FORMULAE

CHIP LOAD: $\dfrac{\text{FT/MIN X 12}}{\text{T X RPM}}$ X RT

T = NUMBER OF TEETH IN THE TOOL
RT = REQUIRED NUMBER OF TEETH TO MAKE A COMPLETE KERF CUT
RPM = REVOLUTIONS PER MINUTE OF THE SPINDLE ROTATING THE TOOL
FT/MIN = THE FEED RATE PER MINUTE

REQUIRED NUMBER OF TEETH: $\dfrac{\text{FT/MIN X 12}}{\text{C/L X RPM}}$ X 1

C/L = THE REQUIRED CHIP LOAD RECOMMENDED FOR THE TYPE OF WOOD AND THE APPLICATION
RPM = REVOLUTIONS PER MINUTE OF THE SPINDLE ROTATING THE TOOL
FT/MIN = THE FEED RATE PER MINUTE
RT = REQUIRED NUMBER OF TEETH TO MAKE A COMPLETE KERF CUT

PITCH OF A TOOL: $\dfrac{\pi \text{ X D}}{\text{T}}$

D = DIAMETER OF THE TOOL
T = NUMBER OF TEETH YOU WISH TO PLACE IN TOOL
π = 3.1416

SURFACE FEET PER MINUTE: .262 X D X RPM

D = DIAMETER OF THE TOOL
RPM = REVOLUTIONS PER MINUTE OF THE SPINDLE ROTATING THE TOOL

FEED RATE: $\dfrac{\text{C/L X T X RPM}}{\text{12}}$ ÷ RT

T = NUMBER OF TEETH IN THE TOOL
RT = REQUIRED NUMBER OF TEETH TO MAKE COMPLETE KERF CUT
RPM = THE REVOLUTIONS PER MINUTE OF THE SPINDLE ROTATING THE TOOL
C/L = RECOMMENDED CHIP LOAD FOR THE MATERIAL BEING CUT

RPM OF A TOOL: $\dfrac{3.82 \times SFM}{D}$

SFM = SURFACE FEET PER MINUTE
D = DIAMETER OF THE TOOL

KNIFE MARKS PER INCH - MOULDER HEADS: $\dfrac{RPM \times T}{FT/MIN \times 12}$

T = NUMBER OF STRAIGHT EFFECTIVE KNIVES IN THE HEAD
FT/MIN = FEED RATE OF THE MATERIAL
RPM = REVOLUTIONS PER MINUTE OF THE SPINDLE THAT THE MOULDER HEADS ARE RUNNING ON

HOW MANY KNIVES NECESSARY ON A MOULDER HEAD: $\dfrac{K \times FT/MIN \times 12}{RPM}$

K = RECOMMENDED KNIFE MARKS PER INCH
FT/MIN = FEED RATE OF THE MATERIAL
RPM = REVOLUTIONS PER MINUTE OF THE SPINDLE THAT THE MOULDER HEAD IS MOUNTED ON