



Engine
Starting
Systems

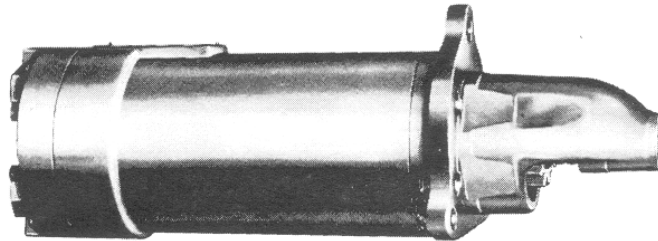
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CMD 2A 111

Hydrotor Data Sheet

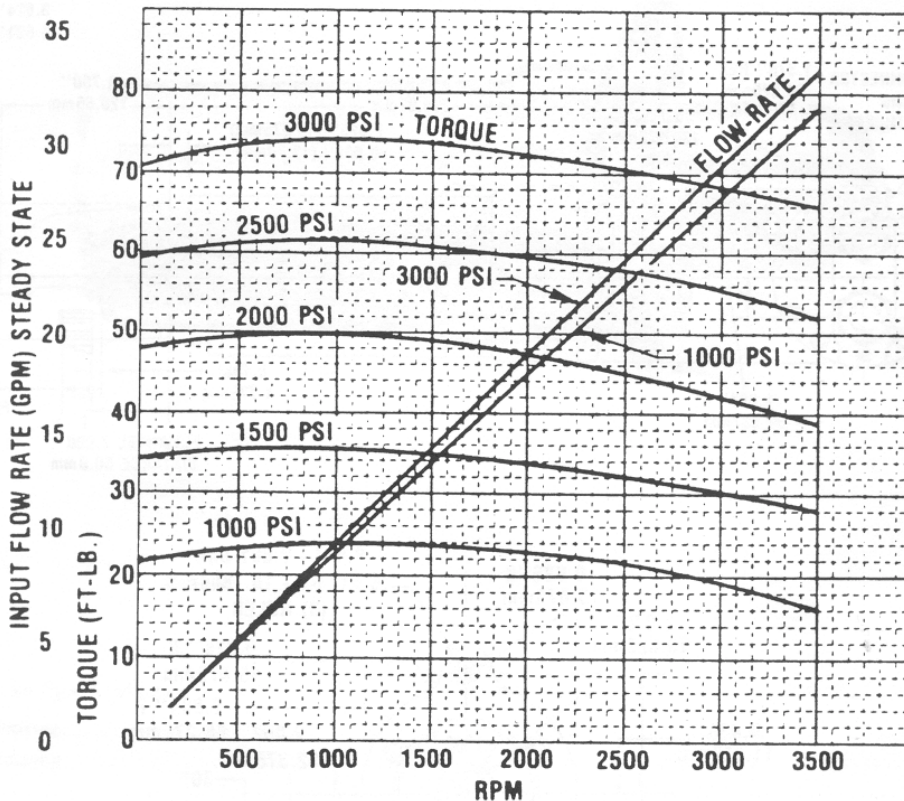
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CMD 2A 111 Hydrotor Specifications



- Motor Housing Aluminum
- Pinion Housing Malleable Iron
- Cylinder Steel
- Piston Bronze
- Number of Pistons Seven
- Displacement 2.00 in³ (32.77 cm³)/Rev.
- Speed Range 0 to 4500 RPM
- Drive Type Inertia
- Maximum Working Pressure 3000 psi (207 bars)
- Rotation (Viewing Drive End) cw - standard, ccw - optional
- Duty Cycle Intermittent

