cam and its opposing end plate are made - both are diecast from zinc based monkey metal, the dreaded Mazak! Mechanical drive for the worm is usually achieved quite simply by fixing a peg drive from an extension of the inlet cam spindle on a four-stroke (15 in the exploded sketch), thus turning the pump at half engine speed; on a two-stroke a Pilgrim will normally be driven at crankshaft speed and though it still operates satisfactorily the control over its feed pattern is considerably reduced and very fine finger tuning can be called for. In fact, it was this latter difficulty that brought one Scott enthusiast to look more closely at the Pilgrim, its general overhaul, repair and servicing some years ago.

Gerald Howard has gained a reputation as the "Pilgrim Doctor" and his little workshop has the capability to bring back



to life almost all defunct or malfunctioning pumps made by the former Pilgrims Way Motor Co.Ltd. An instrument maker by trade, Gerald has remade end plates and end cams in steel to overcome the principle stumbling blocks and has also built up stocks of beaks, window frames, screws, nipples, gland nuts and other bits and bobs you can see identified and illustrated in the accompanying sketch. The alloy bodies themselves are seldom beyond reclaim, if there should be damage to the threads for the gland nuts, for example, a brass adaptor is to hand to make a permanent repair. He prefers to overhaul the complete pump rather than to supply parts, for the simple but sound reasoning that in most cases a certain amount of hand fitting is needed to ensure everything matches up perfectly; bear in mind that we are now 70 years away from the launch of this pump and who can tell what alterations to limits and fits have occurred to a working component during that time. If you are stuck in an emergency, Gerald will try to help out, but for the best of the man's attention do allow yourself the luxury of sending him the pump free from outside pressures, when a month or so should see the revitalised instrument back in your hands.

Now, what was it about the Scott application which caused him to take an interest in the Pilgrim in the first instance. Well,

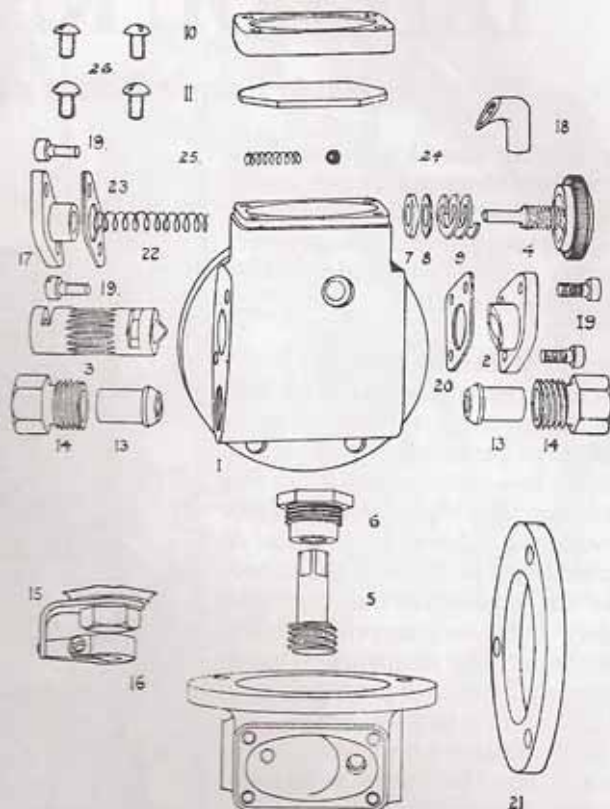
realising that to get a wider range of adjustment over the twin feeds from the duplex Pilgrim, Gerald sought to reduce its operating speed by some means or other. He achieved this aim by manufacturing a reduction gear drive which fits neatly between the Scott crankcase door and the Pilgrim pump body. Using readily available Sturmey-Archer cycle hub gears this conversion is barely noticeable when fitted and yet makes it possible to finely regulate the supply through the feed beak.

