



SYNCHRONIZING CYLINDERS



OEM HYDRAULIC CYLINDER SPECIALISTS



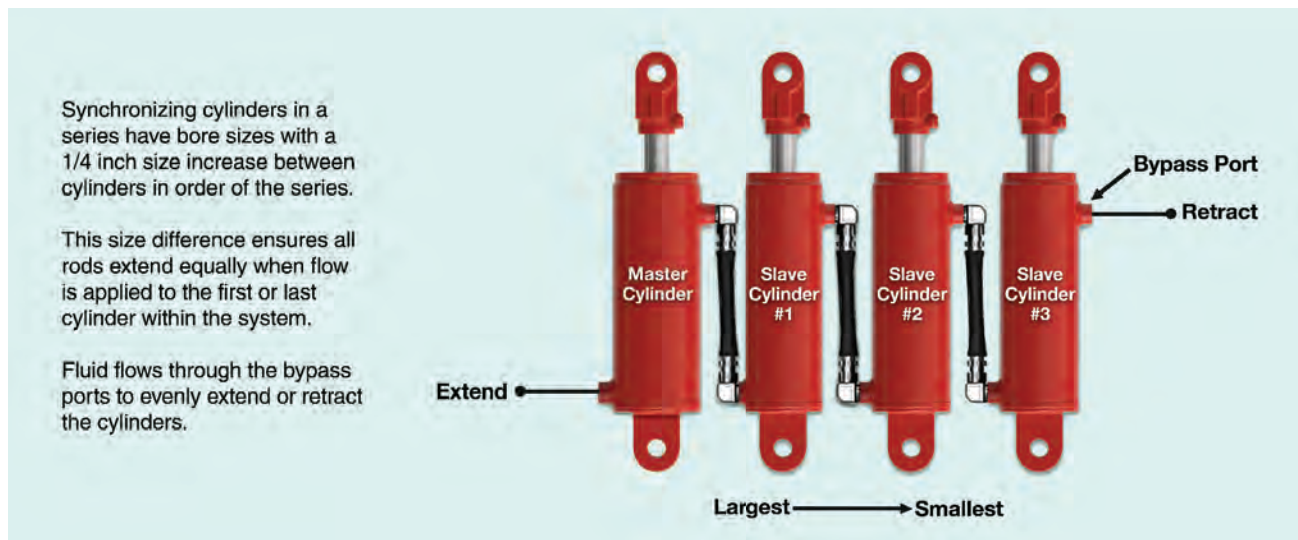
SYNCHRONIZING (REPHASING)

RAM Synchronizing cylinders are the perfect solution for applications that require two or more cylinders to extend and retract in near-unison. RAM Synchronizing hydraulic cylinders implement rephasing technology. This enables a master cylinder and one or more slave cylinders to reliably retract in synchronization.

RAM's standard synchronizing cylinder designs have a rephasing groove machined at the position of full extension. This allows the oil to bypass the piston seal when fully extended. The rephasing passageway enables the cylinders to rephase, operating evenly to raise and lower an implement to the desired working depth. Rephasing also allows air to be purged from the system, which helps to maintain consistent operating pressure.

All RAM hydraulic cylinders can be customized to perfectly fit your equipment requirements. Adding a depth control valve assembly will provide precise and infinite control of the rod movement. RAM also offers an optional ball check synchronizing cylinder design. This custom machined port uses a ball to block the rephasing groove to enable cylinder retraction at any position.

Contact the RAM Engineering team to design a Synchronizing Cylinder set for your application!



