



Product Catalog

BSM North America
11950 12th Avenue
Burnsville, MN
55337-1405 (USA)

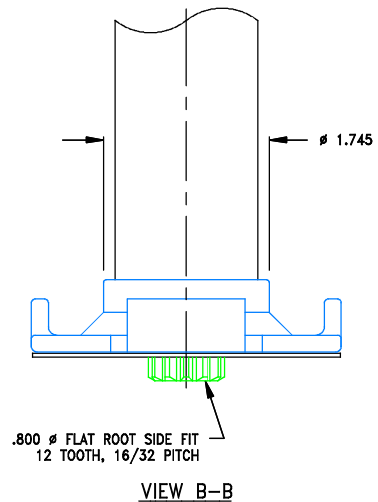
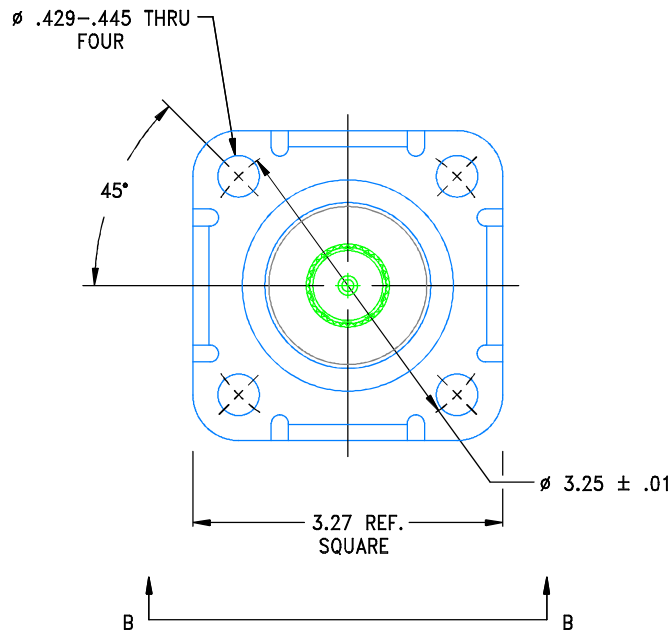
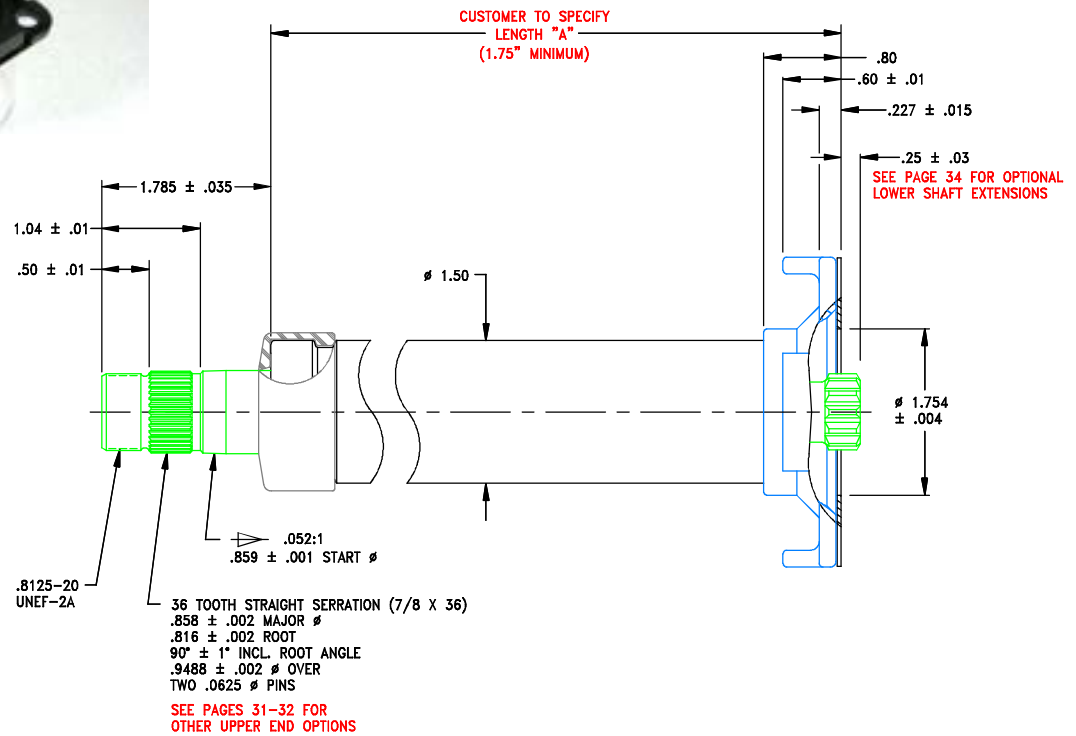
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Table of Contents

Description	Page
Column / Square Tabbed Flange / Non Horn Wire	1
Column / Square Tabbed Flange / Single Horn Wire	2
Column / Square Flat Flange / Non Horn Wire	3
Column / Square Flat Flange / Single Horn Wire	4
Column / Eaton Round (Series 5) Flange / Non Horn Wire	5
Column / Eaton Round (Series 5) Flange / Single Horn Wire	6
Column / Danfoss Round (OSPM) Flange / Non Horn Wire	7
Column / Danfoss Round (OSPM) Flange / Single Horn Wire	8
Column / Parker Square (HGF) Flange / Non Horn Wire	9
Column / Parker Square (HGF) Flange / Single Horn Wire	10
Tilt Column / Mechanical Latch / Five Position / Non Horn Wire	11, 12
Tilt Column / Mechanical Latch / Five Position / Single Horn Wire	13, 14
Telescoping Tilt Column / Mechanical Latch / Five Position / Non Horn Wire	15, 16
Telescoping Tilt Column / Mechanical Latch / Five Position / Single Horn Wire	17, 18
Tilt Column / Foot Operated / Locking Gas Spring / Infinite Position / Non Horn Wire	19, 20
Tilt Column / Foot Operated / Locking Gas Spring / Infinite Position / Single Horn Wire	21, 22
Tilt Column / Foot Operated / Mechanical Latch / Seven Position / Non Horn Wire	23, 24
Tilt Column / Foot Operated / Mechanical Latch / Seven Position / Single Horn Wire	25, 26
Telescoping Tilt Column / Heavy Duty / One Lever Operation / Infinite Position / Non Horn Wire	27, 28
Telescoping Tilt Column / Heavy Duty / One Lever Operation / Infinite Position / Single Horn Wire	29, 30
Upper Shaft End Options	31, 32
Wire Terminals	33
Alternate Lower Shaft End Extensions	34
Horn Brush Assembly Options	35, 36
Product Customization	37-39
Steering Wheels	40
Steering Wheel Accessories	41
Stop Mechanism / Friction Hold / 334° Stop to Stop	42
Stop Mechanism / Self-Centering / +/- 135° From Center	43
Column / Square Flat Flange / Non Horn Wire / to Mount to Stop Mechanism	44

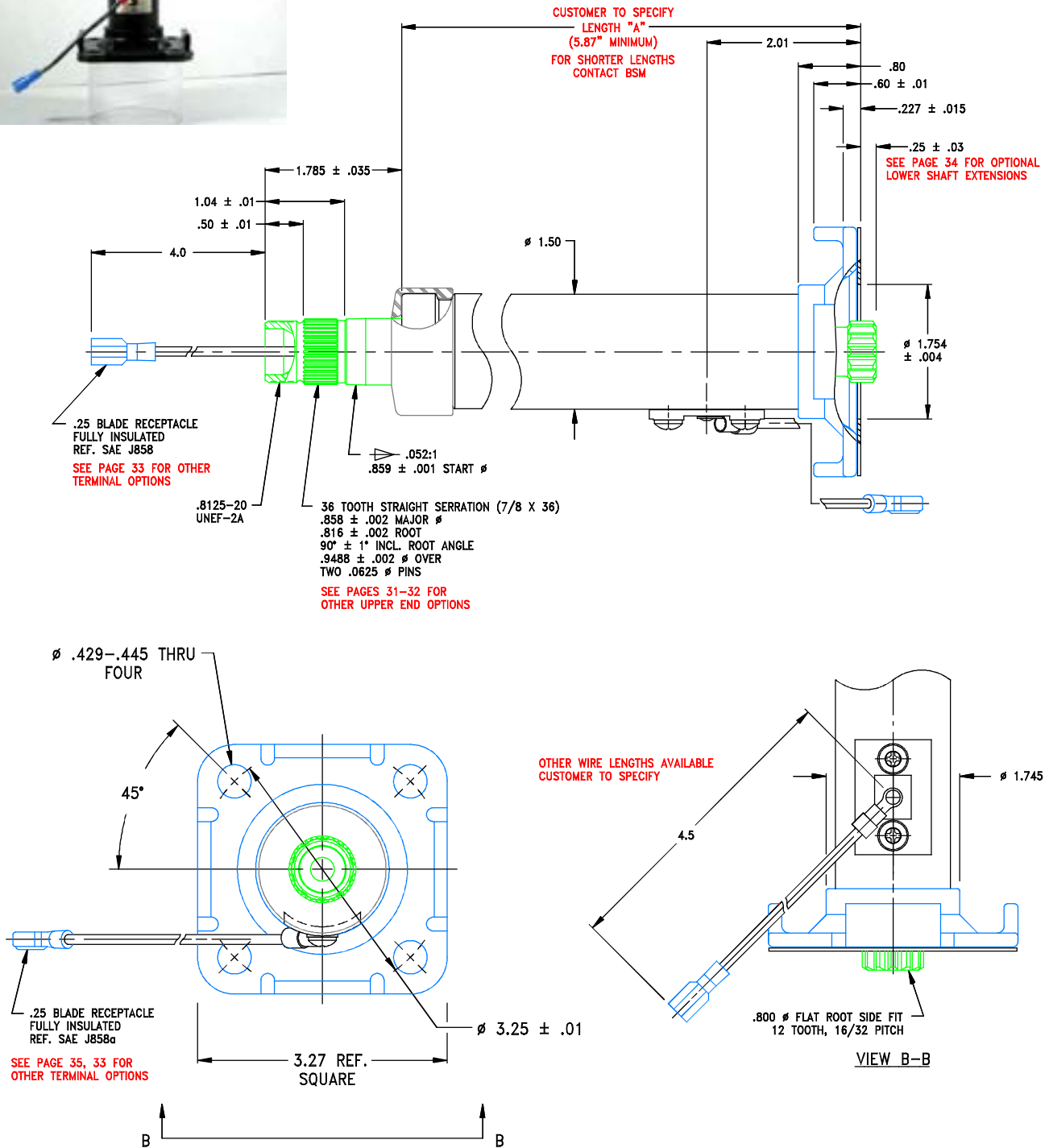
COLUMN

Square Tabbed Flange / Non Horn Wire



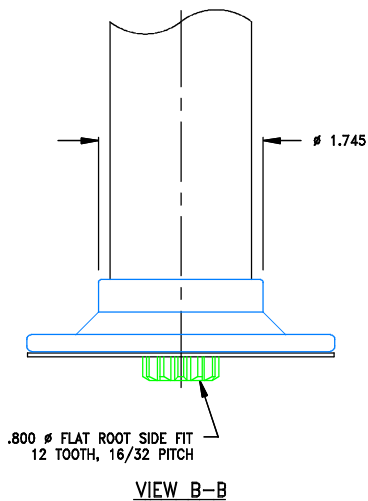
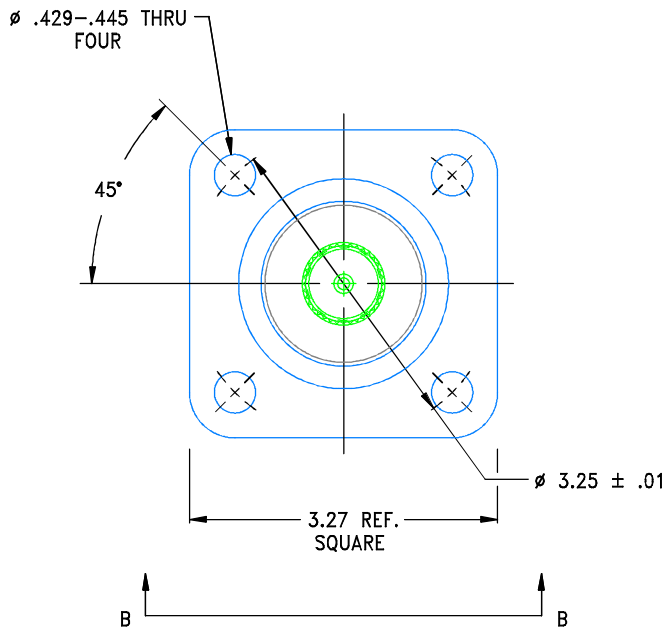
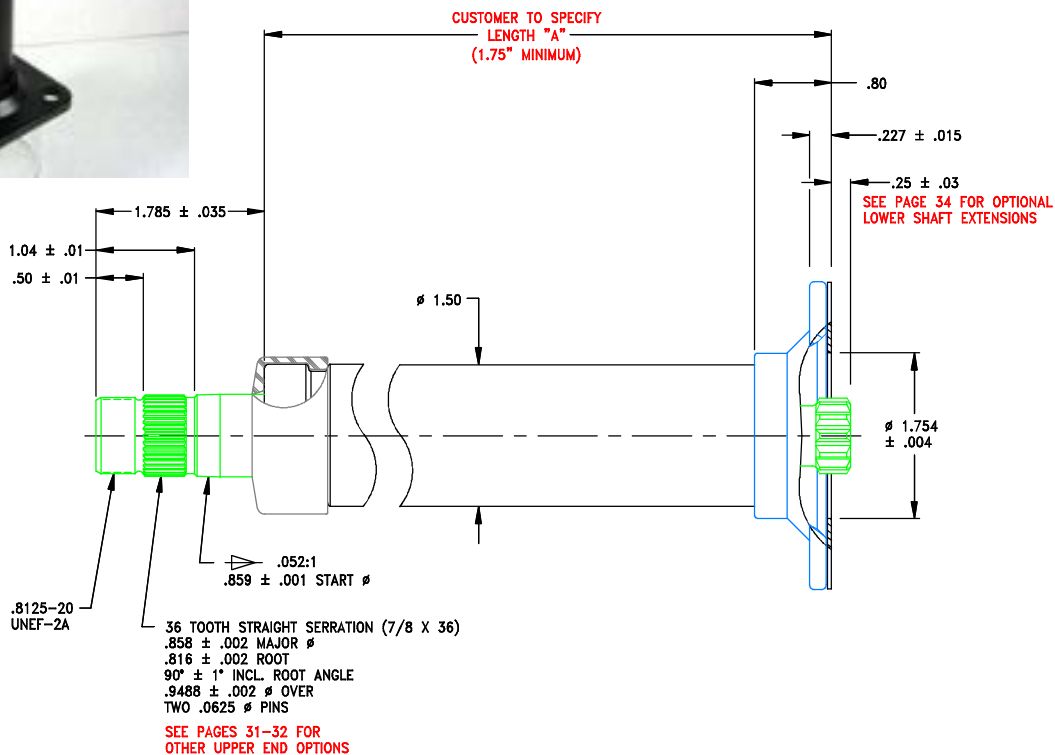
COLUMN

