

COMBINATION CHAIN



Moline Combination Chain is used extensively in the cement, paper and pulp, quarrying, and mining industries for elevating and conveying a wide variety of abrasive and non-abrasive materials. It is also finding many uses in general industrial assembly conveyors. It is not recommended for drive chain.

The construction of Moline Combination Chain can be either cottered or riveted. Cottered is normally considered standard. Pins have flat areas at their ends, which lock into the appropriately punched sidebars, preventing pin rotation during chain operation. All pin holes are clean-cored for smooth bearing surfaces and are dimensioned for proper pin clearance. Industry dimensional standards are rigidly maintained and this chain may be interchanged with links of other manufacturers.

Pitch sizes range from 1.631 to 6.050 inches; tensile strength range extends from 12,150 to 67,500 pounds. All Moline Combination block links except C55 and C55L have elliptical barrels. This adds extra metal where the sprocket to chain contact causes most chain wear.

MBP 132C has chambered barrels containing grease which lubricates pins, helps to avoid joint freezing, and prohibits entry of corrosive and abrasive material into the barrel core.

Attachments are available in many of the pitch sizes for a wide range of applications.

Combination links are symmetrical and may therefore be operated in either direction of travel.

Brutaloy and cast steel sprockets are available for each pitch size.

COUPLER LINKS FOR COMBINATION CHAIN

Coupler links are required for joining chain where no take-up is available. Each chain pitch size has a Promal cast off-set sidebar coupler link available for this purpose.

COMBINATION CHAIN MATERIALS

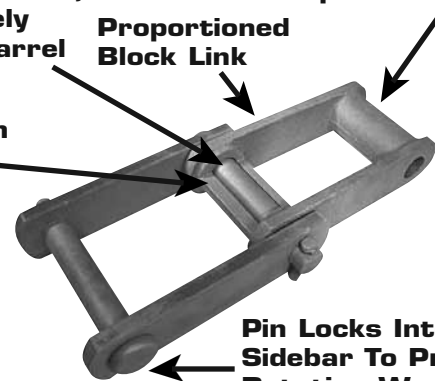
MOLINE CHAIN NO.	MATERIALS		
	BLOCK LINKS (Inside Links)	SIDEBARS (Outside Links)	PINS
C55		Carbon Steel, Heat Treated	
C 55L		Carbon Steel, Heat Treated	
C 60		Carbon Steel, Heat Treated	
C 77		Carbon Steel, Heat Treated	
C 102B		Carbon Steel, Heat Treated	
C 1021/2	ALL NUMBERS	Carbon Steel, Heat Treated	ALL NUMBERS
C 110		Carbon Steel, Heat Treated	
C 111		Carbon Steel, Heat Treated	
C 111C		Carbon Steel, Heat Treated	
C 131		Carbon Steel, Heat Treated	
C 132	MOLINE PROMAL	Carbon Steel, Heat Treated	Carbon Steel, Heat Treated
MBP 132		Carbon Steel, Heat Treated	
MBP 132C		Carbon Steel, Heat Treated	
PW 132		Carbon Steel, Heat Treated	
C 133		Carbon Steel, Heat Treated	
C 188		Carbon Steel, Heat Treated	
BRH 188		Carbon Steel, Heat Treated	

