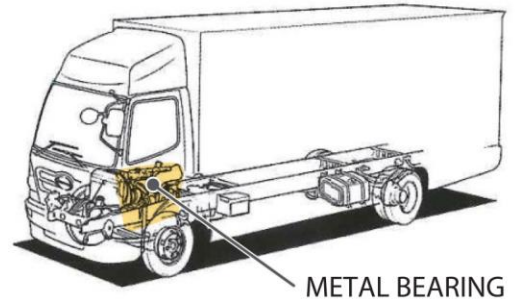


METAL BEARING



Function

Metal bearings are sliding bearings that supports the crankshaft. The replaceable sliding metal bearings function to protect the crankshaft and the valuable engine by sliding against each other and reducing friction. They are fitted between the connecting rod and the connecting rod cap or between the cylinder block and crankshaft cap. Metal bearings are important parts that play a key role in the internal make-up of the engine. (See Fig. 1)

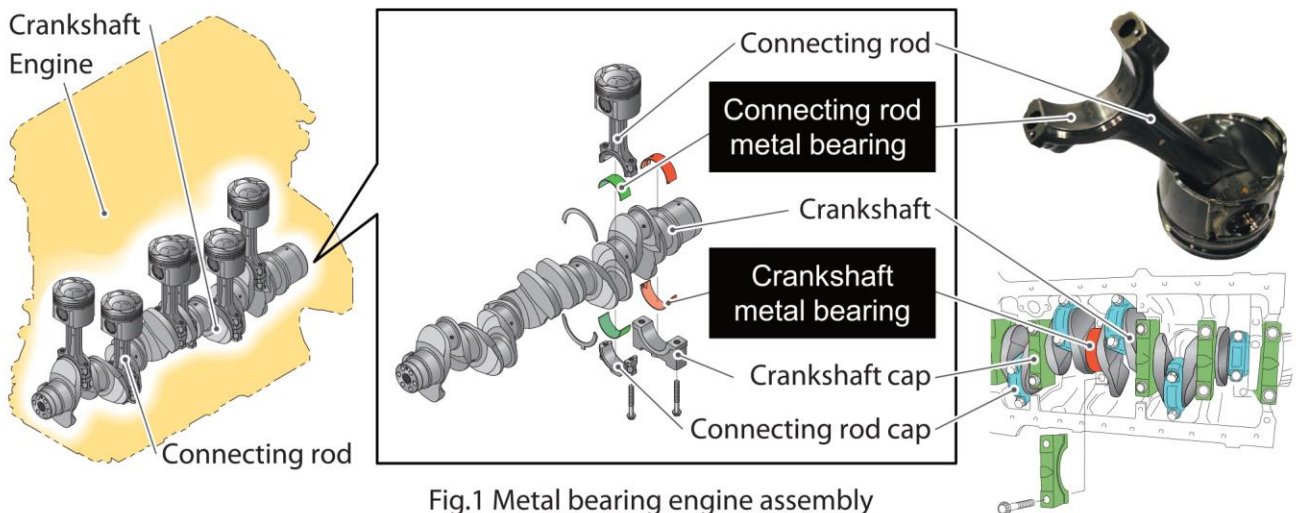


Fig.1 Metal bearing engine assembly

The importance of maintenance & replacement

Metal bearings inevitably suffer fatigue and wear due to their role supporting a rotating (crank) shaft. If used beyond their limitations, not only can friction-induced heat from the bearings result in scarring, it could also result in an engine blow-out by way of the connecting rod suddenly damaging the engine block. This can be very dangerous (See Fig. 4-1). Moreover, if at the same time engine oil spills out and comes into contact with exhaust system, this could result in a fire.

