

Slippery business

By the Staff of DIRT BIKE

During the collecting of the chain lubes for the Great Chain Lube Shootout of 1983, the staff of *Dirt Bike* wandered into numerous bike shops and plunked down solid cash for various cans and containers of the slippery stuff. This was done primarily to keep from getting "ringers" sent to us. Whenever the chain lubes were not on display and we asked to buy "some chain lube," the man behind the counter would invariably beam and place a can of something on the shelf and say, "Well, this is the best stuff. The guys in the service department don't use anything else and there's this one customer who's got about 400,000 miles on his old Honda Hawk and still has the stock chain on it. Honest."

Okay. Koff, koff.

Everyone seemed to have an opinion on what worked best. Some folks liked the dry lubes because "they don't collect dirt like the oily ones." Others use heavy, greaselike sprays for the "cushioning effect" they offer. One grizzled gentleman behind a parts counter had a different attitude. "I just buy the cheapest lube I can find and use it a lot. They're all the same anyway."

More than a few riders buy their chain lubes at the local auto discount store, often at very low prices. Some of these lubes are billed as general or all-purpose lubes. One of the most popular is WD-40, which can be found in every civilized part of the world and New Jersey, too.

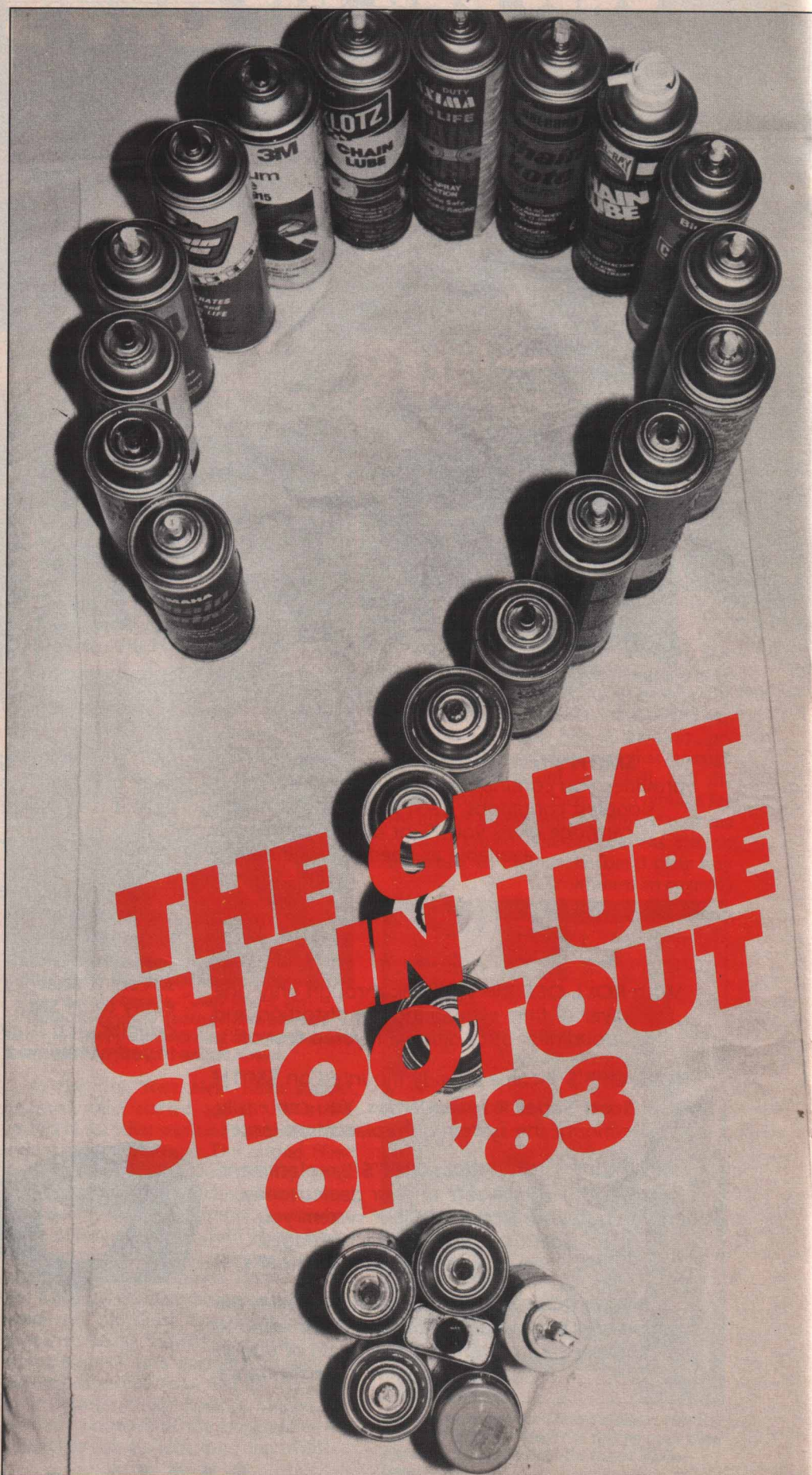
It's been almost a decade since *Dirt Bike* last did a chain lube shootout and we're long overdue. A lot of lubes have disappeared from the scene since 1973 and a lot more have appeared. Many of the old standards have been refined in the last ten years; technology does not belong to suspension alone.

