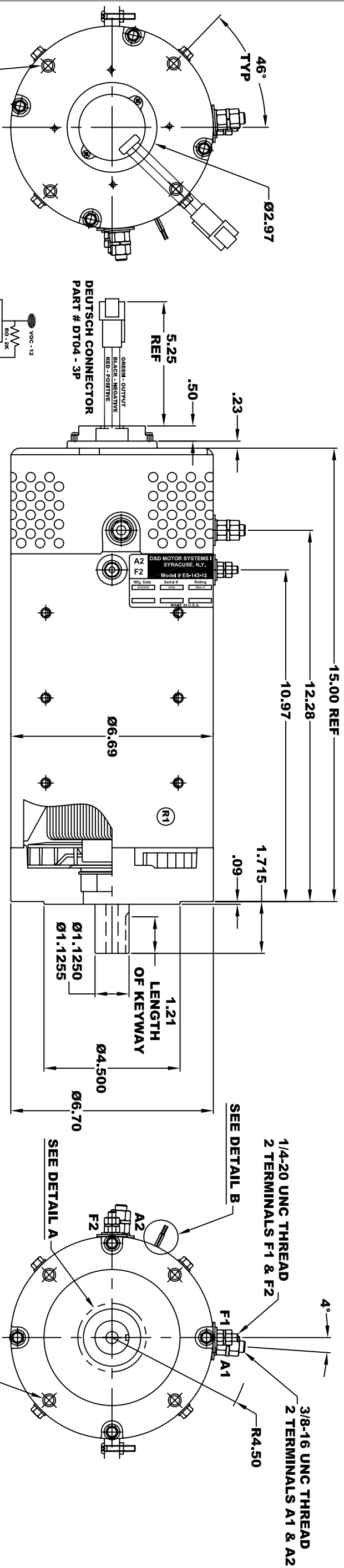


<b>A2</b>	<b>D&amp;D MOTOR SYSTEMS INC.</b>			<b>A1</b>
<b>F2</b>	<b>SYRACUSE N.Y.</b>			<b>F1</b>
Model #	ES-143-12			
Mfg. Date	Serial #	Rating	Voltage	
XXXXXX	XXXX	Class H	XX	
		MADE IN U.S.A.		

**TORQUE SPECIFICATION FOR  
POWER CABLE SECURING TOP NUTS**  
**3/8-16 UNC ( A1 & A2 ) - 140 IN / LBS MAX**  
**1/4-20 UNC ( F1 & F2 ) - 50 IN / LBS MAX**

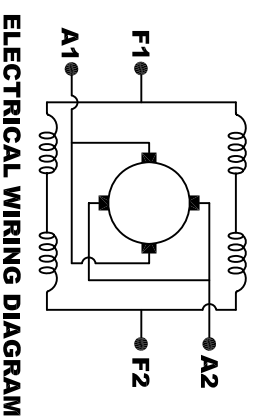


**$\varnothing 3/8 - 16$  UNC THREAD  
TAPPED THRU  
.03-.05 x 45° CHAMFER  
4 PLACES, ON A  $\varnothing 5.875$  B. C.**

**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

**THERMAL PROTECTOR ELECTRICAL SPECIFICATION:**  
 MAX. DC OPERATING VOLTAGE: 60 VOLTS  
 180° C NORMALLY CLOSED SWITCH

**MOTOR WEIGHT: 83 LBS**  
**CLASS "H" INSULATION**  
**PERFORMANCE SPEC: 12**



**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"

<b>D &amp; D MOTOR SYSTEMS INC</b>			
<b>MOTOR OUTLINE</b>			
SIZE	DRAWN DATE	RELEASE DATE	DWG NO. / PART NO.
B	4-6-09		ES-143-12
SCALE	STF	DRAWN BY	MJG
			REV DATE
			R1 5-29-13