

Animation Worksheet: Balance Shafts

Name: _____ **Date:** _____

1. Balance shafts are weighted, rotating shafts used in internal combustion engines to reduce _____ caused by the reciprocating motion of the pistons.
2. These shafts help improve engine _____, particularly in inline-four engines.
3. In an inline-four engine, balance shafts rotate at _____ the engine speed.
4. Balance shafts rotate in _____ directions to counteract secondary forces.
5. These components are typically mounted in the _____, often near the crankshaft.
6. To maintain proper timing, balance shafts are driven by the crankshaft using either _____ or a _____.
7. The shafts utilize precisely placed _____ to generate forces that cancel out vibrations.
8. Balance shafts are especially important in small _____ setups where inherent vibrations are more noticeable.
9. By reducing vibrations, balance shafts help extend _____ by lowering the stress on various components.
10. A primary benefit for the vehicle operator is improved _____, especially at high RPMs.