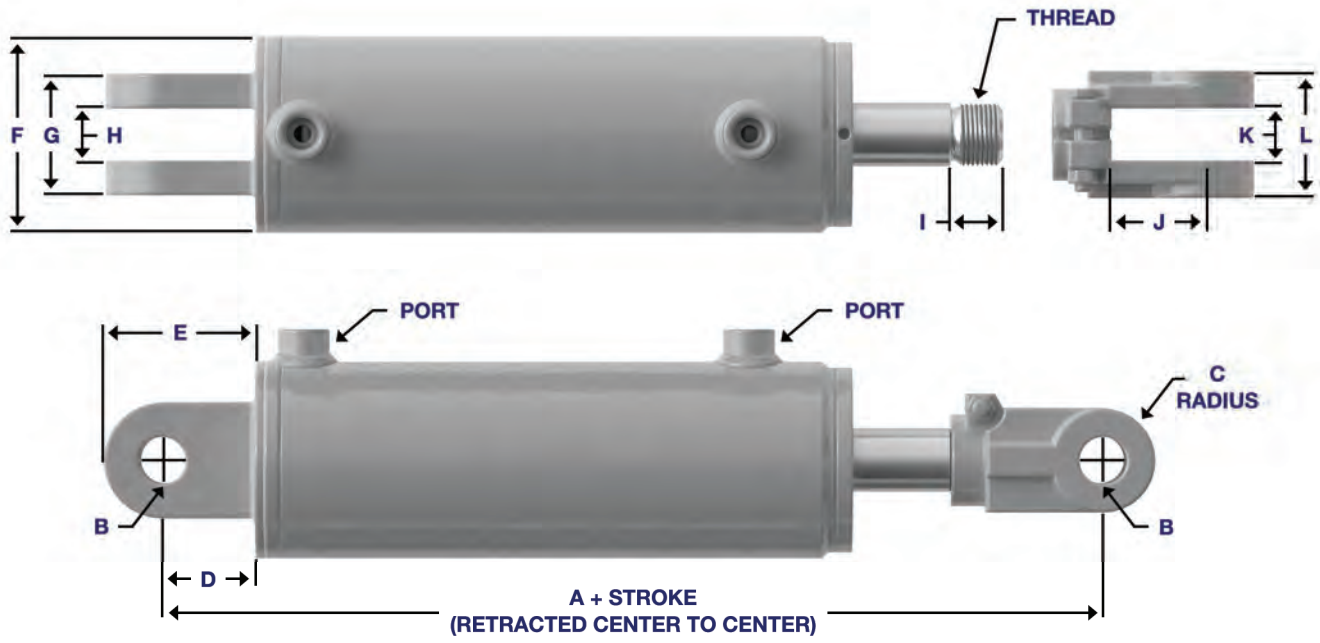
STANDARD FEATURES

Intended Use: Double acting applications
Rated Pressure: 3000 PSI
Rod Material: High tensile SAE C1045, ground and polished hard chrome plated
Barrel Material: High tensile SAE C1026/St52.3 cold drawn tube precision honed for extended seal life
Gland Material: Ductile iron 65-45-12 (ASTM A536)
Piston Material: Ductile iron 65-45-12 (ASTM A536)

Piston Locknut: High tensile grade C
End Mounts: Female clevis
Clevis Clamp: Grade 8 bolt and nut
Ports: SAE
Port Plugs: High quality steel
Internal Seals: North American
Paint Finish: 2 part urethane black
Testing: 100% full cycle tested



**SYNCHRONIZING
CYLINDERS**



Bore (inches)	A	B	C	D	E	F	G	H	I	J	K	L	Ports	Threads
2.50	12.25	1.02	1.13	2.00	3.25	2.38	2.13	1.13	1.13	2.00	1.13	2.75	SAE-8	1.125-12 UNF
2.75	12.25	1.02	1.13	2.00	3.25	3.13	2.13	1.13	1.13	2.00	1.13	2.75	SAE-8	1.125-12 UNF
3.00	12.25	1.02	1.13	2.00	3.25	3.38	2.13	1.13	1.13	2.00	1.13	2.75	SAE-8	1.250-12 UNF
3.25	12.25	1.02	1.13	2.00	3.25	3.63	2.38	1.13	1.13	2.00	1.13	2.75	SAE-8	1.250-12 UNF
3.50	12.25	1.02	1.13	2.00	3.25	3.88	2.38	1.13	1.13	2.00	1.13	2.75	SAE-8	1.250-12 UNF
3.75	12.25	1.02	1.13	2.00	3.25	4.25	2.63	1.13	1.13	2.00	1.13	2.75	SAE-8	1.250-12 UNF
4.00	12.25	1.02	1.13	2.00	3.25	4.50	2.63	1.13	1.13	2.00	1.13	2.75	SAE-8	1.250-12 UNF
4.25	12.25	1.02	1.13	2.00	3.25	4.75	2.63	1.13	1.13	2.00	1.13	2.75	SAE-8	1.250-12 UNF
4.50	12.25	1.02	1.13	2.00	3.25	5.00	2.63	1.13	1.13	2.00	1.13	2.75	SAE-8	1.250-12 UNF
4.75	12.25	1.02	1.13	2.00	3.25	5.25	2.63	1.13	1.13	2.00	1.13	2.75	SAE-8	1.250-12 UNF
5.00	12.25	1.02	1.13	2.00	3.25	5.50	2.63	1.13	1.13	2.00	1.13	2.75	SAE-8	1.250-12 UNF

Measurements for A, B, C, D, E, F, G, H, I, J, K, L are in inches.