Lubes are better, but bikes are more powerful and the stress on chains is unbelievably high with long-travel bikes. And, dear friend, have you priced a chain lately? The average dirt bike chain is going for right around 50 bucks, with some of the better stuff in the 60- to 75-dollar range.

HOW WE DID IT

In *Dirt Bike* style, we conducted simple, yet effective, tests. Unless someone recently repealed the laws of physics, we believe friction makes heat. The more friction, the more heat. A good chain lube, we reasoned, would be slippery and reduce friction.

We acquired a Digitron DT-4E Cylinder Head Temperature Meter from Digitron Company in Spokane, Washington. This handy unit featured a range from zero degrees to 500, in one-degree increments. It was accurate to plus or minus one per-



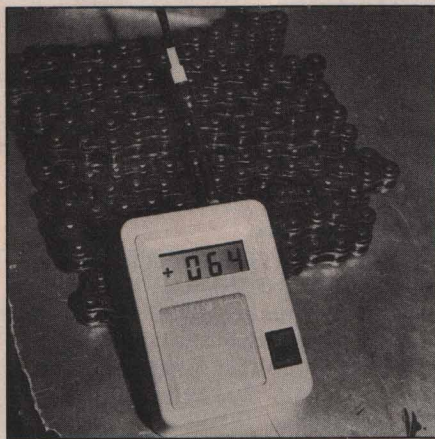
THE GREAT CHAIN LUBE SHOOTOUT OF '83



Measuring stretch was easy. The tested chain was slipped over a pin and compared with the original length.



To test wear, we put the chain over a welded pin, then measured the total side deflection.



Temperatures were measured with a Digatron DT-4E hand-held meter.



For the corrosion test, we simply coated links with a lube, dropped them in a glass of tap water, then sat back and observed the rust... or lack thereof.

cent—not in the range of the incredibly accurate *DB* scales, but more than enough for government work. A digital readout gave us the temperature of the chain tested within ten seconds. The repeatability was excellent. This is a good unit that any shop or tuner would find very useful.

Our next test required less exotic hardware—just plain old tap water and glasses. We applied the lubes to master link parts, then immersed the links in water and observed the results. Corrosion is an ugly thing and has ruined more chains than all of the abuse riders heap on their drive trains. Every time you wash your bike, your chain stands the very distinct possibility of rusting from the inside out. Corrosion can slaughter chain life.

We also measured the stretch and deflection.

While we're sure there are other—more complex—ways of testing chain lubes, we feel our methods are sound and based on common sense.

THE PROCEDURE

Testing was simple, but very time consuming. We took a section of perfectly clean chain and hooked it in a loop with a new master link, then lubed it thoroughly with the lube to be tested. We let each lubed chain set up for at least 15 minutes,

which we consider a reasonable period of time. If it takes longer than that, there's something wrong with the lube.

The section of prepared chain was then strapped on the two new c/s sprockets and the timer was set. The air temp was noted and the machine was turned on. We then sat around like a bunch of ne'er-do-wells, told jokes and passed the time until the buzzer signaled the end of the test. The temperature probe was placed on several points of the chain and the highest reading was recorded. We then took the chain apart and noted what the chain looked like on the inside.

Did it retain some lube? Was it scored or galled? Telltale signs of heat? Notes were furiously taken and many "Aha!" exclamations were freely given, with a finger raised high to underscore the point.

THE STRETCH TEST

After we tested each lube on a fresh piece of chain, the chain was broken apart and measured. We knew what an untested section of chain measured, so it was a simple matter to compare the measurement of a tested piece against an unstretched piece. The amount of stretch determined the ranking in this category. Very straightforward.

While we feel that stretch (or lack of) is

important, we gave more weight to the deflection test.

