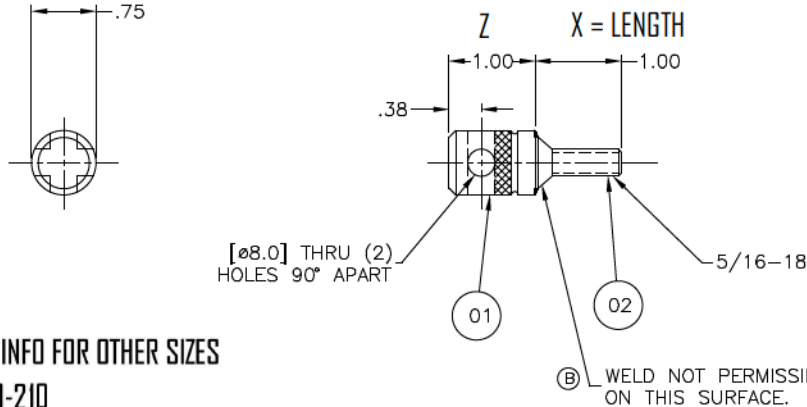


# EXAMPLE

Click for  
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## ORDERING INFO FOR OTHER SIZES

EI-230-100-210

DIM. X  
SCREW CALLOUT

DIM. Z

NOTE:

DIMS IN [ ] ARE METRIC

(B) DETAILS 01 & 02 TO BE  
CONCENTRIC WITHIN .02

Z DIM.	NOB DIA.	SCREW SIZE	SCREW CALLOUT
019 (3/4)	3/4 (19.0) DIA.	1/4 - 20	1
025 (1.0)	3/4 (19.0) DIA.	5/16 - 18	2
038 (1.50)	3/4 (19.0) DIA.	3/8 - 16	3
050 (2.0)	3/4 (19.0) DIA.	1/2 - 13	4

IF CAD DRAWN, MANUAL  
CHANGES ARE PROHIBITED

UNLESS OTHERWISE SPECIFIED:

.02 RAD. MAX. ON ALL INSIDE  
CORNERS

REMOVE ALL BURRS AND BREAK  
SHARP EDGES

CHAMFER ALL TAPPED HOLES 45°  
TO .03 OVER TAP SIZE

GEOMETRIC DRAWING SYMBOLS	
▭ FLAT SURFACE	○ PROFILE OF A SURFACE
∠ ANGULAR SQUARE	⊕ TRUE POSITION
∥ PARALLEL	⊖ SYMMETRICAL
○ ROUND	⊖ ROUNDT C.R.
○ CONCENTRIC	⊖ TOTAL ROUND
○ PROFILE OF A LINE	⊖ [DIM] BASIC DIM. (0.000) REF. DIM.
① MAXIMUM MATERIAL CONDITION (MMC)	
② REGARDLESS OF FEATURE SIZE (RFS)	
③ PROJECTED TOLERANCE ZONE	

INCH	
3RD ANGLE PROJECTION	
DO NOT SCALE	
MACHINING TOLERANCE INCH	
2 PLACE DEC.	±.010
3 PLACE DEC.	±.005
4 PLACE DEC.	±.0005

E & E  
SPECIAL PRODUCTS

7200 MILLER DR.  
WARREN, MI. 48092

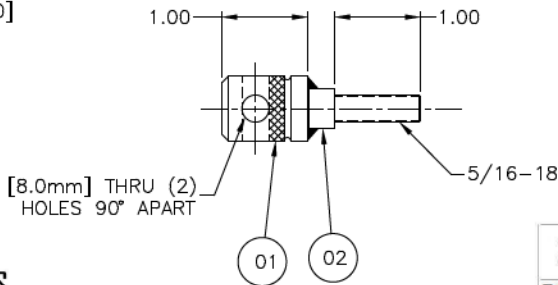
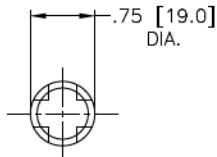
TITLE HAND KNOB ASSEMBLY