Pin Manufactured to Exact Diameter, Fits Accurately Into Cored Barrel

Accurately Proportioned Elliptical Barrels

Proportioned Block Link

Exposed Plain Barrel

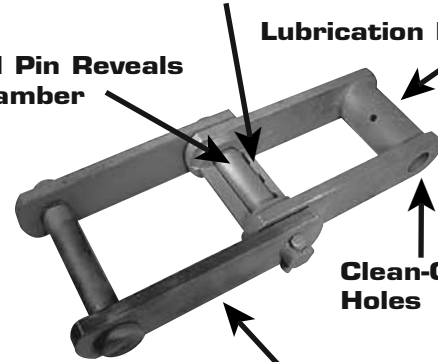


Pin Locks Into Sidebar To Prevent Rotation Wear

Exposed Chambered Barrel

Lubrication Holes

Phantom Pin Reveals Grease Chamber



Clean-Cored Holes

Steel Sidebars

WEIGHTS OF COMBINATION CHAIN PARTS

MOLINE CHAIN NO.	AVERAGE WEIGHT IN LBS.			
	COUPLERS	PLAIN BLOCK LINKS	STEEL PINS WITH COTTERS	STEEL RIVETS
C 55	0.3	0.3	0.1	0.1
C 77	0.4	0.4	0.1	0.1
C 102B	1.9	1.8	0.4	0.4
C 110	2.6	3.1	0.4	0.4
C 111	3.3	3.5	0.7	0.7
C 132	6.1	6.0	1.5	1.5
MBP 132	6.1	8.2	1.5	1.5
MBP 132C	6.1	8.2	1.5	1.5
PW 132	6.1	9.8	1.5	1.5
C 188	0.7	0.7	0.2	0.2
BRH 188	0.7	1.2	0.2	0.2



COMBINATION CHAIN

ORDERING AND APPLICATION DATA

	MOLINE CHAIN NO.	PITCH IN INCHES	LINKS PER 10 FEET	WEIGHT PER FOOT LBS.	AVERAGE ULTIMATE STRENGTH LBS.	RECOMMENDED MAXIMUM WORKING LOAD LBS.	CHAIN CONSTRUCTION	AVAILABLE ATTACHMENTS
1.631" PITCH CHAIN	C 55	1.631	74	2.2	12,150	1,400	Riveted or Cottered*	A22, G19, F30, K1
	C 55L	1.631	74	2.5	12,150	1,400	Riveted or Cottered*	None
2.307" PITCH CHAIN	C 60	2.307	52	3.0	25,300	2,620	Riveted or Cottered*	None
2.308" PITCH CHAIN	C 77	2.308	52	2.3	14,850	1,640	Riveted or Cottered [©]	F2 K1
2.609" PITCH CHAIN	C 188	2.609	46	3.6	18,900	2,350	Riveted or Cottered [©]	F2, G6, K1, K2, S1
	BRH 188	2.609	46	4.8	18,900	2,350	Riveted or Cottered [©]	None
3.075" PITCH CHAIN	C 131	3.075	39	6.8	32,400	3,880	Riveted or Cottered [©]	F2, G6, K2
4.000" PITCH CHAIN	C 102B	4.000	30	6.8	32,400	5,400	Riveted or Cottered [©]	K2
4.040" PITCH CHAIN	C 102 1/2	4.040	30	9.5	48,600	6,530	Riveted or Cottered [©]	K2, S1
4.760" PITCH CHAIN	C 111	4.760	25.5	9.4	48,600	7,590	Riveted or Cottered [©]	K2, S1
	C 111C	4.760	25.5	9.4	48,600	7,590	Riveted or Cottered [©]	K2, S1
6.000" PITCH CHAIN	C 110	6.000	20	6.3	32,400	5,380	Riveted or Cottered [©]	K2
	C 133	6.000	20	8.8	60,000	5,900	Riveted or Cottered [©]	None
6.050" PITCH CHAIN	C 132	6.050	20	13.4	67,500	11,250	Riveted or Cottered [©]	K2, S1
	PW 132	6.050	20	16.1	67,500	11,250	Riveted or Cottered [©]	S1
	MBP 132	6.050	20	15.7	67,500	11,250	Riveted or Cottered [©]	S1
	MBP 132C	6.050	20	15.7	67,500	11,250	Riveted or Cottered [©]	S1

*Furnished with pin heads all on same side. [©]Alternating pin heads are standard; can be supplied same side if specified.