DEFLECTION (SIDE WEAR) TEST

This was very easy to figure. We merely took each section of tested chain and inserted it into a link pin welded to a straight edge. The chain was then bent up and the amount of bend measured. The variation from chain to chain was quite a bit; just about a half-inch difference from the best performer to the worst.

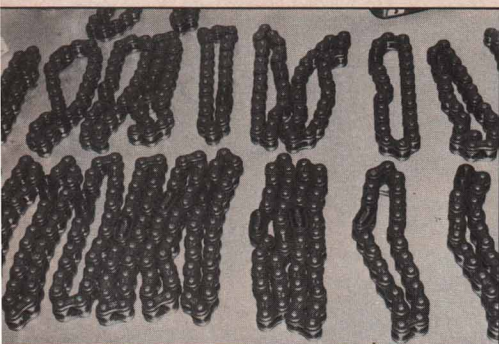
We feel the deflection test is a greater indicator of true chain wear than the stretch test, as it takes into consideration the wear in the side plates as well as the pins and rollers.

Some lubes performed well on the stretch, but not so well on the deflection test. This indicated that the lube might be slippery, but it does not have the ability to take a high-pressure load. Teflon, for example, is very slippery stuff, but works best as a low-pressure additive. As a high-pressure additive, it's marginal.

HARDWARE

The most common sized chain, 520, was chosen for the test. It's what most dirt bikers run. We picked the excellent Tsubaki QR chain for the punishment. It's heavy-duty and consistent in quality. During the course of testing, we used almost

THE GREAT CHAIN LUBE SHOOTOUT



All of the Tsubaki QR chains were de-greased before the lube was applied, to eliminate the possibility of the original assembly lube affecting the testing.

250 feet of Tsubaki QR and nearly 100 master links.

We needed something to spin the chain on, so the new Sidewinder sprockets were bolted onto Suzuki RM125X countershafts. All of the c/s sprockets were 13-tooth items and all were carefully checked and prepared by Krause Racing for consistency. Two new Sidewinders were used for each and every test, as was a fresh length of Tsubaki chain.

The chain was also carefully de-greased in an industrial de-vaporizer before it was cut into lengths for lube testing. A light coating of Kal-Gard 30-30 was sprayed on to prevent oxidation while awaiting use, and this was removed with Bel-Ray Contact Cleaner before each lube was applied.

In order to spin those Sidewinder sprockets, the Suzuki countershafts were mounted in line, with the drive sprocket being driven by a large floor model drill press. A simple wooden jig was fabricated to hold the other countershaft in place. Standard Suzuki bearings let the shaft spin freely and they were lubed before each run with Spectro Assembly Lube.



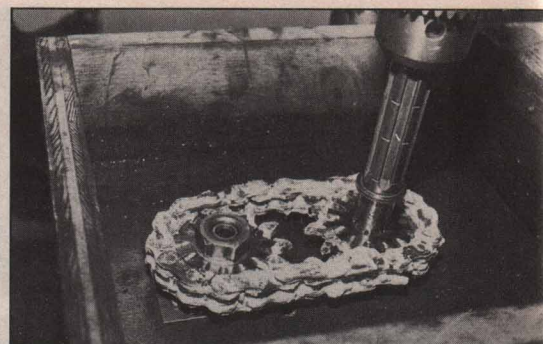
Webb was assigned the thankless chore of putting master links in the fresh chain.



Sprockets, anyone? Nearly 100 Sidewinder sprockets were used during the setup and actual testing of the 28 lubes.

Special thanks to the following companies who assisted in our test:

TSUBAKI CHAIN—12275 E. Slauson Ave., Whittier, CA 90606.
 SIDEWINDER SPROCKETS—Krause Racing, 305 E. North Ave., Northlake, IL 60164.
 DIGITRON—N. 6463 Perry St., Spokane, WA 99207.



A simple jig was fabricated to let the chain spin at 3100 rpm for each run. Fresh chain and sprockets were used for every test.

To allow for differences in air temperature, we noted the actual ambient temperature and used a correction factor. It's fairly obvious a lube would run hotter on a 90-degree day than, say, on a 60-degree day.

The other testing procedure was a lot easier. We threw the links into the water and saw which ones rusted and which didn't. After a few days we took them out of the water and let the open air hit the metal. More notes.

READING THE CHARTS AND UNDERSTANDING THE RATINGS

All of the lubes are placed on the charts in order of performance. You'll find that some of the good performers in one test didn't do so well in the other. Then again, there were some lubes that did well in all tests. We rated these in the top group. If you never get your chain wet, you might want to rate the lubes differently. That is, of course, your privilege.