Square Tabbed Flange / Single Horn Wire



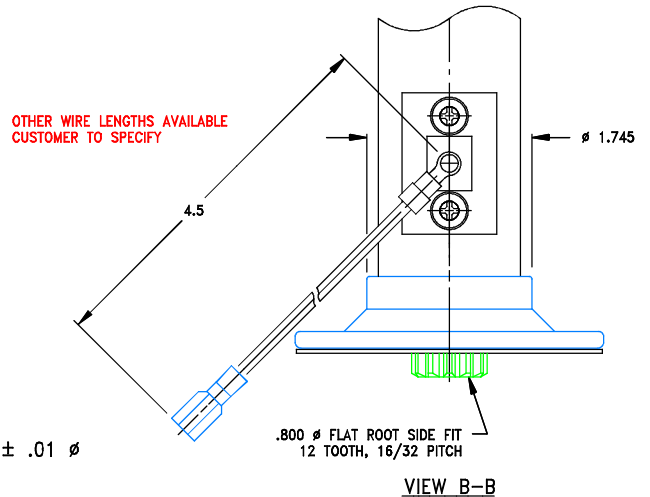
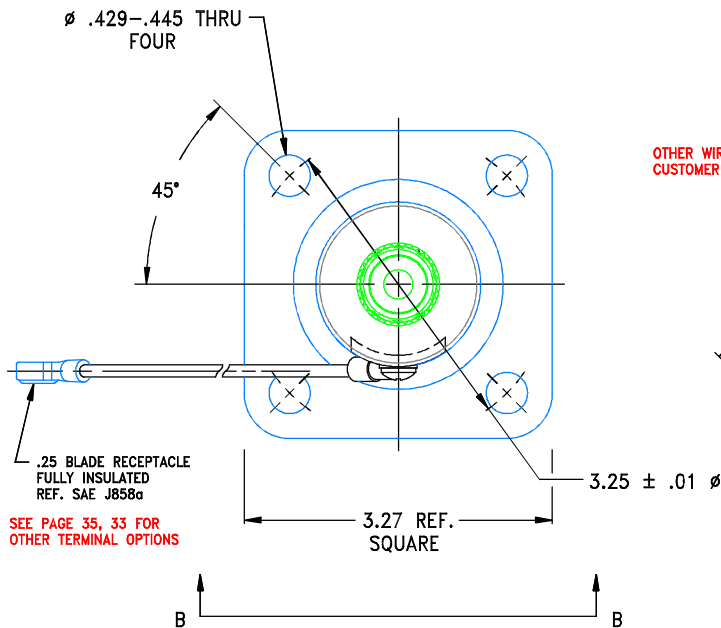
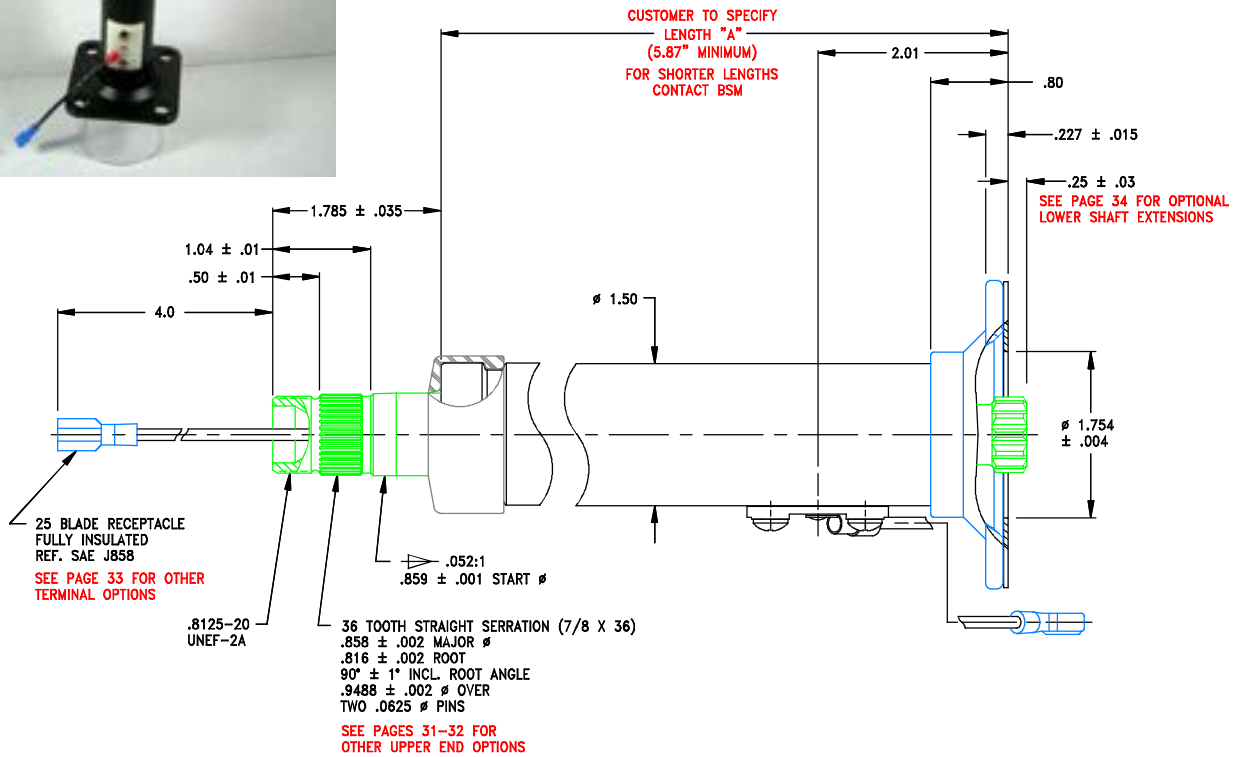
COLUMN

Square Flat Flange / Non Horn Wire



COLUMN

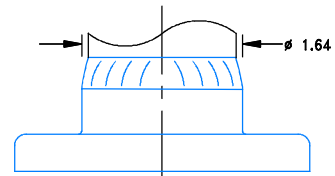
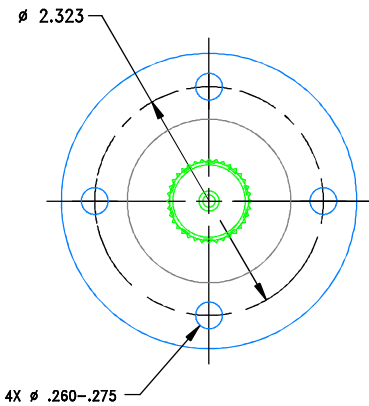
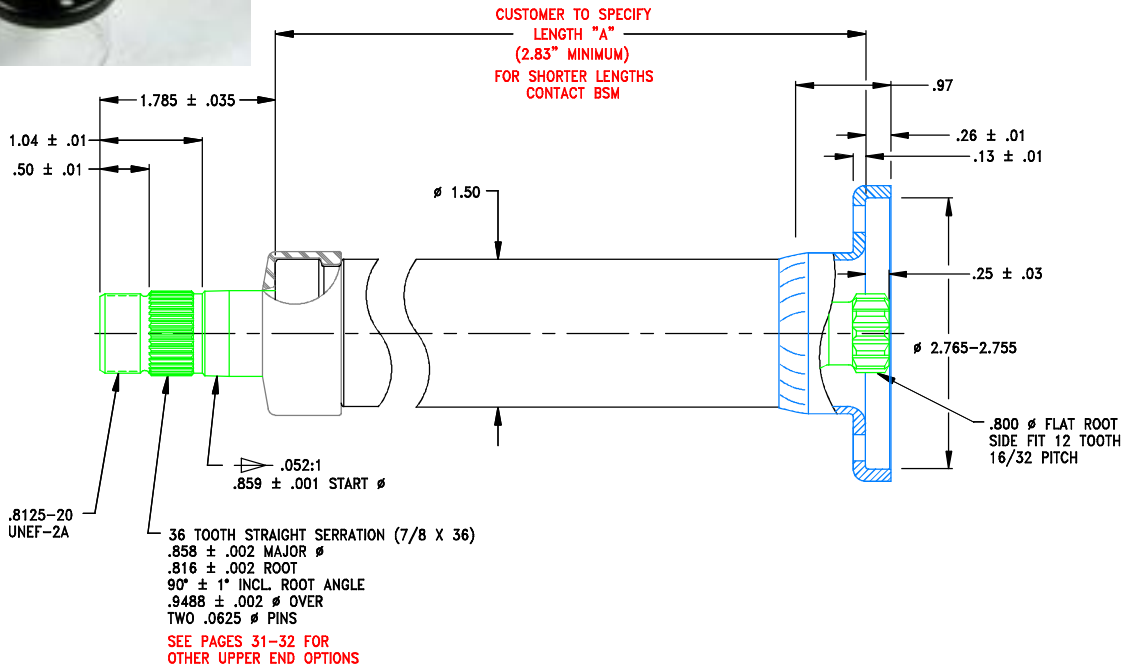
Square Flat Flange / Single Horn Wire



COLUMN

5

Eaton Round (Series 5) Flange / Non Horn Wire



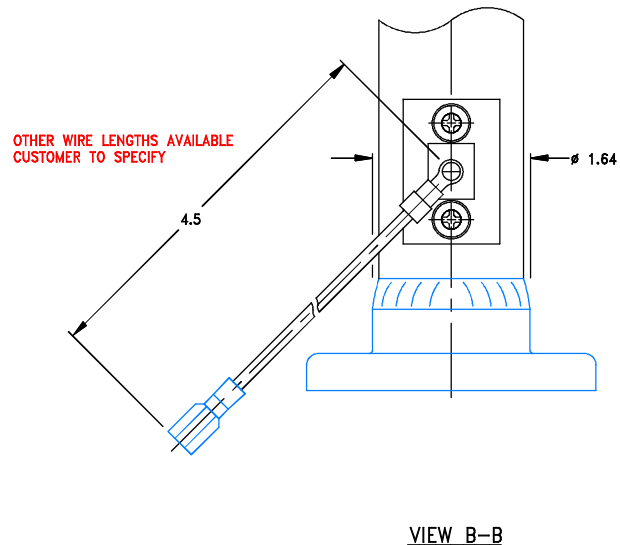
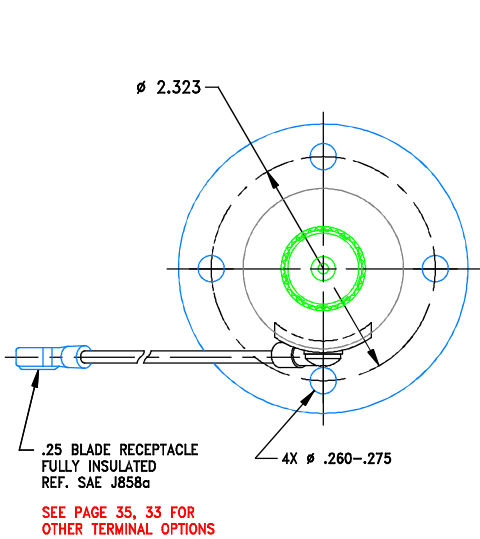
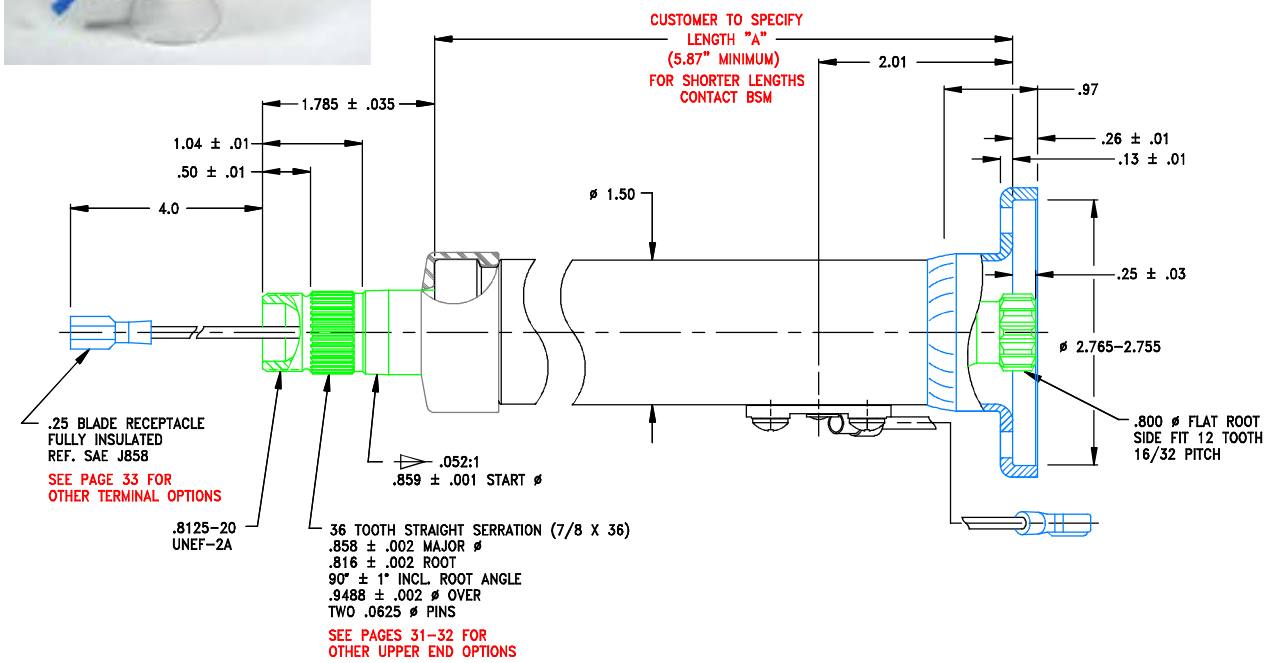
VIEW B-B



