

Stock Timing Pulleys

Martin

STOCK TIMING PULLEYS

1/5" - 7/8" PTCH
"Q.D." — TAPER BUSHED
AND STOCK BORE



Stock Bore



Taper Bushed



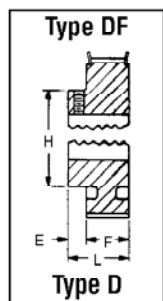
Q.D.

PITCH IN.	PULLEY DESIGNATION
1/8"	XL (Extra Light)
3/16"	L (Light)
1/4"	H (Heavy)
3/8"	XH (Extra Heavy)

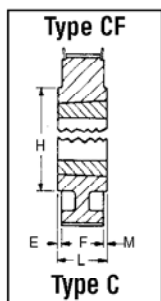
Timing Pulleys are manufactured to extremely close specifications and are stocked in minimum plain bore, Taper Bushed and Q.D. bushed styles depending on size and pitch.

See tables for stock pulley types. Bushings are priced separately and must be added to pulley price.

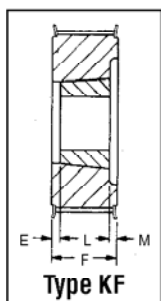
Illustrations below indicate stock pulley construction type listed in tables.



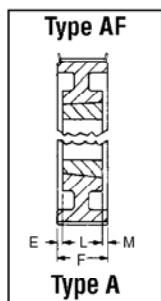
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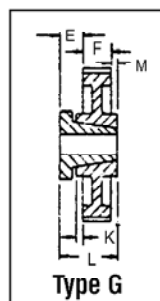
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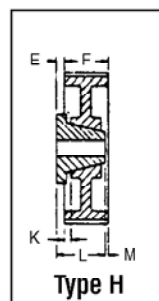
Type KF



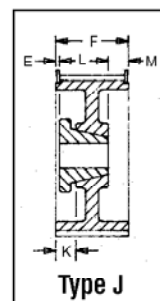
Type AF



Type G



Type H



Type J

"F" designation in pulley type means pulley is flanged. When drive center distance is eight times the diameter of the smaller pulley or when drive is operating on vertical shafts, both pulleys should be flanged.

DEFINITION OF CATALOG NUMBERS

EX: TB 20L100

TB — Requires Taper Bushing

20 — Number of Teeth

L — 3/8" Pitch (Light)

100 — Belt Width 1"

EX: 72L100SD

72 — Number of Teeth

L — 3/8" Pitch (Light)

100 — Belt Width 1"

SD — Requires QD Bushing

EX: 16L100

Min. Plain Bore

Pulley Style Designation As Shown in Tables

Dash 1 = Block Body Style

Dash 2 = Web Style

Dash 3 = Arm/Spoke Style

Size XXH (1-1/4" Pitch).

Available as made-to-order.

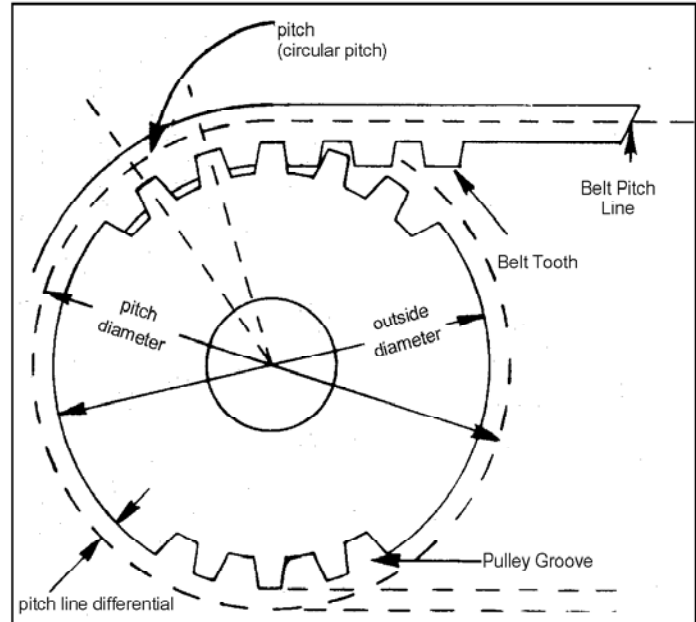
Call your nearest *Martin* facility.

Those pulley sizes shown stocked as stock bore only: max. bore listed is without keyway. If keyway is used reduce max. bore by twice kw depth.

