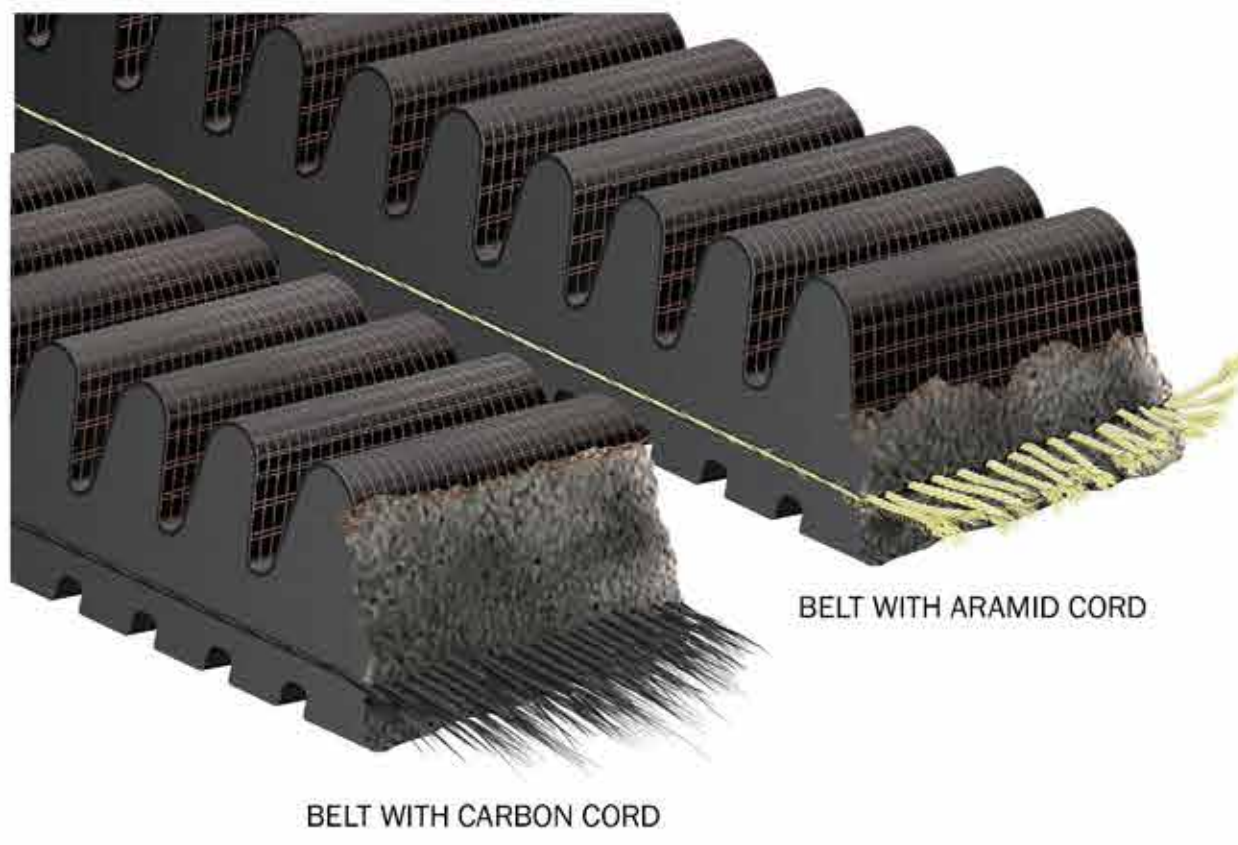


1. TENSILE CORD BREAK



2. CHUNK-OUT



3. EDGE CORD PULLOUT



4. CRACKS BETWEEN COGS



5. HOUR-GLASSING, UNEVEN BELT WEAR, SPIN BURNS



6. BELT DISINTEGRATION



7. GLAZING



SYMPTOM	POTENTIAL CAUSES	RECOMMENDATIONS
1. TENSILE CORD BREAK: Complete belt break through the tensile cord	<ul style="list-style-type: none"> Belt subjected to shock-loading from sudden excessive engagement RPM, repeated aggressive hard acceleration and braking (especially with heavy weight on vehicle) Back-bending, crimping, or prying on belt during installation compromised tensile cord integrity and irreversibly damaged belt Improper gear ratio, clutch center-to-center distance too long, or jammed/locked drive train 	<ul style="list-style-type: none"> Drive using smooth acceleration taking into account vehicle load; avoid repetitive hard braking and immediate acceleration Follow proper storage and handling procedures (do not back-bend, crimp, or invert the belt) Verify the correct belt is being used Ensure engagement RPM is appropriate, clutch center-to-center spacing is correct, and proper gear is utilized for terrain While in park or neutral at idle, the secondary clutch should be stationary
2. CHUNK-OUT: Sheared cogs, compression section (undercord) fractured/torn (chunk-out)	<ul style="list-style-type: none"> Improper belt installation; belt was back-bent, crimped, or pried on during installation Belt worn past its service limits from high mileage, evidenced by cracks between cogs and eventual cog shearing Belt hit or rubbed against a stationary object 	<ul style="list-style-type: none"> Replace belt and perform proper new belt break-in procedure, allowing extra time when performing heat cycles in very cold conditions Never back-bend or crimp a CVT belt; never turn a CVT belt inside out; do not pry on belt during installation Always check drive components to confirm clear belt travel path
3. EDGE CORD PULLOUT: Tensile cord is frayed or separating/unraveling from belt body	<ul style="list-style-type: none"> Clutch misalignment or incorrect belt-pulley angle prevented the belt from riding fully on the sidewalls; resulting extreme friction, heat, and belt material loss led to cord exposure Improper or insufficient belt break-in 	<ul style="list-style-type: none"> Replace belt; further use will cause belt disintegration Inspect primary and secondary clutches for any defects and ensure proper alignment; always prep clutches prior to belt installation On snowmobiles, always verify the integrity of the motor mounts and torque stop when replacing a drive belt; adjust clutches to proper offset and center-to-center distance Always perform proper new belt break-in procedure after installation
4. CRACKS FORMING IN BETWEEN COGS: Flex fatigue; worn belt	<ul style="list-style-type: none"> Belt is worn past its service limit due to considerable use New belt was flexed/bent in extremely cold weather, or turned inside out at any time 	<ul style="list-style-type: none"> Replace belt and perform proper new belt break-in procedure, allowing extra time when performing heat cycles in very cold conditions Never back-bend or crimp a CVT belt; never turn a CVT belt inside out