COLUMN

6

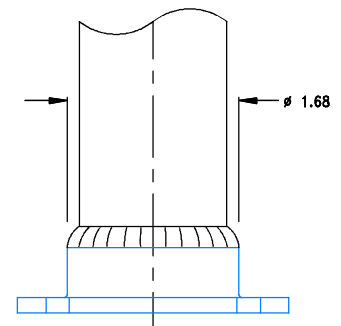
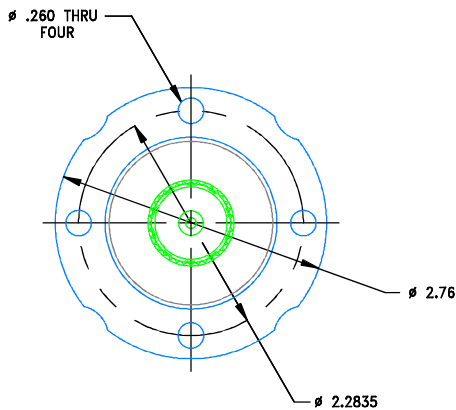
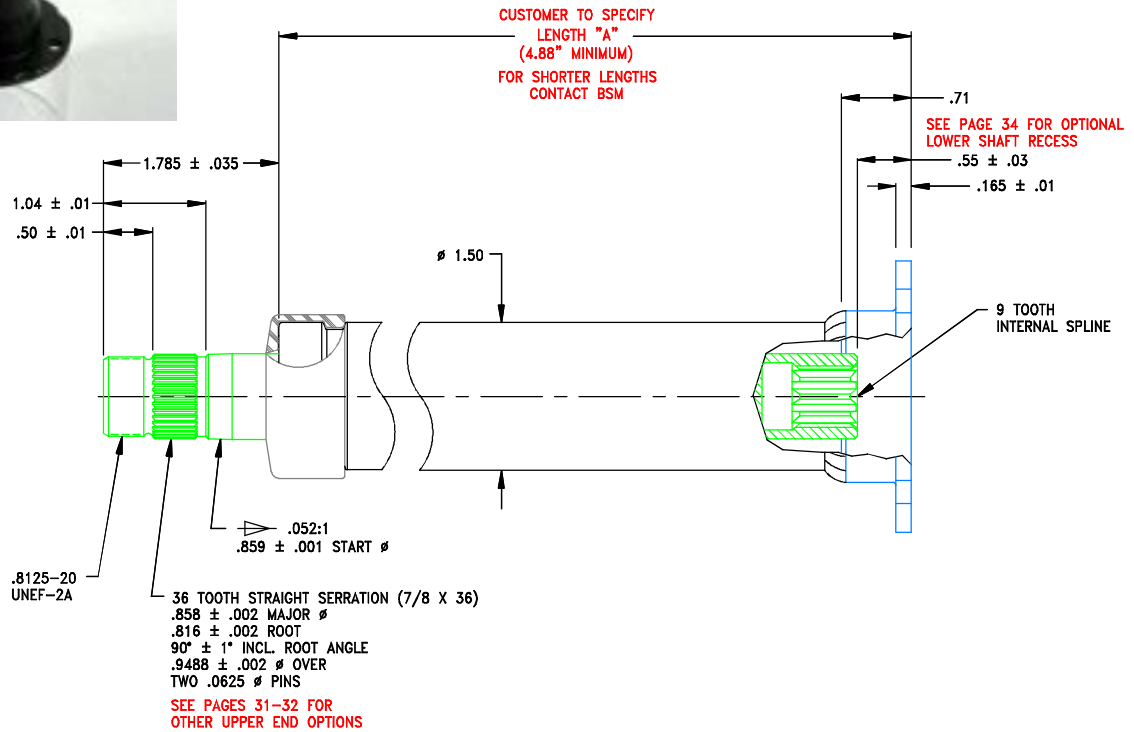
Eaton Round (Series 5) Flange / Single Horn Wire



COLUMN

7

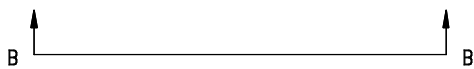
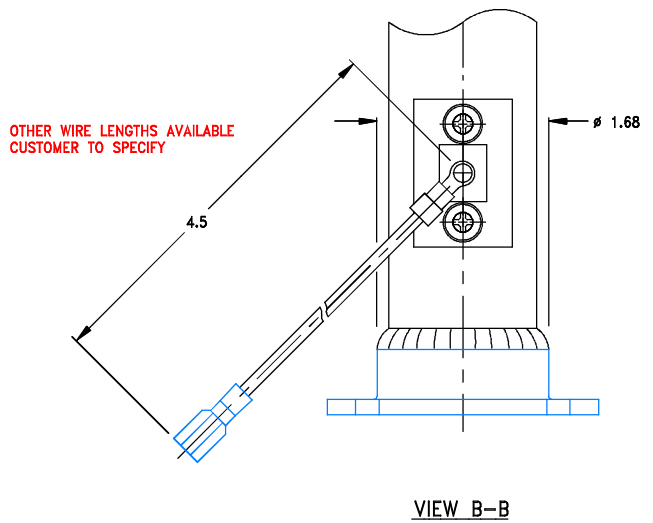
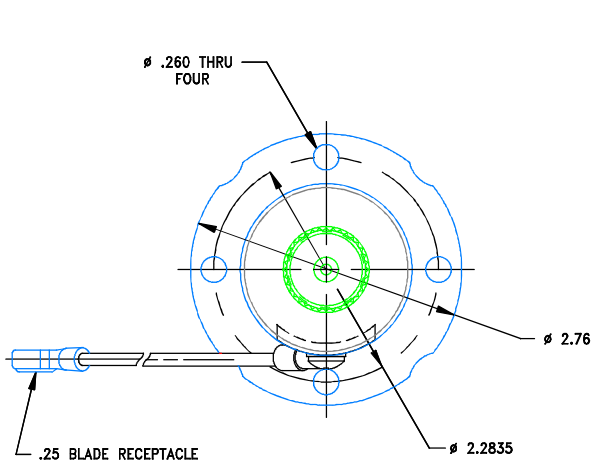
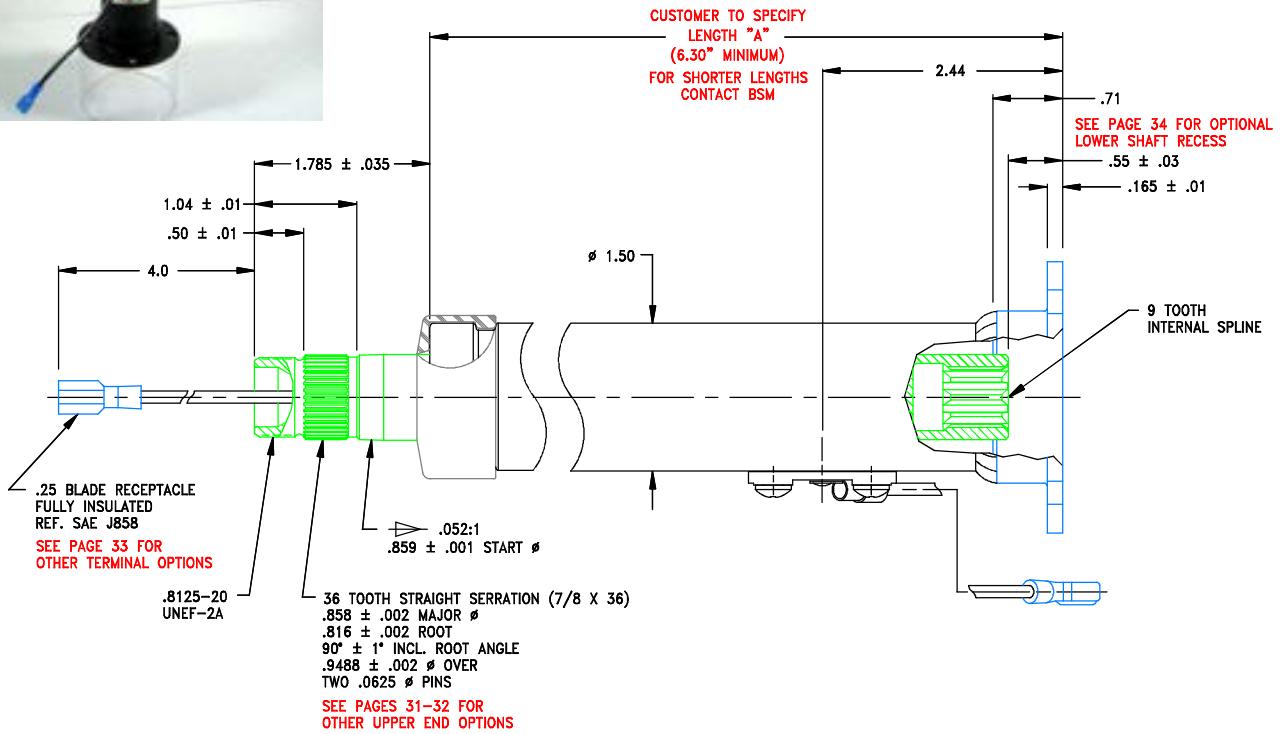
Danfoss Round (OSPM) Flange / Non Horn Wire



VIEW B-B

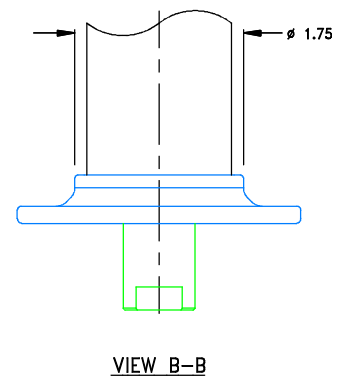
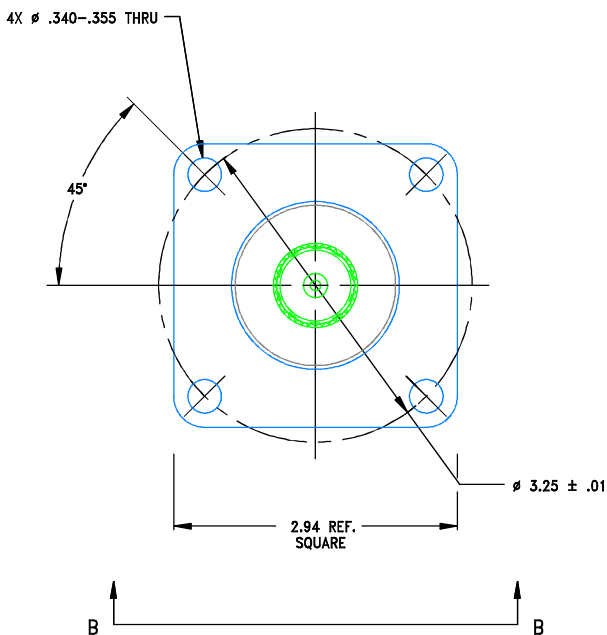
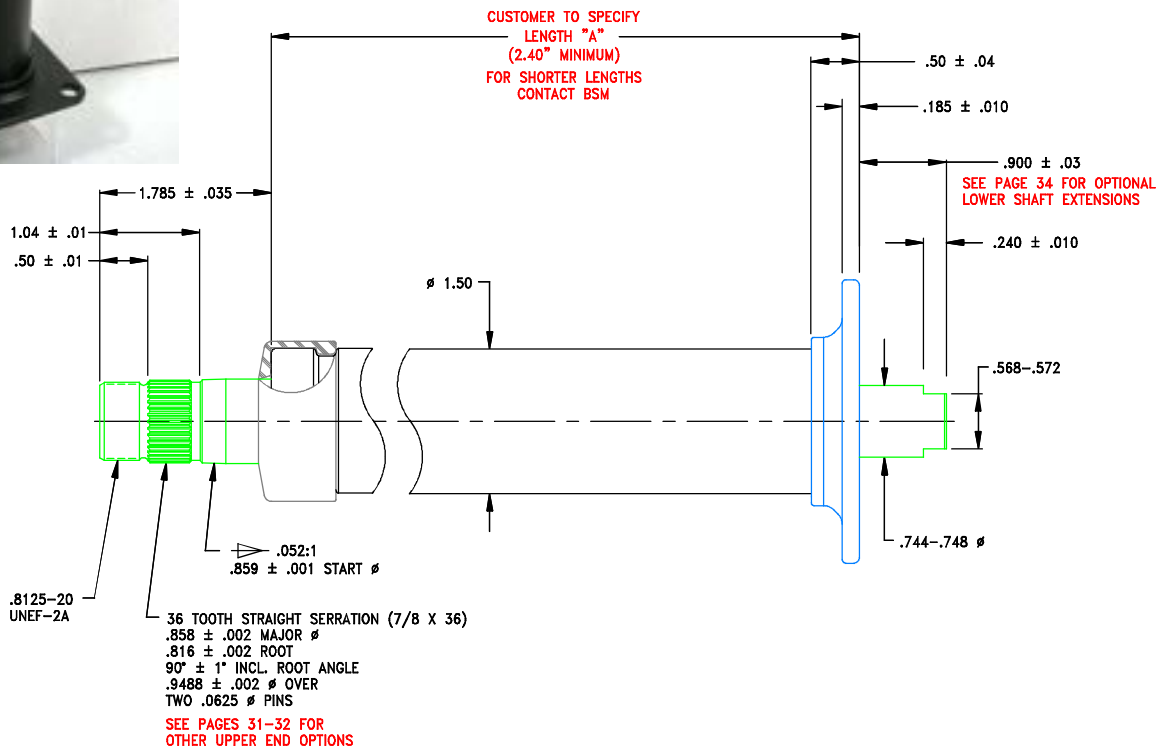


Danfoss Round (OSPM) Flange / Single Horn Wire

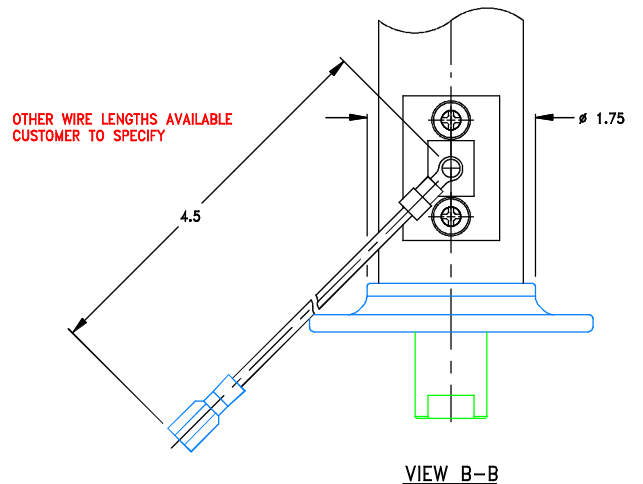
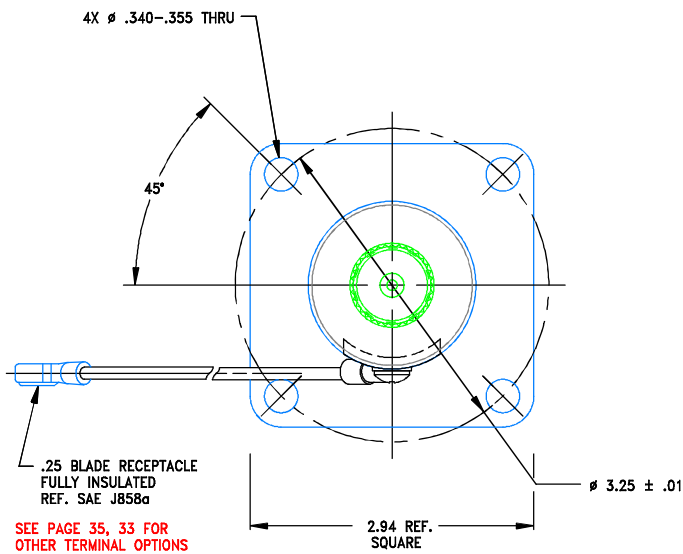
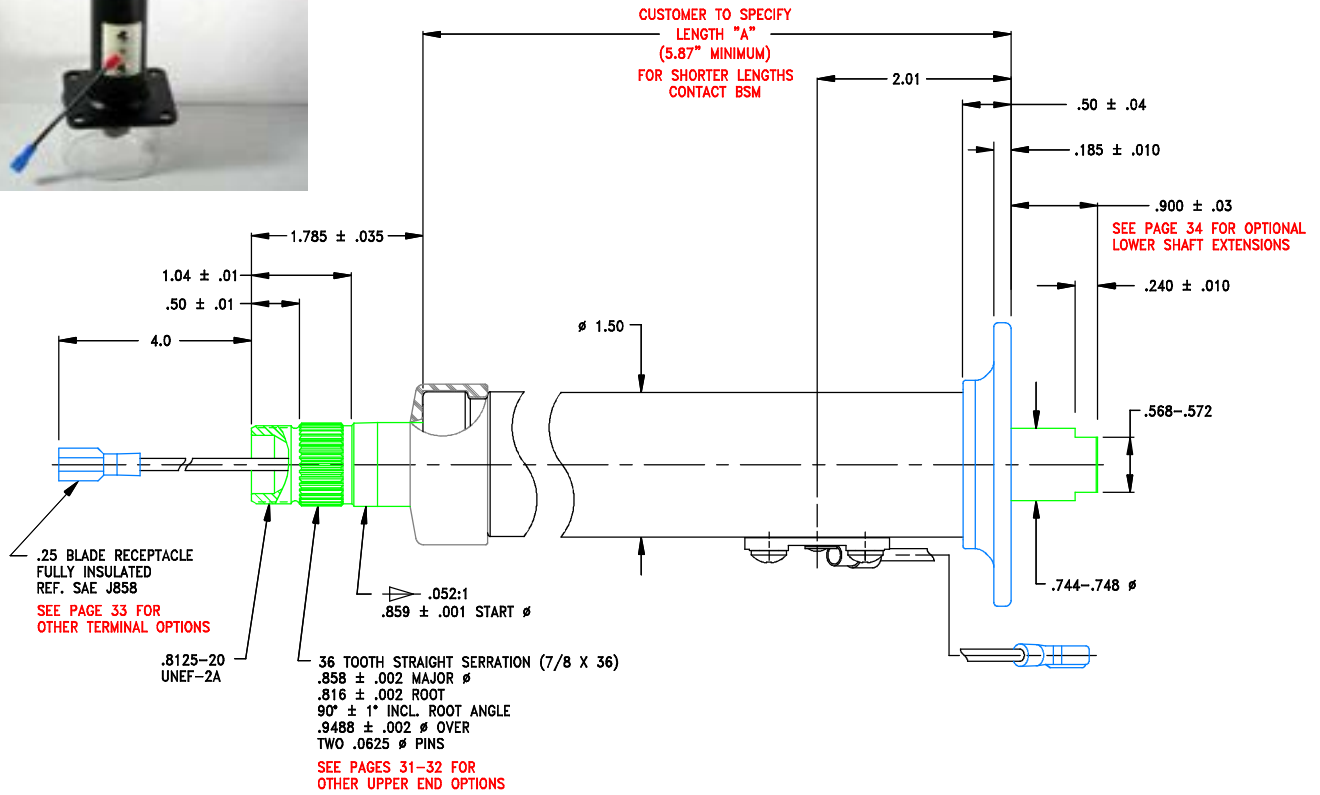