PART NO. EI-230-XXX-XXX

DRAWN BY: TONI	CHK'D BY: G.A.	APPR'D BY: G.L.A
DATE: 30JAN01	DATE: 30JAN01	DATE: 26NOV01
SCALE FULL	DWG. NO.	E-800.048.001
SHT 03 OF		

# EXAMPLE

## Z X = LENGTH



ORDERING INFO FOR OTHER SIZES

EI-231-100-210

DIM. X  
SCREW CALLOUT

DIM. Z

NOTE:

DIMS IN [ ] ARE METRIC

(B) DETAILS 01 & 02 TO BE  
CONCENTRIC WITHIN .02

Z DIM.	KNOB DIA.	SCREW SIZE	SCREW CALLOUT
019 (3/4)	3/4 (19.0) DIA.	1/4 - 20	1
025 (1.0)	3/4 (19.0) DIA.	5/16 - 18	2
038 (1.50)	3/4 (19.0) DIA.	3/8 - 16	3
050 (2.0)	3/4 (19.0) DIA.	1/2 - 13	4

DET	SHT	AMT	DESCRIPTION	MAT'L
-----	-----	-----	-------------	-------

### BILL OF MATERIAL

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TITLE HAND KNOB ASSEMBLY

PART NO. EI-231-XXX-XXX

DRAWN BY: SEAN	CHK'D BY: G.A	APPR'D BY: G.L.A
DATE: 16AUG01	DATE: 26NOV01	DATE: 26NOV01

SCALE FULL	DWG. NO. E-800.048.002
SHT 03 OF XX	

IF CAD DRAWN, MANUAL CHANGES ARE PROHIBITED

UNLESS OTHERWISE SPECIFIED:

.02 RAD. MAX. ON ALL INSIDE CORNERS

REMOVE ALL BURRS AND BREAK SHARP EDGES

CHAMFER ALL TAPPED HOLES 45° TO .03 OVER TAP SIZE

GEOMETRIC DRAWING SYMBOLS

▭ FLAT	○ PROFILE OF A SURFACE
∠ STRAIGHT	⊕ TRUE POSITION
∠ ANGULAR	⊕ SYMMETRICAL
▭ SQUARE	⊕ ROUNDT C.R.
// PARALLEL	⊕ TOTAL RUNOUT
○ ROUND	⊕ CIRCULAR RUNOUT
○ CYLINDRICAL	⊕ CONCENTRIC
○ PROFILE OF A LINE	

① MAXIMUM MATERIAL CONDITION (MMC)  
② REGARDLESS OF FEATURE SIZE (RFS)  
③ PROJECTED TOLERANCE ZONE

INCH

3RD ANGLE PROJECTION

DO NOT SCALE

MACHINING TOLERANCE INCH

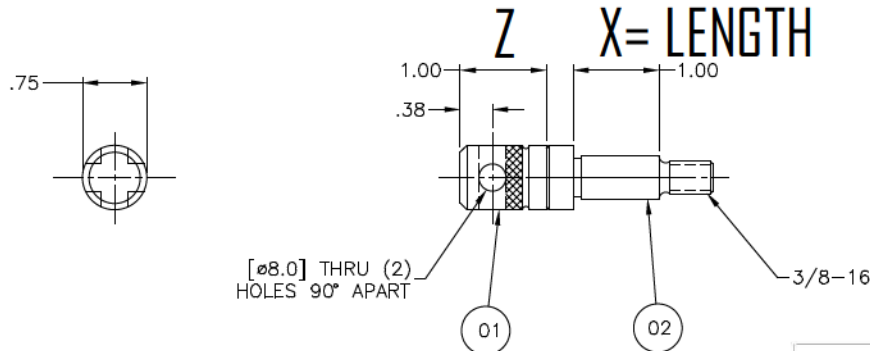
2 PLACE DEC. ±.010
3 PLACE DEC. ±.005
4 PLACE DEC. ±.0005

