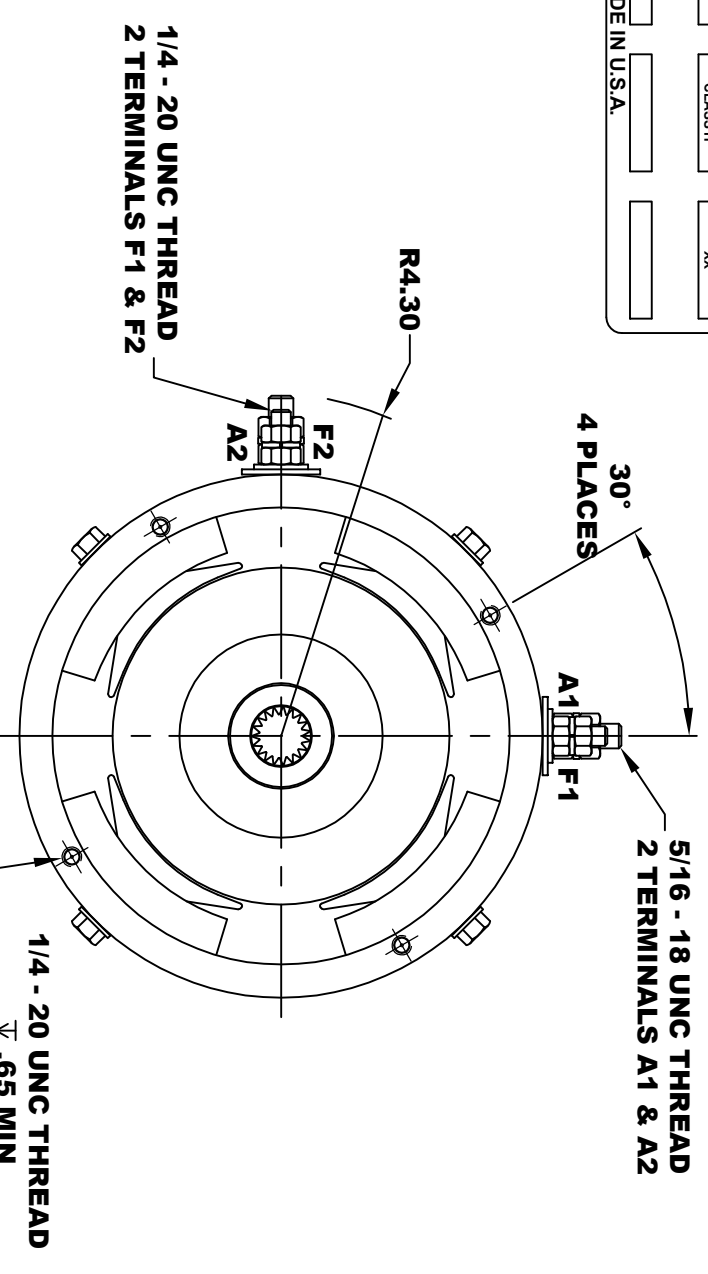
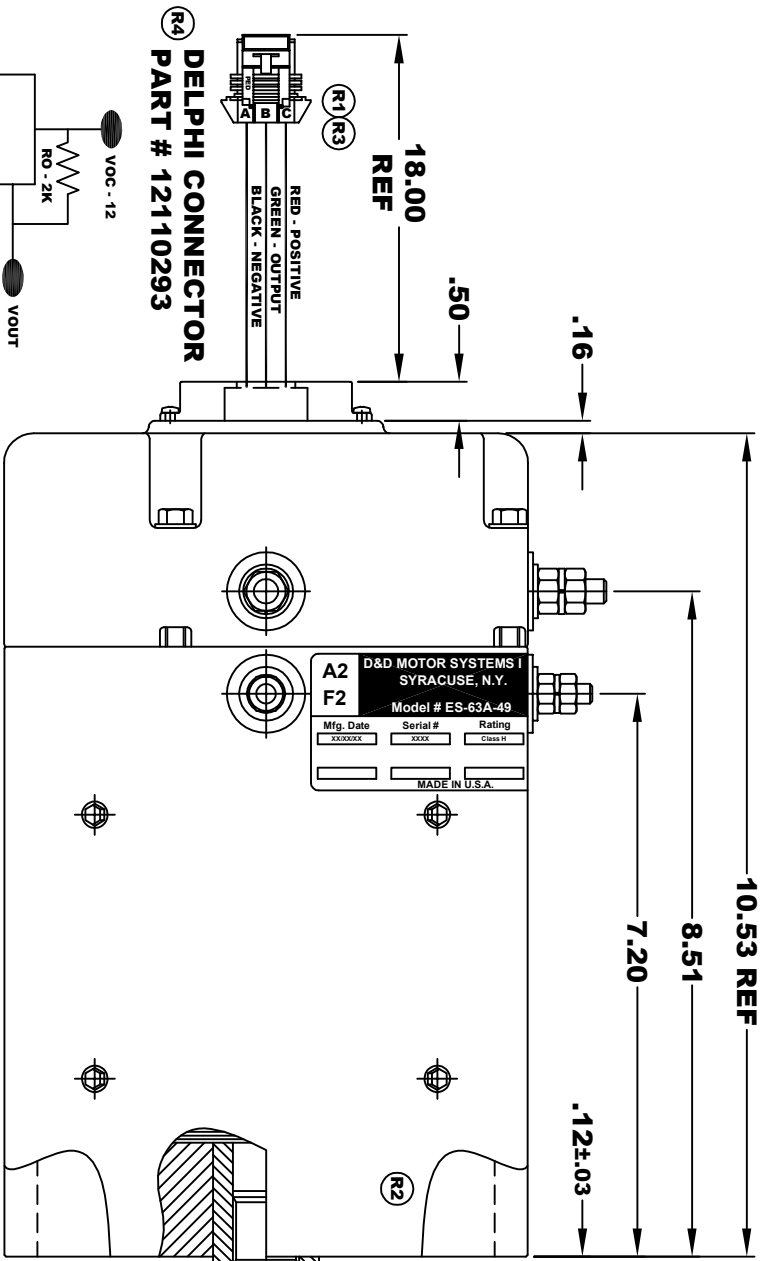


