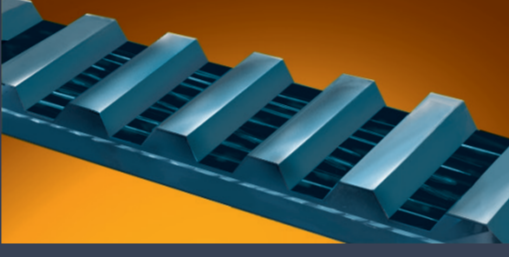


Problem - Diagnosis - Solution

Timing belts

Problem and cause		Solution
Timing belts		
<p>Running noises from belt</p> <ul style="list-style-type: none"> ① Tension too high: Belt whines, whistles ② Tension too low: Belt knocks against covering 		<ul style="list-style-type: none"> ① ② Adjust tension properly
<p>Edge wear</p> <ul style="list-style-type: none"> ① Belt not parallel to axis: Belt runs against flanged pulley ② Wheels axially off-centre: Timing belt cannot be properly aligned ③ Flanged pulley has flaws ④ Bearing play in components 		<ul style="list-style-type: none"> ① ② Check drive, line up or, if necessary, replace any non-aligned pulleys, change the belt ③ ④ Replace idler/tensioning pulleys, change the belt
<p>Fabric wear in the tooth root</p> <ul style="list-style-type: none"> ① Belt excessively tensioned ② Belt is overheating ③ Timing belt pulley is worn out 		<ul style="list-style-type: none"> ① Change the belt, adjust tension correctly ② Find out cause (e.g. check cold performance), take corrective action, change the belt ③ Replace timing belt pulley, change the belt
<p>Unacceptable wear of tooth flanks/ base separating and tooth shearing</p> <ul style="list-style-type: none"> ① Tension too high/too low ② Trapped foreign matter ③ Jammed timing belt pulley or tensioning pulley 		<ul style="list-style-type: none"> ① Change the belt, adjust tension properly ② Remove foreign matter, check covering is seated properly, change the belt ③ Find out cause (e.g. defective bearing), take corrective action, change the belt
<p>Teeth and fabric separating from belt body</p> <ul style="list-style-type: none"> ① Leaks in the engine or engine compartment (e.g. escape of oil, antifreeze etc.) 		<ul style="list-style-type: none"> ① Repair leak(s), change the belt
<p>Running marks on teeth side</p> <ul style="list-style-type: none"> ① Foreign matter in timing belt drive ② Flaws in teeth of timing belt pulley caused by foreign matter or tools during fitting ③ Timing belt damaged before/during fitting 		<ul style="list-style-type: none"> ① Remove foreign matter, change the belt, check the cover is seated properly ② Replace timing belt pulley, change the belt, ensuring it is properly fitted ③ Change the belt, ensuring it is properly fitted
<p>Cracks on back of timing belt</p> <ul style="list-style-type: none"> ① Ambient temperature too high/low ② Contact with foreign media ③ Back idler pulley sluggish ④ Ageing 		<ul style="list-style-type: none"> ① Find out cause (e.g. check cold performance), take corrective action, change the belt ② Change the belt, check the covering is seated properly ③ Replace pulley, change the belt ④ Change the belt
<p>Timing belt snaps</p> <ul style="list-style-type: none"> ① Foreign matter in the drive ② Contact with foreign media ③ Excessive tensioning ④ Belt was crimped before/during fitting 		<ul style="list-style-type: none"> ① Remove foreign matter/media, change the belt ② Change the belt, check the covering is seated properly ③ Change the belt, adjust tension properly ④ Change the belt and fit it correctly
<p>Defective system components</p> <ul style="list-style-type: none"> ① Bearing play ② Damaged running surface 		<ul style="list-style-type: none"> ① ② Replace the idler, tensioning and/or guide pulley