All specifications are subject to change without notice.

SYNCHRONIZING (REPHASING)

Bore Size (inches)	RAM Part Number	Stroke (inches)	Rod Diameter (inches)	Retracted Length	Ports	Pin Diameter (inches)
2.50	R4507582	8	1.125	20.25	SAE-8	1.000
	R4507593	10	1.125	22.25		
	R4507681	12	1.125	24.25		
	R4507692	16	1.125	28.25		
2.75	R4507583	8	1.125	20.25	SAE-8	1.000
	R4507594	10	1.125	22.25		
	R4507682	12	1.125	24.25		
	R4507693	16	1.125	28.25		
3.00	R4507584	8	1.250	20.25	SAE-8	1.000
	R4507595	10	1.250	22.25		
	R4507683	12	1.250	24.25		
	R4507694	16	1.250	28.25		
3.25	R4507585	8	1.250	20.25	SAE-8	1.000
	R4507596	10	1.250	22.25		
	R4507684	12	1.250	24.25		
	R4507695	16	1.250	28.25		
3.50	R4507586	8	1.250	20.25	SAE-8	1.000
	R4507597	10	1.250	22.25		
	R4507685	12	1.250	24.25		
	R4507696	16	1.250	28.25		
3.75	R4507587	8	1.375	20.25	SAE-8	1.000
	R4507675	10	1.375	22.25		
	R4507686	12	1.375	24.25		
	R4507697	16	1.375	28.25		

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Bore Size (inches)	RAM Part Number	Stroke (inches)	Rod Diameter (inches)	Retracted Length	Ports	Pin Diameter (inches)
4.00	R4507588	8	1.375	20.25	SAE-8	1.000
	R4507676	10	1.375	22.25		
	R4507687	12	1.375	24.25		
	R4507698	16	1.375	28.25		
4.25	R4507589	8	1.500	20.25	SAE-8	1.000
	R4507677	10	1.500	22.25		
	R4507688	12	1.500	24.25		
	R4507699	16	1.500	28.25		
4.50	R4507590	8	1.500	20.25	SAE-8	1.000
	R4507678	10	1.500	22.25		
	R4507689	12	1.500	24.25		
	R4507747	16	1.500	28.25		
4.75	R4507591	8	1.500	20.25	SAE-8	1.000
	R4507679	10	1.500	22.25		
	R4507690	12	1.500	24.25		
	R4507748	16	1.500	28.25		
5.00	R4507592	8	1.500	20.25	SAE-8	1.000
	R4507680	10	1.500	22.25		
	R4507691	12	1.500	24.25		
	R4507749	16	1.500	28.25		

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RAM Synchronizing Cylinder Seal Kits		
Bore Size (inches)	RAM Part Number	Rod Diameter (inches)
2.50	R3607582	1.125
2.75	R3607583	1.125
3.00	R3607584	1.250
3.25	R3607585	1.250
3.50	R3607586	1.250
3.75	R3607587	1.375
4.00	R3607588	1.375
4.25	R3607589	1.500
4.50	R3607590	1.500
4.75	R3607591	1.500
5.00	R3607592	1.500

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RAM Synchronizing Cylinder Components			
Item	Part Size	RAM Part Number	Shipping Weight (lbs)
Shaft Clevis	Fits 1-1/8" Shaft	R7600456	3.3
Shaft Clevis	Fits 1-1/4" Shaft	R7600455	3.3
Shaft Clevis	Fits 1-3/8" Shaft	R7600455	3.3
Shaft Clevis	Fits 1-1/2" Shaft	R7600455	3.3
Pin	1" x 2-7/8"	R3006631	0.8
Pin	1" x 2-1/4"	R3006632	0.6
Clip	Hairpin Clip	R3006300	0.02
Hydraulic Depth Control Valve Repair Kit		R3000530	0.7

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All weights are approximate shipping weights.



RAM INDUSTRIES INC.

PO Box 5007 33 York Rd E Yorkton, SK S3N 3Z4 Canada

T: 1-877-799-1005

www.ramindustries.com • sales@ramindustries.com

www.linkedin.com/company/ram-industries-inc



www.ramindustries.com

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