

# **BALDOR® • RELIANCE**

## **Product Information Packet**

### **D2020R-BV**

**20HP,1750RPM,DC,2113ATZ,DPG-FV,**

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Part Detail			
Type:	DC	Prod. Type:	TR
Power Code:	D	Weight:	345
Frame Group:	SC 2113ATZ	Mounting Pos.:	F1
HP:	20	Enclosure:	DPFV
RPM:	1750/2300	Wound:	STR. SHUNT
Service Factor:	1.0	Arm V:	240
Arm A:	76.50	Field V:	150
Field A:	7.12	Field A Hot:	5.07/3.32
Insulation Class:	F	Ambient:	40
Duty:	CONT	DE Bearing:	50BC03J30X
ODE Bearing:	45BC02J30X	Brushes:	419904-51AC
Brush Qty.:			

616002-001

## INDUSTRIAL DIRECT CURRENT MOTORS AND GENERATORS - RPM III

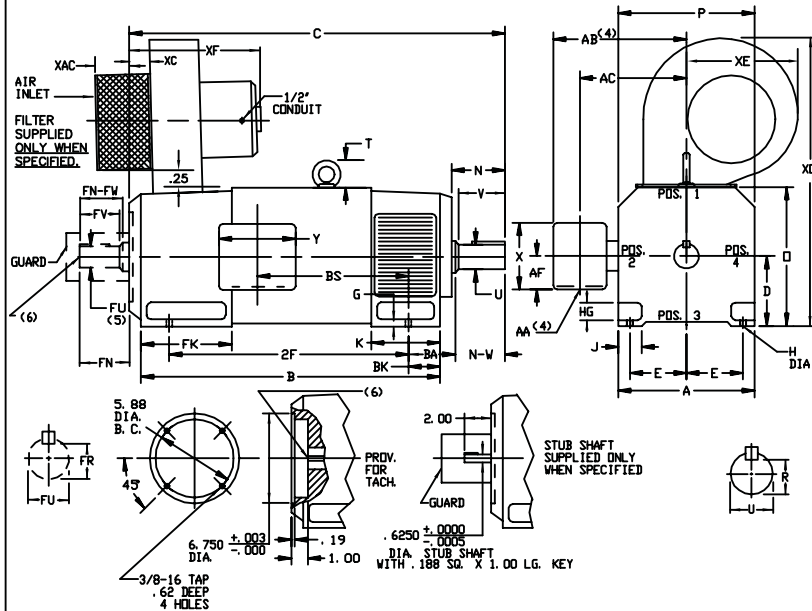
ENCLOSURE: DRIP-PROOF FULLY-GUARDED,  
SPLASHPROOF

COOLING: FORCE VENTILATED  
WITH INTEGRAL  
BLOWER AND MOTOR

MOUNTING: FOOT  
METHOD OF DRIVE: COUPLED OR BELTED

ACCESSORIES: PROVISION FOR  
TACHOMETER MOUNTING  
ONLY WHEN SPECIFIED

FRAMES SC2113ATZ THRU LC2115ATZ



DIMENSIONS ARE IN INCHES

FRAME	XAC	XC	XE	XF	XO
SC2113ATZ-LC2115ATZ	7.75	2.25	10.00	16.00	22.75

FRAME	A	D(1)	E	G	H	HG	J	O	P	T	BA	K	FK	BK
SC2113ATZ-LC2115ATZ	10.25	5.25	4.25	.44	.44	1.38	1.75	10.44	10.31	2.08	3.50	5.19	6.81	2.38

FRAME	C(7)	B	BS	2F	DRIVE END SHAFT AND KEY						OPPOSITE DRIVE END SHAFT AND KEY(S)						VT.		
					N	N-W	U(2)	V	R(3)	SQ.	LGTH	FN	FN-FW	FU(2)	FV	FR(3)		SQ.	LGTH
SC2113ATZ	28.38	22.50	11.38	18.00	4.00	3.75	1.875	3.50	1.991	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	345
MC2113ATZ	29.62	23.75	12.62	18.00	4.00	3.75	1.875	3.50	1.991	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	370
LC2113ATZ	31.25	25.38	14.25	18.00	4.00	3.75	1.875	3.50	1.991	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	400
MC2115ATZ	32.50	26.62	15.50	22.00	4.00	3.75	1.875	3.50	1.991	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	425
LC2115ATZ	35.25	29.38	18.25	22.00	4.00	3.75	1.875	3.50	1.991	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	480

