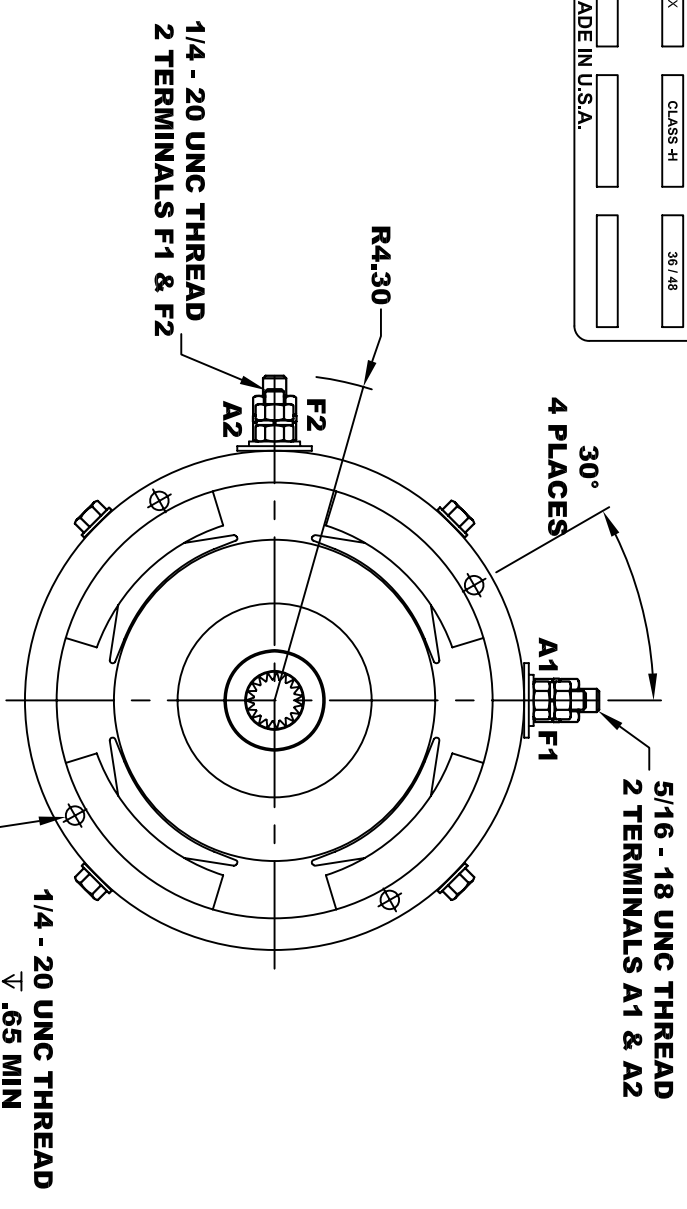


D&D MOTOR SYSTEMS INC.			
SYRACUSE N.Y.			
A2	A1	F1	F2
Model # ES-63-49			
Mfg. Date	Serial #	Rating	Voltage
XXXXXX	XXXX	CLASS -H	36/48
MADE IN U.S.A.			

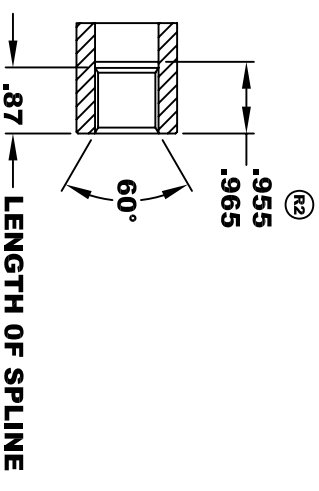
**TORQUE SPECIFICATION FOR
POWER CABLE SECURING TOP NUTS**
 5/16-18 UNC (A1 / A2) - 110 IN / LBS MAX
 1/4-20 UNC (F1 / F2) - 50 IN / LBS MAX



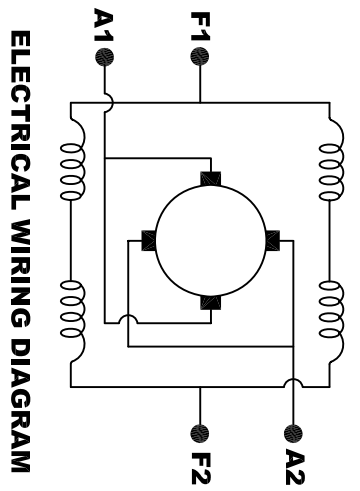
SPEED SENSOR ELECTRICAL SPECIFICATION:
 -4.5V TO 24V OPERATING VOLTAGE
 -20°C TO 85°C OPERATING TEMPERATURE
 -CURRENT SINKING UP TO 25mA
 -AN EXTERNAL OUTPUT PULL UP RESISTOR IS REQUIRED
 -SENSOR IS DESIGNED TO OPERATE WITH 4 N/S POLEPAIRS
 -THE OPERATIONAL DISTANCE BETWEEN THE MAGNET
 AND THE HOUSING, 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

D & D MOTOR SYSTEMS INC
MOTOR OUTLINE

THIS PRINT IS THE PROPERTY OF D&D MOTOR SYSTEMS INC.
 DO NOT SCALE
 WORK TO DIMENSIONS
 TOLERANCES UNLESS OTHERWISE SPECIFIED ARE AS FOLLOWS
 .XXX _____ .005
 .XX _____ .03
 HOLES _____ -.001 / +.006
 ANGLES _____ 0°30"

SIZE	DRAWN DATE	RELEASE DATE	DWG NO. / PART NO.	REV
B	3-18-04		ES-63-49	R3
SCALE	STF	DRAWN BY	MJG	REV DATE
				1-15-09