E & E SPECIAL PRODUCTS

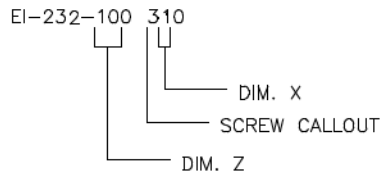
7200 MILLER DR.  
WARREN, MI. 48092

# EXAMPLE

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ORDERING INFO FOR OTHER SIZES



NOTE:  
DIMS IN [ ] ARE METRIC  
ⓑ DETAILS O1 & O2 TO BE CONCENTRIC WITHIN .02

Z DIM.	NOB DIA.	SCREW SIZE	SCREW CALLOUT
019 (3/4)	3/4 (19.0) DIA.	1/4 - 20	1
025 (1.0)	3/4 (19.0) DIA.	5/16 - 18	2
038 (1.50)	3/4 (19.0) DIA.	3/8 - 16	3
050 (2.0)	3/4 (19.0) DIA.	1/2 - 13	4

DET	SHT	AMT	DESCRIPTION	MAT'L
BILL OF MATERIAL				

IF CAD DRAWN, MANUAL CHANGES ARE PROHIBITED

UNLESS OTHERWISE SPECIFIED:

.02 RAD. MAX. ON ALL INSIDE CORNERS

REMOVE ALL BURRS AND BREAK SHARP EDGES

CHAMFER ALL TAPPED HOLES 45° TO .03 OVER TAP SIZE

**GEOMETRIC DRAWING SYMBOLS**

▭ FLAT SURFACE  
∠ ANGULAR  
□ SQUARE  
// PARALLEL  
○ ROUND  
⊘ CYLINDRICAL  
⊙ CONCENTRIC  
ⓐ PROFILE OF A LINE

△ PROFILE OF A SURFACE  
⊕ TRUE POSITION  
⊖ SYMMETRICAL  
R ROUNDT CER.  
R<sub>T</sub> TOTAL ROUNDT  
⊞ BASIC DIM.  
(.000) REF. DIM.

