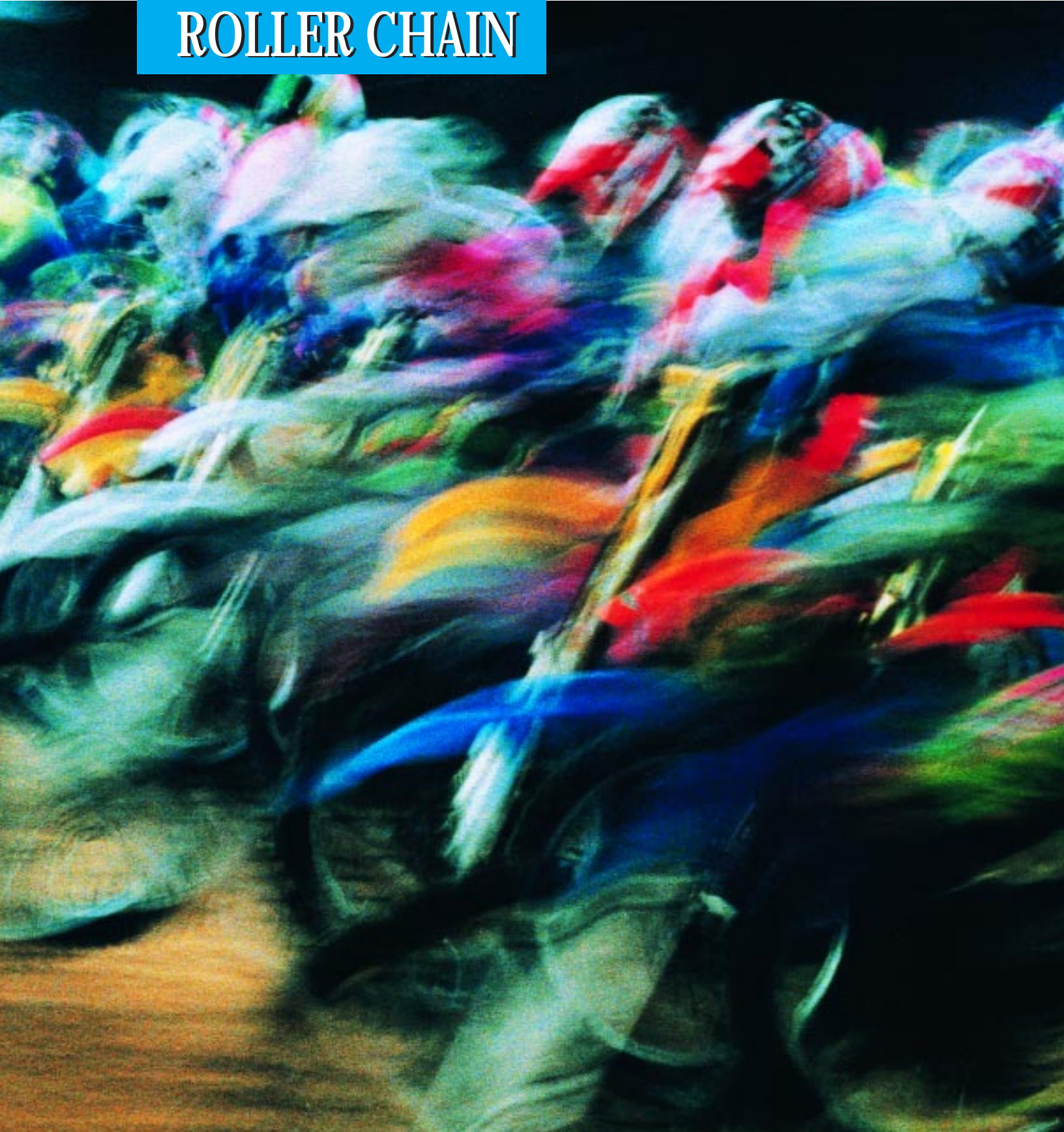




MOTORCYCLE

ROLLER CHAIN



MOTORCYCLE ROLLER CHAIN

520 / 530 XLO

Diamond's top of the line roller chains. Both offer allowable working loads that can provide extra load carrying capability and deliver, on average, four times the service life of regular chains. The O-Ring lubrication system keeps the chain properly lubricated and prevents premature elongation by sealing lubricant in and contaminants out of the pin/bushing joint.

