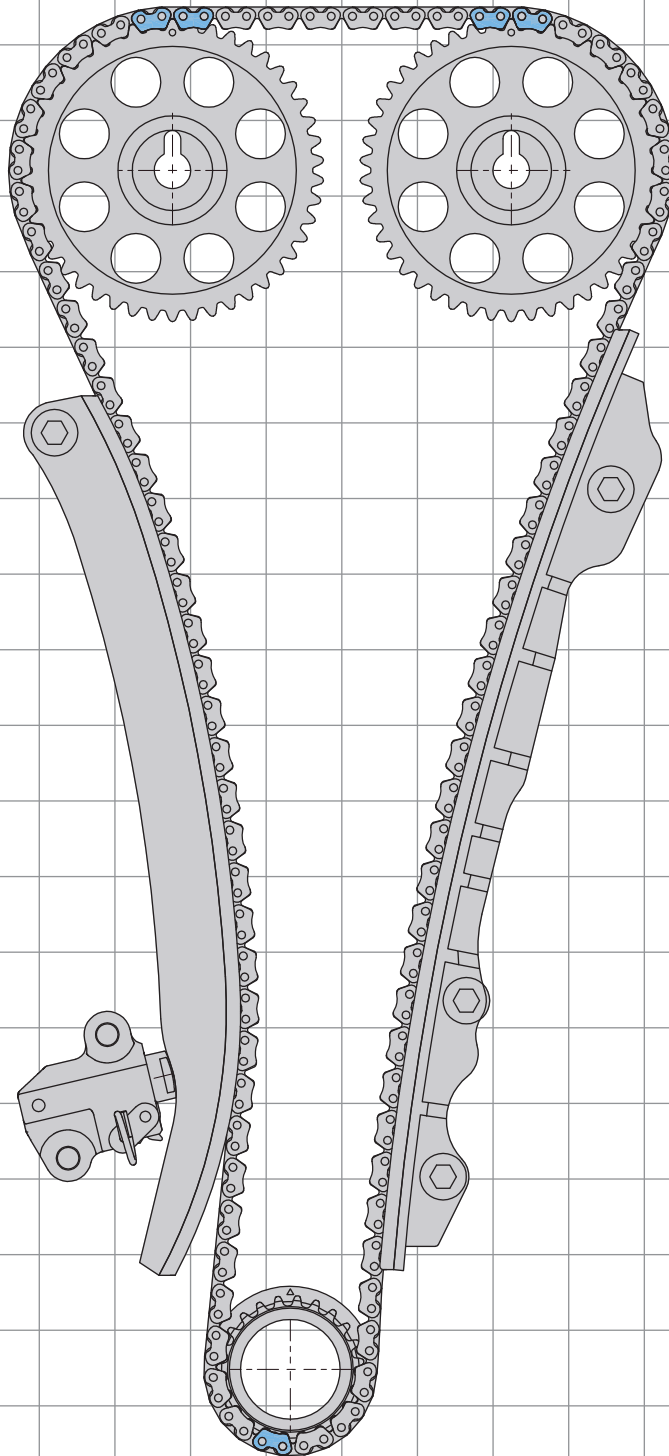


## Timing system for automotive engine



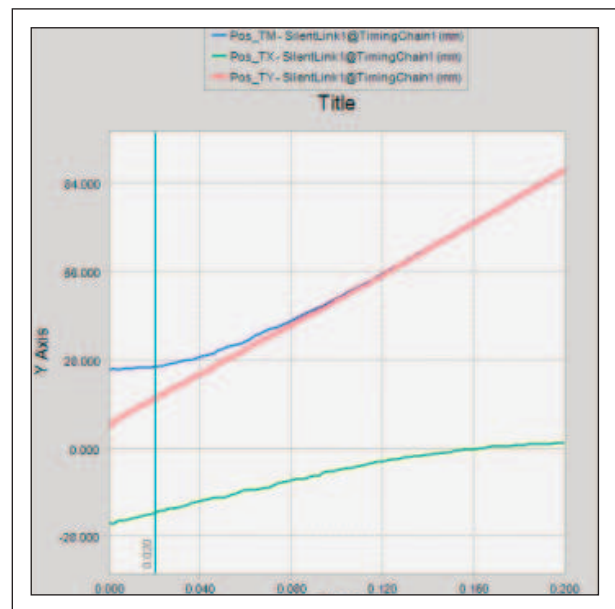
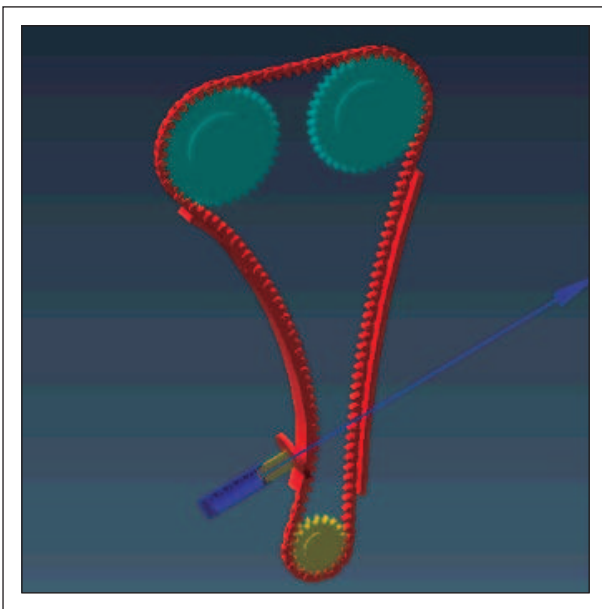
AUTOMOBILE CHAINS & MOTORCYCLE CHAINS