Torque and Flow Rate vs Speed at Constant Inlet Pressure





Engine Starting Systems

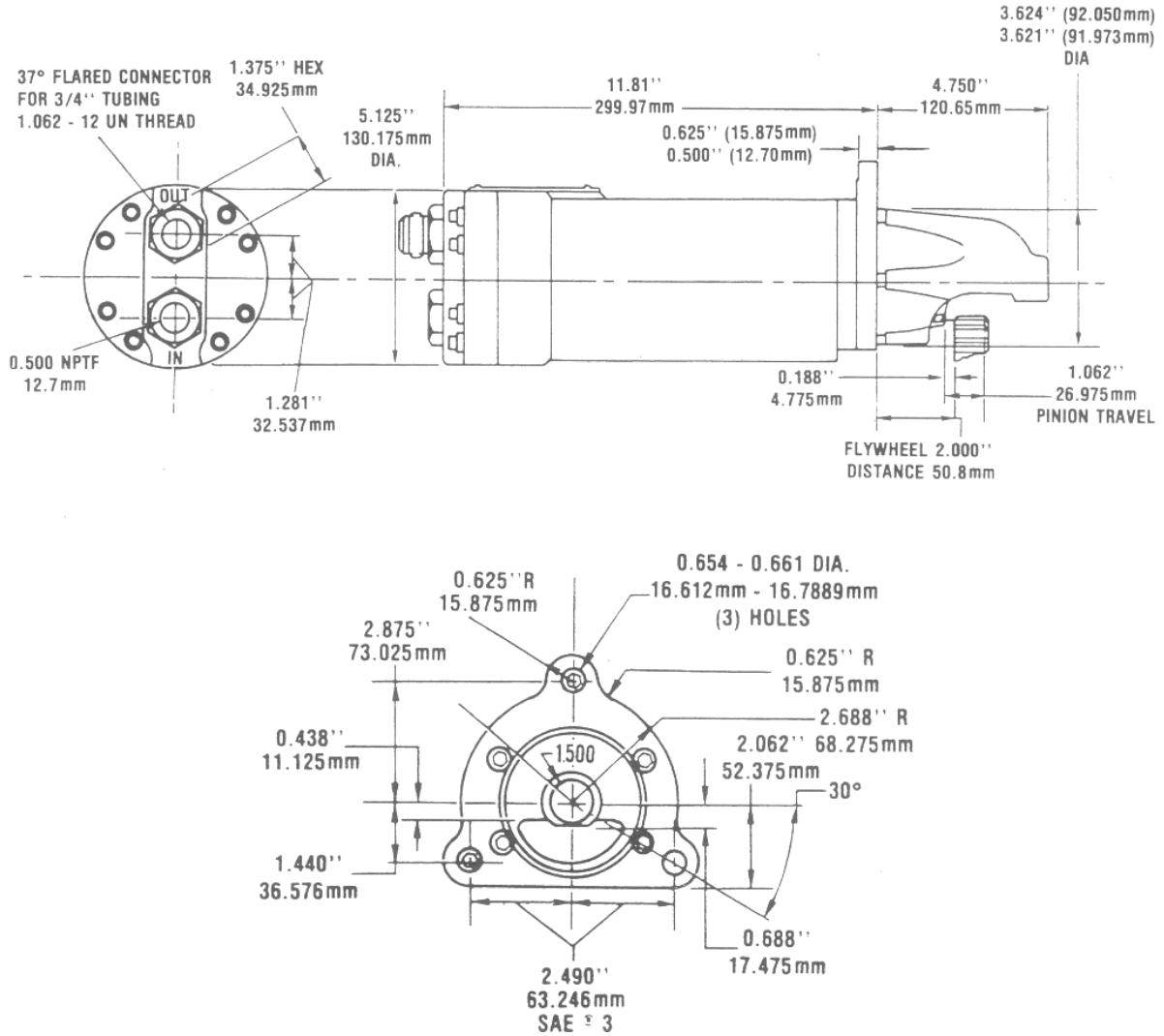
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CMD 2A 111 Hydrotor Dimensions