530 ENP

Diamond's beauty. On the outside, nickel-plated for a rich-luster and rust-resistant finish. On the inside, all the design and assembly features of our standard 530 MS.

530 XDL

Diamond's performance-proven DURALUBE® chain that combines thicker link plates and a high-capacity modified press fit cover side with constant lubrication in the pin bushing area, to deliver higher strength while requiring fewer adjustments and less maintenance.

520 / 530 MS

Diamond's "multi-service" chains for all applications requiring either $\frac{5}{16}$ " x $\frac{1}{4}$ " or $\frac{5}{16}$ " x $\frac{3}{16}$ " chain—street, track or trail. Both the 520 and 530 series offer Diamond's superior parts processing technology which include: material selection, precise component fabrication, exacting heat treatment and assembly techniques.

428 HD

Diamond's 428 HD has some of the highest bushing press out resistances of any 428 chain on the market. Higher press out forces combined with thicker inside and outside link plates (one-third more material) greatly reduce link plate spreading which can result in tight joints.

630 MS

Diamond's 630 MS is the motorcycle version of our high quality industrial #60 roller chain. All the attention to manufacturing and assembly detail in the

Dimensions in Inches and Pounds

Diamond Catalog Number	Diamond Factory Number	Pitch	Roller Width	Roller Diam.	Pin Diam.	Link Plate			C	R	Weight Per-Foot Pounds	Average UTS
						Thickness	E Height	H Height				
35 KART	X-1211393	$\frac{3}{16}$	$\frac{3}{16}$	0.200	0.141	0.050	0.307	0.356	0.61	0.50	0.24	2000
35-2	XT-5282	$\frac{3}{16}$	$\frac{3}{16}$	0.200	0.141	0.050	0.307	0.356	0.96	0.90	0.45	4200
35-3	*† X-1211330	$\frac{3}{16}$	$\frac{3}{16}$	0.200	0.141	0.050	0.356	0.356	1.36	1.31	0.77	6300
41	X-1341	$\frac{1}{2}$	$\frac{3}{16}$	0.306	0.141	0.400	0.310	0.383	0.61	0.57	0.26	2000
428	X-14867	$\frac{1}{2}$	$\frac{5}{16}$	0.335	0.174	0.080	0.410	0.475	0.73	0.68	0.43	4200
428-2	*† X-549302	$\frac{1}{2}$	$\frac{5}{16}$	0.335	0.174	0.060	0.475	0.475	1.29	1.24	0.88	8400
520MS	X-1348	$\frac{5}{16}$	$\frac{1}{4}$	0.400	0.200	0.080	0.512	0.594	0.77	0.71	0.59	6600
530MS	X-1548M	$\frac{5}{16}$	$\frac{3}{16}$	0.400	0.200	0.080	0.512	0.594	0.89	0.83	0.68	6600
530XDL	XDL-1557	$\frac{5}{16}$	$\frac{3}{16}$	0.400	0.200	0.086	0.512	0.615	0.91	0.85	0.69	6600
530ENP	XNI-1548M	$\frac{5}{16}$	$\frac{3}{16}$	0.400	0.200	0.086	0.512	0.615	0.91	0.85	0.69	6600
520XLO	XLO-13548	$\frac{5}{16}$	$\frac{1}{4}$	0.400	0.214	0.094	0.588	0.588	0.885	0.83	9300
530XLO	XLO-15548	$\frac{5}{16}$	$\frac{3}{16}$	0.400	0.214	0.094	0.588	0.588	1.02	0.96	0.93	9300
630MS	X-1533	$\frac{3}{4}$	$\frac{3}{16}$	0.469	0.234	0.094	0.615	0.712	0.98	0.91	0.91	8500

* (oval L/P)

† Chains are supplied riveted endless. No connecting links or offset links are available.



