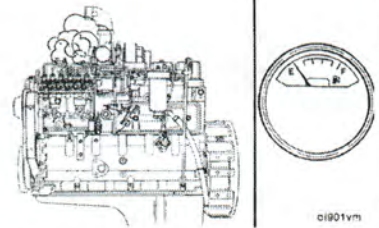


## General Information

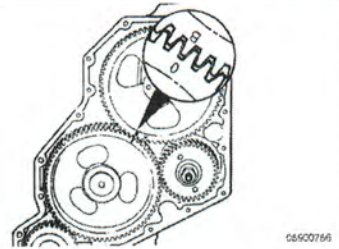
Pump-to-pump timing is extremely critical. Pump timing that is off by **only** a few crankshaft degrees will cause:

1. Poor performance — starting and power
2. Excessive smoke and emissions
3. Poor fuel economy.



Engine pump timing begins with the timing of the fuel injection pump drive gear to the camshaft gear.

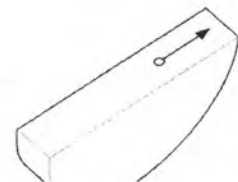
See the table below to determine which letter on the fuel injection pump drive gear is aligned with the camshaft gear.



Engine Model	Gear Letter
QSB3.9-30	J
QSB4.5-30	J
QSB5.9-30	C

## Test

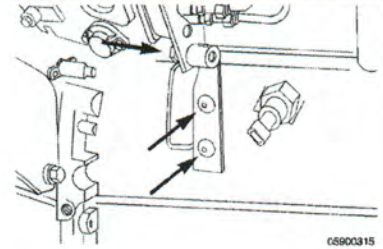
Each key used with the Bosch VP30 injection pump has an installation arrow. The arrow **must always** point toward the injection pump. The key does **not** contain a part number that must be matched to the injection pump



Install the injection pump support bracket. Finger-tighten all capscrews before final tightening.

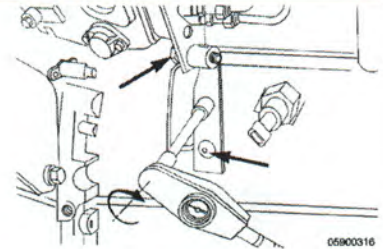
Tighten the brackets in the following sequence:

1. Brace-to-block capscrews
2. Bracket-to-fuel pump brace capscrews.



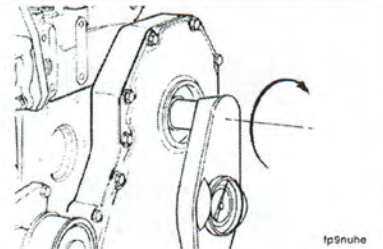
Tighten all capscrews on the support bracket.

**Torque Value:** 24 n•m [ 18 ft-lb ]

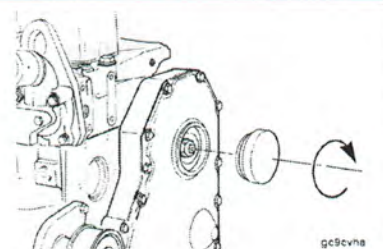


Tighten the pump drive shaft retaining nut.

**Torque Value:** 93 n•m [ 67 ft-lb ]



Install the access cap.



## Cummins Application VP30 Pump Installation Notes

1. Cummins service information states that the VP30 is to be locked in time, that information is incorrect.
2. Cummins service information also notes that the VP30 pump mounting holes are slotted, that is also incorrect. VE pumps have slotted mounting holes, not VP30 pumps.
3. The VP30 pump for the Cummins application is not locked in time, because the pump housing will only fit mounting studs in one position. There is no need to lock it in time, it will only go on in one position.
4. If the gear has been replaced, follow the preceding pages gear installation position information.