CMD 2A Hydrotor Model Variations

MODEL TYPE	MOUNTING FLANGE TYPE	FLANGE TO RING GEAR DIMENSION INCHES (MM)	FLANGE MOUNTING HOLES INCH (MM)	NUMBER OF TEETH	DIAM-ETRAL PITCH	PINION O.D. INCHES (MM)	PRESSURE ANGLE	ROTA-TION	REMARKS
CMD 2A 111	SAE #3	2.00 (50.8)	.66 (16.8)	11/12	6/8	2.250 (57.150)	20°	CW	
* CMD 2A 112	SPECIAL	2.00 (50.8)	.53 (13.5)	11/12	6/8	2.250 (57.150)	20°	CW	
CMD 2A 113	SAE #3 MOD	2.00 (50.8)	.66 (16.8)	11/12	6/8	2.250 (57.150)	20°	CW	
CMD 2A 131	SAE #3	2.00 (50.8)	.66 (16.8)	11/12	6/8	2.325 (59.055)	20°	CW	HELICAL PINION
* CMD 2A 132	SPECIAL	2.00 (50.8)	.53 (13.4)	11/12	6/8	2.325 (59.055)	20°	CW	HELICAL PINION
CMD 2A 133	SAE #3 MOD	2.00 (50.8)	.66 (16.8)	11/12	6/8	2.325 (59.055)	20°	CW	HELICAL PINION
CMD 2A 221	SAE #3	2.00 (50.8)	.66 (16.8)	11/12	6/8	2.250 (57.150)	20°	CCW	
* CMD 2A 222	SPECIAL	2.00 (50.8)	.53 (13.5)	11/12	6/8	2.250 (57.150)	20°	CCW	
CMD 2A 223	SAE #3 MOD	2.00 (50.8)	.66 (16.8)	11/12	6/8	2.250 (57.150)	20°	CCW	
CMD 2A 8101	SAE #3	2.00 (50.8)	.66 (16.8)	13	8/10	1.825 (46.355)	20°	CW	
CMD 2A 8105	SAE #3	2.00 (50.8)	.66 (16.8)	11/12	6/8	2.250 (57.150)	20°	CW	CORROSION RESISTANT FINISH
CMD 2A 8107	SAE #3	2.00 (50.8)	.66 (16.8)	11/12	6/8	2.250 (57.150)	20°	CCW	CORROSION RESISTANT FINISH
* CMD 2A 8124	SAE #3	2.00 (50.8)	.66 (16.8)	11/12	6/8	2.250 (57.150)	20°	CW	
* CMD 2A 8140	SPECIAL	2.00 (50.8)	.53 (13.5)	13	8/10	1.825 (46.355)	20°	CCW	
* CMD 308147	SAE #3	2.00 (50.8)	.66 (16.8)	11/12	6/8	2.250 (57.150)	20°	CW	
* CMD 308153	SAE #3	2.00 (50.8)	.66 (16.8)	11/12	6/8	2.250 (57.150)	20°	CW	
CMD 308155	SAE #3	2.00 (50.8)	.66 (16.8)	12/13	8/10	1.825 (46.355)	20°	CW	

