



TT404: Fork Oil Leak Check

March 25, 2008



| APPLIES TO | SYMPTOMS |
|----------------------------------------------------|----------------------|
| All Harley and Buell models with oil-filled forks. | • Fluid or Oil Leaks |

Fork Oil Leak Check

A fork oil leak can be defined as any unintended escape of fork or shock damping oil.

It is important to remember that the oil seal is designed to allow a fine film of oil to coat the fork sliding surface. This design feature is visible when the fork is subjected to continuous high speed compression and rebound movement. The absence of this feature may cause premature fork damage.

Oil Seal Basics

The oil film volume for a 49mm fork is higher than that of the 39mm and 41.3mm fork diameters. The reason for this is the oil film volume changes with fork diameter to help reduce friction. If the same oil film volume for the 39mm fork is used with the 49mm fork, the friction would be too high. For this reason, there is more oil film present on 49mm forks than the smaller diameter forks.

Diagnosis of a Suspected Oil Leak at the Dealership

1. Rider observes oil-ring.
2. Wipe fork clean.
3. Test ride bike.
4. See Figure 1. Check for oil-ring.
 - a. No oil-ring means there is no leak.
 - b. If oil-ring returns, run through prior steps at least three times to confirm leak.

The first two photos show normal conditions with no leak.

The third photo shows a drip that could be a leak from the seal.

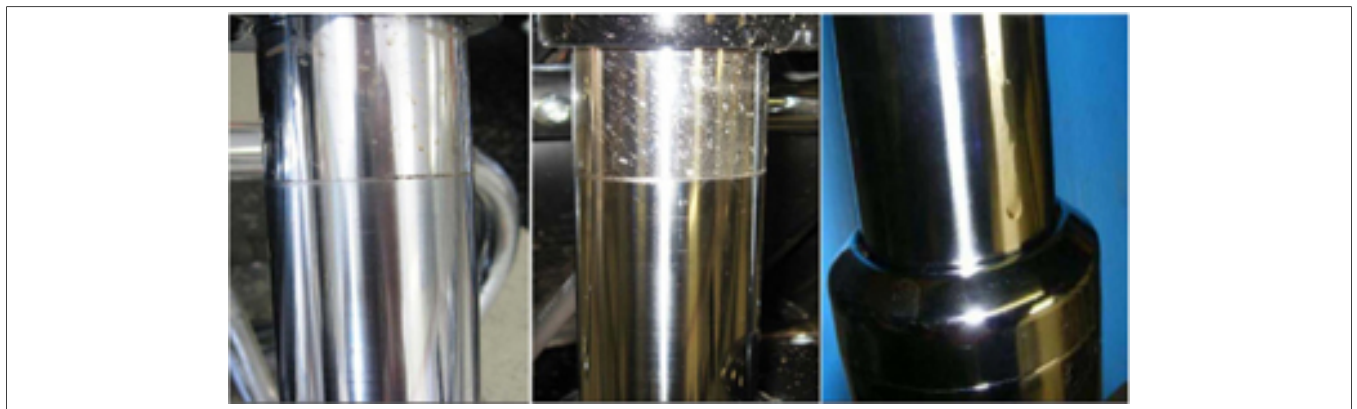


Figure 1. Fork Oil-Rings