You'll find a huge difference in performance here. Some of the lubes actually performed worse than a dry chain in our tests. Well, our chain-testing machine was ad-

CHAIN TEST TEMPERATURE CHART

	POINTS
PJ1 HEAVY-DUTY (Degrees)	118
SPECTRO (SPRAY)	120
BEL-RAY MAXIMUM STRENGTH	122
ALCO METALUBE	122
SNAP WHITE GREASE	122
MOLLY BLUE	124
BEL-RAY RACING	125
PJ1 BLUE LABEL	126
TRI-FLOW	127
MAXIMA	127
LUBRI-TECH OFF-ROAD	127
3M LITHIUM	129
LUBRI-TECH CHAIN & CABLE	130
KAL-GARD CHAIN KOTE	132
YAMAHA	132
SUZUKI 4-STROKE OIL	132
SPECTRO (SQUEEZE BOTTLE)	133
HI-POINT	134
KLOTZ	139
McKAY MOLY LUBE SPRAY	144
B.G. CHAIN LUBE	145
DRI SLIDE	161
CHAIN LIFE	162
KAL-GARD ASSEMBLY LUBE	168
McKAY GRAPHITE SPRAY	170
B.G. ASK	178
WD-40	187
MALTBY PENETRANT	188

CHAIN STRETCH CHART

	POINTS
MOLLY BLUE (Inches) .....	.004
SPECTRO (SQUEEZE BOTTLE) .....	.004
SNAP WHITE GREASE .....	.005
YAMAHA .....	.007
McKAY MOLY LUBE SPRAY .....	.008
CHAIN LIFE .....	.008
SUZUKI 4-STROKE OIL .....	.008
KAL-GARD CHAIN KOTE .....	.009
TRI-FLOW .....	.009
BEL-RAY MAXIMUM STRENGTH .....	.010
BEL-RAY RACING .....	.012
B.G. CHAIN LUBE .....	.015
LUBRI-TECH OFF-ROAD .....	.015
PJ1 HEAVY-DUTY .....	.015
KLOTZ .....	.015
LUBRI-TECH CHAIN & CABLE .....	.016
KAL-GARD ASSEMBLY LUBE .....	.017
B.G. ASK .....	.017
SPECTRO SPRAY .....	.018
HI-POINT .....	.018
MAXIMA .....	.018
ALCO METALUBE .....	.018
DRI SLIDE .....	.019
3M LITHIUM .....	.019
PJ1 BLUE LABEL .....	.019
MALTBY PENETRANT .....	.020
McKAY GRAPHITE SPRAY .....	.022
WD-40 .....	.023

DEFLECTION CHART (SIDE WEAR)

	POINTS
KAL-GARD (Inches)	3.344
YAMAHA	3.358
SNAP WHITE GREASE	3.533
SPECTRO (SQUEEZE BOTTLE)	3.540
McKAY GRAPHITE SPRAY	3.540
KAL-GARD ASSEMBLY LUBE	3.547
TRI-FLOW	3.564
MAXIMA	3.570
KLOTZ	3.571
PJ1 HEAVY-DUTY	3.573
SUZUKI 4-STROKE OIL	3.578
MOLLY BLUE	3.580
PJ1 BLUE LABEL	3.580
SPECTRO (SPRAY)	3.605
B.G. CHAIN LUBE	3.612
HI-POINT	3.624
WD-40	3.624
BEL-RAY MAXIMUM STRENGTH	3.628
BEL-RAY RACING	3.630
McKAY MOLY LUBE SPRAY	3.634
LUBRI-TECH OFF-ROAD	3.685
CHAIN LIFE	3.694
ALCO METALUBE	3.719
3M LITHIUM	3.730
LUBRI-TECH CHAIN & CABLE	3.734
B.G. ASK	3.754
DRI SLIDE	3.774
MALTBY PENETRANT	3.836

THE GREAT CHAIN LUBE SHOOTOUT

mittedly a thrasher. Whipping that Tsu-baki QR around at a sizzling 3100 rpm was a true torture test. But your chain takes quite a beating as it gets raced and ridden in the dirt.

One last thing: We did not test the lubes in dirt, mud or sand. If any of those things

can get inside your chain, it's already worn out. A decent chain might have tons of dirt and grit on the outside, but with a good lube inside the pins and the rollers, dirt won't enter until the clearances are excessive. So there.

Anyway, lube a lot and lube often.

CHAIN LIFE

Aerosol with spray tube tip. Comes out as a very thick white foam, like shaving cream, then turns watery and colorless quickly. Leaves a light, oily film. Clings well to chain when first sprayed. Ran hot and had high deflection. Some polishing and light wear was noted.