ⓐ MAXIMUM MATERIAL CONDITION (MMC)  
ⓑ REGARDLESS OF FEATURE SIZE (RFS)  
ⓐ PROJECTED TOLERANCE ZONE

INCH

3RD ANGLE PROJECTION

**DO NOT SCALE**

MACHINING TOLERANCE INCH

2 PLACE DEC. ±.010  
3 PLACE DEC. ±.005  
4 PLACE DEC. ±.0005

**E & E**

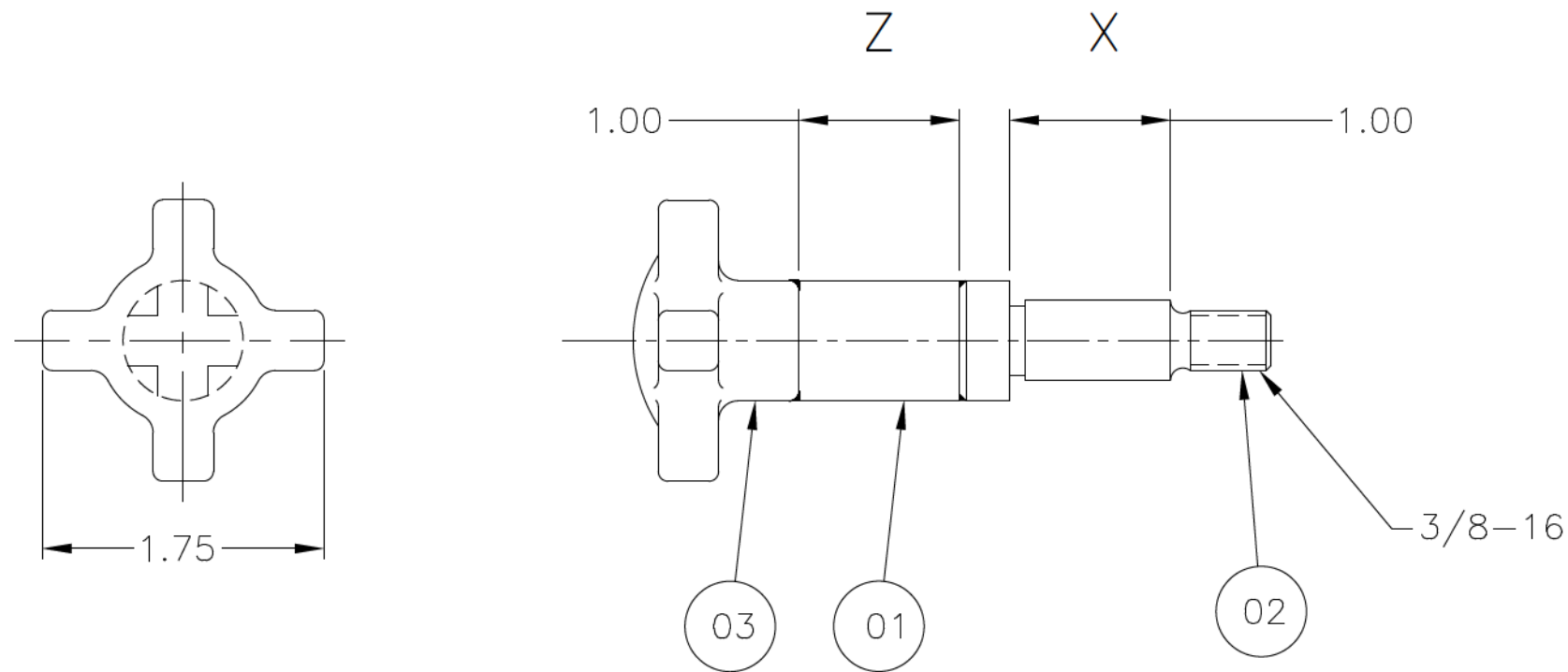
SPECIAL PRODUCTS

7200 MILLER DR.  
WARREN, MI. 48092

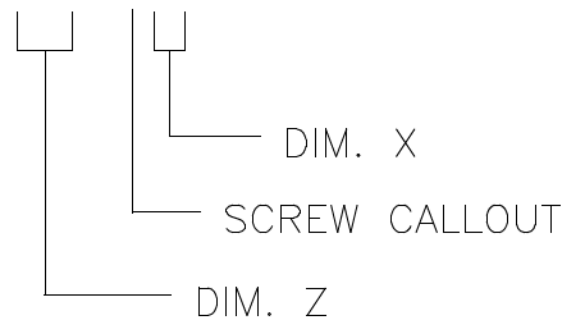
TITLE HAND KNOB ASSEMBLY			
PART NO. EI-232-XXX-XXX			
DRAWN BY: TONI	CHK'D BY: G.A.	APPR'D BY: G.L.A	
DATE: 30JAN01	DATE: 30JAN01	DATE: 26NOV01	
SCALE FULL	DWG. NO. E-800.048.003		
SHT 04 OF XX			