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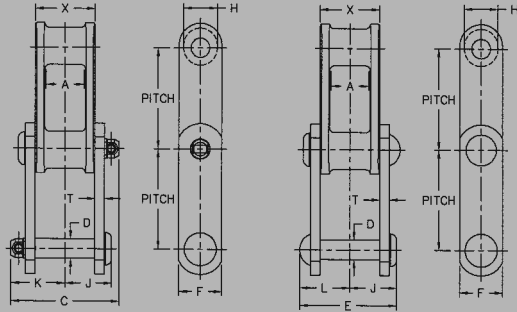
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COMBINATION CHAIN



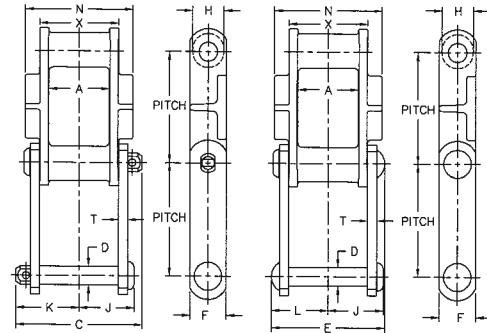
“C” Type Combination Chain



Cottered

Riveted

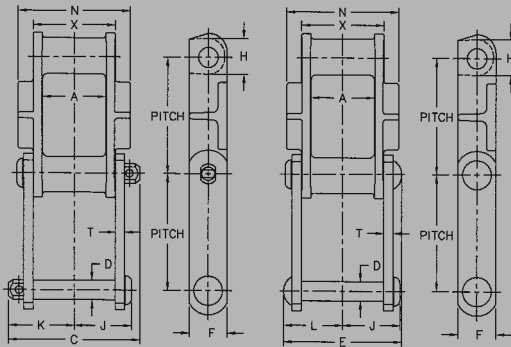
“MBP” Type Combination Chain



Cottered

Riveted

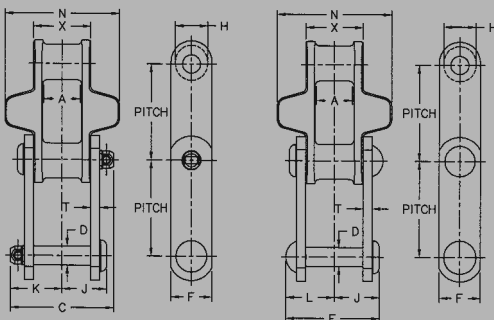
“PW” Type Combination Chain



Cottered

Riveted

“BRH” Type Combination Chain

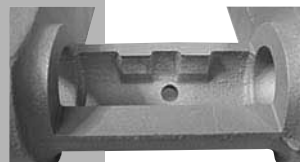


Cottered

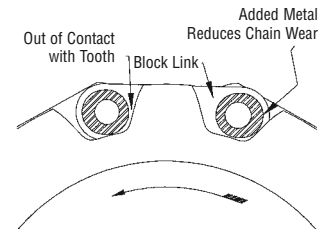
Riveted

Chambered Barrel

Grease in chambers keeps pin lubricated to avoid freezing. Prevents entry of corrosive materials which cause pin and barrel wear.