## Timing system for automotive engine

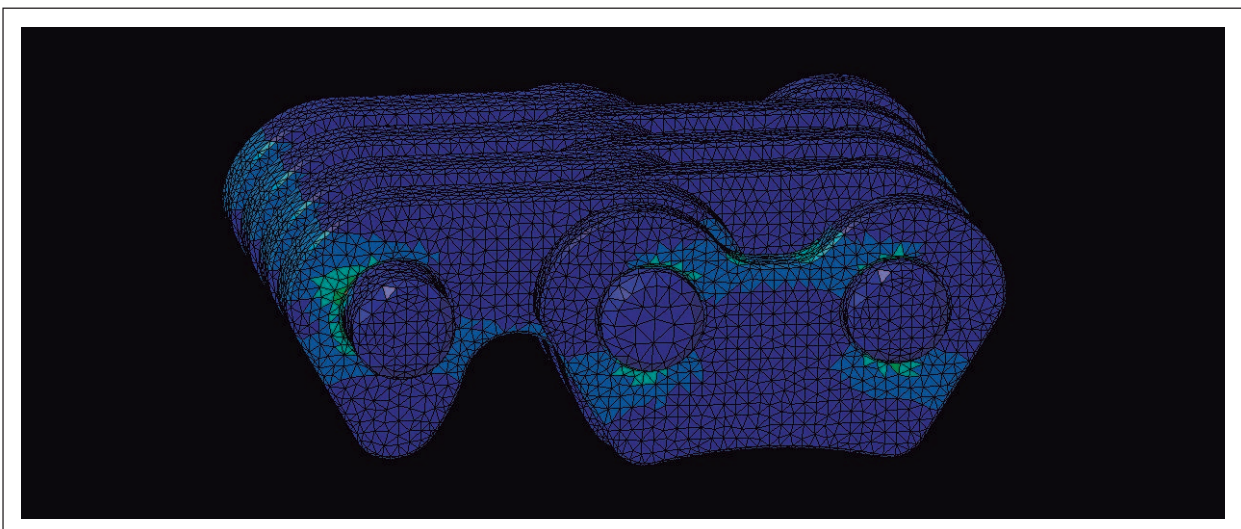
Automotive engine timing system is the important subsystem realizing the gas distribution function of engine.

Donghua can conduct the simulation of timing system and stress distribution analysis of chain.

