REV	ECN	DATE	APPROVED
A	28263	080207	JRM
B	28367	111307	JRM

1. REQUIREMENTS
1.1 SHAFT DIAMETER:

THE HS20 HUBSHAFT BORE WILL BE 0.0002" TO 0.0008" IN DIAMETER OVER THE NOMINAL SHAFT SIZE AS SHOWN IN THE TABLE BELOW. THE TABLE ALSO SPECIFIES THE ACCEPTABLE SHAFT SIZE RANGE,

HS20 SHAFT DIAMETER SPECIFICATIONS		
NOMINAL	HS20 I.D (IN)	HS20 O.D (I.N)
5/8"	0.6252 - 0.6261	0.6245 - 0.6250

1.2 SHAFT RUNOUT:

TO MAINTAIN LONG BEARING AND TETHER LIFE THE SHAFT RUNOUT SHOULD BE LESS THAN 0.003" TIR SPECIAL ATTENTION SHOULD BE GIVEN TO INSTALLATIONS. THAT EMPLOY A PRESS-FIT OR SCREWED-ON STUB SHAFT ADAPTOR. THE SHAFT ADAPTOR SHOULD BE ALIGNED TO WITHIN 0.003" TIR USING A DIAL INDICATOR.

1.3 SHAFT LENGTH:

THE SHAFT LENGTH SHOULD EXTEND A MINIMUM OF 0.70" INTO THE HS20 HUB. WHEN USING THE STANDARD TETHER, THE MINIMUM SHAFT LENGTH OS 0.80" FROM THE TETHER MOUNTING SURFACE AS SHOWN BELOW.

1.4 TETHER CONSIDERATIONS:

THE HOUSING OF THE HS20X11 ENCODER MUST BE PREVENTED FROM ROTATING IN ORDER TO MAINTAIN ACCURACY. A GOOD TETHER WILL PREVENT ROTATION WHILE ALLOWING MOVEMENT IN THE RADIAL AND AXIAL DIRECTIONS. USE OF THE STANDARD TETHER THAT IS AVAILABLE WITH THE HS20X11 ENCODER IS RECOMMENDED THIS TETHER HAS BEEN OPTIMIZED TO PREVENT ROTATION WHILE MINIMIZING THE LOAD PLACED ON THE BEARINGS DUE TO THE RADIAL AND AXIAL SHAFT MOVEMENTS. THEY CAN TOLERATE MOVEMENTS OF UPTO +0.005" RADIALLY AND ±0.050° AXIALLY REFER TO FIGURE1 FOR TETHER MOUNTING HOLE LOCATION

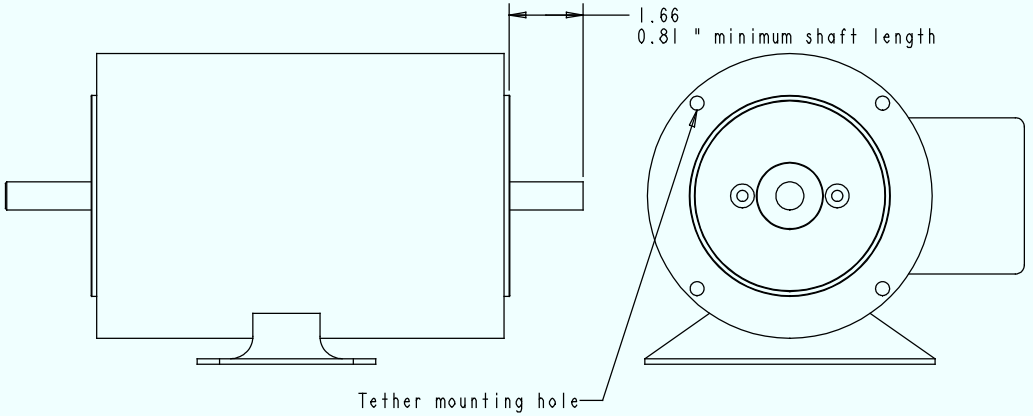


FIGURE 1

2. PROCEDURE
2.1 TETHER ATTACHMENT:

ATTACH THE TETHER TO THE ENCODER IN THE POSITION SHOWN IN THE FOLLOWING FIGURE. SECURE THE TETHER TO THE ENCODER USING THE (4) #4-40 X 1/4 " LONG SCREWS PROVIDED. CARE MUST BE TAKEN NOT TO EXCEED 8-10 IN-LBS TORQUE ON THE TETHER SCREWS.