Elliptical Barrel





COMBINATION CHAIN

MOLINE CHAIN NO.	PITCH	DIMENSIONS IN DECIMAL INCHES												
		A MAXIMUM ALLOWABLE SPROCKET FACE	C OVER-ALL WIDTH— COTTERED	D DIAMETER OF PIN	E OVERALL-WIDTH— RIVETED	F HEIGHT OF SIDEBAR	H DIAMETER OF BARREL	J HEAD OF PIN TO CENTER LINE	K END OF PIN TO CENTER LINE—COTTERED	L END OF PIN TO CENTER LINE—RIVETED	N WIDTH OF WEARING SHOE	T THICKNESS SIDEBAR	X OVER-ALL LENGTH OF BARREL	
1.631" PITCH CHAIN														
C 55	1.631	0.69	2.06	0.375	1.97	0.75	0.72	0.97	1.09	1.00	—	0.19	1.25	
C 55L	1.631	0.69	2.06	0.375	1.97	0.75	0.72	0.97	1.09	1.00	—	0.19	1.25	
2.307" PITCH CHAIN														
C 60	2.307	0.88	2.94	0.500	2.88	1.00	0.75	1.31	1.44	1.31	—	0.25	1.69	
2.308" PITCH CHAIN														
C 77	2.308	0.69	2.38	0.437	2.25	0.88	0.72	0.97	1.19	1.12	—	0.19	1.25	
2.609" PITCH CHAIN														
C 188	2.609	0.94	2.69	0.500	2.50	1.12	0.88	1.25	1.44	1.25	—	0.25	1.56	
BRH 188	2.609	0.94	2.69	0.500	2.50	1.12	0.88	1.25	1.44	1.25	3.12	0.25	1.56	
3.075" PITCH CHAIN														
C 131	3.075	1.12	3.75	0.625	3.50	1.50	1.22	1.62	1.88	1.75	—	0.38	2.06	
4.000" PITCH CHAIN														
C 102B	4.000	2.00	4.56	0.625	4.38	1.50	0.97	2.06	2.28	2.19	—	0.38	2.91	
4.040" PITCH CHAIN														
C 102 1/2	4.040	2.00	5.00	0.750	4.38	1.75	1.38	2.12	2.50	2.19	—	0.38	2.91	
4.760" PITCH CHAIN														
C 111	4.760	2.38	5.44	0.750	5.00	1.75	1.44	2.38	2.72	2.50	—	0.38	3.38	
C 111C	4.760	2.38	5.44	0.750	5.00	1.75	1.44	2.38	2.72	2.50	—	0.38	3.38	
6.000" PITCH CHAIN														
C 110	6.000	1.94	4.56	0.625	4.38	1.50	1.25	2.06	2.28	2.19	—	0.38	2.88	
C 133	6.000	1.25	4.31	0.875	4.00	2.00	1.75	1.81	2.16	2.00	—	0.38	2.88	
6.050" PITCH CHAIN														
C 132	6.050	3.04	6.75	1.000	6.50	2.00	1.72	3.06	3.38	3.25	—	0.50	4.31	
PW 132	6.050	3.04	6.75	1.000	6.50	2.00	1.72	3.06	3.38	3.25	5.88	0.50	4.31	
MBP 132	6.050	3.04	6.75	1.000	6.50	2.00	1.72	3.06	3.38	3.25	5.88	0.50	4.31	
MBP 132C	6.050	3.04	6.75	1.000	6.50	2.00	1.72	3.06	3.38	3.25	5.88	0.50	4.31	

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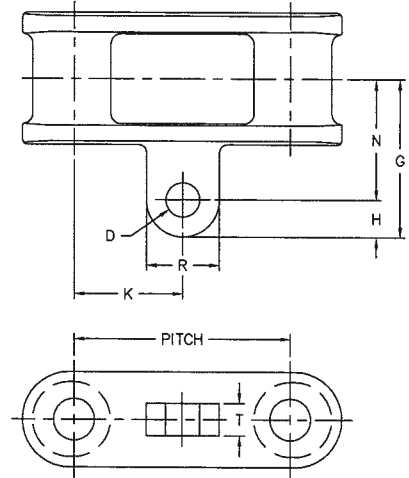
COMBINATION CHAIN ATTACHMENTS



A22 ATTACHMENT

A22 Attachments for
Chain No. C 55 are
Sidebar Attachments.

A22 Attachments for
Chain No. C 188 are
Block Link
Attachments as
illustrated.



MOLINE ATTACHMENT NO.	DIMENSIONS IN DECIMAL INCHES									AVERAGE WEIGHT PER FOOT LBS.*
	PITCH	D		G	H	K	N	R	T	
		BOLT DIAMETER	HOLE DIAMETER							
C 55-A22	1.631	0.31	0.34	1.94	0.44	0.81	1.50	0.75	0.25	2.9
C 188-A22	2.609	0.38	0.41	1.88	0.44	1.31	1.44	0.88	0.38	3.8

*Attachment every 2nd pitch.