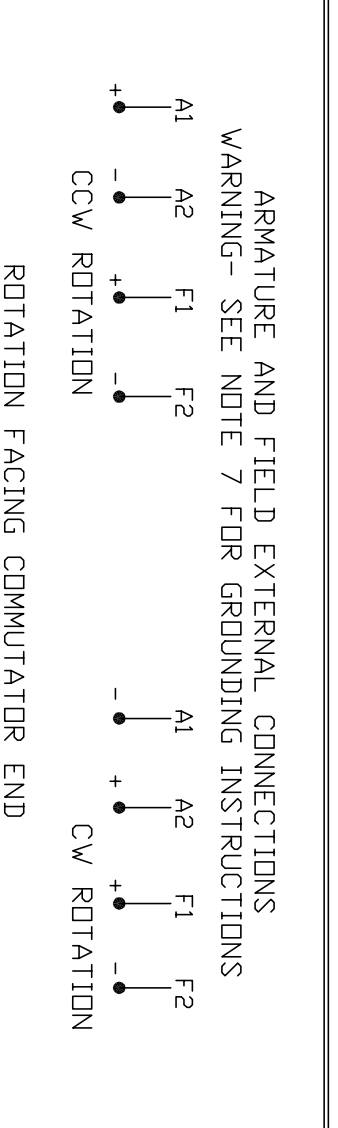
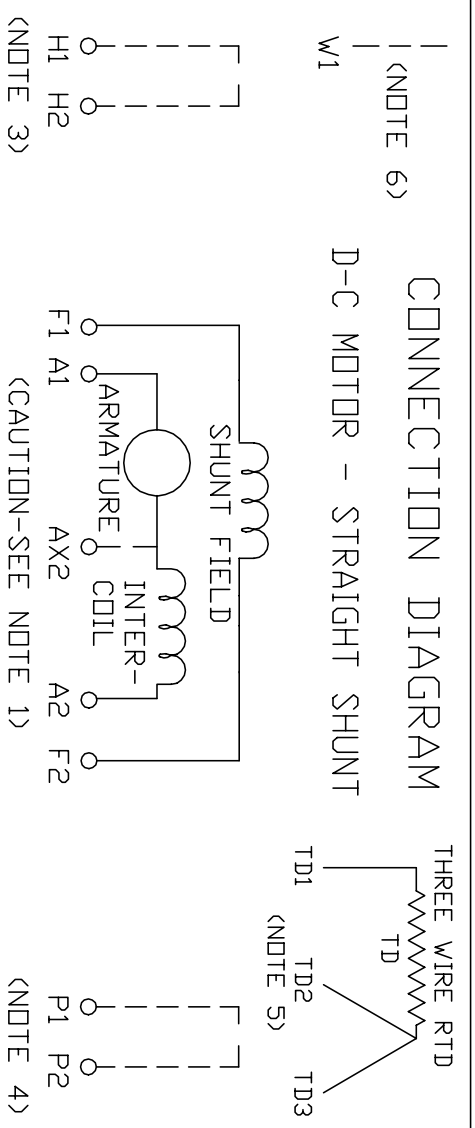
- (1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
- (2) "U" AND "FU" VARY----+.000 - .001
- (3) "R" AND "FR" VARY----+.000 - .015
- (4) TERMINAL BOX VARIES WITH H.P. FOR DIMENSIONS "AA", "AB", "AC", "AF", "X" AND "Y". REFER TO BOX D/S. (STD. 609959-1, "X/P" 609959-2, MILL 609959-3)
- (5) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.
- (6) MOTOR SHAFT TAPPED FOR SCREW-IN STUB SHAFT.
- (7) WHEN THE MOTOR APPLICATION DOES NOT REQUIRE THE USE OF OPP. DRIVE END, ADD .25 TO "C" DIM. FOR BRACKET COVER. TERMINAL BOX CAN BE ROTATED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM OR C-1 MOUNTING IS SPECIFIED. BOX LOCATED ON TOP WHEN SPECIFIED. BLOWER ASSEMBLY CAN BE LOCATED AT POSITIONS 1, 2, OR 4, EXCEPT BLOWER ASSEMBLY AND TERMINAL BOX CAN NOT BE LOCATED AT THE SAME POSITION. MOTOR WEIGHT MAY VARY 15% FOR NON-STANDARD RATINGS AND/OR ACCESSORIES. IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION.