COLUMN

Parker Square (HGF) Flange / Non Horn Wire



Parker Square (HGF) Flange / Single Horn Wire

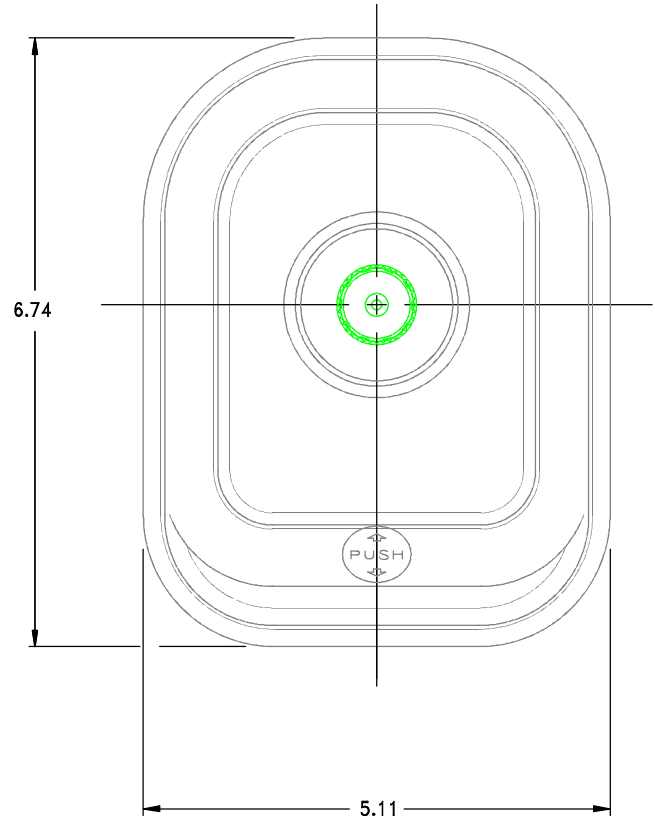


TILT COLUMN

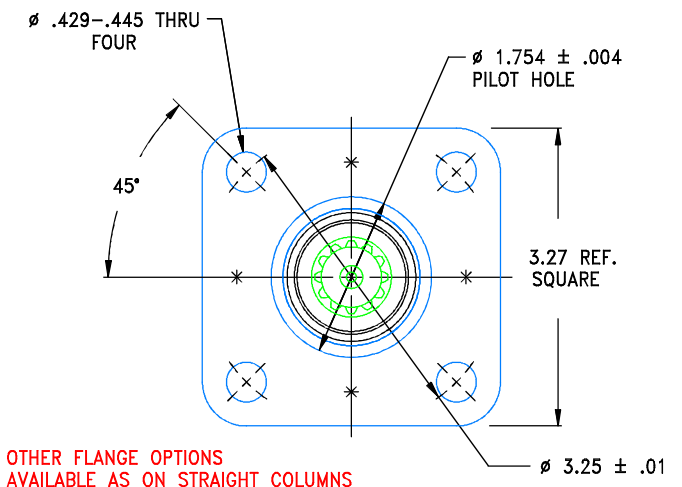
Mechanical Latch

Five Position

Non Horn Wire



TOP VIEW A-A ROTATED 90° CW



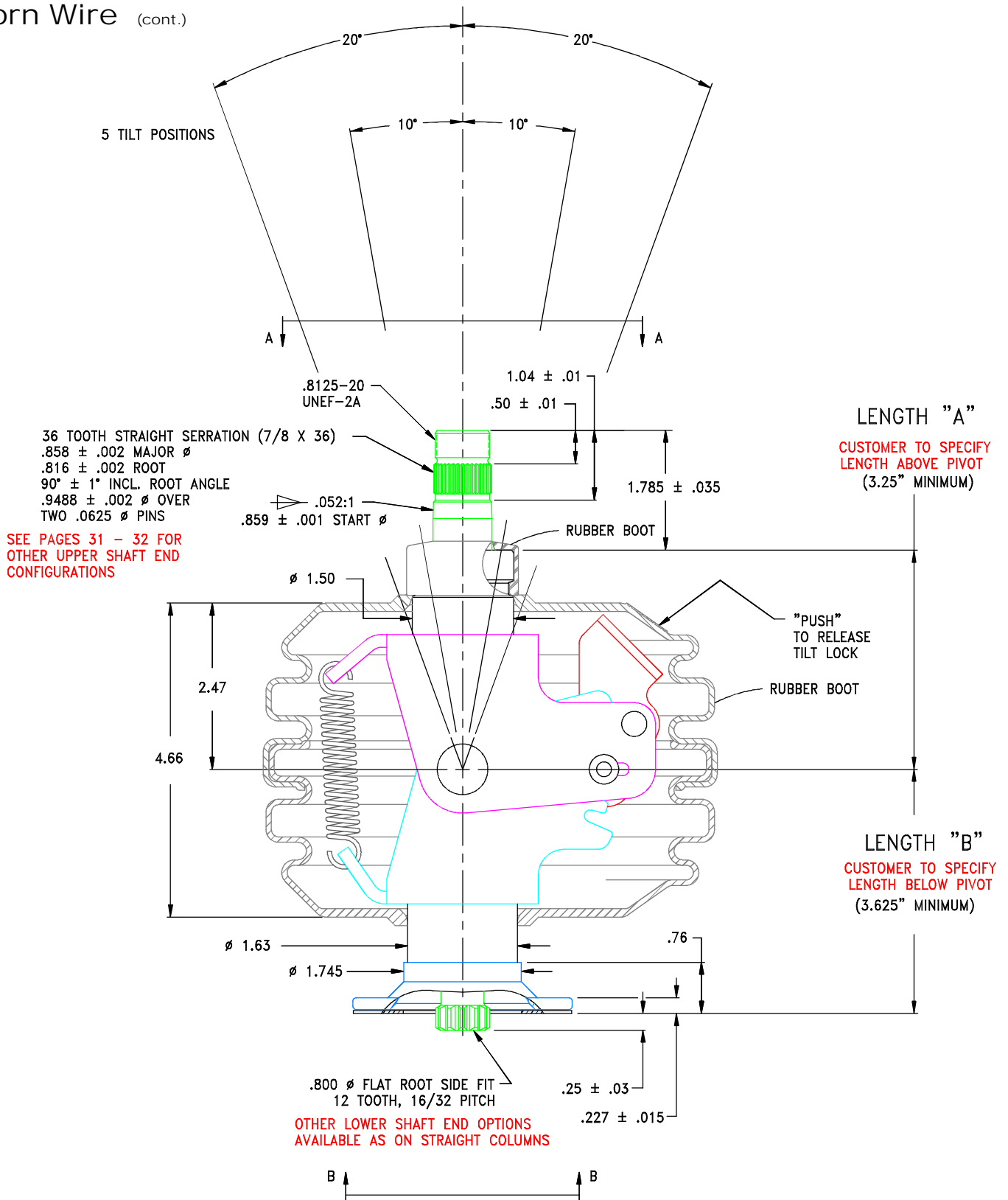
BOTTOM VIEW B-B

TILT COLUMN

Mechanical Latch

Five Position

Non Horn Wire (cont.)