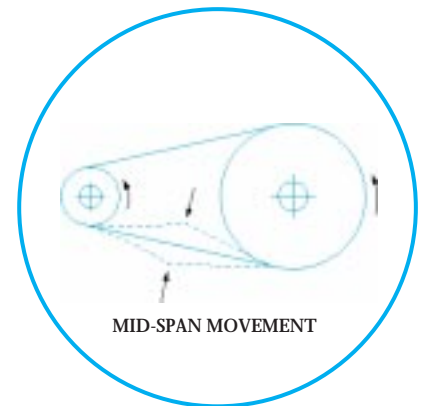


Maintenance and Lubrication

Diamond exercises rigid controls and surveillance throughout production to ensure uniformity of all component parts. Of course, no matter how superior a roller chain, its full potential will not be realized if it is not properly installed and maintained.

Tensioning

If the chain is too tight or too loose, service life will suffer. A chain that is too tight creates unnecessary wear. A chain that is too slack can easily top the sprocket teeth and quickly cause a failure. Consult the motorcycle manufacturer's manual for proper tensioning and mid-span movement.

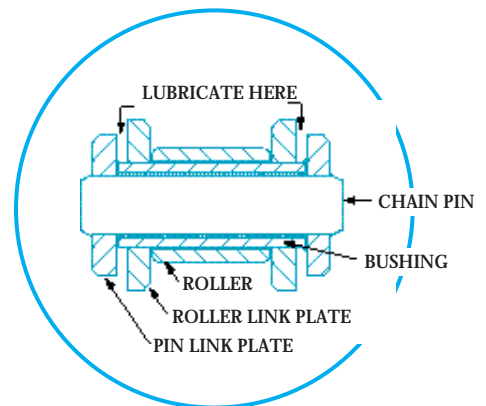


Cleaning and Relubrication

Perhaps the largest contributor to shortened chain life is inadequate lubrication.

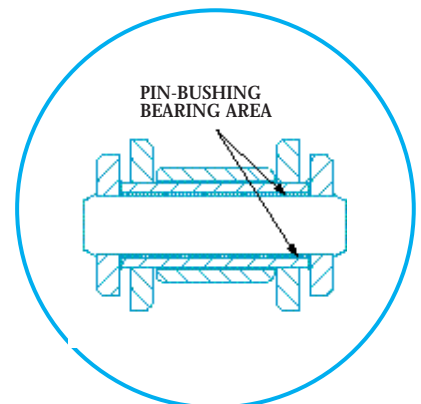
All working parts of a chain should be lubricated uniformly. The use of the highest viscosity oil that allows for flow between the link plates and coats pin-bushing areas will normally provide the greatest wear resistance.

Apply oil to the upper edges of link plates. This allows for the greatest access of oil to pin-bushing joints.



For open drives, excess lubrication on outer chain surfaces should be removed, since it will either be thrown off during operation or serve to collect foreign materials. If foreign objects or surplus lubrication accumulates on chain surfaces to the extent of making re-lubrication of the joints impossible, the chain must be cleaned. Standard roller chains may be cleaned by washing in kerosene or any other good petroleum-based solvent. **WARNING:** These solvents are flammable. Agitate the chain to assure penetration of the solvent and a thorough flushing of the pin-bushing areas. Drain off excess solvent and inspect bushings and pins for wear. Replace the chain if wear is excessive or parts are fractured or missing.