### Timing system simulation model

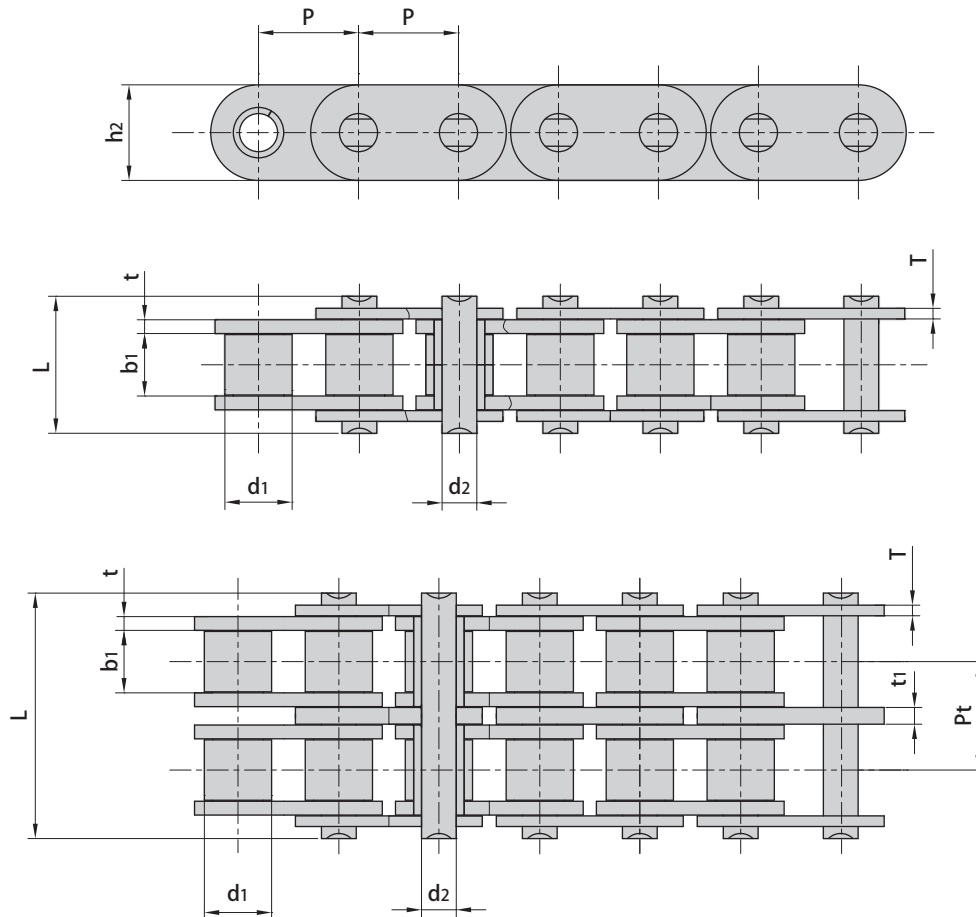


### Chain stress distribution



## Roller chains for engine timing

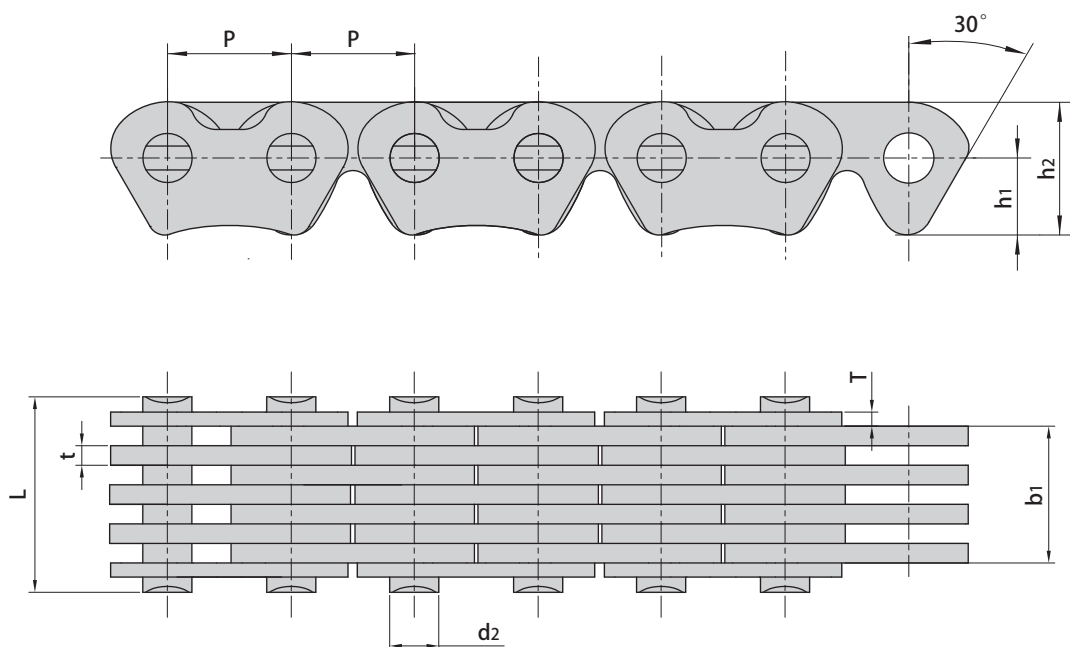
Roller chain for engine timing is mainly used for automobile engine timing system, oil pump, balance shaft and common rail pump drive system etc.. This chain is the key engine component with high strength and durability.



Donghua Chain No.	Pitch	Roller diameter	Width between inner plates	Pin diameter	Pin length	Inner plate depth	Plate thickness		Transverse pitch	Ultimate tensile strength	Weight per meter
	P	d1 max	b1 min	d2 max	L max	h2 max	t/t1 max	T max	Pt	Q min	q
	mm	mm	mm	mm	mm	mm	mm	mm	mm	kN/lbf	kg/m
05E	8.000	5.65	4.60	3.05	12.3	7.65	1.3	1.04	-	7.0/1574	0.38
05BT	8.000	5.65	4.60	3.05	12.3	7.65	1.3	1.20	-	8.5/1912	0.41
06AT	9.525	6.35	3.94	3.28	10.5	8.20	1.3	1.04	-	8.9/2002	0.34
06BT	9.525	6.35	5.72	3.28	12.5	8.20	1.3	1.04	-	9.0/2045	0.38
06BT-2	9.525	6.35	5.72	3.28	22.9	8.20	1.3/1.6	1.04	10.24	16.9/3802	0.67
06BTH-2	9.525	6.35	5.72	3.28	25.1	8.20	1.6	1.20	10.24	17.8/4045	0.84

## Silent chains for engine timing

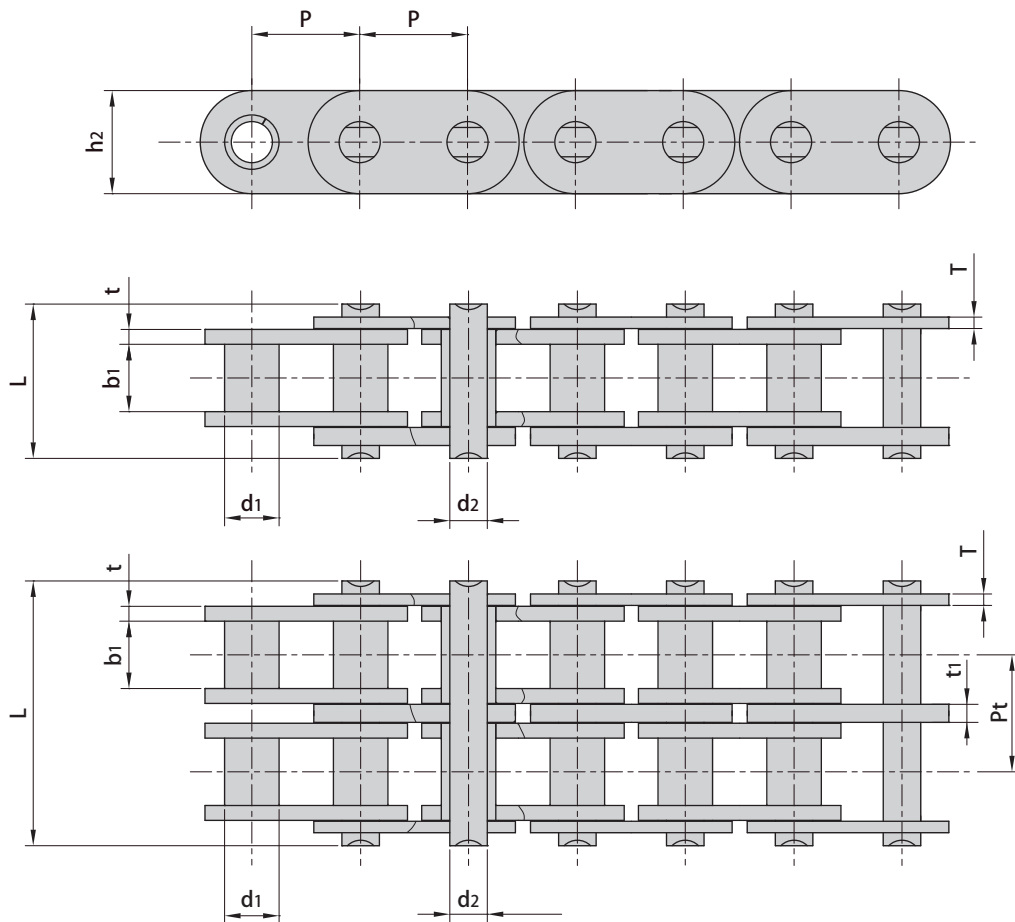
Silent chain for engine timing is mainly used for automobile engine timing system. The chain is the key engine component with excellent performances such as high strength, durability and silencing and so on.



