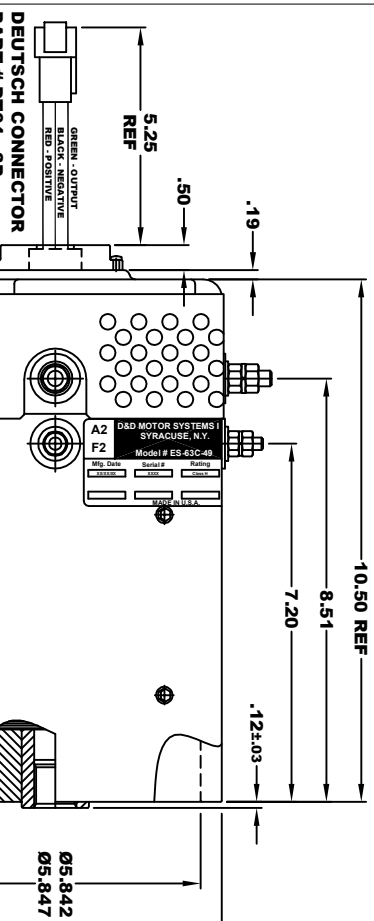
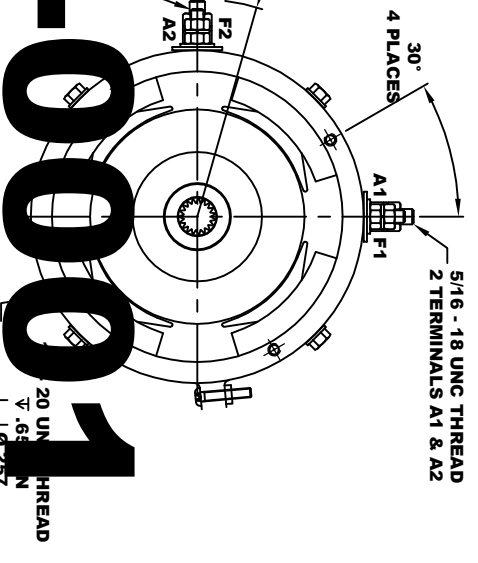


USE 170-519-0001



D&D MOTOR SYSTEMS INC.		A1	
SYRACUSE N.Y.		F1	
Model # ES-63C-49			
Mfg. Date	Serial #	Rating	Voltage
XXXXXX	XXXX	CLASS H	38/48
MADE IN U.S.A.			

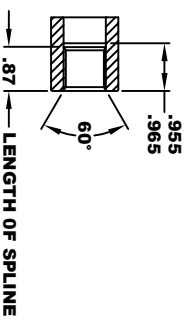
TORQUE SPECIFICATION FOR POWER CABLE SECURING TOP NUTS
 5/16-18 UNC (A1 / A2) - 110 IN / LBS MAX
 1/4-20 UNC (F1 / F2) - 50 IN / LBS MAX



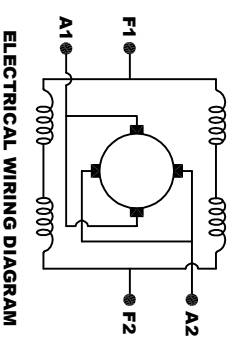
- SPEED SENSOR ELECTRICAL SPECIFICATION:**
- 4.5V TO 24V OPERATING VOLTAGE
 - 20° C. TO 85° C. OPERATING TEMPERATURE
 - CURRENT SINKING UP TO 25mA
 - AN EXTERNAL OUTPUT PULL UP RESISTOR IS REQUIRED
 - SENSOR IS DESIGNED TO OPERATE WITH 4 N/S POLEPAIRS
 - THE OPERATIONAL DISTANCE BETWEEN THE MAGNET AND THE HOUSING, INCLUDING ANY RUNOUT SHOULD NOT EXCEED .030 INCHES

INTERNAL INVOLUTE SPLINE SPECIFICATION
 CLASS 5 FILLET ROOT SIDE FIT (PER A.N.S.I. B92-1)

- NO. OF TEETH _____ 19
- SPLINE PITCH _____ 24 / 48
- PRESSURE ANGLE _____ 45°
- BASE Ø _____ .5597 REF
- PITCH Ø _____ .7916 REF
- MAJOR Ø _____ .850 - .859
- FORM Ø _____ .835
- MINOR Ø _____ .767 - .772
- CIRCULAR SPACE WIDTH _____ .0764
- EFFECTIVE SPACE WIDTH _____ .0738
- MAX. DIMENSION BETWEEN TWO PINS _____ .6714
- PIN Ø _____ .0800
- SPLINE HARDNESS TO BE R/C 26-34



MOTOR WEIGHT: 57 LBS
CLASS "H" INSULATION
PERFORMANCE SPEC: 49



MOTOR WIRING CONNECTIONS:
 CW ROTATION DRIVE END
 CONNECT A1 & F1 TO ONE BATTERY TERMINAL
 CONNECT A2 & F2 TO OTHER BATTERY TERMINAL
 CCW ROTATION DRIVE END
 SWITCH F1 & F2 CONNECTIONS

THIS PRINT IS THE PROPERTY OF D&D MOTOR SYSTEMS INC.
 DO NOT SCALE
 WORK TO DIMENSIONS
 TOLERANCES UNLESS OTHERWISE SPECIFIED ARE AS FOLLOWS

.XX	_____	.01
.XXX	_____	.005
.XX	ROUGH CASTING	.03
HOLES	_____	.001 / +.006
ANGLES	_____	-.30°

D & D MOTOR SYSTEMS INC			
MOTOR OUTLINE			
SIZE	DRAWN DATE	RELEASE DATE	DWG NO. / PART NO.
B	10-29-09		ES-63C-49
SCALE	STF	DRAWN BY	REV DATE
		MJG	