Claims

1. An engine (10) including a block (12), a coolant pump (22) and a timing cover(16), the coolant pump being mounted on the block, the timing cover having an inlet duct, an outlet duct and a bypass duct, the inlet duct being in fluid communication with the outlet duct and ~~the by~~ the bypass duct, wherein the inlet duct, outlet duct and bypass duct being integrally formed with the timing cover; wherein mounting surfaces of the timing cover and of the coolant pump are coplanar. ~~the outlet duct and/or the bypass product is orientated laterally relative to a cylinder head having a gas inlet side and an exhaust side wherein the said outlet duct and/or said bypass ducts of the timing cover are orientated laterally on said gas inlet side.~~

2. An engine as defined in claim 1 wherein the inlet duct is a single inlet duct.

3. An engine as defined in claim 2 wherein the single inlet duct faces as a cylinder head outlet.

4. An engine as defined in ~~any preceding claim~~claim 1 wherein the outlet duct is a single outlet duct and/or the bypass duct is a single bypass duct.

5. An engine as defined in ~~any preceding claim~~claim 1 wherein the timing cover is integrally cast with the inlet duct and outlet duct and bypass duct.

6. An engine as defined in ~~any preceding claim~~claim 1 wherein the outlet duct is positioned above the bypass duct.

7. An engine as defined in ~~any preceding claim~~claim 1 wherein the outlet duct and/or the bypass duct is/are positioned above the coolant pump.

8. An engine as defined in ~~any preceding claim~~claim 1 wherein the outlet duct and/or the bypass duct is orientated laterally relative to a cylinder head. ~~engine block includes a lug projecting laterally from the block, the lug defining a pump inlet on a first side and at least a part of impeller housing on a second side, the lug including a hole to allow coolant to flow from the pump inlet through the hole to said part of said impeller housing.~~

9. An engine as defined in claim 8 in which the ~~lug~~cylinder head has a gas inlet side and exhaust side and said outlet duct and/or said bypass duct are orientated laterally on said gas inlet side. ~~at least partially defines a pump outlet.~~

10. An engine as defined in ~~claim 9 in which said part of said impeller housing includes a generally cylindrical portion and said pump outlet is orientated tangentially relative to said generally cylindrical portion.~~claim 1 wherein the engine block includes a lug projecting laterally from the block, the lug defining a pump inlet on a first side and at least a part of an impeller housing on a second side, the lug including a hole to allow coolant to flow from the pump inlet through the hole to said part of said impeller housing.

11. An engine as defined in ~~any one of claims 8 to 10 including a cylinder head surface defining a top of the block, said part of said impeller housing being below the cylinder head surface.~~claim 10 in which the lug at least partially defines a pump outlet.

12. An engine as defined in claim 11 in which said part of said impeller housing ~~is below said pump outlet.~~ includes a generally cylindrical portion and said pump outlet is orientated tangentially relative to said generally cylindrical portion.

13. An engine block as defined in ~~any one of claims 8 to 12, the lug including a pump surface against which a pump fits, the timing cover surface and the pump surface being coplanar.~~ claim 10 including a cylinder head surface defining a top of the block, said part of said impeller housing being below the cylinder head surface.

14. An engine as defined in ~~any one claims 10 to 13 when dependent on claim 9 wherein a portion of the pump surface forms a bridge across a portion of the pump outlet.~~claim 13 in which the lug at least partially defines a pump outlet, and said part of said impeller housing is below said pump outlet.

15. An engine as defined in ~~any preceding claim in which the coolant pump includes a pump body and an impeller rotatable mounted relative to the pump body.~~claim 10, the lug including the mounting surface of the coolant pump.

16. An engine as defined in ~~claim 15 when dependent upon claim 10 wherein the impeller is positioned in the generally cylindrical portion.~~claim 11 wherein a portion of a pump surface forms a bridge across a portion of the pump outlet.

17. An engine as defined in ~~claim 15 or 16 when dependent upon claim 9 wherein the pump body at least partially defines said pump outlet.~~ claim 1 in which the coolant pump includes a pump body and an impeller rotatably mounted, relative to the pump body.

18. An engine as defined in ~~claims 8 to 17 including a thermostat mounted on said first side of said lug.~~ claim 12 wherein the coolant pump includes a pump body and an impeller rotatably mounted, relative to the pump body, and the impeller is positioned in the generally cylindrical portion.

19. An engine ~~block~~ as defined in ~~claim 18 wherein said thermostat is mounted in a housing having a first housing inlet on an upstream side of the thermostat.~~ claim 11 wherein the coolant pump includes a pump body and an impeller rotatably mounted, relative to the pump body, and the pump body at least partially defines said pump outlet.

20. An engine ~~block as defined in claim 19 wherein the housing has a second housing inlet connected to said bypass duct.~~ as defined in claim 10 including a thermostat mounted on said first side of said lug.

21. An engine block as defined in claim 20 ~~wherein the housing has a third housing inlet connected to cabin heater.~~ wherein said thermostat is mounted in a housing having a first housing inlet on an upstream side of the thermostat.

22. An engine block as defined in claim 21 wherein the housing has a second housing inlet connected to said bypass duct.

23. An engine block as defined in claim 22 wherein said housing has a third housing inlet connected to a cabin heater.