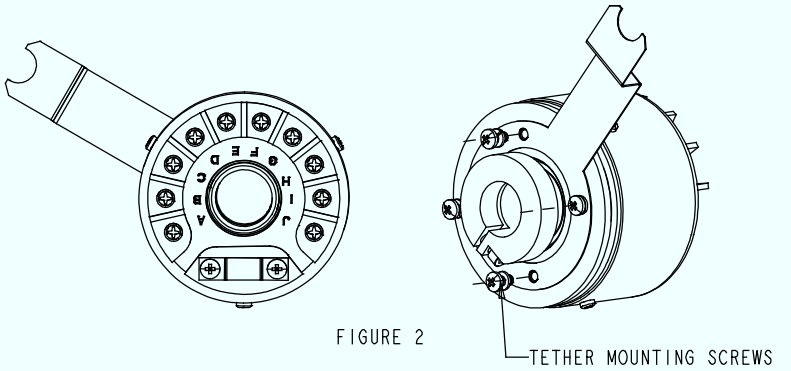
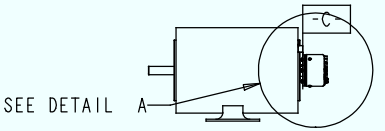


FIGURE 2

2.2 HS20X11 - MOTOR ATTACHMENT:

REMOVE STANDARD MOTOR COVER, IF ANY (RETAIN EXISTING COVER SCREWS). SLIDE THE ENCODER ONTO THE MOTOR SHAFT AND POSITION ENCODER AS CLOSE AS POSSIBLE TO THE MOTOR FACE. MAKE SURE THE ENCODER COLLAR DOES NOT RUB AGAINST THE MOTOR FACE. TIGHTEN THE HEXSCREW OF THE ENCODER COLLAR USING A 7/64" DRIVER TO GRASP FIRMLY TO THE MOTOR SHAFT.



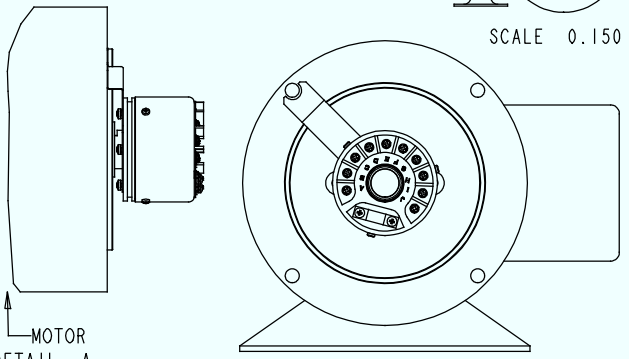


FIGURE 3

TOLERANCES UNLESS INDICATED: .XXX ± .XX ± ANGLES ±	UNITS: INCHES MATERIAL: FINISH:	TITLE: HS20 X 11 INSTALLATION	
		FILE NAME: 200082601.DRW	SCALE:
		DRAWN: JRM	DATE: 05/24/07
©05/24/07 C.	"C" SIZE	CHECKED: JRM	DATE: 05/24/07
Danaher Controls		RELEASED: JRM	DATE: 05/24/07

COMPLIANCE REQUIRED ☐UL ☐CSA ☐CE ☐TUV ☐FCC ☐VCCI
PRO/E MODEL: INSTALLATION.ASM
APPLICATION: HS20 X 11
DRAWING NUMBER: 200826-0001 1OF2 REV: B