The 17-ounce can sells for \$4.50. Cost per ounce: 26½ cents. Corrosion: Below average.

HI-POINT

Aerosol with tip. Okay for O-rings. Comes out as a green foam, liquifies, then sets up into a grease. Messy to use. No wear.

The 13-ounce can costs \$3.95. Cost per ounce: 30 cents. Corrosion: Excellent.

KAL-GARD ASSEMBLY LUBE

Aerosol can with spray tip only. Even though this is not intended for use as a chain lube, a following has built up that swears by Assembly Lube. It sprays black and wet and dries quickly, like lacquer-based paint. Assembly Lube is basically moly with a solvent carrier. The folks who use it say dirt doesn't stick to it and they get great chain wear.

Our tests did not back this up, as the Assembly Lube ran hot and our test chain showed considerable stretch. It did work quite well in the deflection test, though.

We did run the Assembly Lube with a

CORROSION CHART (RUST)

	POINTS
PJ1 HEAVY-DUTY	Excellent
DRI SLIDE	Excellent
HI-POINT	Excellent
BEL-RAY MAXIMUM STRENGTH	Excellent
SPECTRO (SPRAY)	Excellent
KLOTZ	Excellent
TRI-FLOW	Excellent
MOLLY BLUE	Excellent
LUBRI-TECH CHAIN & CABLE	Excellent
ALCO METALUBE	Excellent
WD-40	Excellent
KAL-GARD ASSEMBLY LUBE	Excellent
KAL-GARD CHAIN KOTE	Good
YAMAHA	Good
SUZUKI 4-STROKE OIL	Good
SPECTRO (SQUEEZE)	Good
PJ1 BLUE LABEL	Good
SNAP WHITE GREASE	Good
MALTYB PENETRANT	Good
3M LITHIUM	Average
B.G. ASK	Average
BEL-RAY RACING	Average
MAXIMA	Below Average
CHAIN LIFE	Below Average
LUBRI-TECH OFF-ROAD	Below Average
McKAY GRAPHITE SPRAY	Poor
McKAY MOLY LUBE SPRAY	Poor
B.G. CHAIN LUBE	Poor

OVERALL RATINGS

NOTE: When points were the same, the lube with the lower cost-per-ounce was rated higher.

SNAP WHITE GREASE	26	EXCELLENT
YAMAHA	26	
KAL-GARD CHAIN KOTE	26	
MOLLY BLUE	26	
TRI-FLOW	26	
BEL-RAY MAXIMUM STRENGTH	25	
PJ1 HEAVY-DUTY	25	
SPECTRO (SQUEEZE BOTTLE)	25	
SUZUKI 4-STROKE OIL	24	
SPECTRO (SPRAY)	24	
HI-POINT	23	GOOD
PJ1 BLUE LABEL	23	
KLOTZ	23	
BEL-RAY RACING	23	
ALCO METALUBE	22	
MAXIMA	22	AVERAGE
KAL-GARD ASSEMBLY LUBE	22	
LUBRI-TECH CHAIN & CABLE	21	
LUBRI-TECH OFF-ROAD	19	
McKAY MOLY LUBE SPRAY	19	
B.G. CHAIN LUBE	18	BELOW AVERAGE
3M LITHIUM	18	
CHAIN LIFE	16	
DRI SLIDE	16	
McKAY GRAPHITE	15	
WD-40	13	POOR
B.G. ASK	13	
MALTYB PENETRANT	5	

NOW YOU SEE THEM.



'82 650 Nighthawk™
SAVE \$450

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'82 Silver Wing™ Interstate™
SAVE \$650



We tested 28 different lubes in our test. They ranged from straight petroleums to moly-laced synthetics.

few other lubes as an experiment and found that it improved the overall performance, but by itself it was a marginal chain lube. For its intended use, it's great stuff; but as a straight chain lube, there are many better choices. Medium galling was noted when used alone.

A 12-ounce can goes for \$4.53. Cost per ounce: 37 cents. Corrosion: Excellent.

GOLDEN SPECTRO SPRAY

Aerosol, with tip, O-ring safe. Ran extremely cool in temperature test. Comes out as a heavy brown foam and sets up into

a heavy grease almost immediately. Very messy to use. No wear was noted, but stretch was high. Deflection was average.

A 13-ounce can costs \$4.00. Cost per ounce: 30 cents. Corrosion: Excellent.