A couple more Howard specialities are pattern Best & Lloyd drip feed regulators for hand pump aficionados and a conversion plate (similar to 21 in the sketch) to enable those saddled with the Best & Lloyd MkII mechanical pump to convert to a Pilgrim whilst retaining the ability to switch back to the B&L without having cannibalised their engine castings in any way. The bodies of B&L MkII pumps of course were cast in Mazak and are the very devil to repair, here then, is a "period" alternative to keep you running today.

Gerald Howard can be contacted at - Pilgrim Pump Services., Wissey View, Meadow Lane, North Pickenham., nr Swaffham, Norfolk. PE37 8LE. Tel: 01760 440323.

If you decide to dismantle a Pilgrim yourself then whatever you do DON'T try to remove the plunger before withdrawing the worm and, DON'T remove the worm or rotate the pump with the end plate and/or end cam removed. Correct material for the window is clear celluloid or similar - not glass. Don't paint the inside of the bowl white if you are going to use a castor based oil ("R"), it will cause the paint to flake and come away. Complete failure of the pump, if not due to a blockage or disarranged drive, will almost certainly be down to a worn worm, while poor performance generally could be through a worn end cam or air leaks in the supply side of the system. Filling of the bowl when the machine has been left standing points to the ball beneath the beak not seating properly. Pilgrims normally run in a clockwise direction, but there were some for anti-clockwise operation and they differ in that the worm, bush and pump body had lefthand threads.

## COMPONENT PARTS



### Key to Major Components of the Pilgrim Oil Pump

- |                  |                                 |
|------------------|---------------------------------|
| 1. Body          | 13. Pipe Nipple                 |
| 2. End Cam       | 14. Gland Nut                   |
| 3. Plunger       | 16. Driving Dog (various)       |
| 4. Control Screw | 17. End Plate                   |
| 5. Driving Worm  | 18. Beak                        |
| 6. Bush          | 22. Plunger Spring              |
| 10. Window Frame | 24/25. Ball and Spring for Beak |
| 11. Window       |                                 |

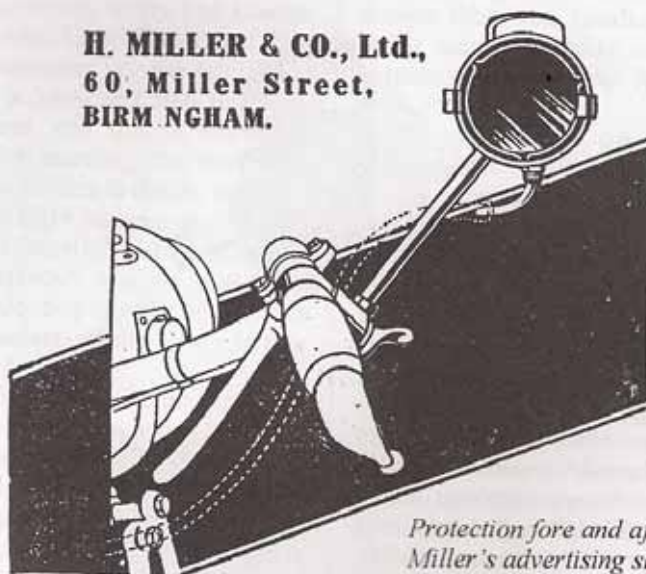
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been clearly visible to vehicles approaching from a goodly distance

(assuming the rider's arm didn't get in the way!). What's more, given its position, the rider could readily tell that it was still alight, always a problem with a gas rear lamp. Miller's master stroke with this lamp was to make up a very neat clip-on mirror which covered the glass and therefore converted the lamp into a rear viewing device for daytime riding. Two duties for the price of one. The mirror clipped on and off in a trice and my example which you can see here luckily still has its mirror, possibly because, like others from my goodies shelf, it has never been fitted to a bike.

Eighty plus years old and a little beauty; must dust it off and pop it safely back, don't suppose I will ever see another, not now.

**H. MILLER & CO., Ltd.,  
60, Miller Street,  
BIRMINGHAM.**



*Protection fore and aft - that was Miller's advertising slogan for the Rearlite; a mirror and lamp all-in-one.*