Donghua Chain No.	Pitch	Chain width	Pin diameter	Pin length	Plate depth	Plate thickness		Guide form	Number of plate n	Ultimate tensile strength	Weight per meter q
	P	b <sub>1</sub> min	d <sub>2</sub> max	L max	h <sub>2</sub> max	t max	T max			Q min	
	mm	mm	mm	mm	mm	mm	mm			kN/lbf	
CL04D-4×5W	6.35	7.6	2.40	11.70	6.95	1.2	0.75	Outside	9(4X5)	12.4/2790	0.38
CL05D-4×4W	8.00	7.6	2.92	11.78	9.59	1.3	1.04	Outside	8(4X4)	16.5/3712	0.51
CL05D-3×4W	8.00	6.5	2.92	10.48	9.59	1.3	1.04	Outside	7(3X4)	12.4/2790	0.45

## Bush chains for engine timing

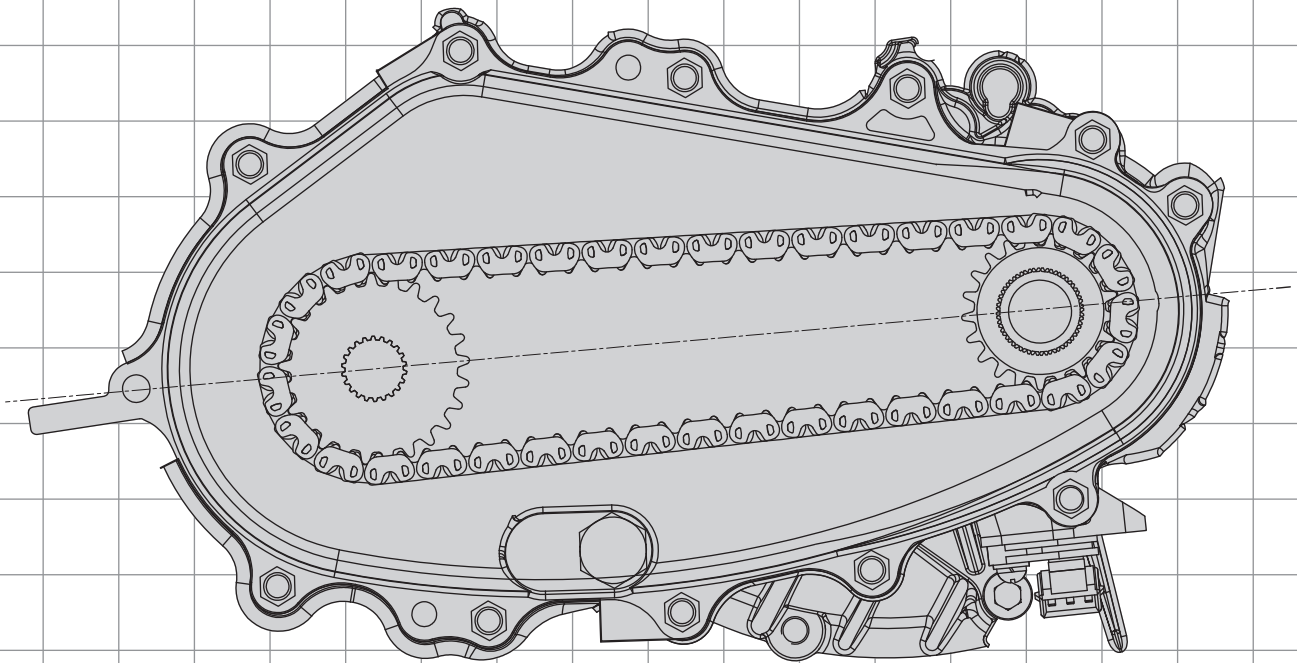
Bush chain for engine timing is mainly used for diesel engine timing system and the balance shaft system etc.. Compared with the roller chain, it has simpler structure and higher wear resistance.



Donghua Chain No.	Pitch	Bush diameter	Width between inner plates	Pin diameter	Pin length	Inner plate depth	Plate thickness		Transverse pitch	Ultimate tensile strength	Weight per meter
	P	d1 max	b1 min	d2 max	L max	h2 max	t/t1 max	T max	Pt	Q min	q
	mm	mm	mm	mm	mm	mm	mm	mm	mm	kN/lbf	kg/m
05CT	8.000	5.00	4.76	3.15	11.8	7.6	1.3	1.04	-	8.5/1932	0.35
06D	9.525	6.35	5.50	4.44	13.9	9.6	1.4	1.30	-	9.0/2024	0.53
C35F2-2	9.525	5.08	4.85	3.28	22.8	8.3	1.6/1.8	1.04	10.13	17.4/3913	0.80

AUTOMOBILE CHAINS & MOTORCYCLE CHAINS

## Transmission & Transfer case silent chains



Round pin type silent chains



Rocker joint type silent chains

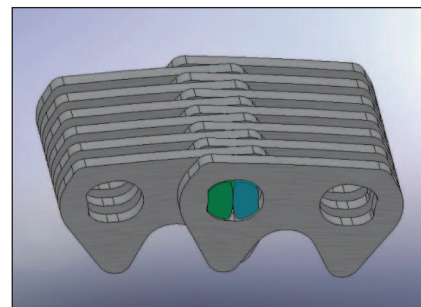
## Transmission & Transfer case silent chains



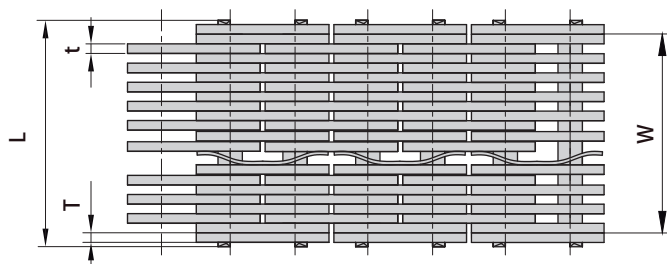
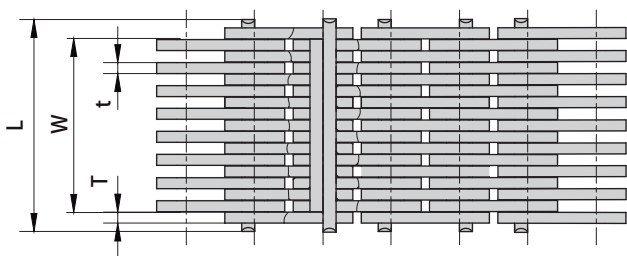
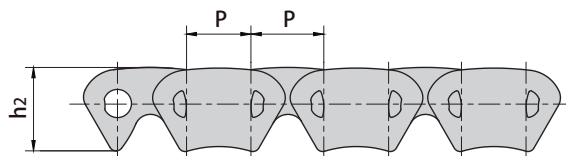
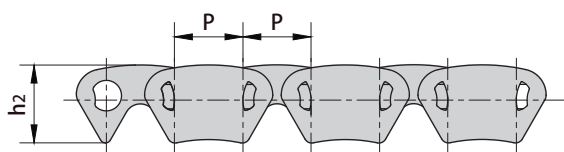
AUTOMOBILE CHAINS & MOTORCYCLE CHAINS