SUZUKI 10W40 FOUR-STROKE OIL

This was included for a genuine reason, even though it most assuredly is not a chain lube. There are many riders who merely soak their chains in basic motor oil, feeling that it does as good of a job as any expensive chain lube.

Well, the Suzuki four-stroke oil didn't fare all that badly. It showed minimal stretch, had a decent result on side wear and ran at a decent temperature. No real wear was noted, but a light polishing of the pins could be seen.

Comes in one-quart cans for \$2.50. Cost per ounce: 15½ cents. Corrosion: Good.

BEL-RAY MAXIMUM STRENGTH

Aerosol can with tube spray tip. O-ring safe. Comes out in a thick blue foam that does not run much when applied. It sets up quickly into a light grease. Bel-Ray was one of the coolest-running lubes. Stretch was light and deflection wear was about average.

No wear marks or galling were noted when the chain was checked.

An 18-ounce can was bought for \$3.95. Cost per ounce: 22 cents. Corrosion: Excellent.

McKAY GRAPHITE SPRAY

Aerosol can with spray tip only. Comes out as a thin black liquid and runs like water, then dries like paint. It ran very, very hot and performed poorly in the stretch test, but well in the deflection test.

The noise when running was high, and extremely heavy galling and wear marks could be seen when the chain was broken apart for inspection.

The 13-ounce can sold for \$4.37, but was on sale. Cost per ounce: 33½ cents. Corrosion: Poor.

WD-40

Aerosol can with tube tip. Has been around for a long time and has quite a cult following. Is often available for a discount at auto parts and department stores. Then liquid comes out like water and leaves a light oily film.

It ran murderously hot, actually hotter than a dry, unlubed chain, and showed extremely heavy wear and deflection. After the test run the center pins were polished like chrome from the high wear.

We paid \$3.50 for a 12-ounce can. Cost per ounce: 29 cents. Corrosion: Excellent.

LUBRI-TECH CHAIN AND CABLE

Aerosol can with tube tip. The lube came out as a white foam that was very runny and never set up into a grease. It ran fairly cool in the temperature test, but did not do all that well in the stretch and deflec-

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HONDA REDLINE SUPER SALE

THE GREAT CHAIN LUBE SHOOTOUT

tion tests. Inspection showed very light wear marks.

The 12-ounce can sold for \$3.89. Cost per ounce: 35½ cents. Corrosion: Excellent.

DRI SLIDE

Metal squeeze can with long tubular metal tip. Easily the messiest lube of all. It ran like water and dripped out of the chain as fast as it was applied. The lube was a watery-gray color and left a slight oily film and did not dry.

It ran hot and noisy, had high stretch and wear and showed very heavy galling marks. While being a poor performer, it also had the distinction of being the most

expensive lube tested.

The four-ounce can retailed for \$4.50. Cost per ounce: an astronomical \$1.12½. Corrosion: Excellent.

KLOTZ

Aerosol with tube spray tip. O-ring safe Comes out as a clear, white foam and does not set up into a grease. Leaves an oily film. Performance was average on stretch and deflection. Very light wear was noted on the pins and side plates, but a slight polishing could be seen. It ran very noisy.

A 15½-ounce can retailed for \$4.79. Cost per ounce: 31 cents. Corrosion: Excellent.

MOLLY BLUE

Aerosol can with spray tube. We're not sure if Molly Blue is still in business, but we saw it for sale in quite a few bike shops. MB comes out as a blue foam and sets to a light grease. It ran very cool and showed little stretch. It performed average on side wear. Very little wear was noted on the pins and side plates.

The six-ounce can we found sold for \$1.95. Cost per ounce: 32½ cents. Corrosion: Excellent.

MALTY PENETRANT

Aerosol spray with tube. It ran the hottest of anything tested; even hotter than a dry, unlubed chain. Malby comes out as thin as water and drips out as quickly as it's applied. It leaves a light, oily film, much like WD-40.

Heavy wear marks and galling were noted when the chain was taken apart. Stretch and side wear were among the worst.

A 14½-ounce can goes for \$2.35. Cost per ounce: 16 cents. Corrosion: Good.

PJ1 HEAVY-DUTY CHAIN LUBE

Aerosol can with spray tube; contains moly and synthetic sperm oil. Ran the coolest temperature of all lubes tested. Comes out in a light gray foam and sets to a light grease quickly. Stretch was above average, but side wear was average. No wear was noted upon inspection.

A 17-ounce can retails for \$4.25. Cost per ounce: 25 cents. Corrosion: Excellent.