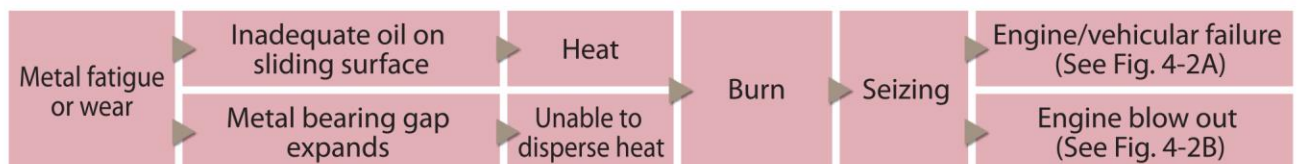
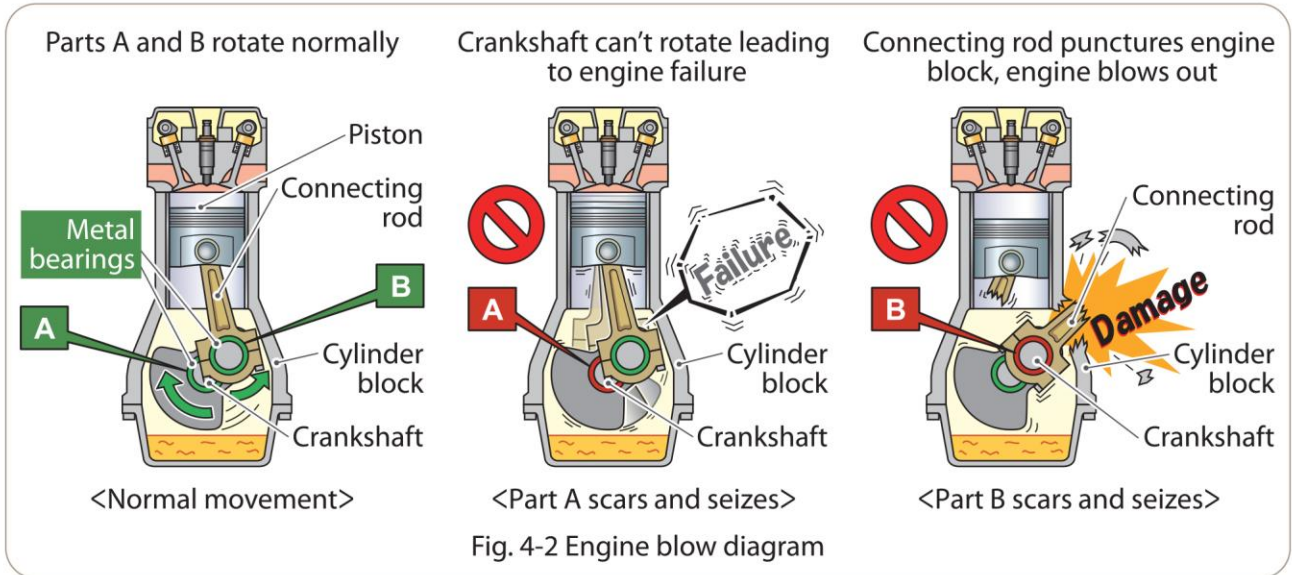


Fig.4-1 Problems resulting from lack of maintenance

The below diagrams depict how scarring and seizing take place (See Fig. 4-2).



We will look at a few cases of actual damage to conclude this section. The red circle in Fig. 4-3-① shows the cylinder block damaged by connecting rod pounding induced by a scarred crankshaft. Fig4-3-② is a picture of post-scarring damage to a connecting rod. The red circle in Fig4-3-③ shows the contact surface of the metal bearing, which combined with the discoloration of the crankshaft surface indicates that high-intensity heat persisted for an extended time. Scarring marks are also visible. Regular vehicle inspections and maintenance are necessary to keep accidents like this from happening.

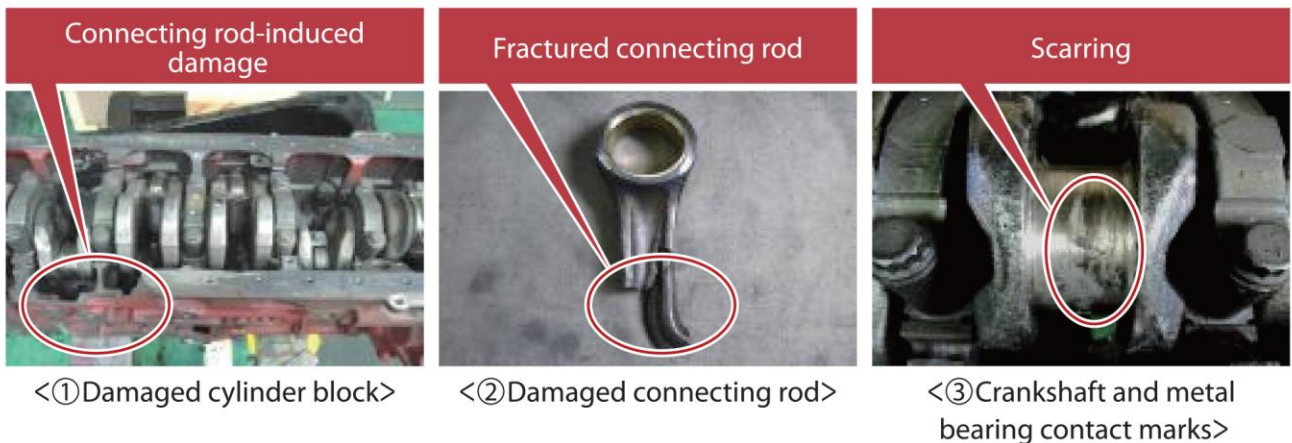


Fig. 4-3 Photographic examples of vehicle damage