## Rocker joint type silent chains

Rocker joint type silent chain is mainly used for four-wheel drive transfer case and gearbox drive system, which is the core component of the drive system. Special rocker joint pin dual-meshing design makes its structure different from the ordinary round pin type silent chain and thus reducing the polygon effect and noise effectively. This chain has superior performances such as high strength, high wear resistance and transmission of high torque in many conditions etc..



Rocker joint type silent chains

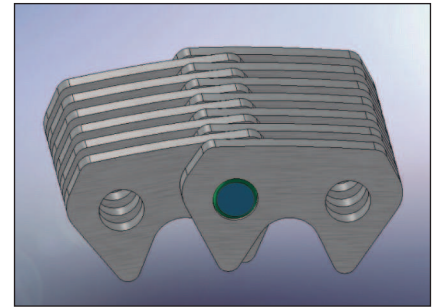


Donghua Chain No.	Pitch	Width Between Guides	Pin length	Plate depth	Plate thickness		Guide type	Number of plate	Ultimate tensile strength	Weight per meter
	P	W	L max	h2 max	t max	T max			Q min	q
	mm	mm	mm	mm	mm	mm			kN/lbf	kg/m
HV3F3-8X9W	9.525	23.25	29.20	10.90	1.55	1.55	Outside	17(8X9)	36/8096	1.5
SC180	11.113	31.41	36.33	13.52	1.55	1.55	Outside	21(9X12)	72/16193	2.4

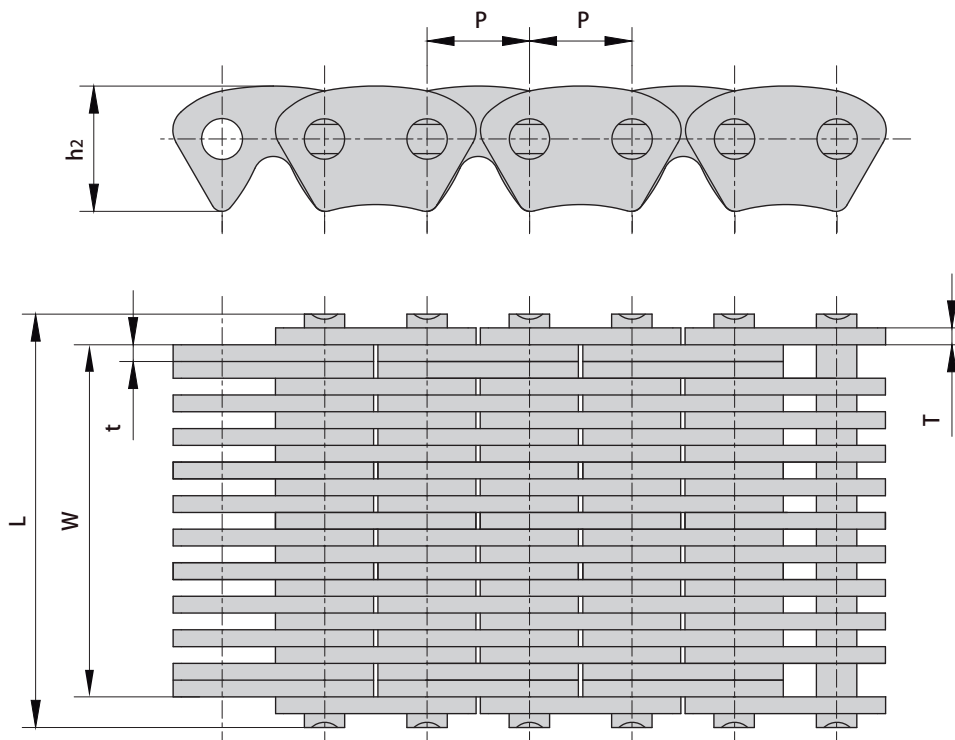


## Round pin type silent chains

Round pin type silent chain is mainly used for transfer case and gearbox assembly drive system, which is the core component of the drive system. The chain is made from superior quality steel and the plates of which are austempered, which is especially suitable for various conditions such as high strength, high wear resistance, low noise and big torque etc..