# EXAMPLE

Click Here for CAD Files  
.3DWG / .STP



ORDERING INFO FOR OTHER SIZES  
EI-234-100-310



NOTE:  
DIMS IN [ ] ARE METRIC  
Ⓐ DETAILS 01-02 & 03 TO BE CONCENTRIC WITHIN .02

X SOC. HD. SCREW SIZE	SCREW CALLOUT
1/4-20	1
5/16-18	2
3/8-16	3
1/2-13	4

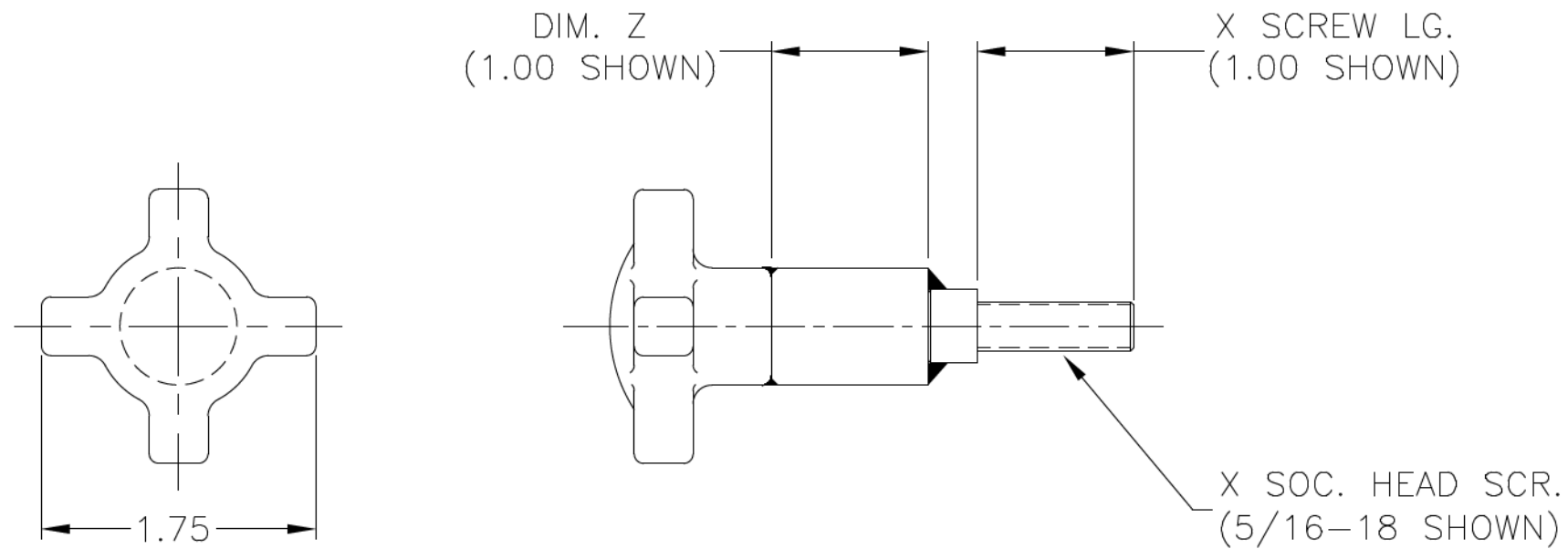
DET	SHT	AMT	DESCRIPTION	MAT'L
-----	-----	-----	-------------	-------

## BILL OF MATERIAL

TITLE			HAND KNOB ASSEMBLY	
PART NO.			EI-234-XXX-XXX	
DRAWN BY: TONI		CHK'D BY: G.A.		APPR'D BY: G.L.A
DATE: 30JAN01		DATE: 30JAN01		DATE: 27NOV01
SCALE		FULL		DWG. NO.
SHT 04 OF XX		E-800.049.002		

