

ROLLER CHAIN & SPROCKET TROUBLESHOOTING GUIDE

1. Visual Diagnosis Chart

			Replace BOTH chain and sprockets
			lubrication
			teeth
			Worn chain riding up on
SYMPTOM	VISUAL EVIDENCE	ROOT CAUSE	FIX
teeth stiff/locking Excessive light spots	teeth curved like sprocket Links don't flex longer than spec freely Chain measures spots	Wear from inadequate rust, dirt, bent pin, shock loads	Replace chain and sprockets lubricate, re-tension/shock Reduce chain
Chain stretch Elongation Cracked plates Pinned rollers Roller wear/offset	Red/brown discoloration and loose sprocket Visible sprocket saddles Rollers flat or thin grooved Side plates worn	Moisture, wrong material, wrong lubrication, misalignment, abrasive environment Heavy load, sprocket	Check clearance, adjust Replace chain, align Replace chain, improve sprockets
Plate wear flattening (side)			

2. Sprocket Tooth Wear Patterns

PATTERN		MEANING	ACTION
Even wear across all teeth	Teeth hooked/curled	Normal wear — chain and sprocket Severe wear — chain riding up	Replace sprocket AND chain
Teeth pointed/sharp		Advanced wear	Replace immediately
Grooves in tooth face		Abrasive environment	Replace, install guard/scraper
Teeth chipped/broken		Impact damage or overload	Replace, reduce shock load
3. Noise Diagnosis			

SOUND	LIKELY CAUSE	SOLUTION
Clicking/ticking	Stiff link, worn sprocket tooth	Find and replace stiff link, check sprocket
Whining	Chain too tight, high speed	Reduce tension, check lubrication
Grinding	Lack of lubrication, debris	Lubricate, clean chain and sprockets
Banging/slapping	Chain too loose	Adjust tension, add tensioner
Squealing	Dry friction, no lubricant	Lubricate immediately

GOLDEN RULE

Always replace chain and sprockets together. Installing a new chain on worn sprockets will cause rapid chain wear and premature failure. Installing a worn chain on new sprockets will damage the new sprockets.