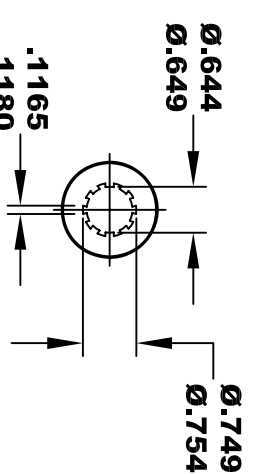
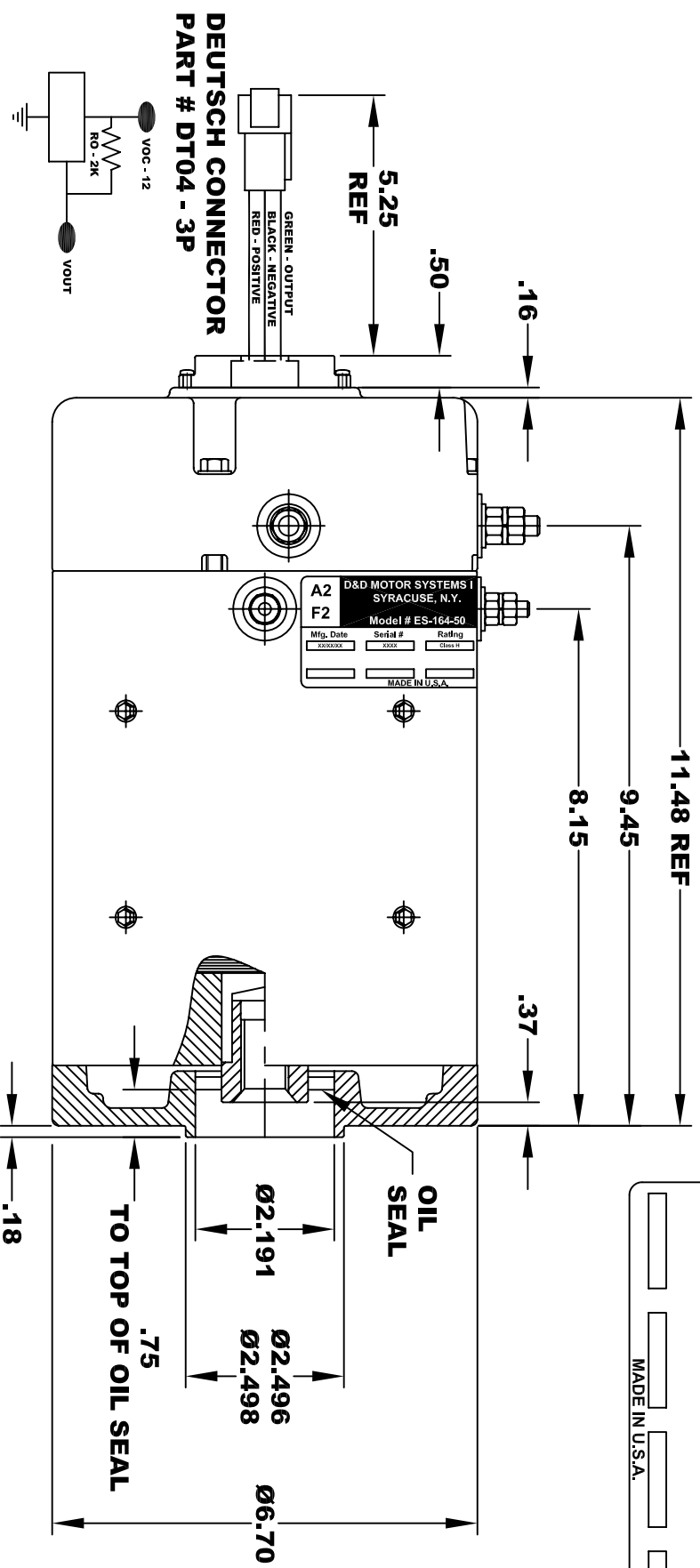
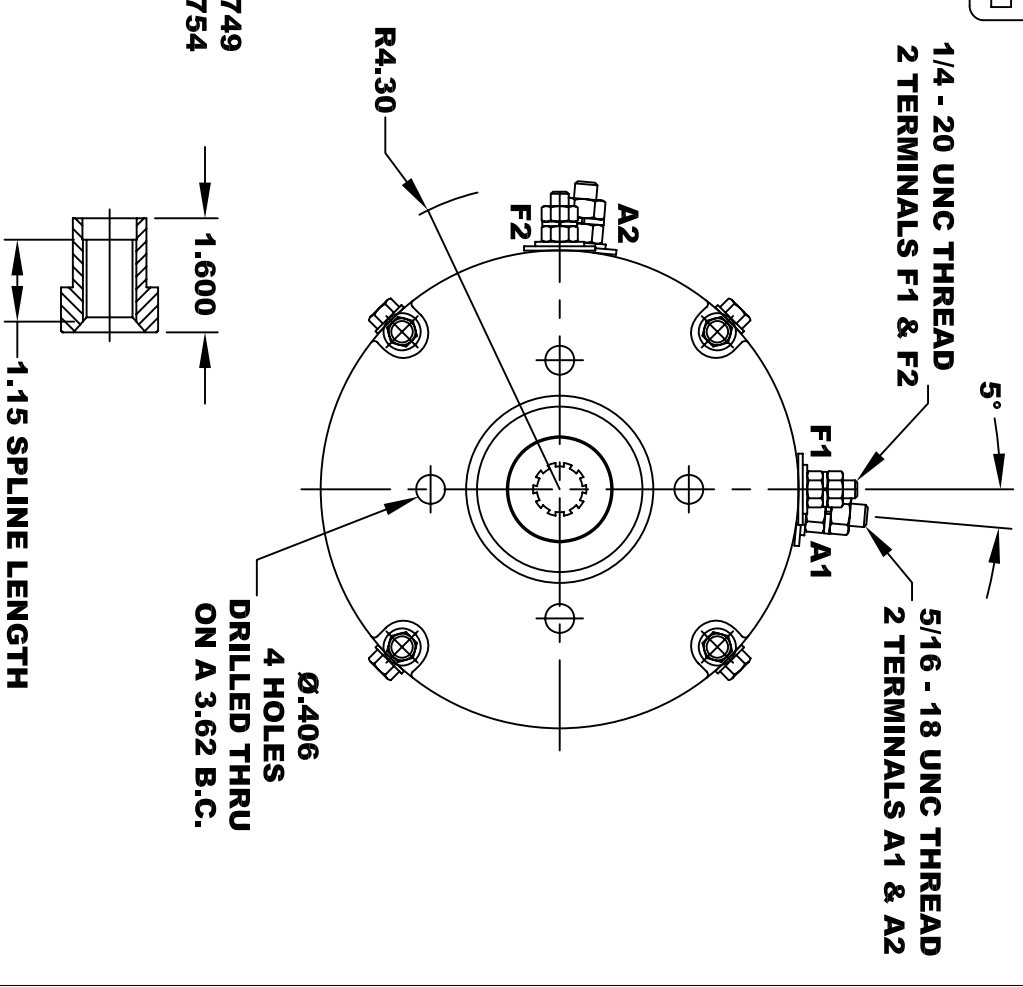