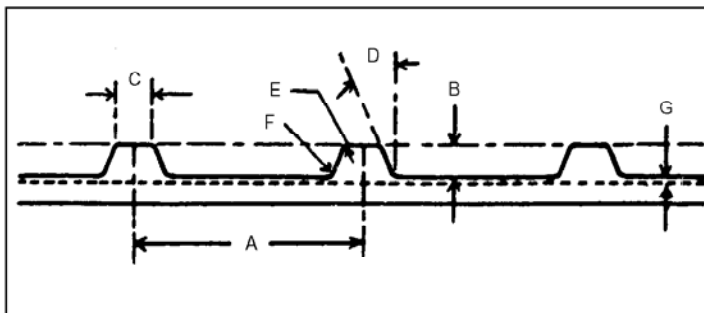
Let us quote your made-to-order and large quantity requirements.

Timing belts and pulleys — in order to handle a wide range of loads, speeds and applications at highest possible efficiencies — are made in five stock pitches. Circular pitch (usually referred to as pitch) is a basic consideration in the selection of timing pulleys as with gear and chain drives. Pitch is the distance between groove centers and is measured on the pulley pitch circle. On the belt, pitch is the distance between tooth centers and is measured on the pitch line of the belt.

The pitch line of the belt is located within the tension member and coincides with the pitch circle of the pulley mating with it. Any timing belt must be run with pulleys of the same pitch. A belt of one pitch cannot be used successfully with pulleys of a different pitch.



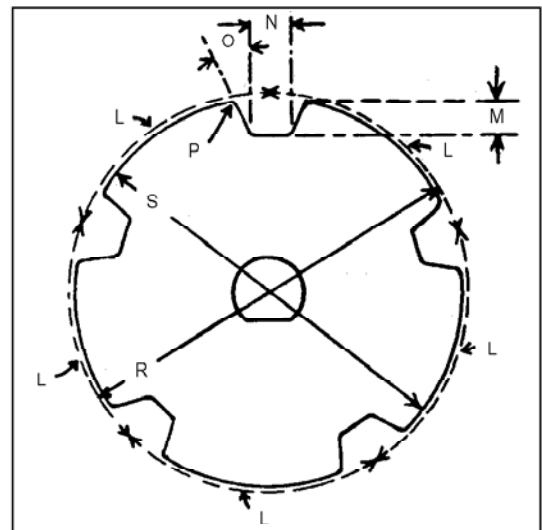
TIMING BELT TERMINOLOGY



- A Pitch of Teeth
- B Depth of Teeth
- C Width at Bottom of Teeth
- D Pressure Angle
- E Radius at Bottom of Teeth
- F Radius at Top of Teeth
- G Pitch Line Differential

Belt P.L. = "A" X Total No. of Teeth in Belt

TIMING PULLEY TERMINOLOGY



- L Circular Pitch of Groove
- M Minimum Depth of Groove, Including Clearance
- N Width of Groove at Minimum Depth, Including Clearance
- O Pressure Angle
- P Top Radius of Groove
- R Pitch Diameter (Always > S)
- S Outside Diameter

Timing Pulley Terminology



Timing Pulleys

Timing pulleys have evenly spaced axial grooves cut in their periphery to make correct, positive engagement with the mating teeth of the belt. These pulleys are so designed that the teeth of the belt enter and leave the grooves with negligible friction. All pulleys, stock and made-to-order, have minimum tooth-to-groove clearance (backlash). The pulley's pitch diameter will always be greater than its outside diameter. Pulleys are available in a wide range of stock widths and diameters.

Minimum Pulley Diameters

pitch	speed rpm	recommended minimum*	
		pitch diam. in.	no. of grooves
1/8 in. (XL)	3500 1750 1160	.764 .637 .637	12 XL 10 XL 10 XL
3/8 in. (L)	3500 1750 1160	1.910 1.671 1.432	16 L 14 L 12 L
1/2 in. (H)	3500 1750 1160	3.183 2.865 2.546	20 H 18 H 16 H
3/4 in. (XH)	1750 1160 870	7.242 6.685 6.127	26 XH 24 XH 22 XH
1 1/4 in. (XXH)	1750 1160 870	10.345 9.549 8.754	26 XXH 24 XXH 22 XXH

*Smaller diameter pulleys can be used if a corresponding reduction in belt service life is satisfactory.

Flanged Pulleys

Because timing belts have an inherent, gentle side thrust, it is necessary to use at least one flanged pulley to prevent the belt from riding off. Generally, for economy, the smaller pulley in each drive is flanged. However, when the center distance is greater than eight times the diameter of the smaller pulley on drive ratios less than 3 to 1, or when the drive is operated on other than horizontal shafts — both pulleys should be flanged. When a drive has three pulleys, at least two should be flanged. If the drive has more than three pulleys, every other pulley should be flanged.

Pulley Diameters

Stock timing belts should not be used over pulley diameters less than those recommended above without expecting some reduction in belt life. This reduced belt life is the result of flex fatigue of the steel tension members in the belt. If pulleys smaller than recommended must be used, the use of special timing belts should be considered.