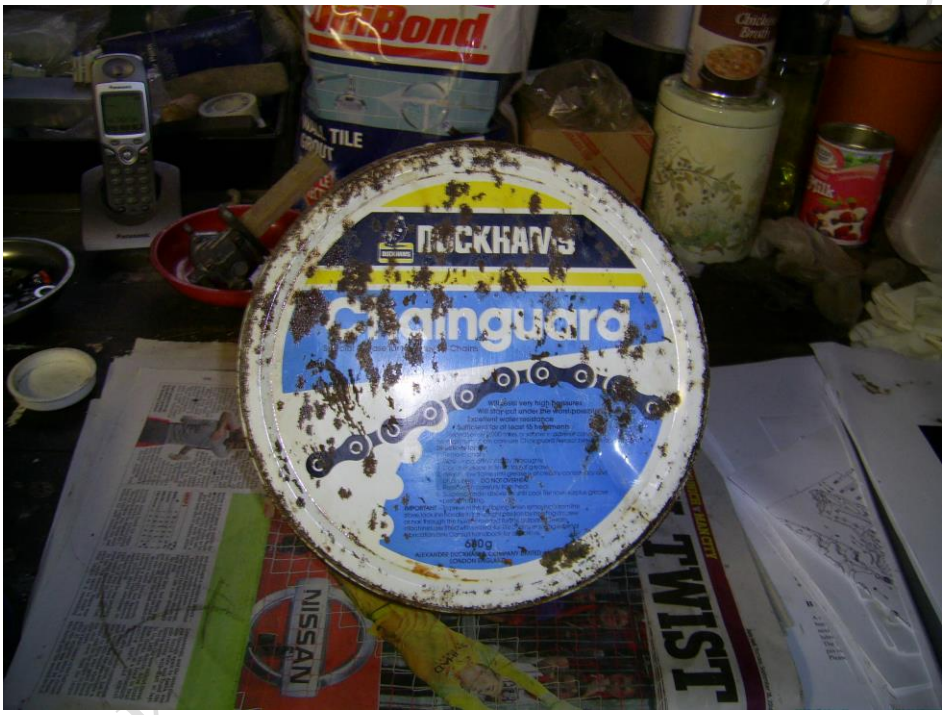
Chapter X11, Back to Basics.

1. Chain Lube.

Now most of us know that a chain is a more efficient way of transmitting power to the rear wheel that a shaft drive, but are you sick of using that expensive spray on chain lube, it only seems to last a few weeks.



Back in the 1970's we used to use Duckhams Chainguard, you took off the chain, cleaned it with some paraffin, heated up the chain lube and put in the chain after maybe 30 minutes and no more bubbles you took it out to dry and put it back on the bike.
It forms a fairly hard coating over the whole chain, lubricates the bearing surfaces and stops any dirt and water getting in.
It lasted all year, shorter if you are going through streams and muddy fields.
But if you tried this with an O/X ring chain it would wreck it, as the O/X rings trap the dirt in the chain.
Also the O/X ring rubbers create friction reducing the efficiency of the chain.
So this is a win, win.
Now the bad news, Duckhams Chainguard is no longer available.
So what, we will make our own.

Requirements:

a. Has to cling to the chain and be fairly hard for durability, so that you would have to scrape it off with your nail.
b. Should stand up to low pressure washing the bike.
c. We are talking about high pressure bearing surfaces.
d. Application has to be as simple as possible.
e. Must use affordable and easily available materials.

We will use paraffin wax (old candles), this will act as a binder and also fill in any gaps in the chain to meet requirement, **a, b and d.**
The old Chainguard lube was very dark in colour, so it is a grease with some additives to cope with the high pressure.
I have an old tin of molyslip grease which I no longer use, this would seem to be ideal and should meet requirement, **c and e.**

Making the brew.

We need to melt the candles.
Use a large tin full of water and place a smaller tin inside it with the candles to be melted.
Bring the water to the boil.
The candle wicks can be pulled out with some long nose pliers when the wax is melted.

Now we need to add the Molyslip grease, I used the grease that I had left in the old tin (300 g), but it was not enough when you compared the new brew to the Chainguard reference sample.
So I bought some MLG grease.
I added a further 300 g of the MLG grease, see notes for a further details.
Give it a good stir and leave to cool.
It should be dark in colour and hard enough so that you cannot push your finger into it.
Comparison photo with the Chainguard reference sample on the left.

Application Instructions.

Obtain a suitable metal container, if you do not have an old Chainguard tin, use an old biscuit tin or you can make one out of an old five gallon metal oil can.
Cut a suitable hole in the top and fold over the cut edges to avoid cutting yourself (also looks like a more professional job).

a. Remove the chain.
b. Wash in paraffin and clean thoroughly.
c. Coil up and place in the tin on top of the chain grease.
d. Heat up on a low flame until the grease is of a creamy consistency and the chain sinks, **DO NOT OVERHEAT**.
e. Switch off/remove source of heat.
f. Now we have to carefully move the tin to a position where the chain can be suspended above it to cool.
g. Hook the chain with a bit of wire or similar and hang it above the tin to cool.
h. When cool, remove any surplus grease.

i. Refit the chain to the bike.

Now do not try this in the kitchen on the cooker, we are using the can in water technique to provide a bit of control, but the smell and no doubt wax drips on the floor would send the partner/wife into melt down.
Remember paraffin wax and grease are obviously combustible and if you heat them up excessively, will reach a flash point in due course and burst into flame.
Do it outside, garden or concrete garage floor using some sort of cooking stove.

Notes.

a. Mixing ratio.
   Dia of container = 22.7 cm.
   Height of wax = 4.6 cm.
   Formula 3.142 x Radius squared x Height = volume of cylinder.
   Volume of wax = 3.142 x 11.35 x 11.35 x 4.6 = 1,862 cub cm
   Weight of grease added = 600 g.
   So looks like 1 gm grease per 3 cub cm of wax.

b. Maybe we could use our chain guard mix to coat other things on the bike to resist corrosion.

c. Now we have to start testing, this will take some time.