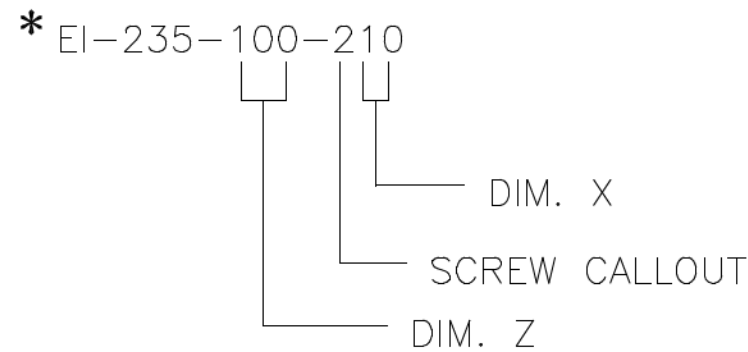
<p>IF CAD DRAWN, MANUAL CHANGES ARE PROHIBITED</p> <p>UNLESS OTHERWISE SPECIFIED:</p> <p>.02 RAD. MAX. ON ALL INSIDE CORNERS</p> <p>REMOVE ALL BURRS AND BREAK SHARP EDGES</p> <p>CHAMFER ALL TAPPED HOLES 45° TO .03 OVER TAP SIZE</p>	<p>GEOMETRIC DRAWING SYMBOLS</p> <p>▭ FLAT — STRAIGHT ∠ ANGULAR ⊥ SQUARE // PARALLEL ○ ROUND ○ CYLINDRICAL ◎ CONCENTRIC ∩ PROFILE OF A LINE</p> <p>Ⓜ MAXIMUM MATERIAL CONDITION (MMC) Ⓢ REGARDLESS OF FEATURE SIZE (RFS) Ⓟ PROJECTED TOLERANCE ZONE</p>	<p>INCH</p> <p>3RD ANGLE PROJECTION</p> <p>DO NOT SCALE</p> <p>MACHINING TOLERANCE INCH</p> <p>2 PLACE DEC. ±.010 3 PLACE DEC. ±.005 4 PLACE DEC. ±.0005</p>	<p><b>E&amp;E</b> SPECIAL PRODUCTS</p> <p>7200 MILLER DR. WARREN, MI. 48092</p>

# EXAMPLE



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.3DWG / .STP

ORDERING INFO FOR OTHER SIZES



X SOC. HD. SCREW SIZE	SCREW CALLOUT
1/4-20	1
5/16-18	2
3/8-16	3
1/2-13	4

DIMS IN [ ] ARE METRIC

<p>IF CAD DRAWN, MANUAL CHANGES ARE PROHIBITED</p> <p>UNLESS OTHERWISE SPECIFIED:</p> <p>.02 RAD. MAX. ON ALL INSIDE CORNERS</p> <p>REMOVE ALL BURRS AND BREAK SHARP EDGES</p> <p>CHAMFER ALL TAPPED HOLES 45° TO .03 OVER TAP SIZE</p>	<p>GEOMETRIC DRAWING SYMBOLS</p> <table border="0"> <tr> <td>▭ FLAT</td> <td>⊖ PROFILE OF A SURFACE</td> </tr> <tr> <td>— STRAIGHT</td> <td>⊕ TRUE POSITION</td> </tr> <tr> <td>∠ ANGULAR</td> <td>⊕ SYMMETRICAL</td> </tr> <tr> <td>⊥ SQUARE</td> <td>↗ RUNOUT CIR.</td> </tr> <tr> <td>// PARALLEL</td> <td>↗ TOTAL RUNOUT</td> </tr> <tr> <td>○ ROUND</td> <td>□ BASIC DIM. (.000) REF. DIM.</td> </tr> <tr> <td>⊙ CYLINDRICAL</td> <td></td> </tr> <tr> <td>◎ CONCENTRIC</td> <td></td> </tr> <tr> <td>⌒ PROFILE OF A LINE</td> <td></td> </tr> <tr> <td>Ⓜ MAXIMUM MATERIAL CONDITION (MMC)</td> <td></td> </tr> <tr> <td>Ⓡ REGARDLESS OF FEATURE SIZE (RFS)</td> <td></td> </tr> <tr> <td>Ⓟ PROJECTED TOLERANCE ZONE</td> <td></td> </tr> </table>	▭ FLAT	⊖ PROFILE OF A SURFACE	— STRAIGHT	⊕ TRUE POSITION	∠ ANGULAR	⊕ SYMMETRICAL	⊥ SQUARE	↗ RUNOUT CIR.	// PARALLEL	↗ TOTAL RUNOUT	○ ROUND	□ BASIC DIM. (.000) REF. DIM.	⊙ CYLINDRICAL		◎ CONCENTRIC		⌒ PROFILE OF A LINE		Ⓜ MAXIMUM MATERIAL CONDITION (MMC)		Ⓡ REGARDLESS OF FEATURE SIZE (RFS)		Ⓟ PROJECTED TOLERANCE ZONE		<p>INCH</p> <p>3RD ANGLE PROJECTION</p> <p>DO NOT SCALE</p> <p>MACHINING TOLERANCE INCH</p> <p>2 PLACE DEC. ±.010</p> <p>3 PLACE DEC. ±.005</p> <p>4 PLACE DEC. ±.0005</p>		<p><b>E&amp;E</b></p> <p>SPECIAL PRODUCTS</p> <p>7200 MILLER DR. WARREN, MI. 48092</p>	<p>TITLE HAND KNOB ASSEMBLY</p>		
		▭ FLAT	⊖ PROFILE OF A SURFACE																												
		— STRAIGHT	⊕ TRUE POSITION																												
		∠ ANGULAR	⊕ SYMMETRICAL																												
		⊥ SQUARE	↗ RUNOUT CIR.																												
// PARALLEL	↗ TOTAL RUNOUT																														
○ ROUND	□ BASIC DIM. (.000) REF. DIM.																														
⊙ CYLINDRICAL																															
◎ CONCENTRIC																															
⌒ PROFILE OF A LINE																															
Ⓜ MAXIMUM MATERIAL CONDITION (MMC)																															
Ⓡ REGARDLESS OF FEATURE SIZE (RFS)																															
Ⓟ PROJECTED TOLERANCE ZONE																															
<p>PART NO. * EI-235-XXX-XXX</p>			<p>DRAWN BY: TONI</p>	<p>CHK'D BY: G.A.</p>	<p>APPR'D BY: G.L.A</p>																										
<p>DATE: 30JAN01</p>	<p>SCALE FULL</p>	<p>DWG. NO. E-800.049.003</p>	<p>DATE: 30JAN01</p>	<p>DATE: 27NOV01</p>																											
<p>SHT 01 OF 05</p>																															