REV. DESC: LOADED TO BUS	VERSION: 00	TDR: 000000578087
REV. LTR: -	REVISED: 08:22:49 01/28/2011	BY: CONNAS
FILE: \RGG\00015\944		
MTL: -		

**BALDOR**  
DIMENSION DRAWING: SC2113ATZ - LC2115ATZ, DPP, FOOT MTG  
SH 1 of 1

616002-001



1. **CAUTION** — ARMATURE MAY HAVE MULTIPLE LEADS. CONNECT ALL LUGS WITH THE SAME MARKING TOGETHER.
2. OPTIONAL CONTROL SIGNAL LEAD IS MARKED AX2. ALWAYS TAKE INTERPOLE DROP BETWEEN A2 AND AX2. NOTE: NEMA DESIGNATION FOR AX2 IS LETTER C.
3. SPACE HEATERS, WHEN PROVIDED, WILL HAVE LEADS MARKED H1 AND H2, H3, H4, ETC.
4. THERMAL PROTECTOR, WHEN PROVIDED, WILL HAVE LEADS MARKED P1 AND P2, P3, P4, ETC.
5. WINDING RTD'S, WHEN PROVIDED, WILL HAVE LEAD MARKED W1.
6. BRUSH WEAR SENSOR, WHEN PROVIDED, WILL HAVE LEAD MARKED W1.
7. **WARNING** — MOTOR MUST BE GROUNDED TO PREVENT SERIOUS INJURIES TO PERSONNEL. GROUND THE MOTOR PER IEC, NATIONAL ELECTRICAL CODE AND ANY APPLICABLE LOCAL ELECTRICAL CODES. A TAPPED HOLE IS PROVIDED IN THE CONDUIT BOX, ON THE FOOT. FRAME BRACE OR OPPOSITE OPPOSITE DRIVE END BRACKET, ADJACENT TO THE TERMINAL BOX FOR FOR MOTOR GROUNDING. GROUND LEAD, WHEN PROVIDED, WILL BE GREEN.

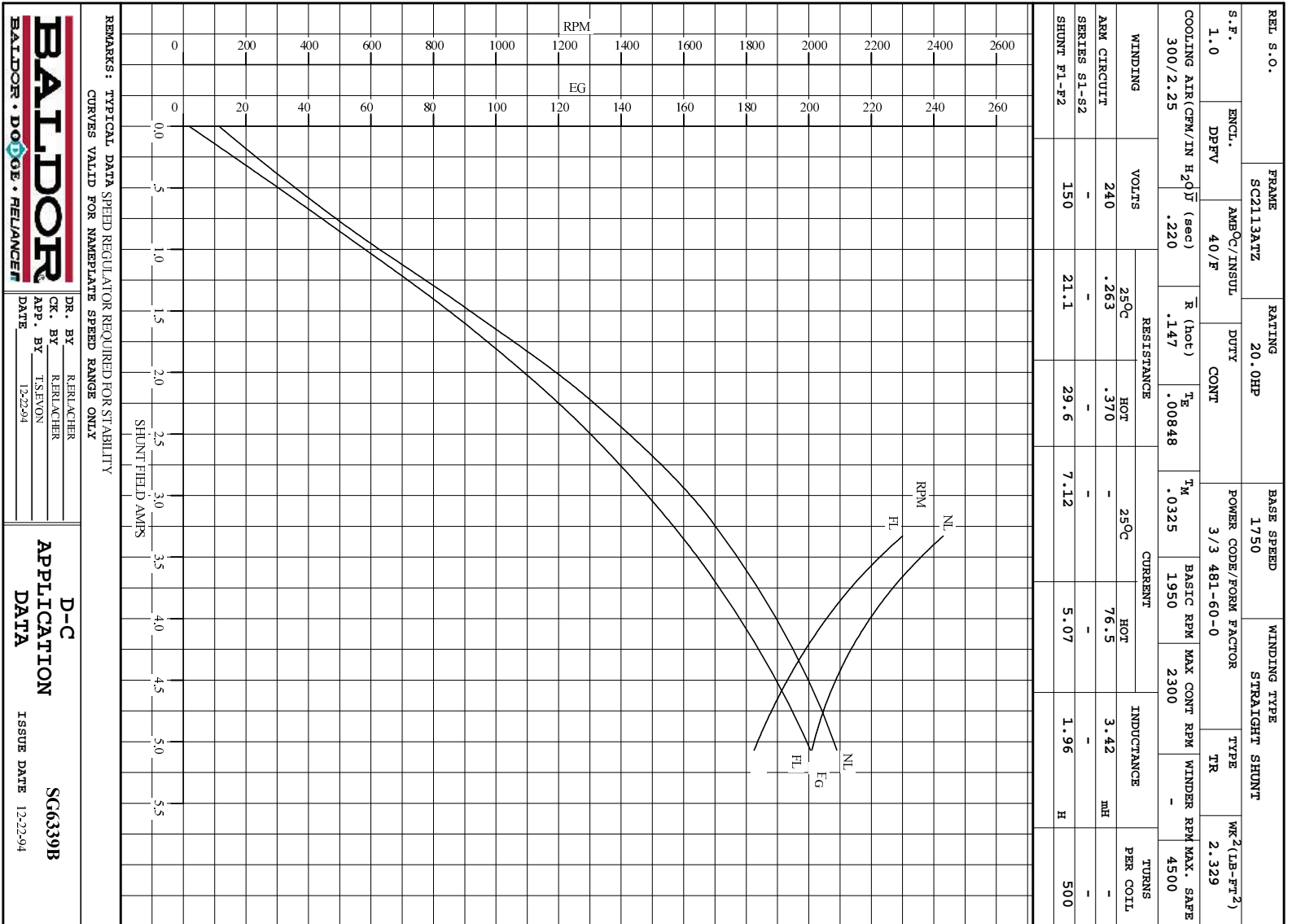
CUSTOMER \_\_\_\_\_ RELIANCE \_\_\_\_\_  
 ORDER NO. \_\_\_\_\_ S.O. NO. \_\_\_\_\_