REV	ECN	DATE	APPROVED
A	28263	080207	JRM
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2.3 GASKET AND CABLE INSTALLATION:

SLIP THE GASKET PROVIDED OVER THE ENCODER.
FINAL ALIGNMENT OF THE GASKET SHOULD BE AS PER FIGURE5 BELOW.
SLIGHTLY LOOSEN THE CORD GRIP NUT AND SLIP THE APPROPRIATE CABLE THROUGH THE CORD GRIP. LOOSEN THE CABLE CLAMP ON THE ENCODER COVER AND SLIP THE CABLE UNDER IT.
FASTEN WIRES TO SCREWS IN TERMINAL COVER USING COLOR CODES (REFER SPECIFICATION SHEET OR FUNCTION LABEL IN ENCODER) AFTER TERMINAL CONNECTIONS ARE COMPLETE, TIGHTEN THE CABLE CLAMP TO PRESS FIRMLY AGAINS THE CABLE JACKET.

2.4 GASKET ORIENTATION:

CARE MUST BE TAKEN TO ALIGN THE GASKET CUT FACE WITH THE TETHER FACE (SEE DETAIL A FOR REFERENCE)

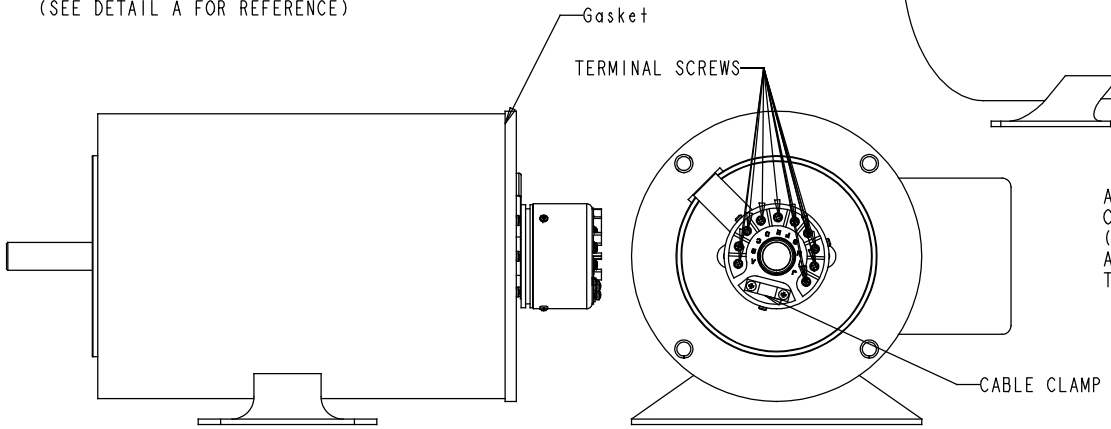

FIGURE 4

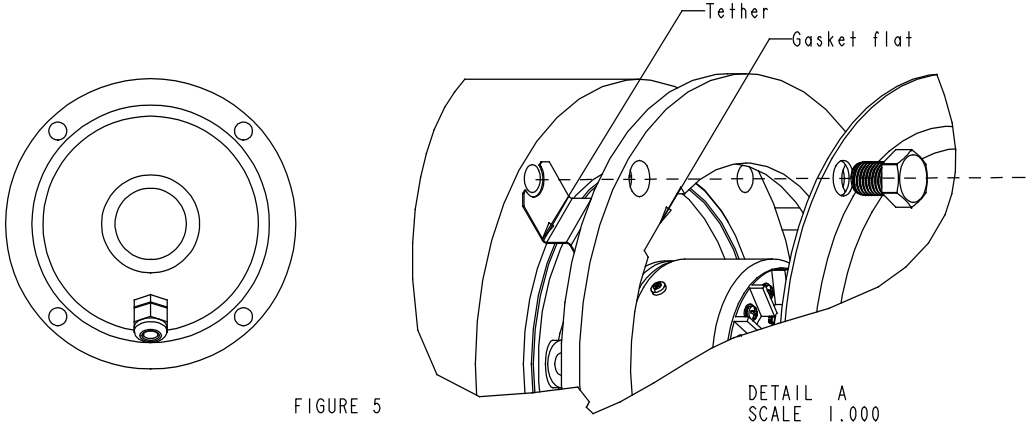

FIGURE 5

DETAIL A
SCALE 1.000

2.5 COVER INSTALLATION:

POSITION THE CORD GRIP TO FACE THE GROUND AS SHOWN IN FIGURE 6.

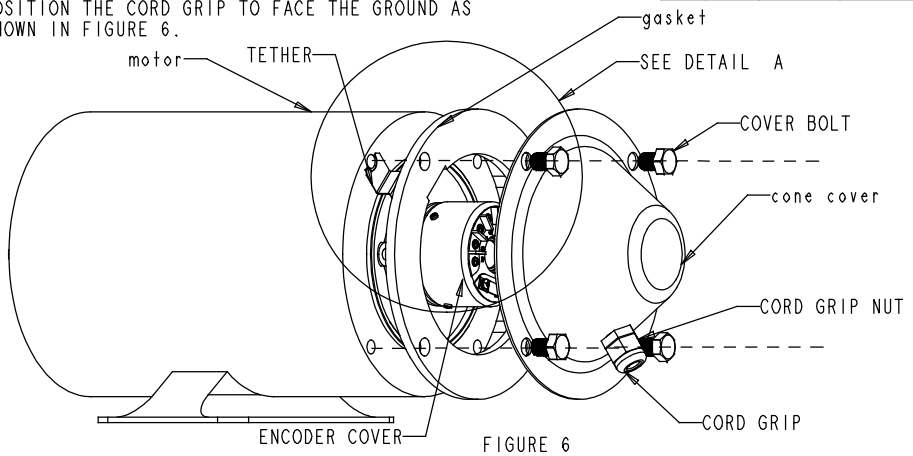

