

TECHNICAL INFORMATION

FORMULA TO CALCULATE CHAIN:

$$\frac{CD \times 2}{.375} + \frac{TS + BS}{2} = \text{Pitch}$$

CD = Center Distance (Drive Shaft to Jackshaft Centers)

TS = Top Sprocket

BS = Bottom Sprocket

Round number up to even number for proper pitch

HELIX ANGLES

A few different types of helixes are available. A Straight angle helix has the same angle start to finish, the Progressive angle helix is a continuous change from the starting angle to the finish angle and the Stepped helix has a short duration starting angle radiused into a straight angle. An example of the Stepped helix is the Polaris "R" helix or the Dalton "PR" model.

Progressive and Stepped helixes always start with the first degree and finish with the second. The steeper the angle the harder the engine will pull. RPM change is usually about 100 RPM per degree change. As an example changing from a 38 degree to 40 degree will lower RPM about 200.

Team and Arctic helixes have much higher angles due to the helix being a larger diameter.

CHAIN CASE CENTER DISTANCES

Arctic Cat Models	CD (inches)	Polaris Models	CD (inches)	Ski-Doo Models	CD (inches)	Yamaha Models	CD (inches)
All Models	7.5	1996 & Older	6.63	CK3 Chassis	6.85	All Models	7
Proclimb/Procross	10.160	1997-2001 Gen II	7.05	RT	6.89	SR Viper	10.16
Note: The tensioner in the new AC chassis may not allow all combinations		Pro, Rush & 13 up		F & S Chassis	7.09		
		Indy	7.53	ZX & REV	7.48		
		All Edge & 440 IQR	7.92	RT Mach	7.97		
		2006-07 All Fusion & RMK	8.37	RT Summit	9.19		
				REV XP	12.85		

FORMULA TO CALCULATE MPH:

$RPM \div GR \times SC \div 12 \times 60 \div 5280 = MPH$ @ 1:1 clutch ratio

GR = gear ratio (divide top sprocket into bottom sprocket)

SC = sprocket circumference (number of teeth x track pitch)

7T 2.52" Pitch..... 17.64 SC

8T 2.52" Pitch..... 20.16 SC

9T 2.52" Pitch (most OEM) 22.68 SC

10T 2.52" Pitch..... 25.20 SC

7T 2.86" Pitch..... 20.02 SC

8T 2.86" Pitch..... 22.88 SC

7T 3.0" Pitch..... 21.00 SC

8T 3.0" Pitch..... 24.00 SC

7T Convolute 3.29 Pitch..... 23.03 SC

QUICK CHANGE DRIVE CLUTCH ADJUSTMENT

Spacer Shims under spider adjust the belt to sheave clearance. Remember to re-adjust after changing engagement.

Outer Adjusting Nut controls engagement. In is down, out is up. (locking screw must be very tight after adjusting)

When lowering engagement turn dial in. A quarter turn is an approximate 150 RPM change depending on clutch weight used. A quarter turn of the adjusting nut equals a .010" shim change. Turning the dial in pushes the movable sheave closer to the belt so add shim to maintain belt clearance. Do the opposite when raising engagement.

ENGINE/JACKSHAFT CENTERS

(on special build machines be sure to mount engine to match drive belt availability)

10.200" Centers ... 43 5/8" Approximate Belt Length

10.500" Centers ... 44 1/8" Approximate Belt Length

10.563" Centers ... 44 1/2" Approximate Belt Length

10.625" Centers ... 45" Approximate Belt Length

11.375" Centers ... 45 5/8" Approximate Belt Length

11.500" Centers ... 46 5/8" Approximate Belt Length

12.000" Centers ... 47 1/4" Approximate Belt Length

12.200" Centers ... 47 3/4" Approximate Belt Length

12.500" Centers ... 48 3/8" Approximate Belt Length

14.220" Centers ... 51 7/8" Approximate Belt Length

Note Belt length will vary depending on outer belt

SKI CARBIDE PLACEMENT

IFS CHAMP SKI

Standard spindle mounting location is 6 1/2" from rear of ski.

Carbide placement should be centered on ski/spindle bolt.

Moving carbide ahead makes it more aggressive ... too much will result in a bad ending. Moving carbide rearward will make it easier to drive in a straight line but take more effort to turn.

LEAF SPRING SKI

Normal carbide placement is 1" ahead of ski/spindle bolt. Using a square to find that location on ski, place center of carbide 1" ahead of that. Moving carbide ahead will result in more bite but will be more aggressive to drive. Adjust to accommodate different driving styles.

Note Always run toe out, 1/16" to 1/8" works well.