**TORQUE SPECIFICATION FOR
POWER CABLE SECURING TOP NUTS**
5/16-18 UNC - 110 IN / LBS MAX
1/4-20 UNC (F1 / F2) - 50 IN / LBS MAX

A2		D&D MOTOR SYSTEMS INC.		A1	
F2		SYRACUSE N.Y.		F1	
Model # ES-164-50		MADE IN U.S.A.			
Mfg. Date	Serial #	Rating	Voltage		
XXXXXX	XXXX	CLASS H	XX		

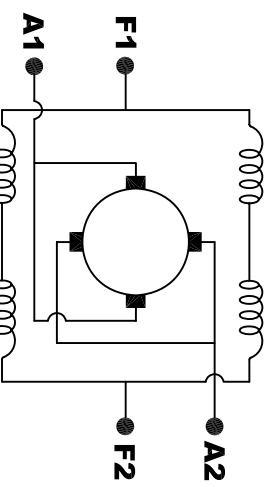


**10 TOOTH
INTERNAL SPLINE
HARDNESS OF SPLINE
TO BE R/C 46 - 53 (.02 DEPTH MIN)**



**MOTOR WEIGHT: 57 LBS
CLASS "H" INSULATION
PERFORMANCE SPEC: 50**

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



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
.XX _____ .01
.XXX _____ .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	9-5-13		ES-164-50	
SCALE	STF	DRAWN BY	MJG	REV DATE