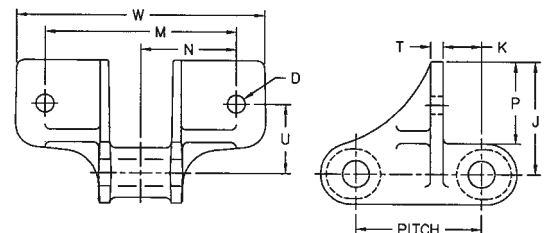
MOLINE ATTACHMENT NO.	DIMENSIONS IN DECIMAL INCHES											AVERAGE WEIGHT PER FOOT LBS.*
	PITCH	D		J	K	M	N	P	T	U	W	
		BOLT DIAMETER	HOLE DIAMETER									
C 77-F2	2.308	0.31	0.34	1.94	1.31	1.75	0.88	1.50	0.25	1.38	2.56	3.0
C 131-F2	3.075	0.38	0.44	2.75	0.94	4.69	2.34	2.00	0.31	1.69	6.12	9.0
C 188-F2	2.609	0.31	0.34	2.19	1.25	2.00	1.00	1.62	0.31	1.50	2.75	4.5

*Attachment every 2nd pitch.

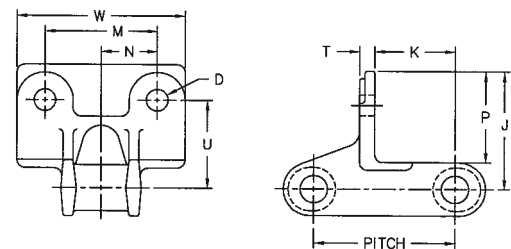
F2 ATTACHMENT

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C 131-F2



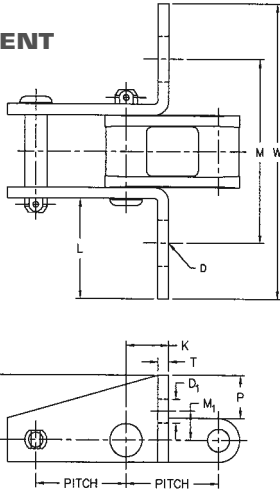
C 77-F2
C 188-F2





COMBINATION CHAIN ATTACHMENTS

F30 ATTACHMENT



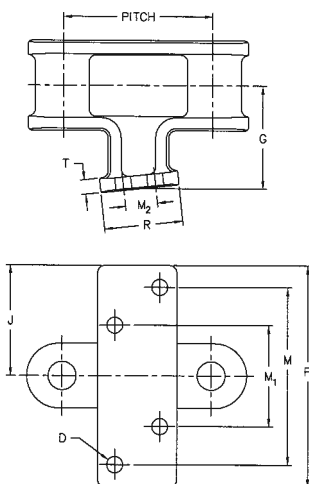
MOLINE ATTACHMENT NO.	DIMENSIONS IN DECIMAL INCHES											AVERAGE WEIGHT PER FOOT LBS.*
	PITCH	D SLOT LENGTH	D ₁ SLOT WIDTH	J	K	L	M	M ₁	P	T	W	
C 55-F30	1.631	0.78	0.41	1.12	0.75	1.81	3.31	0.50	0.75	0.19	5.31	2.8

*Attachment every 2nd pitch.

MOLINE ATTACHMENT NO.	DIMENSIONS IN DECIMAL INCHES											AVERAGE WEIGHT PER FOOT LBS.*
	PITCH	D		G	J	M	M ₁	M ₂	P	R	T	
		BOLT DIAMETER	HOLE DIAMETER									
C 131-G6	3.075	0.38	0.41	2.00	2.03	3.06	1.75	0.56	4.06	2.00	0.28	7.7
C 188-G6	2.609	0.25	0.28	1.12	1.91	3.06	1.75	0.56	3.81	1.38	0.25	4.5

*Attachment every 2nd pitch.