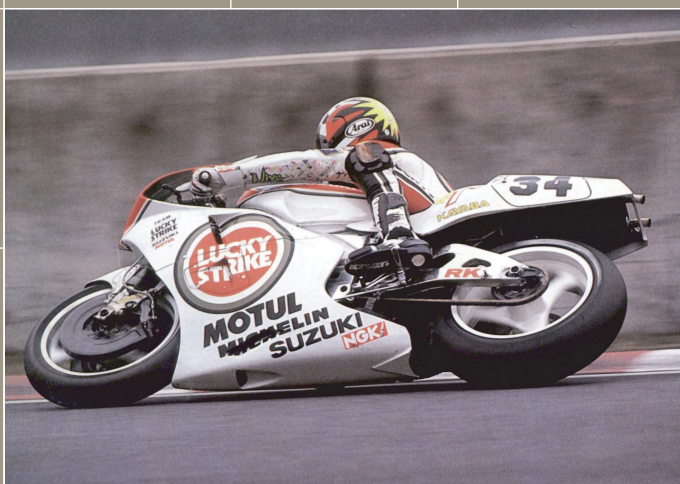


Round pin type silent chains



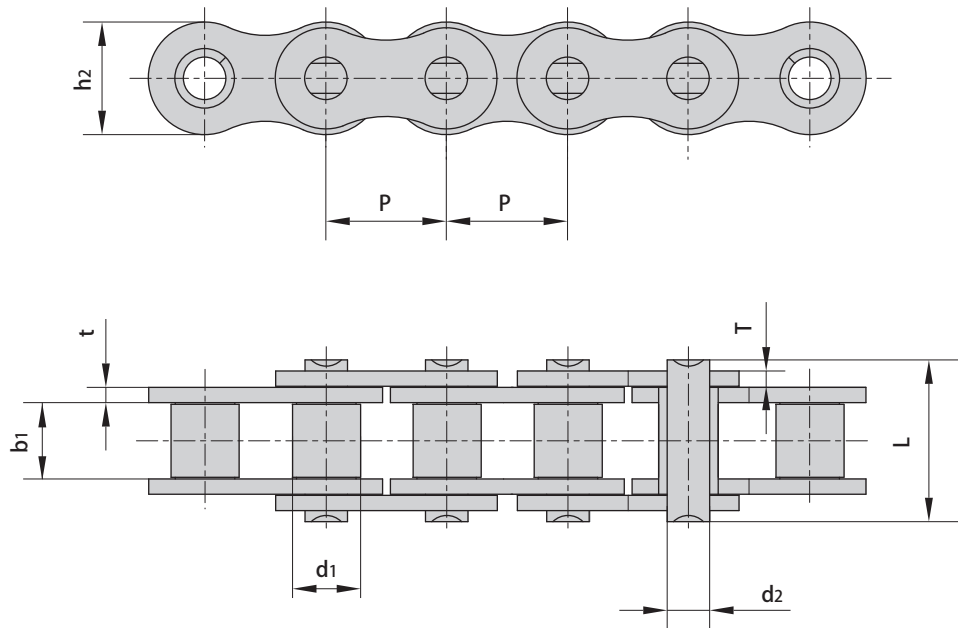
Donghua Chain No.	Pitch	Width Between Guides	Pin length	Plate depth	Plate thickness		Guide type	Number of plate	Ultimate tensile strength	Weight per meter
	P	W	L max	h2 max	t max	T max			Q min	q
	mm	mm	mm	mm	mm	mm			kN/lbf	kg/m
CL06F2-12X11W	9.525	32.55	38.20	11.6	1.55	1.55	Outside	23(12X11)	68/15293	2.2
SC1252-11X10W	12.780	30.00	36.72	15.5	1.55	1.55	Outside	21(11X10)	80/17992	2.8