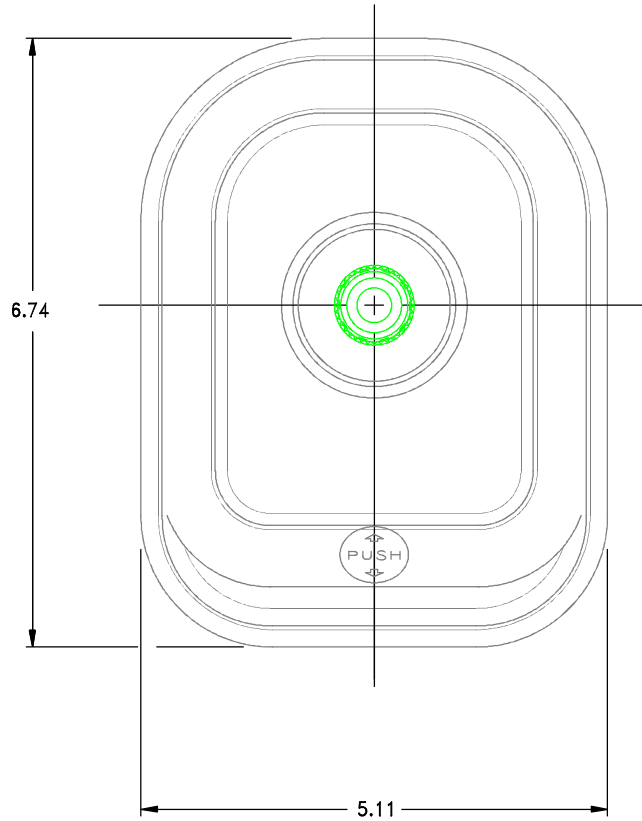


TILT COLUMN

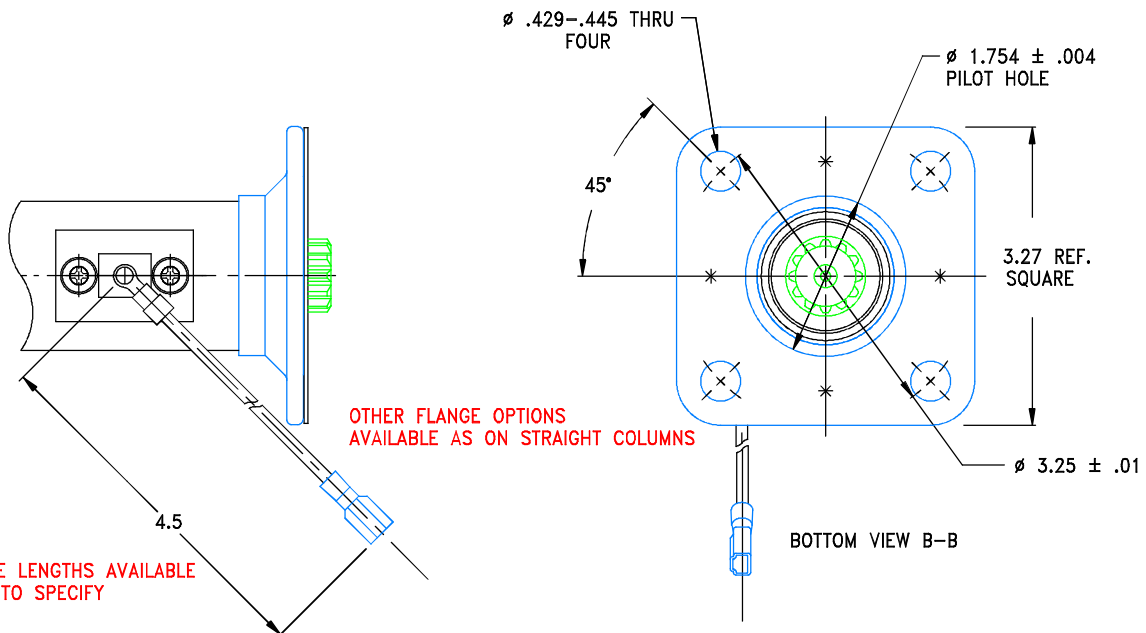
Mechanical Latch

Five Position

Single Horn Wire



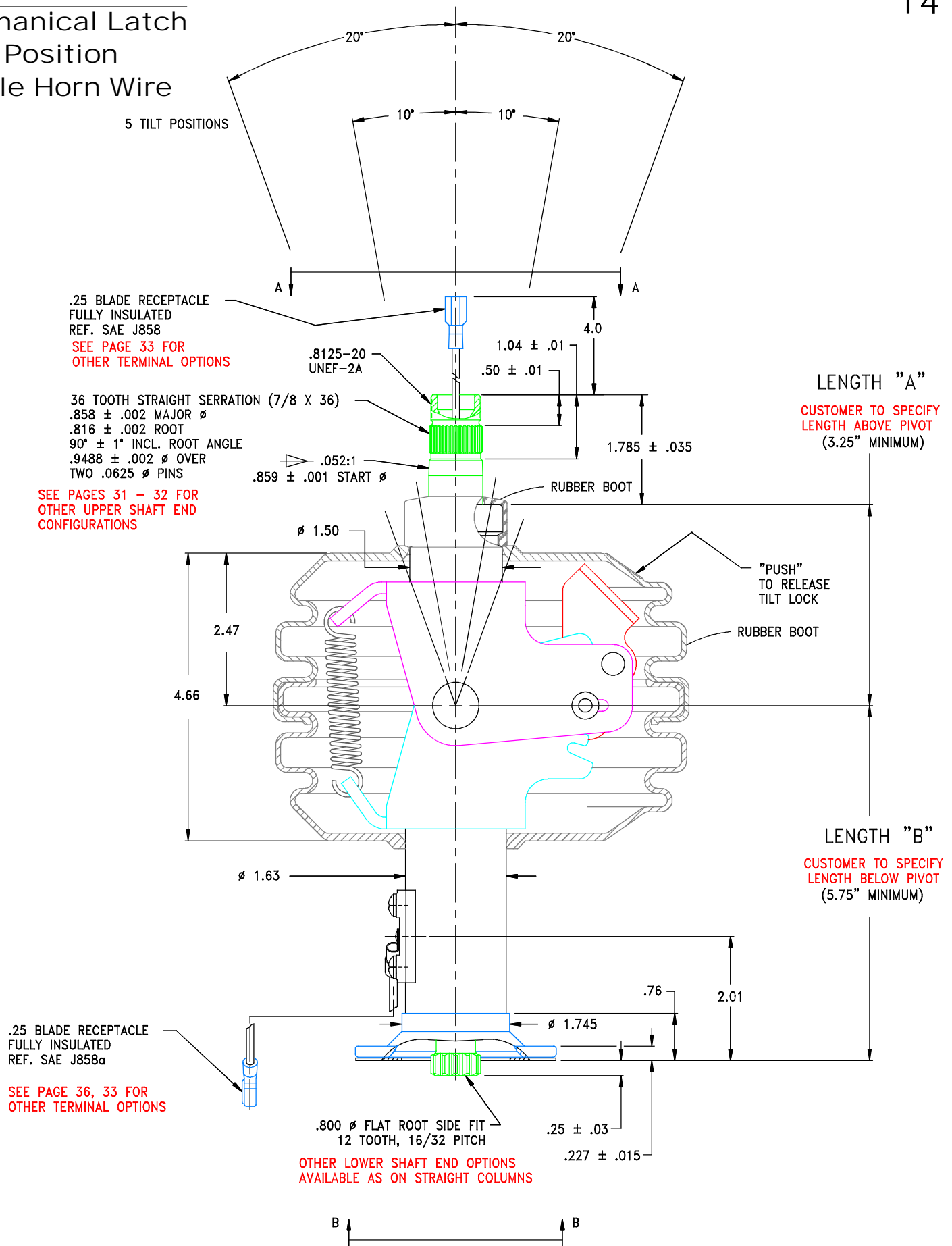
TOP VIEW A-A ROTATED 90° CW



TILT COLUMN

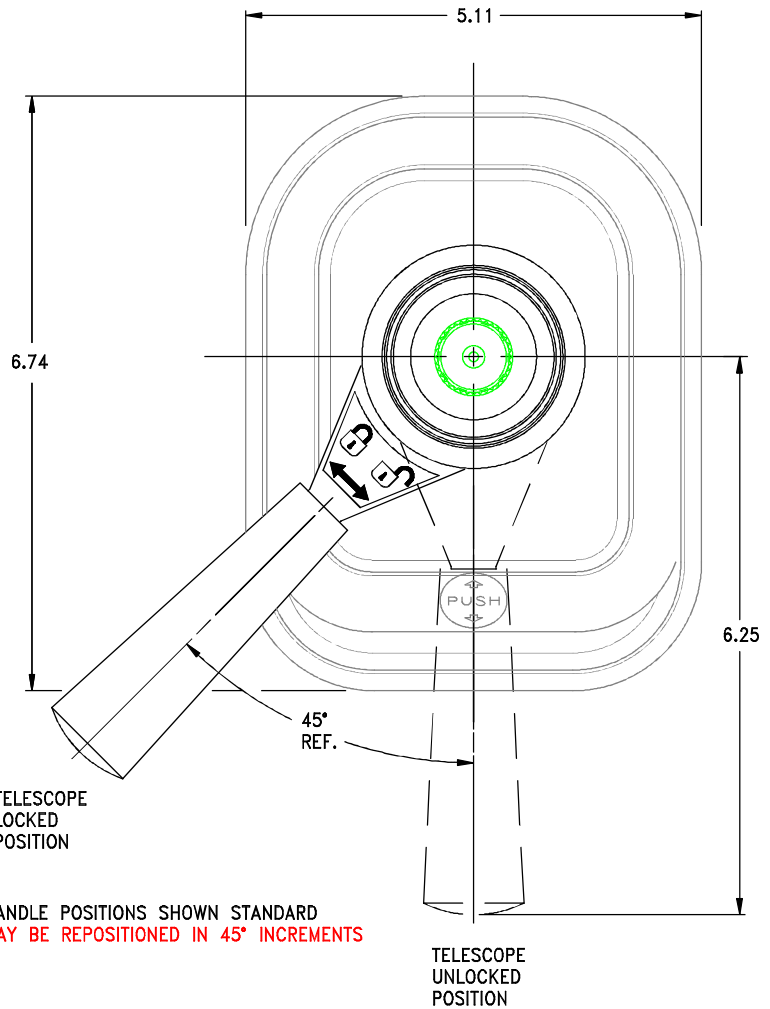
Mechanical Latch Five Position Single Horn Wire

(cont.)



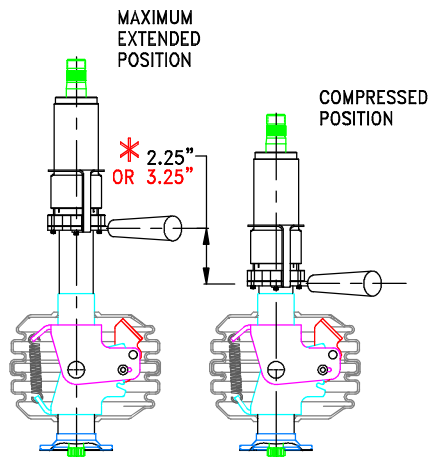
TELESCOPING TILT COLUMN

Mechanical Latch Five Position Non Horn Wire



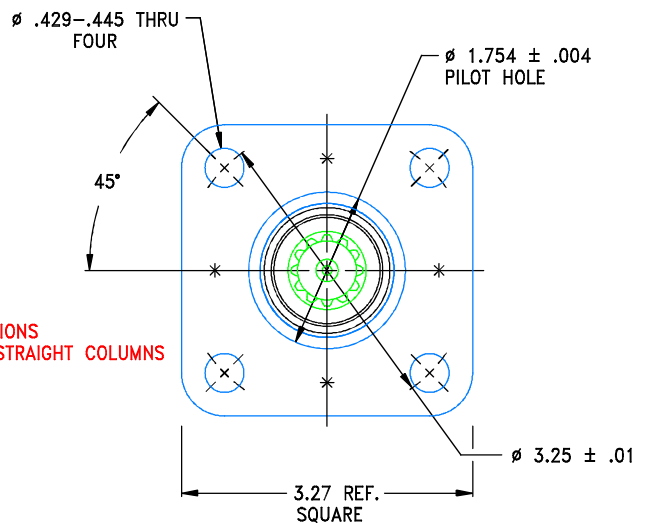
HANDLE POSITIONS SHOWN STANDARD
MAY BE REPOSITIONED IN 45° INCREMENTS

TOP VIEW A-A ROTATED 90° CW



* AVAILABLE IN 2.25" OR 3.25" EXTENSION RANGE
CUSTOMER TO SPECIFY

OTHER FLANGE OPTIONS
AVAILABLE AS ON STRAIGHT COLUMNS



BOTTOM VIEW B-B

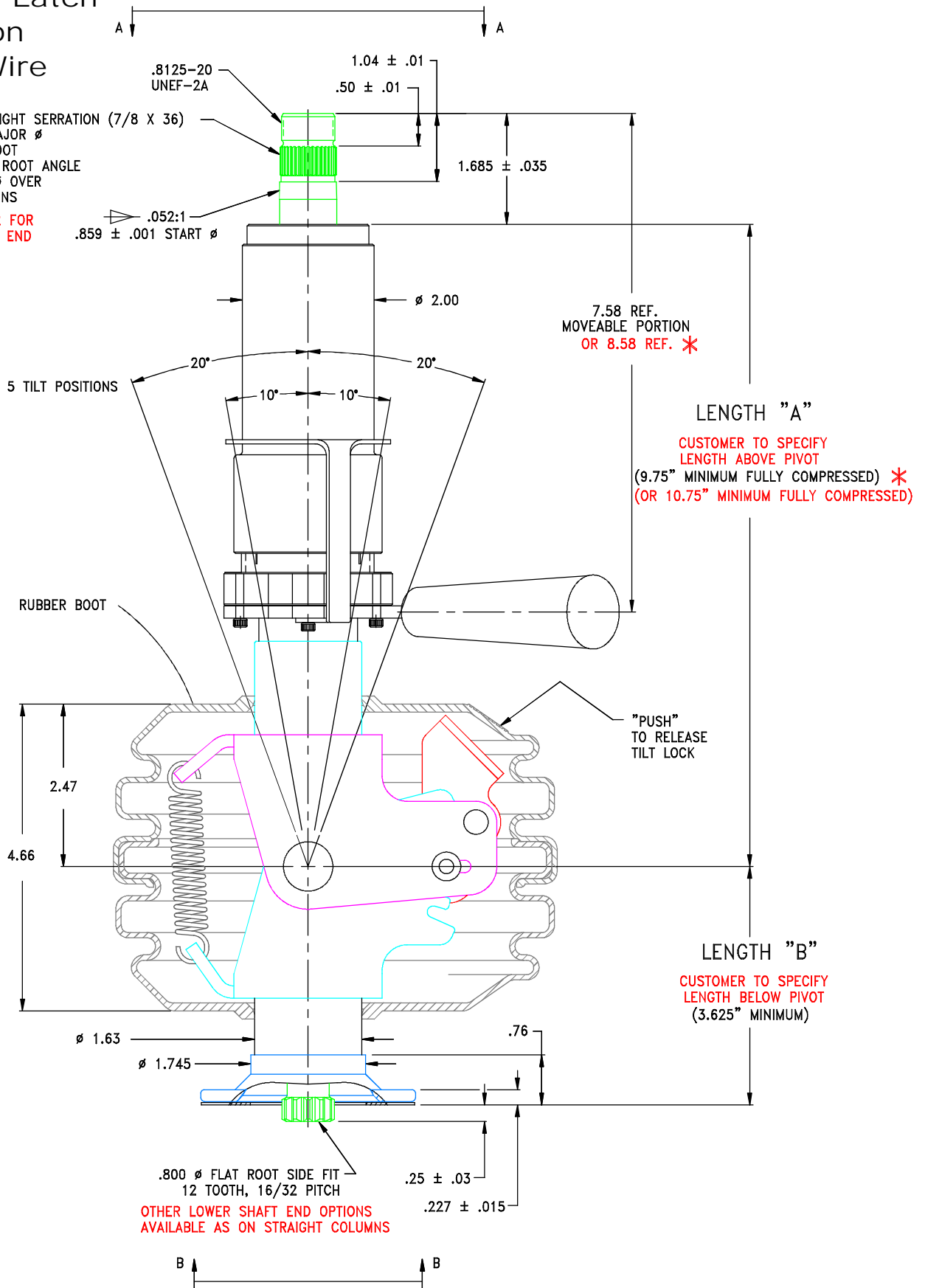
TELESCOPING TILT COLUMN

Mechanical Latch Five Position Non Horn Wire

(cont.)

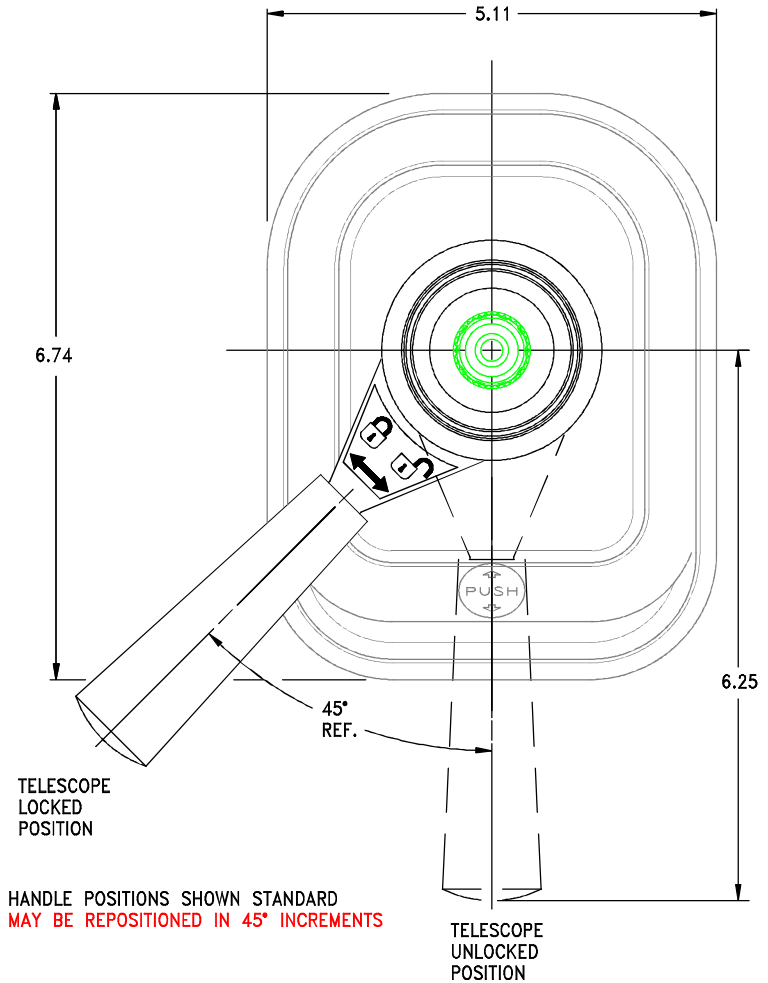
36 TOOTH STRAIGHT SERRATION (7/8 X 36)
.858 ± .002 MAJOR Ø
.816 ± .002 ROOT
90° ± 1° INCL. ROOT ANGLE
.9488 ± .002 Ø OVER
TWO .0625 Ø PINS

SEE PAGES 31 - 32 FOR
OTHER UPPER SHAFT END
CONFIGURATIONS

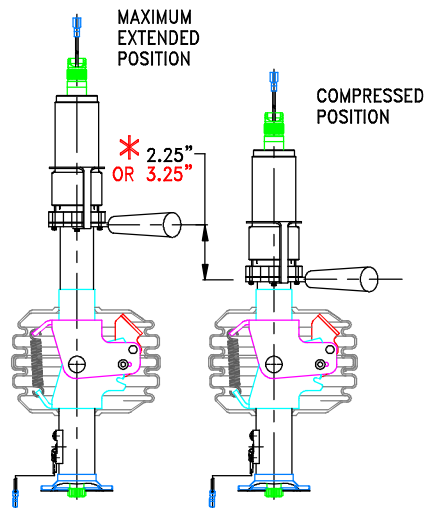


TELESCOPING TILT COLUMN

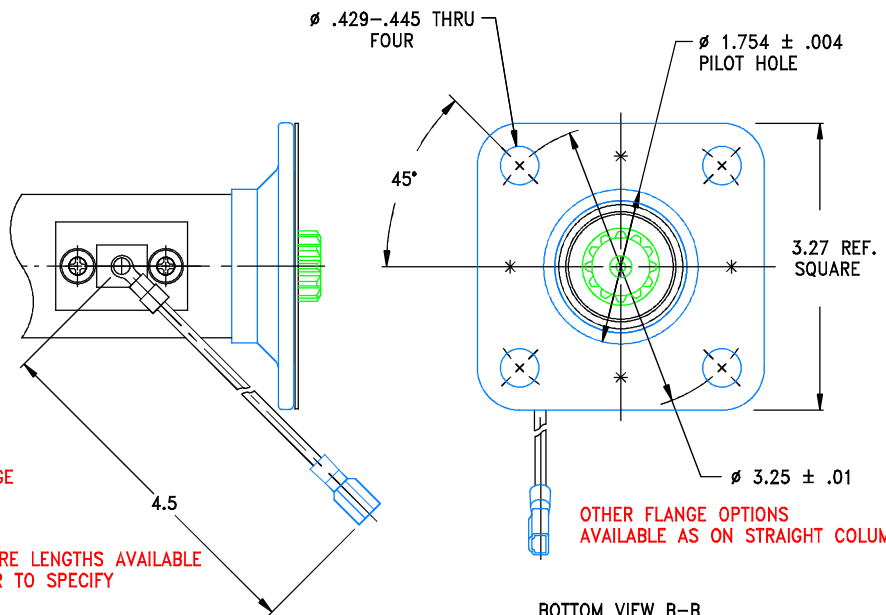
Mechanical Latch Five Position Single Horn Wire