RELIANCE ELECTRIC  
 CLEVELAND, OHIO 44117 U.S.A.

REC BY: N.L. EVANS  
 CK BY: N. JESCHKE  
 APP BY: E.J. HINER  
 DATE: 5-5-69

**CONNECTION DIAGRAM**  
**406770-6**  
 ORIGINAL AT RCC

C/R 244907, 290048, 354478, 354480




REL. S.O.	FRAME	RATING	RPM	ARM. VOLTS	ARM. AMPS
	SC2113ATZ	20.0HP	1750	240	76.5
WINDING TYPE		S.F.	ENCL.	AMB °C/INSUL	DUTY
STRAIGHT SHUNT		1.0	DPFV	40/F	CONT
					FIELD VOLTS
					150
POWER CODE	TYPE	WK 2 (LB-FT 2)	HOT ARM. CIR. RES.	FLD. AMPS@25 °C	HOT FIELD RES
3/3 481-60-0	TR	2.329	.369	7.12	29.5

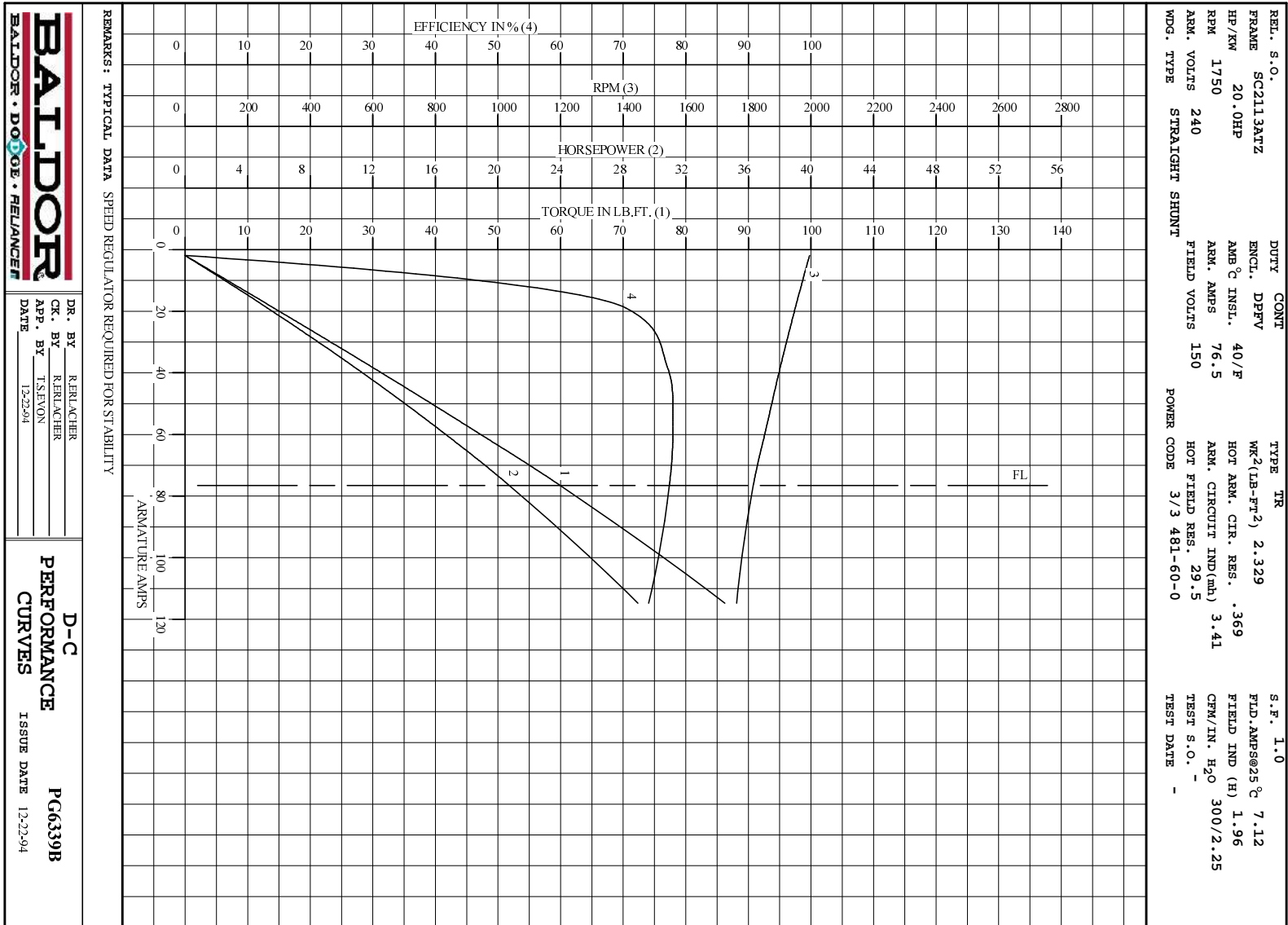
ARM. CIR. IND. (mh)	FIELD IND. (H)	COOLING AIR (CFM/IN H 20)	TURNS PER COIL SHUNT/SERIES	TEST DATE
3.41	1.96	300/2.25	500/.00000	-

LOAD PERFORMANCE					
LOAD	AMPERES	TORQUE IN LB.-FT.	OUTPUT IN HP	RPM	% EFFICIENCY