## MOTORCYCLE CHAINS



## Motorcycle chains

Engine chains

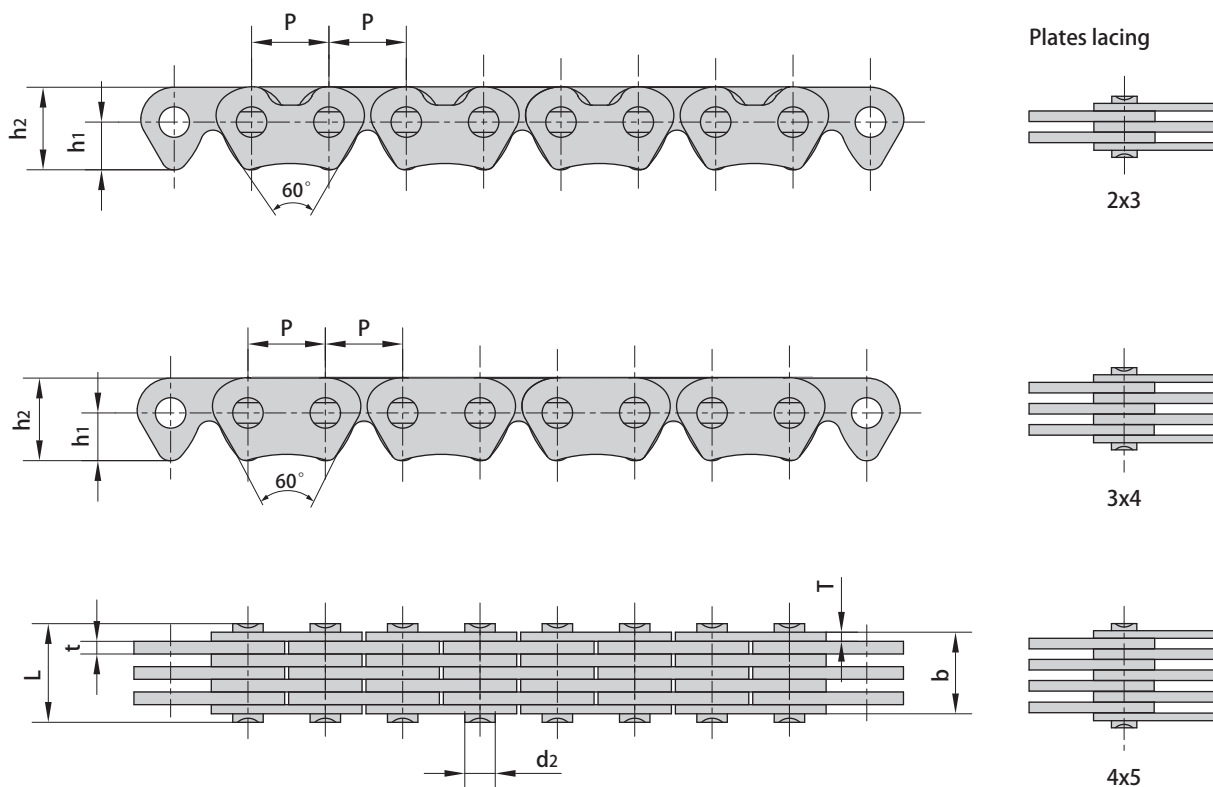


ISO Chain No.	Donghua Chain No.	Pitch	Bush diameter	Width between inner plates	Pin diameter	Pin length	Inner plate depth	Plate thickness	Ultimate tensile strength	Average tensile strength	Weight per meter
		p	d1 max	b1 min	d2 max	L max	h2 max	t/T max	Q min	Q0	q
		mm	mm	mm	mm	mm	mm	mm	kN/lbf	kN	kg/m
04C	25	6.350	3.30	3.18	2.31	7.90	6.00	0.80	3.5/795	4.6	0.15
25H	25H	6.350	3.30	3.18	2.31	8.90	6.00	1.04	4.8/1091	5.5	0.17
-	25H(E)	6.350	3.30	3.18	2.31	8.90	6.00	1.04	5.8/1304	6.4	0.18
-	25HF2	6.350	3.30	3.18	2.31	9.10	5.80	1.2/1.10	5.8/1304	6.4	0.19
219H	219H	7.774	4.59	5.00	3.01	11.90	7.40	1.2/1.04	7.3/1641	8.0	0.28
-	*C219H	7.774	4.59	5.00	3.01	11.90	7.40	1.2/1.04	7.3/1641	8.0	0.33
-	219HF1	7.785	4.60	4.50	3.28	13.00	7.00	2.0/1.40	9.0/2024	9.8	0.37
270H	270H	8.500	5.00	4.75	3.28	13.15	8.45	1.8/1.40	10.8/2428	11.9	0.43

\*Straight sided plates

## Motorcycle chains

### Engine silent chains



Plates lacing

2x3

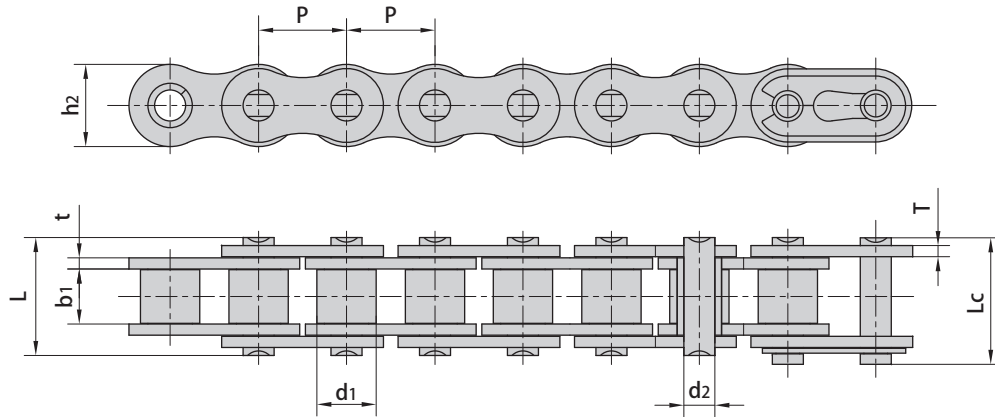
3x4

4x5

AUTOMOBILE CHAINS & MOTORCYCLE CHAINS

Donghua Chain No.	Pitch	Chain width	Pin diameter	Pin length	Distance from hole center to tooth	Plate depth	Plate thickness	Guide type	Number of plates	Ultimate tensile strength	Average tensile strength	Weight per meter
	P	b <sub>max</sub>	d <sub>2 min</sub>	L <sub>max</sub>	h <sub>1</sub>	h <sub>2 max</sub>	t/T <sub>max</sub>		n	Q <sub>min</sub>	Q <sub>0</sub>	q
	mm	mm	mm	mm	mm	mm	mm			kN/lbf	kN	kg/m
CL04-2×3	6.35	4.35	2.50	6.05	3.94	6.80	1.04/0.75	Outside	5(2×3)	5.19/1179	5.4	0.22
CL04-3×4	6.35	6.35	2.50	8.20	3.90	6.72	1.04/0.75	Outside	7(3×4)	8.82/2004	9.2	0.28
CL04-4×5	6.35	9.40	2.50	10.90	3.90	6.72	1.04	Outside	9(4×5)	11.76/2672	12.3	0.35