PJ1 BLUE LABEL

Aerosol can with spray tube. For standard and O-ring chains. Ran very cool in temp tests. Thin, blue and watery when applied, it sets to a very heavy grease quickly. Considerable stretch was noted, but side wear was average. Very light wear was noted on the pins and no galling marks were present. Pins and side plates appeared polished.

An 18-ounce can goes for \$4.50. Cost per ounce: 25 cents. Corrosion: Good.

3M LITHIUM

Aerosol can with no spray tube. It had a fine stream of white grease that splattered over everything. Very messy to use. It ran fairly cool, but there was considerable chain stretch and a lot of side wear. No galling was noted, but there were light wear marks on the pins.

A 17-ounce can retails for \$6.62. Cost per ounce: 39 cents. Corrosion: Average.

TRI-FLOW

Aerosol can with spray tube; contains Teflon. Billed as an all-purpose lubricant — doesn't call itself a chain lube. Seems to be favored by street bike shops. Thin, colorless, slightly yellow solution; drips like water when applied. Does not set up into grease. Leaves light oily film on links. Very noisy when running.

It ran cool and no galling or wear was noted. It performed well in all tests.

Expensive, the Tri-Flow costs \$6.95 for a 15.9-ounce can. Cost per ounce: 43½ cents. Corrosion: Excellent.

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THE GREAT CHAIN LUBE SHOOTOUT

SNAP WHITE GREASE

Aerosol with spray tube. Comes out very thin and almost immediately sets into a thick, white grease. Amazing! Does not run. One of the coolest tested. Performed quite well on the stretch test and very well on the deflection test. Its all-around good performance was backed up by no wear on the tested link parts.

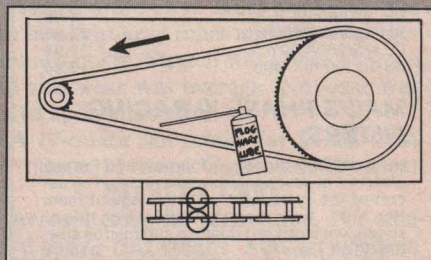
The 13-ounce can went for \$3.45. Cost per ounce: 26½ cents. Corrosion: Good.

KAL-GARD CHAIN KOTE

Aerosol can with tube spray tip. Contains moly; safe for O-ring chains. Comes out a dark gray foam that turns almost coal black as it sets up into a very sticky grease. Chain Kote also ran cool, had minimal stretch, and was the best in the deflection test, which we feel is the most important measure of chain wear.

(continued on page 68)

THE PROPER WAY TO LUBE A CHAIN



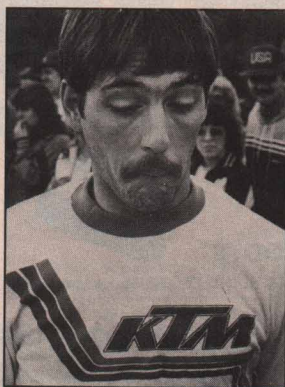
• Don't just stand back and spritz away. Put your bike up on a box or stand and get the rear wheel spinning free. Then grab a bristle or wire brush and rub all of the crud off the outside.

Then, using one of the top-rated lubes, apply the substance to the area where the side plates meet the roller. Spin the wheel slowly in the forward direction, as spinning it backwards can flip off the master link keeper on some bikes.

Apply the lube to the lower chain and let it climb on the sprocket. Don't bother to slather a lot of lube on the outer edge of the side plates; they don't need it. You want to get the lube inside the pins and the rollers.

After you're done lubing, wipe off the excess lube with a rag and let the lube set up for ten minutes or so. Turn the wheel every few minutes to help the lube work inside. Then go riding. And do this again every time the chain even hints at looking dry.

When you wash your bike, you should take your chain off. Never apply chain lube to a chain right after you have washed the bike. It will merely trap the moisture inside and cause the chain to rust internally while it looks great on the outside. If you must wash your bike with the chains on, use a water dispersant, like Bel-Ray 6-in-1, or Kal-Gard 30-30, to get rid of the water, then lube the chain. This is important! •



**ROD BUSH:
WORLD-FAMOUS KTM RIDER**

DIRT BIKE's Husky Swede Dreams Sweepstakes—Page 71

You mean if I renew my
DIRT BIKE subscription now, I
could win a free Husky?
Hmmm... how could I explain
that to the Austrian front office?

CHAINLUBE SHOOTOUT (continued from page 50)

The temperature was a decent 132 degrees and Chain Kote performed well on the stretch test as well. No wear visible.