TOP VIEW A-A ROTATED 90° CW



* AVAILABLE IN 2.25" OR 3.25" EXTENSION RANGE
CUSTOMER TO SPECIFY



BOTTOM VIEW B-B

OTHER WIRE LENGTHS AVAILABLE
CUSTOMER TO SPECIFY

TELESCOPING TILT COLUMN

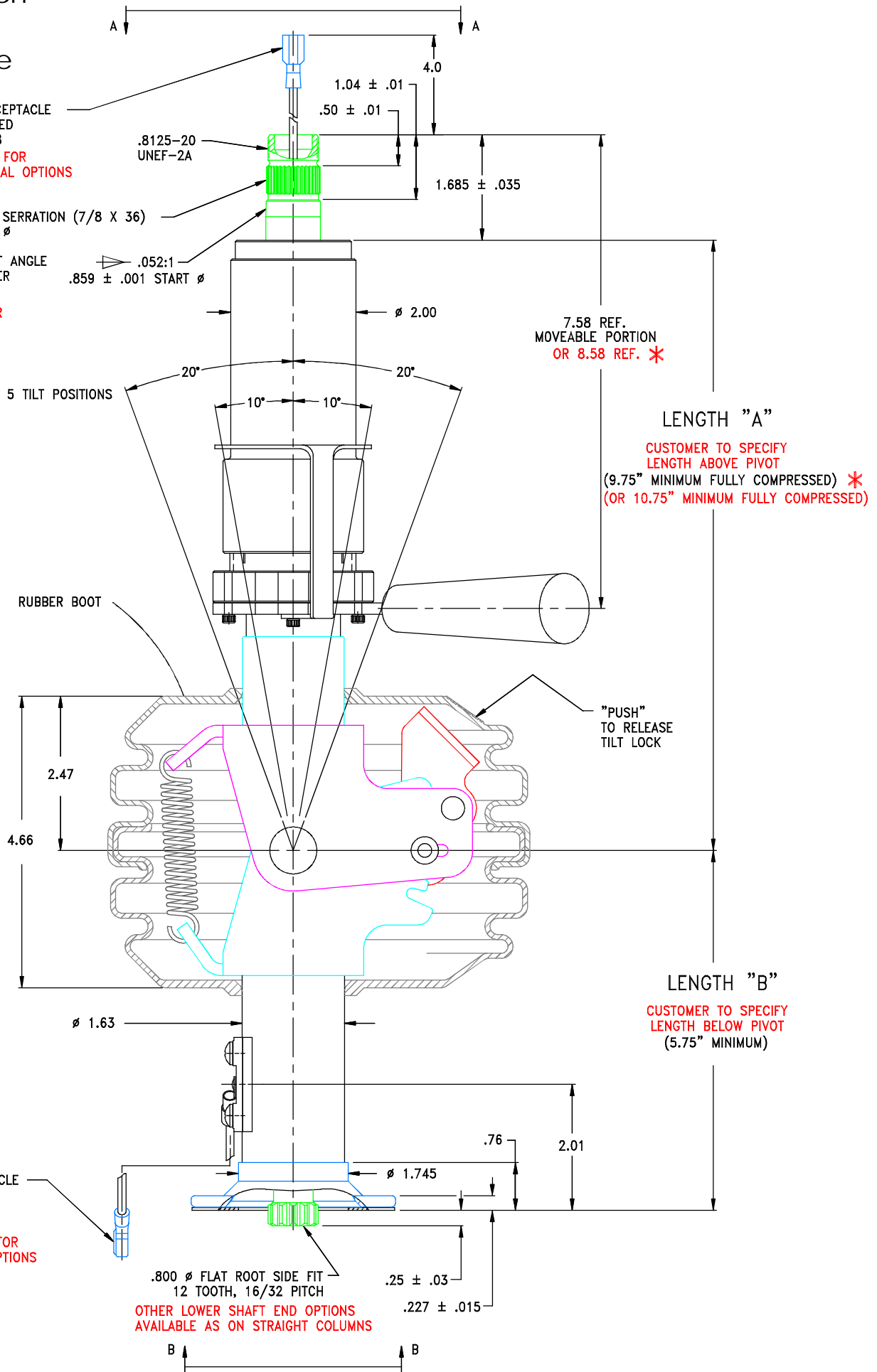
Mechanical Latch
Five Position
Single Horn Wire

(cont.)

.25 BLADE RECEPTACLE
FULLY INSULATED
REF. SAE J858
SEE PAGE 33 FOR
OTHER TERMINAL OPTIONS

36 TOOTH STRAIGHT SERRATION (7/8 X 36)
.858 ± .002 MAJOR Ø
.816 ± .002 ROOT
90° ± 1° INCL. ROOT ANGLE
.9488 ± .002 Ø OVER
TWO .0625 Ø PINS

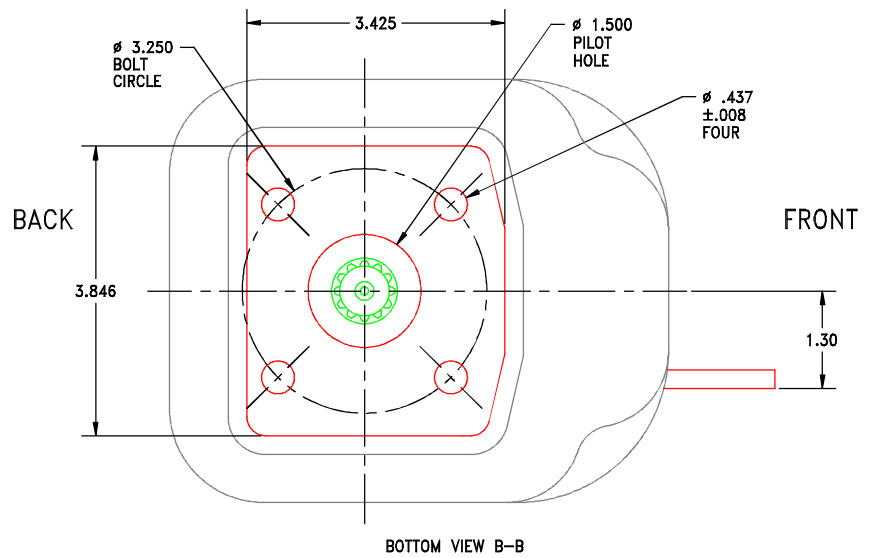
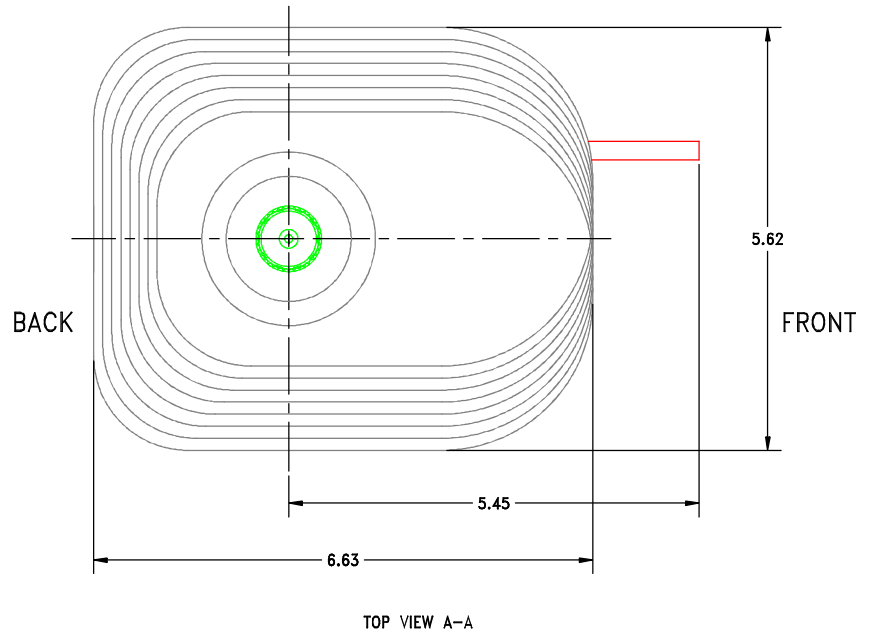
SEE PAGES 31 - 32 FOR
OTHER UPPER SHAFT END
CONFIGURATIONS



TILT COLUMN

Foot Operated
Locking Gas Spring
Infinite Position
Non Horn Wire

19



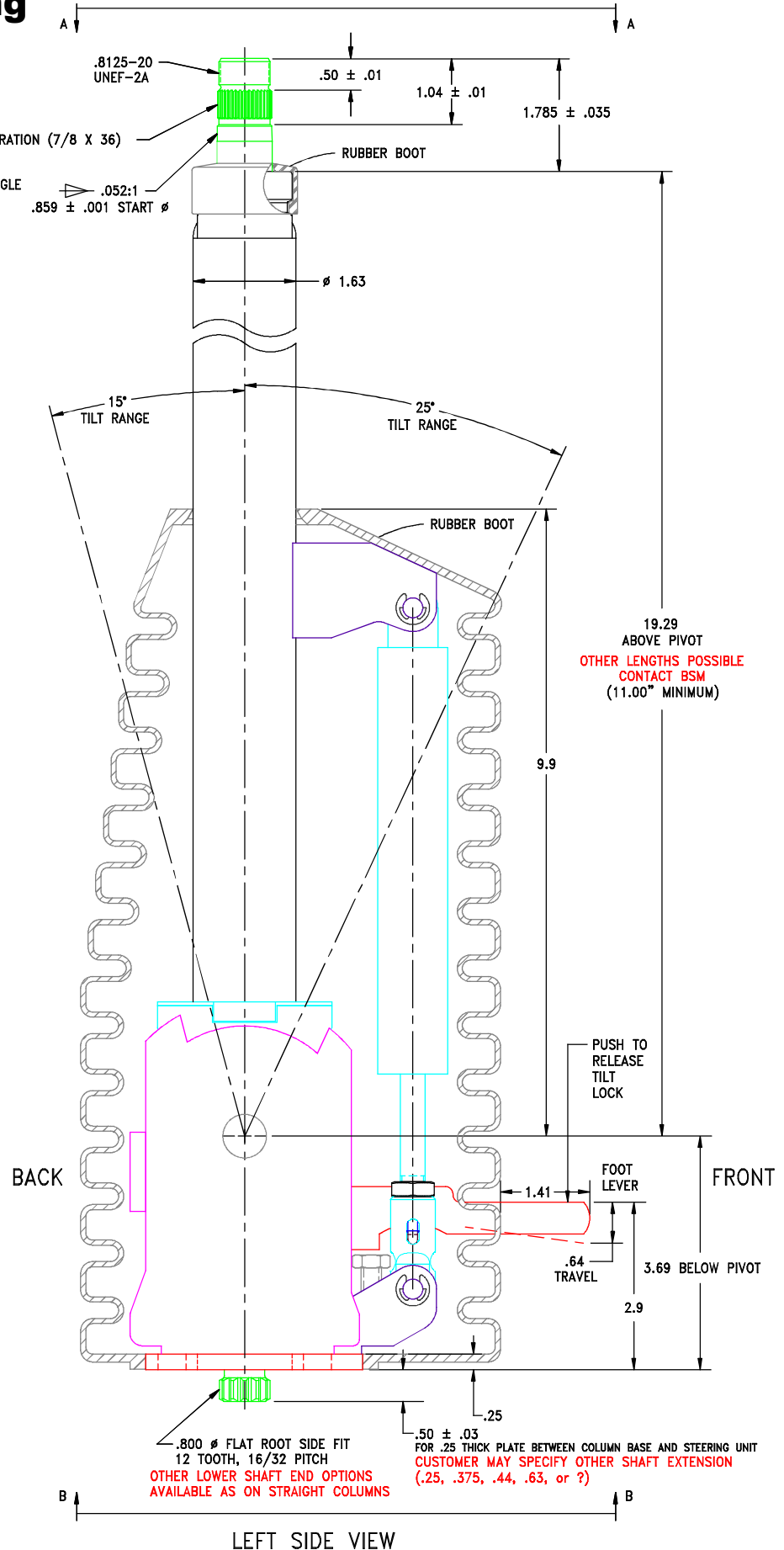
TILT COLUMN

Foot Operated Locking Gas Spring Infinite Position Non Horn Wire

(cont.)