O-ring chains may be cleaned externally by washing in kerosene. Do not use any other cleaning agent or the O-rings may be damaged. When cleaning O-ring chain, clean only the external areas of the chain. Do not attempt to force kerosene into the pin-bush cavity. Do not try to repair a worn-out chain by replacing individual links. The pitch of the new links will be shorter and will most likely result in chain fatigue failure and/or severe sprocket damage. For chains which are still usable, soak them in SAE 40 or 50 automotive engine oil (without additives). Flexing the chain in oil will assure greater penetration of lubricant. Inspect and clean sprockets. If sprockets are worn or damaged, they should be replaced. Installing new chain on worn out sprockets will significantly shorten the chain's service life.



WARNING: always wear eye protection when assembling or disassembling chain.

Trouble Shooting

Problem	Possible cause	What to do
Excessive Noise.	<p>Something is obstructing the path of the chain.</p> <p>Insufficient lubrication.</p>	<p>Check to make sure the chain is operating free of obstacles. Make necessary adjustments.</p> <p>Lubricate the chain.</p>
Chain climbs sprocket teeth.	<p>Improper tensioning of chain at installation or slack chain due to wear.</p> <p>Installation of improper chain.</p>	<p>Properly tension the chain (check owner's manual). Periodically adjust chain as wear occurs.</p> <p>Carefully determine correct pitch, roller width and diameter for matching with the sprockets. If problem continues, make sure the sprockets have been manufactured to the correct dimensions.</p>
Misalignment.	<p>Chain is operating over misaligned sprockets due to loosening of fasteners or uneven wear of other machine components.</p>	<p>Check sprocket alignment regularly. Required adjustments and repairs should be undertaken promptly to minimize drive wear.</p>
Stiff or tight joints.	<p>Misaligned sprockets or unparallel sprocket shafts separate roller link plates until they interfere with the pin link plates, causing chain to kink or bind.</p> <p>Oxidation (rust) or foreign matter accumulated in the chain joints.</p> <p>Severe overloading caused by transmitting more horsepower through the chain than it was designed to handle. High-torque situations disturb roller link plates press-fits and contribute to link plate separation.</p>	<p>Replace the chain. Install sprockets correctly. Tighten fasteners to ensure proper drive tension and alignment. Clean and lubricate the chain periodically as riding situations warrant.</p> <p>Same as above.</p> <p>Same as above.</p>
Chain clings to sprockets.	<p>Worn chain or sprocket causes undesirable meshing geometry.</p>	<p>Check for excessive slack in the no-load span. Replace a badly worn chain. Do not install a new chain over badly worn sprockets. Sprockets with badly worn or hooked teeth should be replaced.</p>
Badly worn chain and sprockets.	<p>Chain service life is dependent upon chain quality and the maintenance provided.</p> <p>Badly worn chains don't mesh properly with sprockets and contribute to rapid chain deterioration.</p>	<p>As chain wears, it lengthens. To determine if the usable wear life of a chain has been consumed, check the elongation of a segment of chain. It should not exceed 3% of the nominal chain length. If elongation exceeds 3%, replace the chain. Do not attempt to repair a section of worn chain by adding new links — variation of pitch lengths will cause undesirable surging during operation.</p>
Cracked, gouged or broken chain parts.	<p>Broken pins and link plates plastically deformed or torn at the pitch holes are due to overloading.</p> <p>Broken rollers and bushings are produced by operating the drive at speed/load ratings beyond design limitations.</p> <p>Broken rollers can also result from the chain topping sprocket teeth, from improper seating in the rollseats at high speeds and from impacts with incorrectly made sprockets.</p>	<p>Careful examination of a chain to detect cracked, gouged or broken parts could suggest replacement of chain or adjustment before the chain actually fails.</p> <p>If any chain parts are found to be cracked, gouged, broken, severely abraded or missing, replace the entire chain immediately.</p> <p>Properly install the drive. Maintain suitable tension and alignment.</p> <p>Remember: Application of higher speed and load, coupled with inadequate lubrication, causes the service life of roller chain to be consumed much quicker.</p>