NO LOAD	1.9	0	0	1996	0
1/4	19	14.3	5.32	1950	70.6
2/4	38	30.0	10.9	1902	77.1
3/4	57	45.2	16.0	1858	78.0
4/4	77	59.9	20.7	1816	77.4
O.L.	115	86.3	29.0	1763	74.1

RPM VS. FIELD AMPS			Eg VS. FIELD AMPS		
FIELD AMPS	RPM N.L.	RPM F.L.	Eg N.L. @ BASE SPEED	Eg F.L. @ BASE SPEED	
5.06	1995	1815	208	200	
4.63	2063	1903	202	192	
4.19	2146	2002	194	182	
3.76	2264	2129	184	171	
3.32	2429	2300	172	159	

REMARKS: TYPICAL DATA  
 MAXIMUM SAFE SPEED = 4500 RPM  
 SPEED REGULATOR REQUIRED FOR STABILITY

	DR. BY R. BRILACHER	<b>D-C MOTOR PERFORMANCE DATA</b> DG6339B ISSUE DATE 12-22-94
	CK. BY R. BRILACHER	
	APP. BY T.S. EVON DATE 12-22-94	



DR. BY RREILACHER  
 CK. BY T.S.MON  
 DATE 12-22-94

**D-C**  
**PERFORMANCE**  
**CURVES** ISSUE DATE 12-22-94  
**PG6339B**