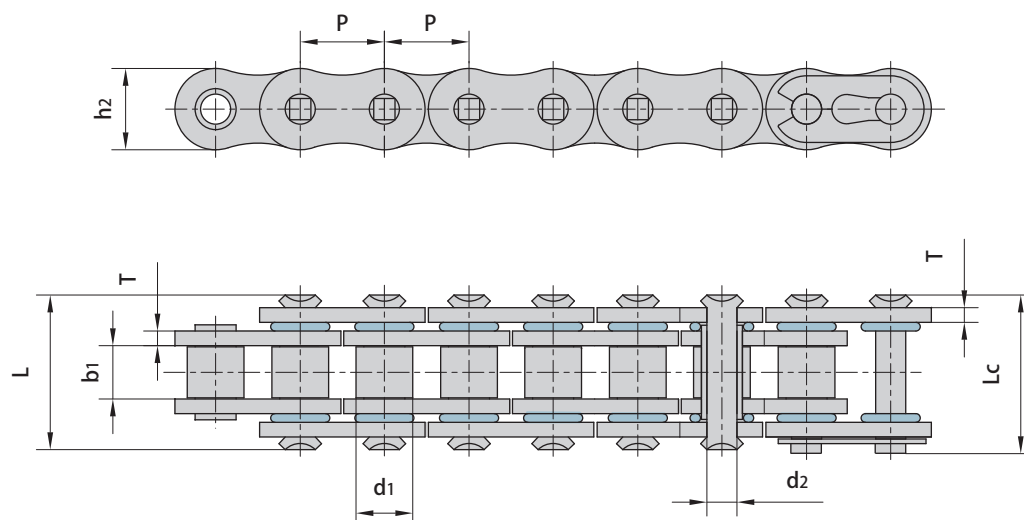
## Motorcycle chains



ISO Chain No.	Donghua Chain No.	Pitch	Roller diameter	Width between inner plates	Pin diameter	Pin length		Inner plate depth	Plate thickness	Ultimate tensile strength	Average tensile strength	Weight per meter
		P	d1 max	b1 min	d2 max	L max	Lc max	h2 max	t/T max	Q min	Q0	q
		mm	mm	mm	mm	mm	mm	mm	mm	kN/lbf	kN	kg/m
-	*T3F	9.525	6.00	9.50	4.50	18.60	20.00	9.30	1.85/1.50	11.80/2653	13.6	0.61
420	420	12.700	7.77	6.25	3.96	14.70	16.10	12.00	1.50	16.00/3597	17.6	0.55
-	420F3	12.700	7.77	6.40	3.97	15.00	16.60	11.80	1.60/1.45	16.00/3597	17.6	0.64
-	420HF1	12.700	7.77	6.25	3.96	17.00	18.40	12.00	2.03	16.00/3597	17.6	0.76
-	420HT	12.700	7.77	6.25	3.96	17.00	-	12.00	2.03	21.40/4811	23.5	0.76
428	428	12.700	8.51	7.75	4.45	16.70	18.20	11.80	1.60	17.80/4002	19.6	0.70
-	428F1	12.700	8.51	7.94	4.50	16.70	18.05	11.80	1.60	17.15/3855	19.4	0.71
-	428DS	12.700	8.51	7.94	4.45	17.90	19.30	12.00	1.85	18.62/4186	21.0	0.76
428MH	428H	12.700	8.51	7.85	4.45	18.80	19.90	11.80	2.03	20.60/4631	23.4	0.79
-	428HF1	12.700	8.51	7.85	4.45	17.90	19.00	11.80	1.80	19.50/4384	20.7	0.74
-	428HSH	12.700	8.51	7.75	4.45	20.00	-	12.00	2.42	27.00/6070	29.4	0.89
-	428HF4	12.700	8.51	7.94	4.50	18.90	20.10	11.80	2.03	20.50/4609	23.4	0.82
-	428HD	12.700	8.51	7.85	4.45	18.80	19.90	11.80	2.03	20.60/4631	23.4	0.85
520	520	15.875	10.16	6.25	5.08	17.50	19.00	15.09	2.03	26.50/5957	29.7	0.89
-	520F2	15.875	10.16	6.35	5.24	17.50	19.05	15.09	2.03	26.50/5957	29.7	0.97
-	520F3	15.875	10.16	6.48	5.08	17.50	19.00	15.09	2.03	26.50/5957	29.7	0.89
520MH	520MH	15.875	10.22	6.25	5.25	19.00	21.20	15.30	2.20	30.50/6857	33.6	-
-	520HF2	15.875	10.22	6.25	5.30	19.30	-	15.30	2.42	32.00/7194	35.2	1.25
-	520HF3	15.875	10.22	6.25	5.30	19.80	-	15.30	2.80/2.42	40.00/8992	44.0	1.36
-	520HF4	15.875	10.16	6.25	5.08	19.30	20.80	15.09	2.42	26.50/5957	29.7	1.10
-	520HD	15.875	10.16	6.35	5.34	18.60	20.00	15.09	2.20	35.00/7868	38.5	1.04
525	525	15.875	10.16	7.95	5.08	19.30	20.70	15.09	2.03	26.50/5957	29.7	1.06
525MH	525MH	15.875	10.22	7.85	5.25	21.20	23.20	15.30	2.20	30.50/6857	33.6	-
-	525HF1	15.875	10.16	7.95	5.08	20.90	22.30	15.09	2.42	26.50/5957	29.7	1.20
530	530	15.875	10.16	9.40	5.08	20.70	22.20	15.09	2.03	26.50/5957	29.7	1.06
-	530SH	15.875	10.16	9.40	5.08	22.10	-	15.09	2.42	32.80/7374	33.5	1.24
630	630	19.050	11.91	9.40	5.96	24.00	26.20	18.60	2.42	35.30/7936	38.8	-

\*Bush chain: d1 in the table indicates the external diameter of the bush.

## O-Ring motorcycle chains



Donghua Chain No.	Pitch	Roller diameter	Width between inner plates	Pin diameter	Pin length		Inner plate depth	Plate thickness	Ultimate tensile strength	Average tensile strength	Weight per meter
	P	d1 max	b1 min	d2 max	L max	Lc max	h2 max	T max	Q min	Q0	q
	mm	mm	mm	mm	mm	mm	mm	mm	kN/lbf	kN	kg/m
420 OR	12.700	7.77	6.25	3.96	16.65	17.95	12.00	1.50	16.0/3599	17.00	0.62
428HVS	12.700	8.51	7.94	4.45	21.70	22.70	12.30	2.03	22.0/4946	23.00	0.85
50LD	15.875	10.16	9.53	5.08	23.40	24.60	15.09	2.03	22.2/5045	26.50	1.12
520 OR	15.875	10.16	6.70	5.30	21.20	22.30	15.09	2.20	32.0/7200	34.00	1.11
520F1 OR	15.875	10.16	6.25	5.30	21.20	22.30	15.09	2.20	32.0/7200	34.00	1.09
520F2 OR	15.875	10.16	9.65	5.30	24.10	25.50	15.09	2.20	32.0/7200	34.00	1.21
520V6	15.875	10.16	6.25	5.08	19.80	21.30	15.09	2.03	22.2/5045	26.50	0.96
520H OR	15.875	10.16	6.25	5.24	21.52	22.92	15.09	2.42	26.5/6022	29.60	1.26
525 OR	15.875	10.16	7.95	5.30	21.50	22.90	15.09	2.03	26.5/6022	29.60	1.30
525F1 OR	15.875	10.16	7.95	5.30	23.10	24.00	15.09	2.20	32.0/7200	34.00	1.16
525H OR	15.875	10.16	7.95	5.30	23.10	24.50	15.09	2.42	26.5/6022	29.60	1.44
530H OR	15.875	10.16	9.53	5.24	24.80	26.20	15.09	2.42	29.0/6524	30.00	1.39
630F1 OR	19.050	11.91	9.53	5.94	25.50	27.30	18.00	2.42	31.8/7149	35.00	1.50