D&D MOTOR SYSTEMS INC.			
SYRACUSE N.Y.			
A2	Model # ES-63A-49		A1
F2			F1
Mfg. Date	Serial #	Rating	Voltage
XXXXXX	XXXX	CLASS H	XX
MADE IN U.S.A.			

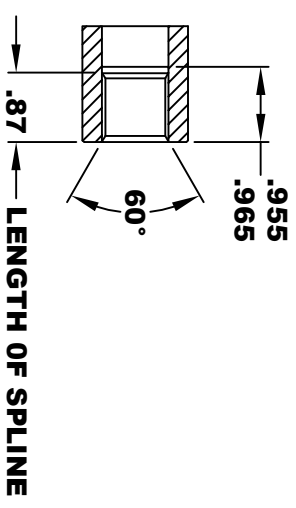
**TORQUE SPECIFICATION FOR
POWER CABLE SECURING TOP NUTS**
5/16-18 UNC (A1 / A2) - 110 IN / LBS MAX
1/4-20 UNC (F1 / F2) - 50 IN / LBS MAX



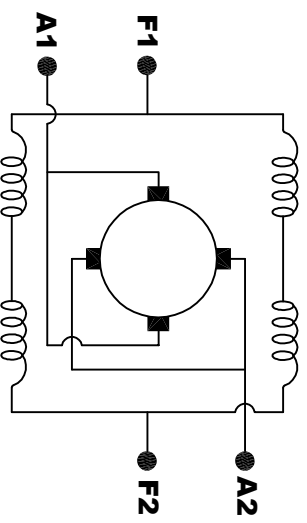
ELECTRICAL SPECIFICATION:
-4.5V TO 24V OPERATING VOLTAGE
-20°C TO 85°C OPERATING TEMPERATURE
-CURRENT SINKING UP TO 25mA
-AN EXTERNAL OUTPUT PULL UP RESISTOR IS REQUIRED
-SENSOR IS DESIGNED TO OPERATE WITH 4 N/S POLEPAIRS
-THE OPERATIONAL DISTANCE BETWEEN THE MAGNET AND THE HOUSING, INCLUDING ANY RUNOUT 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 RC 26-34



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



ELECTRICAL WIRING DIAGRAM

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
XXX _____ .01
XX _____ .005
.XX ROUGH CASTING _____ .03
HOLES _____ .001 / +.006
ANGLES _____ 0.30"

D & D MOTOR SYSTEMS INC
MOTOR OUTLINE

SIZE	DRAWN DATE	RELEASE DATE	DWG NO. / PART NO.	REV
B	10-4-06		ES-63A-49	R4
SCALE	STF	DRAWN BY	MJG	REV DATE
				10-23-18