36 TOOTH STRAIGHT SERRATION (7/8 X 36)
 .858 ± .002 MAJOR Ø
 .816 ± .002 ROOT
 90° ± 1° INCL. ROOT ANGLE
 .9488 ± .002 Ø OVER
 TWO .0625 Ø PINS

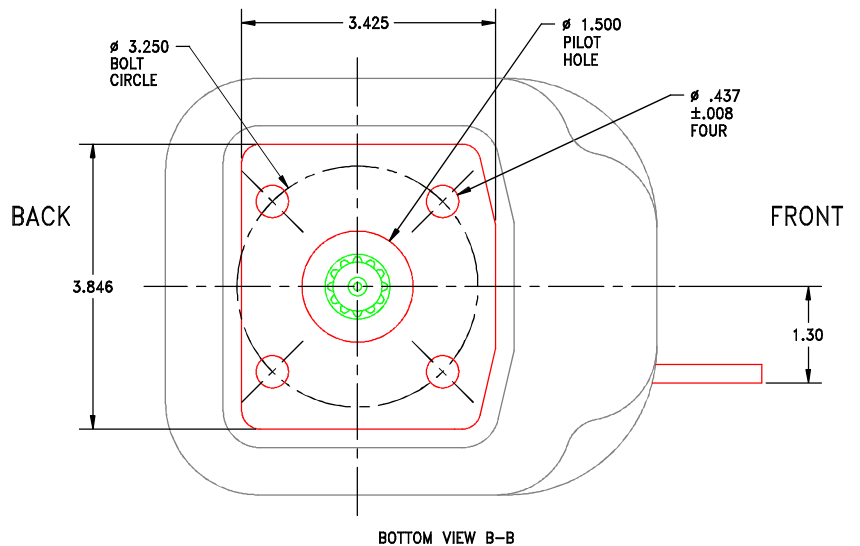
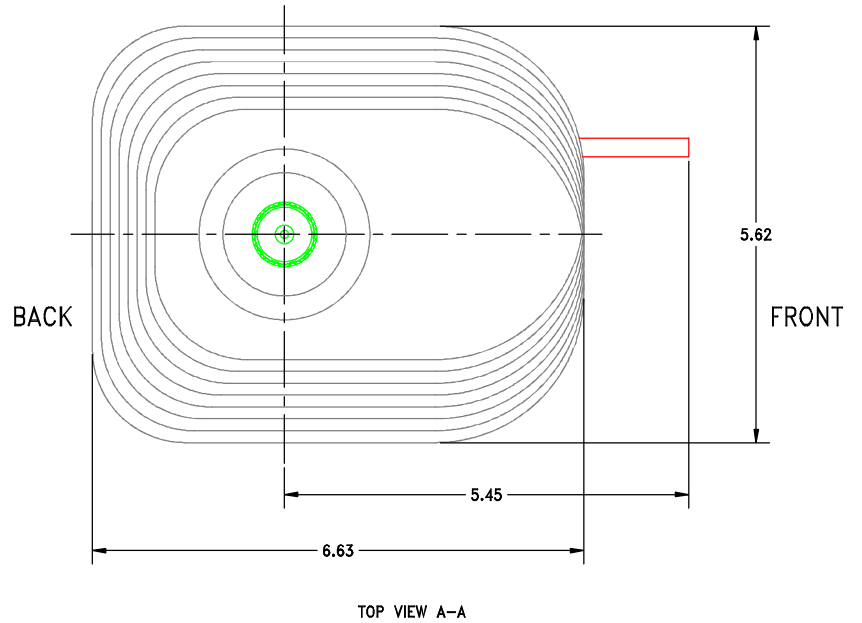
SEE PAGES 31 - 32 FOR
 OTHER UPPER SHAFT END
 CONFIGURATIONS



TILT COLUMN

Foot Operated
Locking Gas Spring
Infinite Position
Single Horn Wire

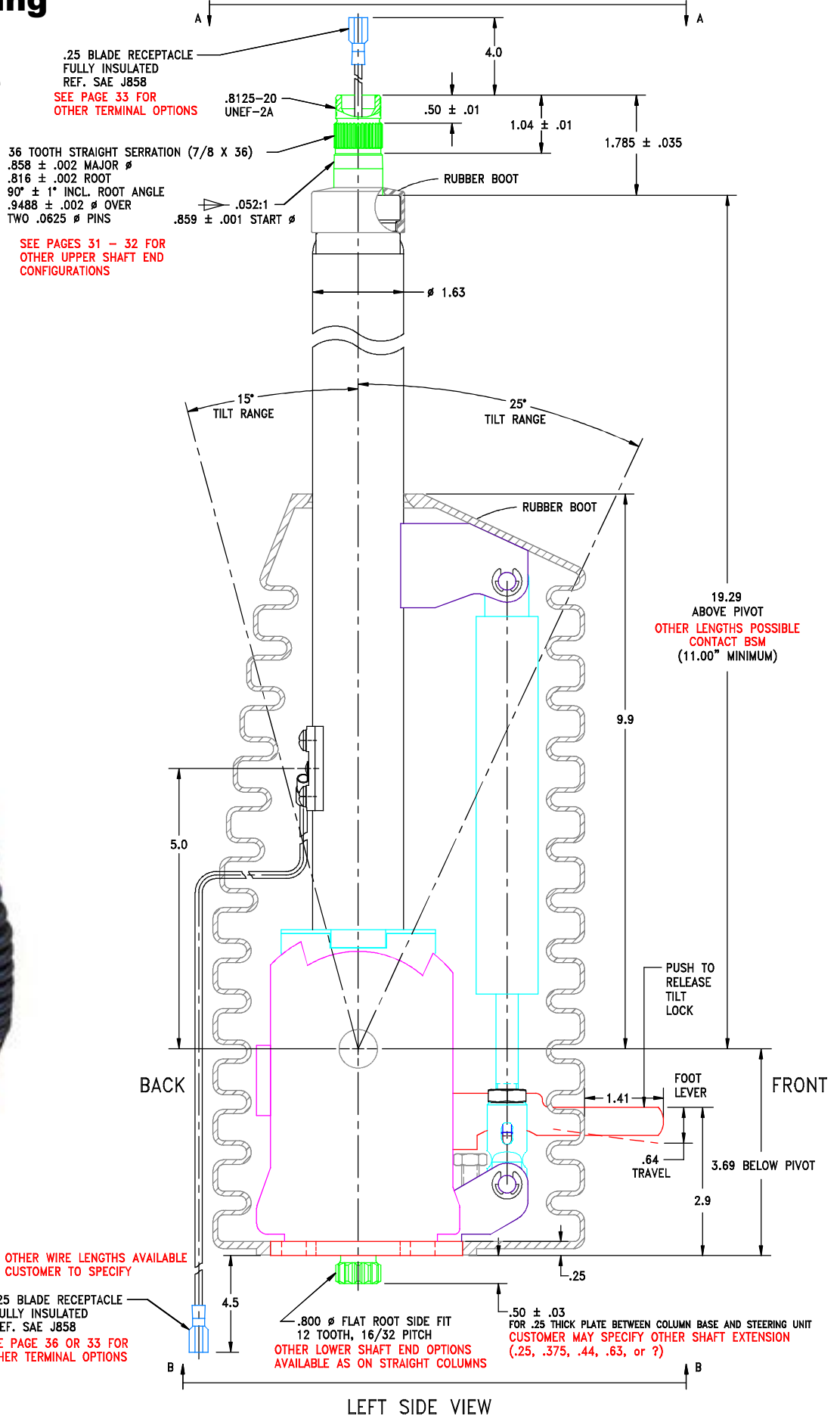
21



TILT COLUMN

Foot Operated Locking Gas Spring Infinite Position Single Horn Wire

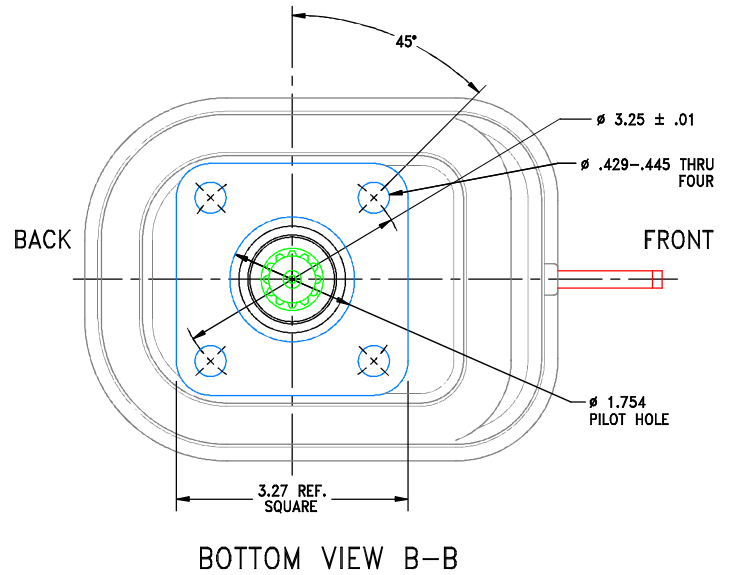
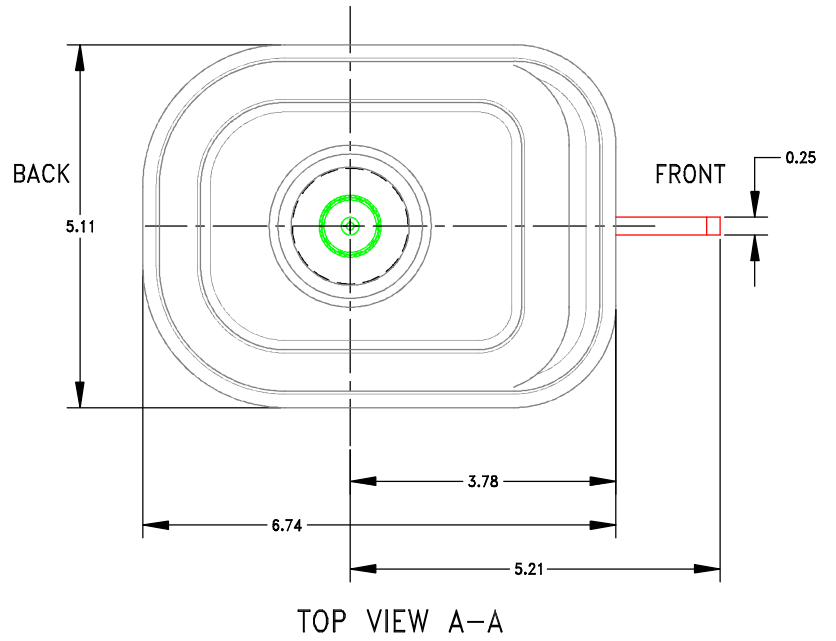
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TILT COLUMN

Foot Operated
Mechanical Latch
Seven Position
Non Horn Wire

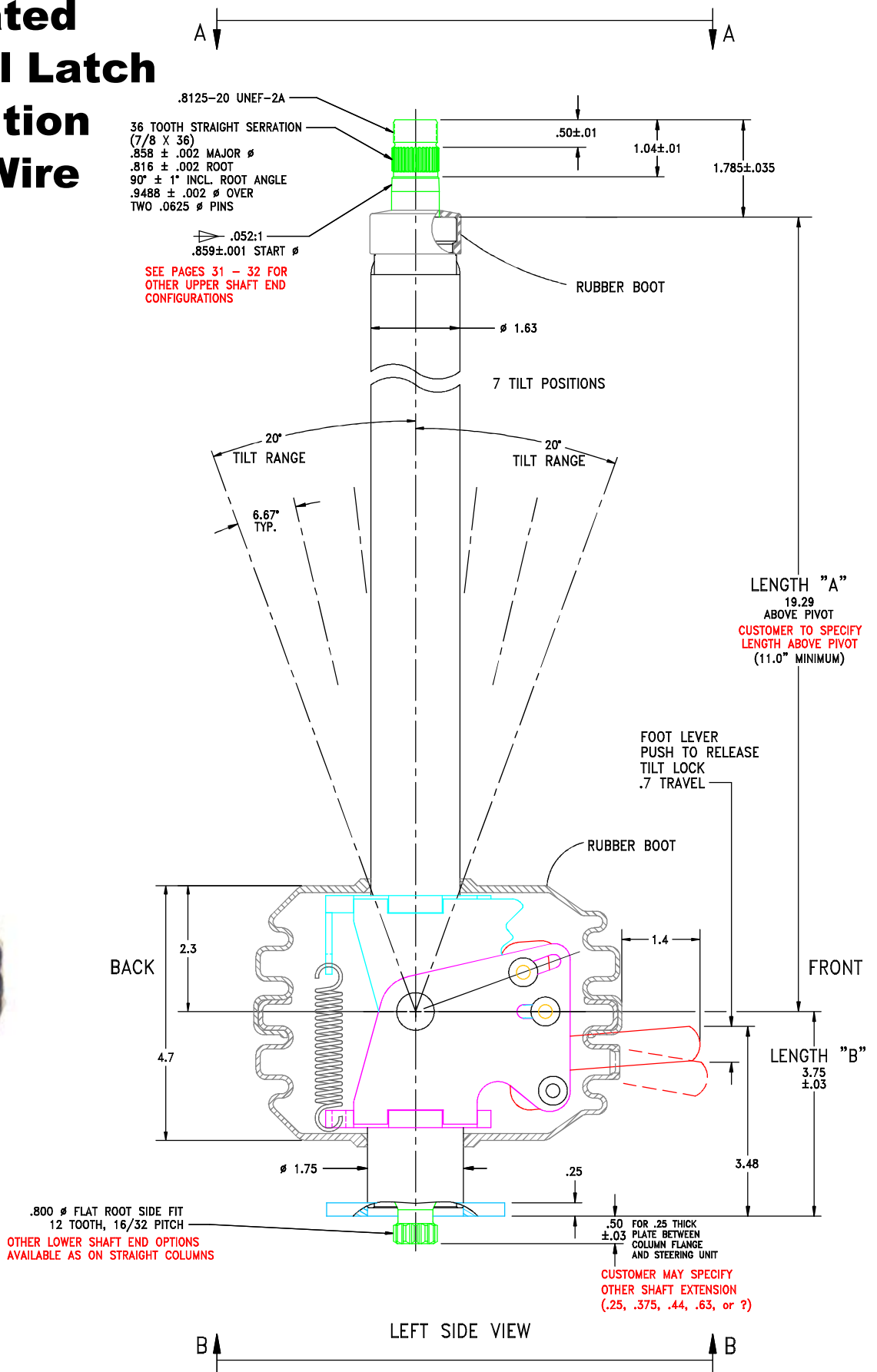
23



TILT COLUMN

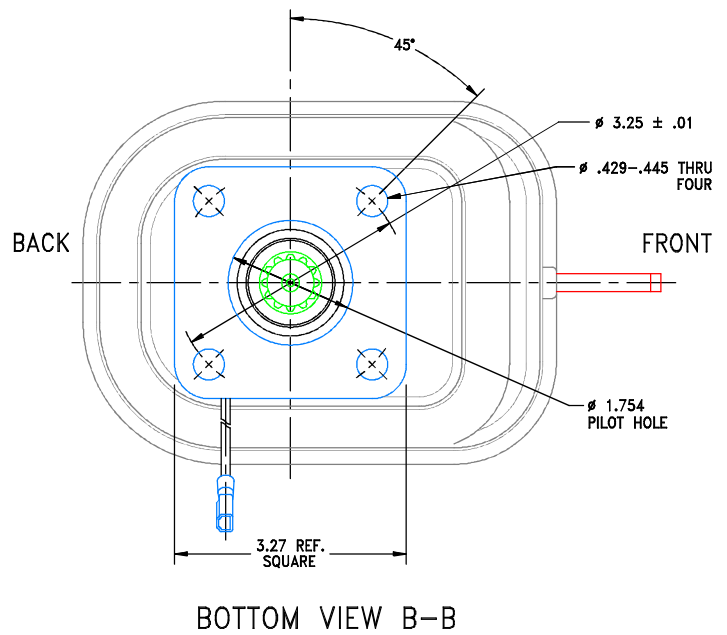
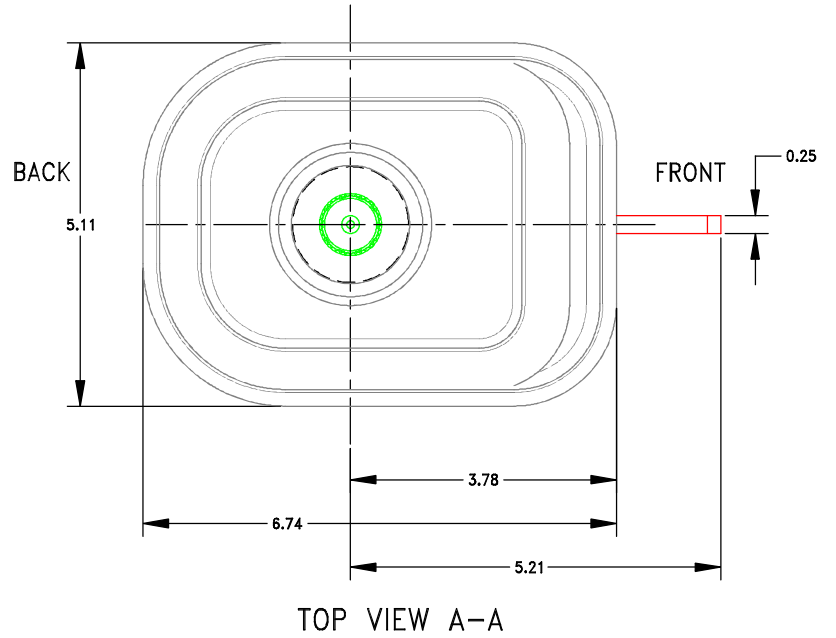
Foot Operated Mechanical Latch Seven Position Non Horn Wire

(cont.)



