

Chapter 32

Camshafts And Valve Trains

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

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

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|------------------------|--------------------------|-------------------|--------------------------|
| Aerated | Finger follower | Lobe spread | Single overhead camshaft |
| Asymmetrical | Flat link type | Morse type | Solid valve lifter |
| Bucket | Freewheeling engine | Oil control valve | Symmetrical |
| Cam chucking | Hydraulic lash adjusters | Overhead camshaft | Thrust plate |
| Cam follower | Hydraulic valve lifter | Overhead valve | Total indicator runout |
| Cam in block | Interference engine | Pump up | Valve cam phases |
| Camshaft bearings | Lobe | Ramp | Valve float |
| Camshaft duration | Lobe centers | Roller chain type | Valve lash |
| Composite camshaft | Lobe displacement angle | Scavenging | Valve overlap |
| Double roller chain | Lobe lift | Seat duration | Variable valve timing |
| Dual overhead camshaft | Lobe separation | Silent chain type | VTEC |