*OBSOLETE - NOT AVAILABLE



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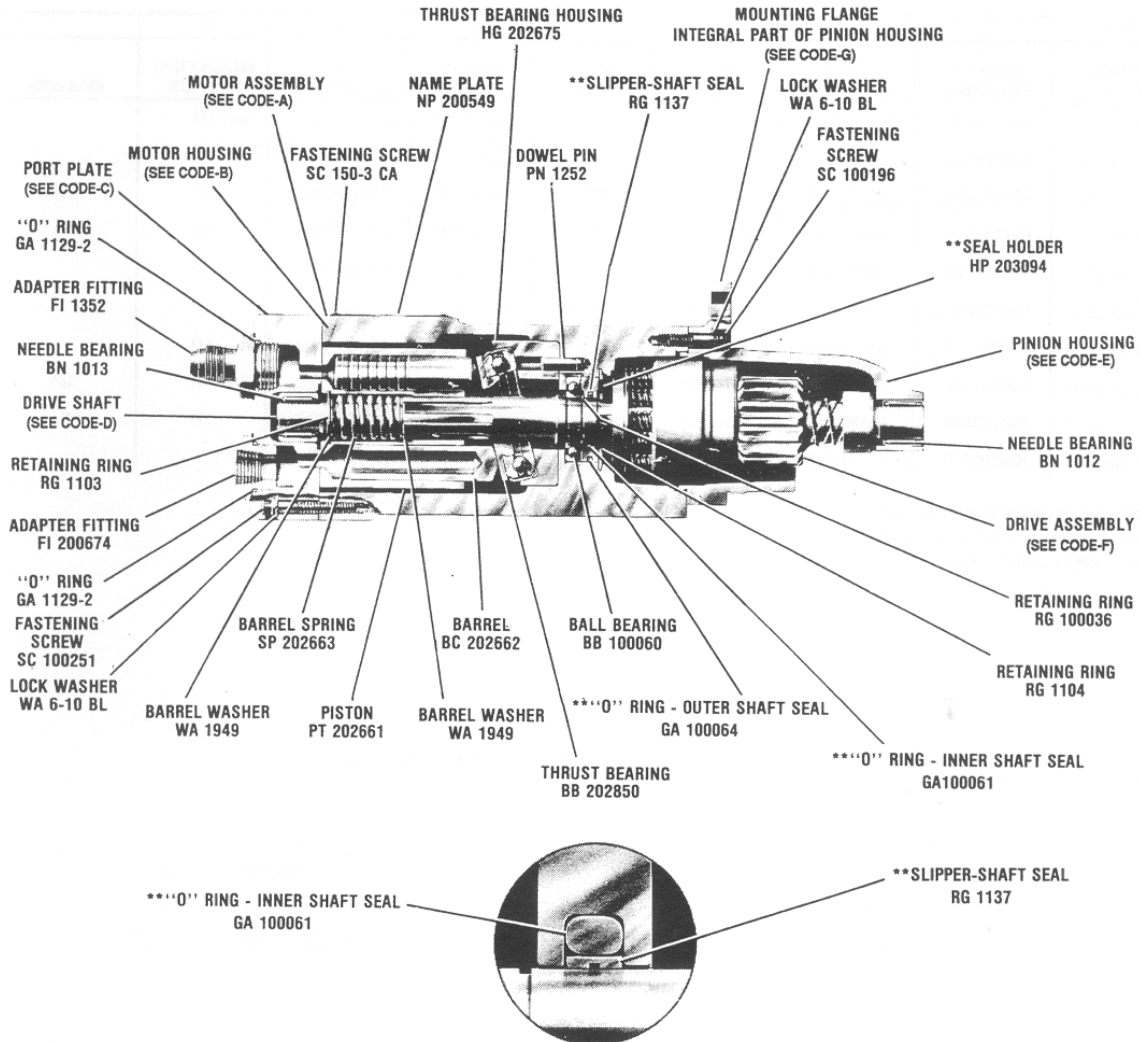
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CMD 2A 111 Hydrotor Spare Parts



** The outer and inner 'O' ring seals, slipper shaft seal, and the seal holder have been replaced by a one piece seal, SE 403969.

CODE	A	B	C	D	E	F	G	REMARKS
MODEL TYPE	MOTOR ASSEMBLY	MOTOR HOUSING	PORT PLATE	DRIVE SHAFT	PINION HOUSING	DRIVE ASSEMBLY	MOUNTING FLANGE	
CMD 2A 111	HM202656-1	HG202718	PL202664	SH202724	HG202721	DV202720-1	(1)	
CMD 2A 113	HM202656-1	HG202718	PL202664	SH202724	HG202739	DV202720-1	(1)	
CMD 2A 131	HM202656-1	HG202718	PL202664	SH202724	HG202721	DV202720-3	(1)	(2)
CMD 2A 133	HM202656-1	HG202718	PL202664	SH202724	HG202739	DV202720-3	(1)	(2)
CMD 2A 221	HM202656-2	HG202718	PL202664	SH202724	HG202721	DV202720-2	(1)	
CMD 2A 223	HM202656-2	HG202718	PL202664	SH202724	HG202739	DV202720-2	(1)	
CMD 2A 8101	HM202738	HG202718	PL202664	SH202740	HG202737	DV202741-1	(1)	
CMD 2A 8105	HM202838	HG202840	PL202841	SH202724	HG202721	DV202720-1	(1)	(3)
CMD 2A 8107	HM202839	HG202840	PL202841	SH202724	HG202721	DV202720-2	(1)	(3)
CMD 308155	HM202738	HG202718	PL202644	SH202740	HG202737	DV204170		

- (1) Integral part of the Pinion Housing
- (2) Helical Pinion on Drive Assembly
- (3) Corrosion resistant finish