

# Chapter 31 Crankshafts, Balance Shafts, And Bearings

Find the words in the grid. Words can go across, down and in the two forward diagonals.

Q S R Q H K X M S L V H C K G P B Z B D C N M M L Y C H C Q R  
 X P M Y B K D L T U T R K O V R F V A F N Z F T J N K K O T G  
 D L R Z F L N T L Z R R M D U Y N E J W G X Y M M N J P R J G  
 H I B E G U B M P C Z F E T G N R I O G N K K Q K Y N C R M T  
 A T G W S N L K F M S N A N H P T R T C K L N Y B Y L A O F Z  
 L T R W D O Q L D M E P I C S R C E M R L L T X R P G S S C X  
 F Y T B R T N H Y D C R L N E G U L R W I I L K V W B E I P D  
 S P G F G N L A R C A M F A N F K S G W L D X M X L H H O F M  
 H E J Y A J H A T E O T Q I Y K I N T I E Y I M T W F A N Q T  
 E B F G G T H N B E N U R K G A I N B B C I U N Z K L R R H U  
 L E C K B K I E M Z M A N N P T N A I N E N G K G P Y D E D F  
 L A B N R R V G Q J E T I T A J M G E S I A R H Y M I E S T T  
 B R L O L E D K U B L R T L E R L U L M H X R B T N N N I E R  
 E I W L E R Z W Z E A R P J O R Q B U E Z N U I C S G I S L I  
 A N L L W Z V J K E L O R F G E W L A Q X H K T N K W N T A D  
 R G S L X T G K B Y R I N M R Z A E K B T M V J K G E G A S I  
 I H C W E L C N L T L O F F Y K D K I N B M J R T N B N N T N  
 N V O D L T I K C Y C M J E F R Z H L G K I M L N K R K C O G  
 G O R Y K A V E R S P U N B E A R I N G H N T F R R B N E M V  
 G V E Q L W L B E A R I N G S H E L L B S T M T F X A W Y E R  
 T E R P C E P T K J T T F U L L R O U N D B E A R I N G D R Y  
 R R E J T T P J C R D V M C Z Z M D I J P L P D H G K Z M J R  
 K L S V N N Z P K R L K T Q X N C P Q K N Y N J K X B Z Y B Z  
 F A I M Z N M N W F U D T H V Z K X T L J W L C Z M Z W W V K  
 L Y S L T K J C J L L S R T R N K D W E M B E D A B I L I T Y  
 Q D T B C C M L P J K W H T A P R I M A R Y V I B R A T I O N  
 D L A K L K N R Q F J B N R I N E R T I A R I N G P J M L L K  
 P X N V K R C L M R R Y C S E C O N D A R Y V I B R A T I O N  
 P B C V J Y H M R G C R A N K S H A F T C E N T E R L I N E M  
 V R E N D R R D C O P P E R L E A D A L L O Y Q N J Z H K M D  
 Y M Y M Y W L L D R R Y D F P H V L A M P L I T U D E J Z J T

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Aluminum	Copper lead alloy	Fatigue life	Overlay	Spread
Amplitude	Corrosion resistance	Flying web	Plain bearing	Spun bearing
Babbitt	Counterweights	Frequency	Primary vibration	Surface finish
Bank	Crankpins	Full round bearing	Resonate	Thrust bearing
Bearing crown	Crankshaft centerline	Fully counterweighted	Score resistance	Tuftriding
Bearing shell	Crush	Half shell bearing	Secondary vibration	Work hardened
Billet	Elastomer	Hub	Sleeve bearing	
Case hardening	Electroplating	Inertia ring	Splay angle	
Conformability	Embedability	Nitriding	Split type bearing	