5. HOUR-GLASSING, UNEVEN BELT WEAR, SPIN BURNS: A belt that is worn unevenly in one section, forming a groove (hour-glassing)	<ul style="list-style-type: none"> Belt was not moving while drive clutch was spinning at full speed; this generated extreme heat and burned the belt Vehicle idled in gear for extended period of time; high belt engagement RPM settings Drive system was locked or jammed, possibly due to improper gear ratio selection Opening the throttle to get a vehicle unstuck Belt-to-sheave clearance was incorrect or, on snowmobiles, belt deflection was set improperly 	<ul style="list-style-type: none"> Verify the correct belt and gear ratio are being used; confirm proper belt engagement RPM Ensure the belt-to-sheave clearance (gaps between belt side wall and sheave on both sides) is within optimal range. On snowmobiles, check and adjust belt deflection to vehicle specifications Verify clutches are properly tuned for vehicle modifications, added weight, tire size/style, terrain, and riding style
6. BELT DISINTEGRATION: Belt has broken apart into many pieces	<ul style="list-style-type: none"> Repeated shock-loading, excessive belt speed, or excessive operation in low gear (high torque loads beyond what is intended for the stock vehicle) Intense heat build up caused by extreme drive conditions (stuck in deep sand, gravel, or mud; spinning at full throttle) Misaligned or improperly tuned clutches (not tuned to match vehicle modifications) Excessive heat conditions led to glazing and hardening, increased slip, and rapid wear Back-bending, crimping, or prying on belt during installation compromised tensile cord integrity and irreversibly damaged belt 	<ul style="list-style-type: none"> Verify correct belt for the application, clutches aligned and properly tuned for any vehicle modifications beyond stock (especially tire size) and added vehicle weight Ensure the proper gear ratio is used for the terrain and riding conditions Ensure the belt-to-sheave clearance (gaps between belt side wall and sheave on both sides) is within optimal range On snowmobiles, always verify the integrity of the motor mounts and torque stop when replacing a drive belt; adjust belt deflection to vehicle specifications, and ensure correct center-to-center distance Inspect primary and secondary clutches for any defects and ensure proper alignment; always prep clutches prior to belt installation and follow proper belt break-in procedure Never back-bend or crimp a CVT belt; never turn a CVT belt inside out; do not pry on belt during installation In extremely cold conditions, warm the belt to room temperature prior to open-throttle riding
7. GLAZING: Belt looks melted and shiny, or has baked appearance due to overheating	Intense heat from repeated and excessive belt slippage due to: <ul style="list-style-type: none"> Improperly tuned clutches for any vehicle modifications beyond stock (added weight, tire size/style) or terrain (sand, rock crawling, mud) Insufficient pressure on belt sides due to worn or stuck rollers, worn helix or clutch bushings Excessive horsepower for belt; inappropriate torque loads beyond stated capability of stock vehicle Improper gear ratio for the application (use of high gear range while towing, climbing steep hills, or riding in deep snow/mud) Excessive operation in low gear for extended periods of time Dirty clutches; oil, dirt, or belt residue 	<ul style="list-style-type: none"> Verify correct belt for the application, clutches aligned and properly tuned for any vehicle modifications beyond stock (especially tire size) and added vehicle weight Always perform proper new belt break-in procedure after installation to seat the belt Verify clutch sheaves and belt are clean and free of contaminants; examine rollers, helix and bushings for signs or wear and replace if necessary Always drive in appropriate gear range for terrain and conditions



BELT FAILURE ANALYSIS PDF



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