**SCREW CALLOUTS AND LENGTHS FOR HANDKNOB ASSEMBLIES  
USING ANSI STANDARD SCREWS**

**INCH**

KNOB LENGTH ~ Z		
LENGTH (MM REF)	LENGTH (INCH'S)	LENGTH CALLOUT
6.3	1/4	0 2 5
9.5	3/8	0 3 8
12.7	1/2	0 5 0
15.9	5/8	0 6 3
19.1	3/4	0 7 5
22.2	7/8	0 8 8
25.0	1	1 0 0
29.0	1 1/8	1 1 2
32.0	1 1/4	1 2 5
35.0	1 3/8	1 3 8
38.0	1 1/2	1 5 0
41.0	1 5/8	1 6 3
45.0	1 3/4	1 7 5
48.0	1 7/8	1 8 8
51.0	2	2 0 0

CODE FOR SCREW ~ X		
KNOB DIA.	SCREW SIZE	CODE CALLOUT
9/16 DIA.	1/4	1
3/4 DIA.	5/16	2
3/4 DIA.	3/8	3
3/4 DIA.	1/2	4

LENGTH FOR SCREW ~ X	
LENGTH (INCH'S)	LENGTH CALLOUT
1/4	02
3/8	03
1/2	05
5/8	06
3/4	07
7/8	08
1	10
1 1/8	11
1 1/4	12
1 3/8	13
1 1/2	15
1 5/8	16
1 3/4	17
1 7/8	18
2	20

**EI-231-000-000**

LENGTHS ARE CONSIDERED STANDARD PURCHASE

INCH SCREW LENGTHS MUST BE CALLED OUT AND DESIGNATED IN TENTHS  
ALTERNATE UNITS MAY BE USED FOR REFERENCE ONLY I.E. 15 = 1 1/2 [38.0]



Confidenti  
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