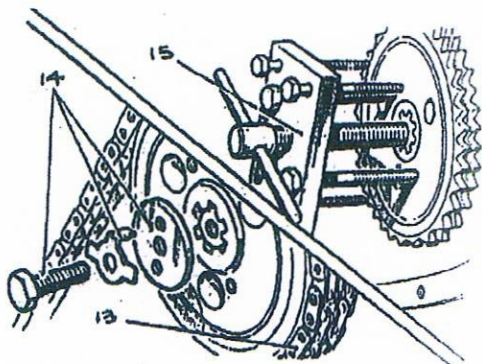


FITTING THE POWER PLUS® CAMSHAFT

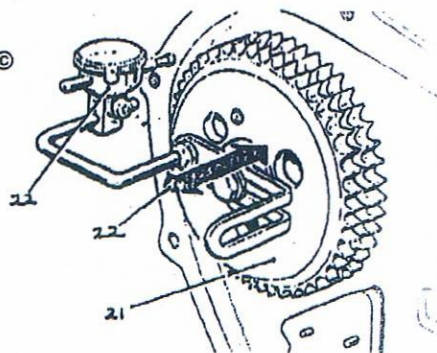
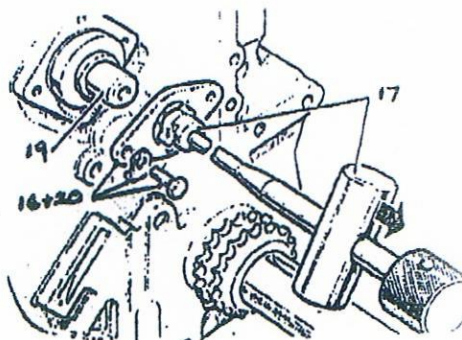
Removing the Camshaft

1. Disconnect Battery (Safety precaution)
2. Remove the bonnet
3. Remove the air cleaner
4. Remove the radiator assembly
5. Remove the external oil filter assembly
6. **Petrol Engines** : Remove the distributor and drive gear
7. **Diesel Engines** : Remove the fuel injection pump
8. Remove the valve gear
9. Remove the cylinder head
10. Remove the tappets
11. Remove timing gear cover
12. Remove the timing chain tensioner
13. Withdraw the timing chain
14. Remove the fixings from the camshaft chainwheel
15. Extract the chainwheel from the camshaft
16. Remove the thrust plate from camshaft
17. Extract camshaft



Refitting the POWER PLUS® Camshaft

18. Lubricate the **POWER PLUS®** camshaft and followers with engine oil before assembly
19. Insert the **POWER PLUS®** camshaft into the cylinder block
20. Fit the thrust plate
21. Fit the chainwheel to the **POWER PLUS®** camshaft but do not engage the lockwasher at this stage
22. Mount a dial test indicator (DTI) to read off the end of the **POWER PLUS®** camshaft. Check the **POWER PLUS®** camshaft end float. The correct end float limits are 0.06mm to 0.13mm (0.0025in. to 0.0055in). If the end float is excessive, fit a new thrust plate
23. Remove the dial test indicator
24. Reset the valve timing as follows:
25. Rotate crankshaft until No. 1 & 4 piston are at T.D.C. Find T.D.C. exactly using a D.T.I. resting on centre of No 1 piston
26. Rotate **POWER PLUS®** camshaft until valves 1 & 2 are on overlap i.e. when rotating camshaft backward and forwards slightly causes 1 follower to lift and the other to fall
27. The correct relationship between the crankshaft and the **POWER PLUS®** camshaft is when the intake and exhaust cam followers for cylinders No1 are exactly the same height (distance open) as each other when No 1 piston is at T.D.C. Using 2 D.T.I gauges the intake and exhaust followers will be approximately lifted by 0.017" when both are at the same height
28. The cam sprocket and chain should then be fitted with the crankshaft and camshaft in this exact position. Any small variation from this position will reduce performance and efficiency. Later 90/110 2.25 and 2.5 units with single key way may require an early 6 key way chain wheel to achieve this condition.
29. Reverse 1 to 12 resetting valve clearances (cold) to .006 Inlet & .008 Exhaust



WARRANTY

Please note claims will not be considered unless the engine oil & filter are renewed and new camshaft rollers are fitted. We also recommend replacing the skew gear.