G6 ATTACHMENT



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... chain - sprockets - buckets

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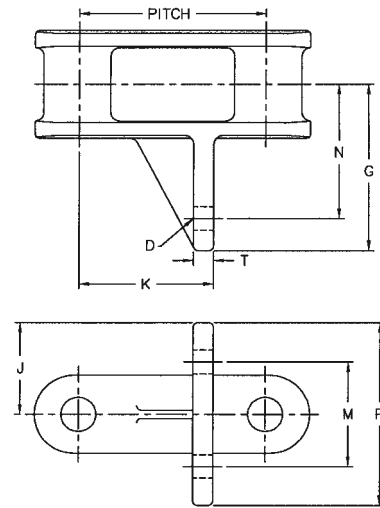
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**Left Hand
Attachment Shown
Right Hand Attachment Available**

COMBINATION CHAIN ATTACHMENTS



G19 ATTACHMENT



MOLINE ATTACHMENT NO.	DIMENSIONS IN DECIMAL INCHES											AVERAGE WEIGHT PER FOOT LBS.*
	PITCH	D		G	J	K	L	M	N	P	T	
		BOLT DIAMETER	HOLE DIAMETER									
C 55-G19	1.631	0.31	0.34	2.25	0.88	1.03	1.66	0.88	1.69	1.75	0.25	2.7
C 188-G19	2.609	0.31	0.34	2.44	1.31	1.88	1.66	1.50	1.94	2.62	0.28	4.2

*Attachment every 2nd pitch.

MOLINE ATTACHMENT NO.	DIMENSIONS IN DECIMAL INCHES											AVERAGE WEIGHT PER FOOT LBS.*	
	PITCH	D		J	K	M	R	R ₁	T	T ₁	W		W ₁
		BOLT DIAMETER	HOLE DIAMETER										
C 55-K1	1.631	0.25	0.28	0.50	0.81	2.03	0.81	—	1.16	—	2.91	—	2.4*
C 77-K1	2.308	0.38	0.41	0.66	1.16	3.00	1.19	1.19	0.22	0.19	4.12	4.19	2.4*
C 188-K1	2.609	0.38	0.41	0.81	1.31	3.75	1.19	2.12	0.22	0.25	4.81	5.12	4.8

*Attachment every 2nd pitch.

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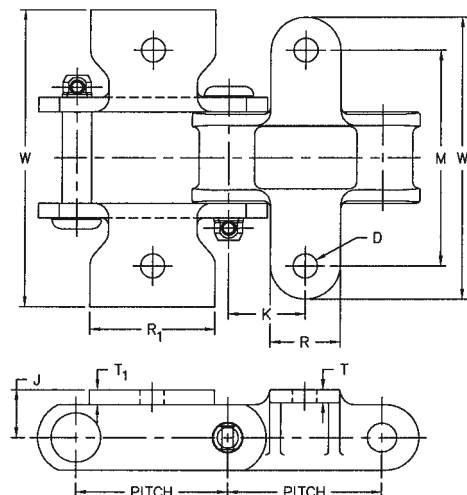
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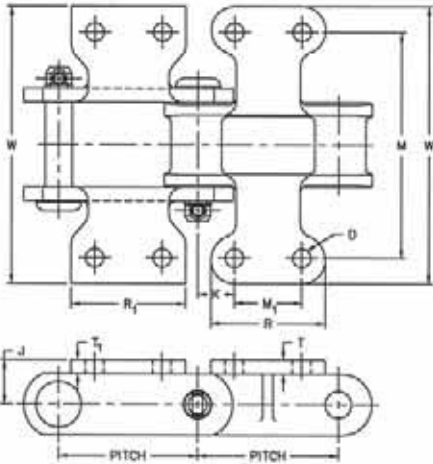
K1 ATTACHMENT