We bought a 17-ounce can for \$4.95. Cost per ounce: 29 cents. Corrosion: Good.
LUBRI-TECH OFF-ROAD CHAIN LUBE

Aerosol with tube spray tip. Claims to contain moly, but no dark coloration of oil foam was noted. Ran quite cool, but had only average stretch and less-than-average deflection wear. A small section of both link pins showed wear, but nothing serious.

Large 17-ounce can sold for \$4.25. Cost per ounce: 25 cents. Corrosion: Below average.

B.G. CHAIN LUBE

Aerosol with tube spray tip. Comes out as a thick brown foam; very sloppy to apply. Sets to light grease quickly. Contains moly. Ran at an average temperature and also did average on stretch and wear. Medium wear marks were visible on pins, but no galling was evident. Rust was also noted on the pins when checked for wear.

Our 15-ounce can cost \$4.95. Cost per ounce: 33 cents. Corrosion: Poor.

SPECTRO (SQUEEZE BOTTLE)

Non-aerosol plastic squeeze bottle. Thick brown oil—almost a grease—lies on the surface and doesn't appear to penetrate much. Very sloppy to use and a great deal of flings of the moment the chain moves.

It ran reasonably cool and showed very little stretch and not much wear in the deflection test. A check of the internals showed no wear marks.

The three-ounce bottle sells for \$1.50. Cost per ounce: 50 cents. Corrosion: Good.
B.G. ASK CHAIN LUBE

Aerosol with tube tip. Goes on like water and leaves a light, oily film. Lube allowed heavy stretch and side wear; also ran very noisy. Ran among the hottest lubes. Showed heavy galling and wear marks when checked.

We bought a small, six-ounce can for \$2.95, but were told that larger sizes were available. Cost per ounce: 49 cents. Corrosion: Average.

ALCOMETALUBE

Squeeze bottle with applicator tip. Very thick yellowish lube that penetrated well after a few minutes. Messy to use. Had one of the coolest-running temperatures, but stretched worse than average. Very quiet when running.

A 16-ounce bottle sold for \$2.95. Cost per ounce was 18½ cents, one of the most economical. Corrosion: Good.

BEL-RAY RACING

Aerosol can with tube spray tip. This is the old-style Bel-Ray. Maximum Strength is the new lube. It came out as a yellow foam that clung well and thickened up quickly. Very sticky.

It had one of the coolest operating temperatures and excellent stretch characteristics, but average deflection wear. No

wear marks were noted.

We bought a small, seven-ounce can for \$2.75. Cost per ounce: 39 cents. Larger cans are available. Corrosion: Average.

McKAY MOLY LUBE SPRAY

Aerosol can with spray tip only. Came out as a runny, drippy black liquid and dried quickly, like a flat black paint. Stretch and deflection were below average. Chain ran very noisy with this lube. Inspection showed heavy polishing on the pins, but no galling marks.

The five-ounce can sold for \$3.92. Cost per ounce: 78 cents. Corrosion: Poor.

MAXIMA CHAIN GUARD

Aerosol can with spray tube. Comes out thin with a light-brown color and thickens very quickly. Extremely sticky. Ran cool and no galling or wear was noted when the chain was broken apart for inspection.

Stretch was more than average, but side deflection was good.

A 16¼-ounce can retails for \$4.49. Cost per ounce: 27 cents. Corrosion: Below average.

YAMAHA CHAIN LUBE

Aerosol can with tube spray tip. Suitable for O-ring chains and contains moly. Very similar in appearance to Kal-Gard lube; dark-gray foam sets up quickly into a tacky grease. Ran cool and did well in the stretch test and excellent in the deflection test. No wear was noted when the chain was broken down and inspected.

A 14-ounce can sold for \$3.95. Cost per ounce: 28 cents. Corrosion: Good. □

WARNING

Don't Use Street Sprockets On Your Dirt Bike!!

A MAJOR DESIGN BREAKTHROUGH

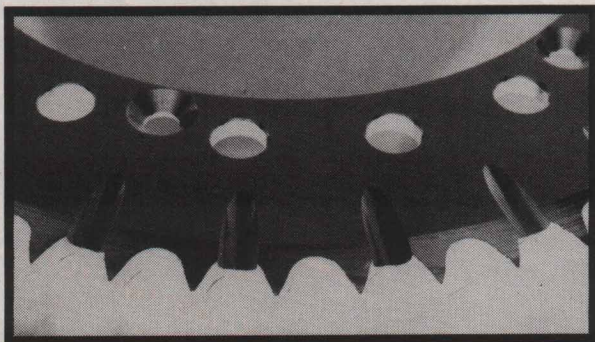
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