FIGURE 6

ALIGN ALL THE HOLES OF THE CONE COVER TO THE MOTOR CASTING. SECURE THE CONE COVER ASSEMBLY USING 3/8" BOLTS (BOLTS NOT PROVIDED AS PART OF PACKAGE).
ALLOW SUFFICIENT STRAIN RELIEF FOR THE CABLE
TIGHTEN THE CORD GRIP NUT TO FIRMLY SECURE THE CABLE ASSEMBLY

2.6. ELECTRICAL CONNECTIONS:

FOR DETAILED ELECTRICAL SPECIFICATIONS REFER TO PRODUCT SPECIFICATION SHEET

ENCODER FUNCTION	CABLE	10 PIN
SIGNAL A	BRN	A
SIGNAL B	ORN	B
SIGNAL Z	YEL	C
POWER SOURCE	RED	D
NO CONN	--	E
COMMON	BLK	F
CASE	GRN	G
SIGNAL A0	BRN/WHT	H
SIGNAL B0	ORN/WHT	I
SIGNAL Z0	YEL/WHT	J

TOLERANCES UNLESS INDICATED: .XXX ± .XX ± ANGLES ±	UNITS: INCHES	TITLE	HS20XII INSTALLATION
	MATERIAL:	FILE NAME: 20082601-2.DRW	SCALE:
	FINISH:	DRAWN: JRM	DATE: 05/24/07
© 05/25/07 C.	"C" SIZE	CHECKED: JRM	DATE: 05/25/07
Danaher Controls		RELEASED: JRM	DATE: 04/25/07

COMPLIANCE REQUIRED ☐UL ☐CSA ☐CE ☐TUV ☐FCC ☐VCCI
PRO/E MODEL: INSTALLATION.ASM
APPLICATION: HS20XII
DRAWING NUMBER: 200826-0001 2OF2 REV: B