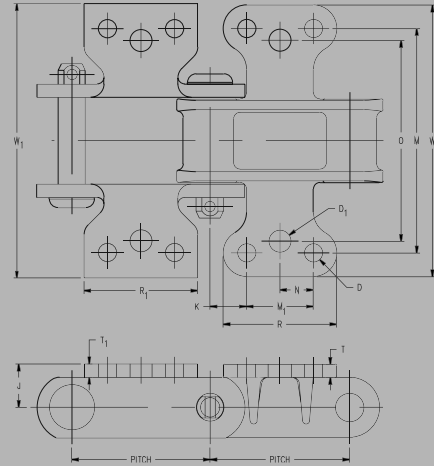


COMBINATION CHAIN ATTACHMENTS

K2 ATTACHMENT



K1/K2 ATTACHMENT



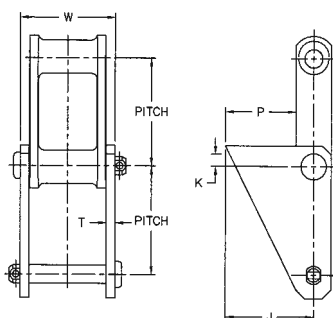
MOLINE ATTACHMENT NO.	DIMENSIONS IN DECIMAL INCHES													AVERAGE WEIGHT PER FOOT LBS.
	PITCH	D		J	K	M	M ₁	R	R ₁	T	T ₁	W	W ₁	
		BOLT DIAMETER	HOLE DIAMETER											
C 102B-K2	4.000	0.38	0.41	1.00	2.00	5.31	1.75	2.81	2.62	0.22	0.38	6.31	6.75	8.0
C 102 1/2-K2	4.040	0.38	0.44	1.00	2.02	5.31	1.75	2.81	2.88	0.31	0.38	6.50	6.50	11.4
C 110-K2	6.000	0.38	0.41	1.00	3.00	5.31	1.75	2.88	2.88	0.31	0.38	6.69	6.75	7.9
C 111-K2	4.760	0.50	0.56	1.12	2.38	6.25	2.31	3.50	3.56	0.31	0.38	7.50	7.69	12.3
C 111C-K2	4.760	0.50	0.56	1.12	2.38	6.25	2.31	3.50	3.56	0.31	0.38	7.50	7.69	12.3
C 131-K2	3.075	0.50	0.56	1.00	1.53	4.12	1.50	2.62	2.50	0.31	0.38	5.25	5.38	8.1
C 132-K2	6.050	0.50	0.56	1.25	3.03	7.50	2.75	4.00	4.00	0.50	0.50	9.00	9.62	16.8

MOLINE ATTACHMENT NO.	DIMENSIONS IN DECIMAL INCHES													AVERAGE WEIGHT PER FOOT LBS.				
	PITCH	D		D ₁		J	K	M	M ₁	N	O	R	R ₁		T	T ₁	W	W ₁
		BOLT DIA.	HOLE DIA.	BOLT DIA.	HOLE DIA.													
C188 K1/K2	2.609	0.31	0.34	0.38	0.41	.81	1.31	4.19	1.25	.62	3.75	2.12	2.12	0.25	0.25	5.06	5.12	5.2

MOLINE ATTACHMENT NO.	PITCH	J	K	P	T	W	AVERAGE WEIGHT PER FOOT LBS.*
C 102 1/2-S1	4.040	3.75	1.00	2.88	0.38	3.72	12.2
C 111-S1	4.760	4.38	1.00	3.50	0.38	4.19	12.5
C 111C-S1	4.760	4.38	1.00	3.50	0.38	4.19	12.5
C 132-S1	6.050	5.00	1.28	4.00	0.50	5.44	18.8
PW 132-S1	6.050	5.00	1.28	4.00	0.50	5.44	21.5
MBP 132-S1	6.050	5.00	1.28	4.00	0.50	5.44	21.1
MBP 132C-S1	6.050	5.00	1.28	4.00	0.50	5.44	21.1
C 188-S1	2.609	2.62	0.62	2.19	0.25	2.12	4.7

*Attachment every 2nd pitch.

S1 ATTACHMENT



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