TILT COLUMN

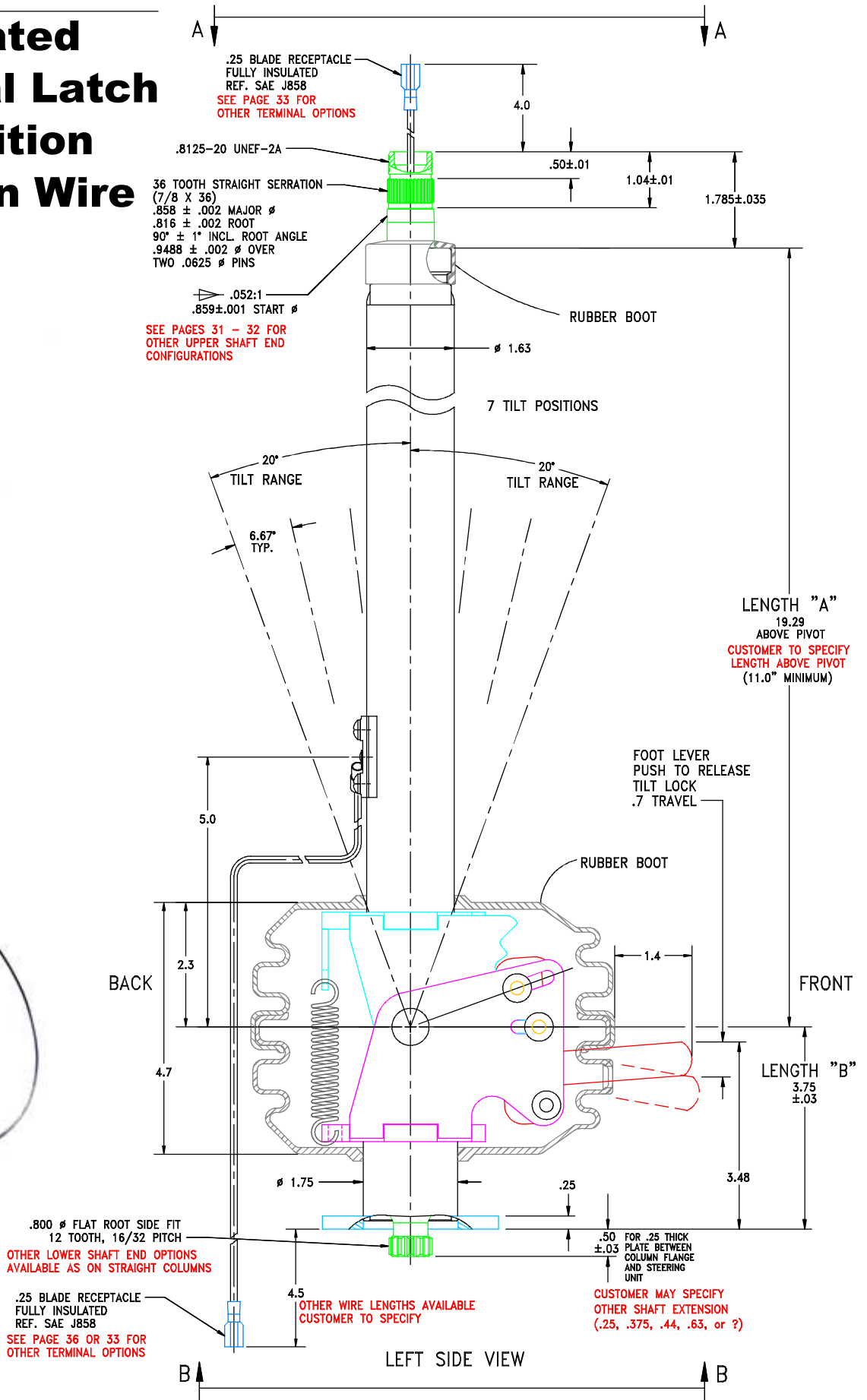
Foot Operated Mechanical Latch Seven Position Single Horn Wire



TILT COLUMN

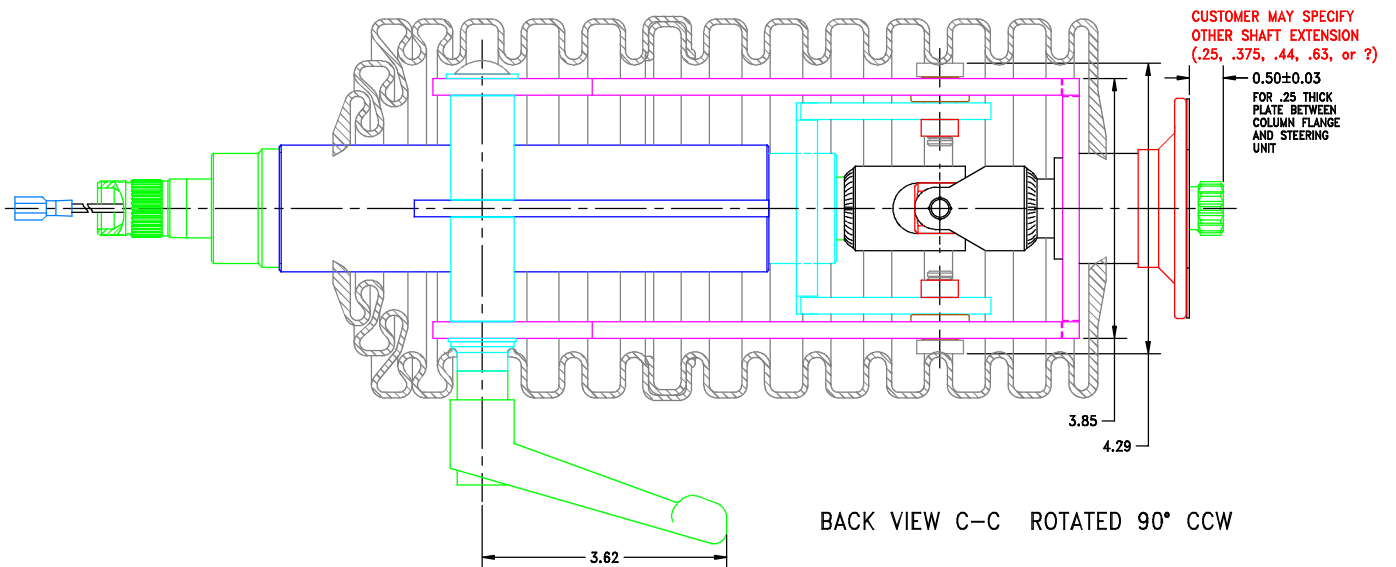
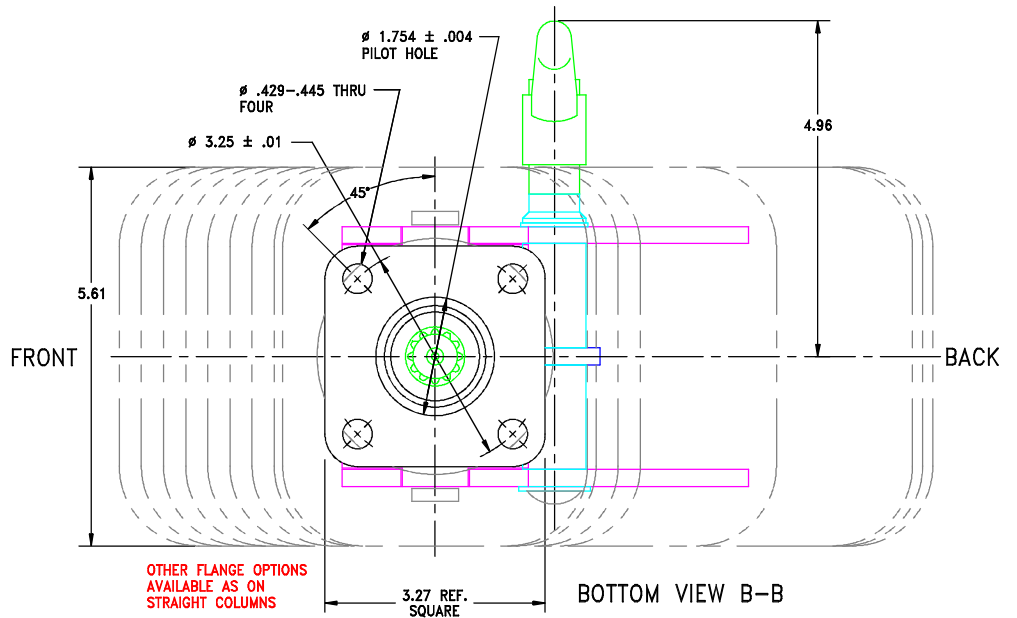
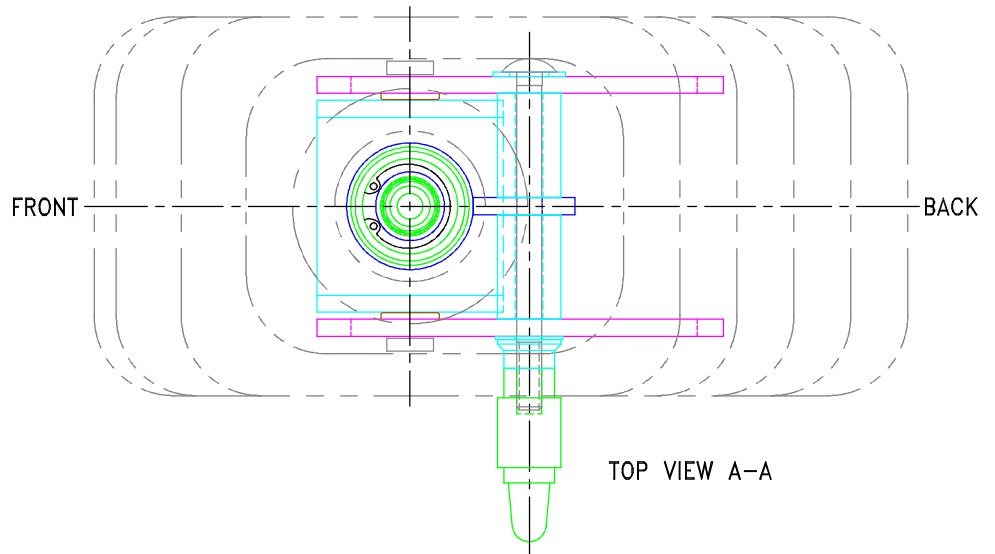
Foot Operated Mechanical Latch Seven Position Single Horn Wire

(cont.)



TELESCOPING TILT COLUMN

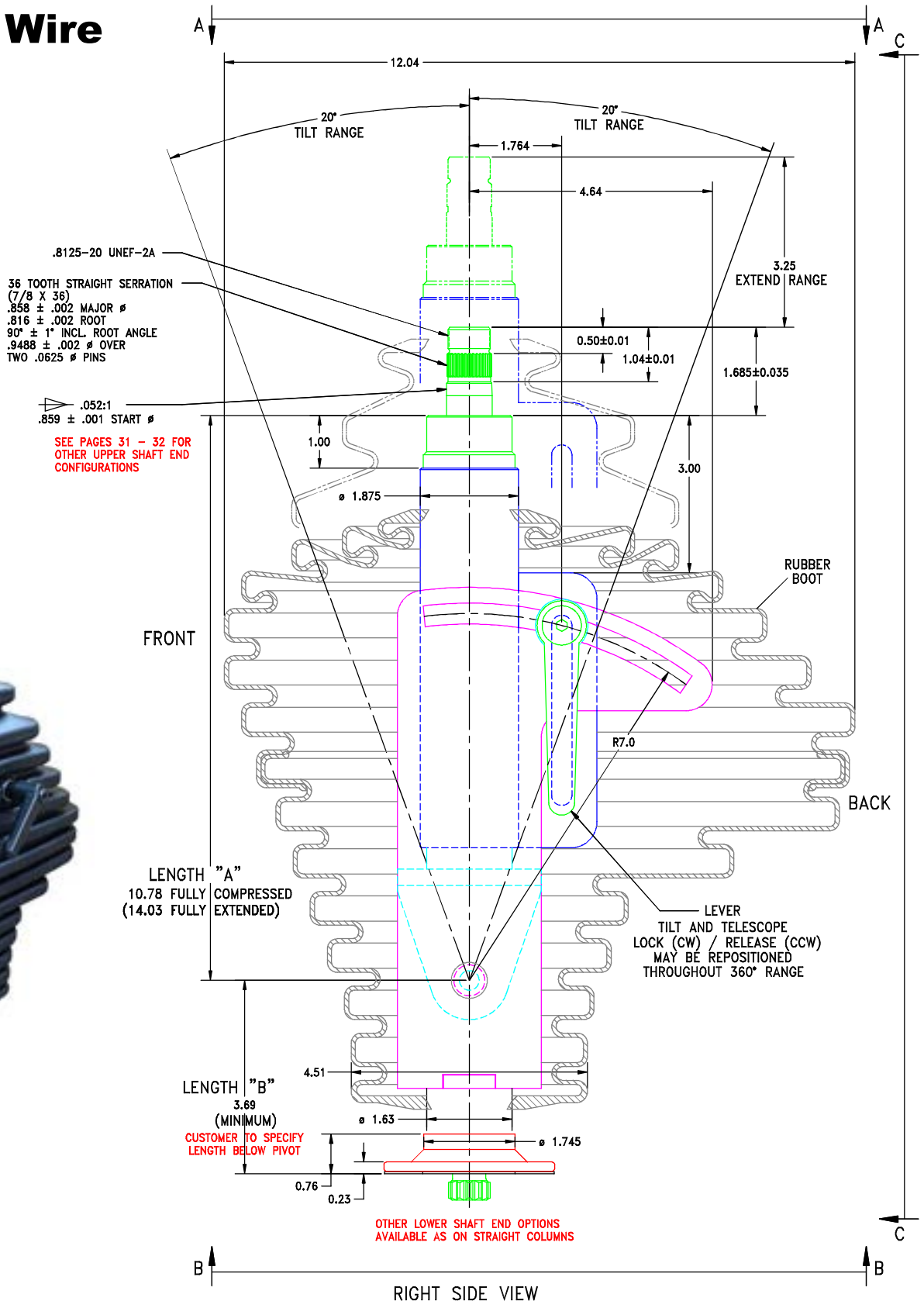
Heavy Duty
One Lever Operation
Infinite Position
Non Horn Wire



TELESCOPING TILT COLUMN

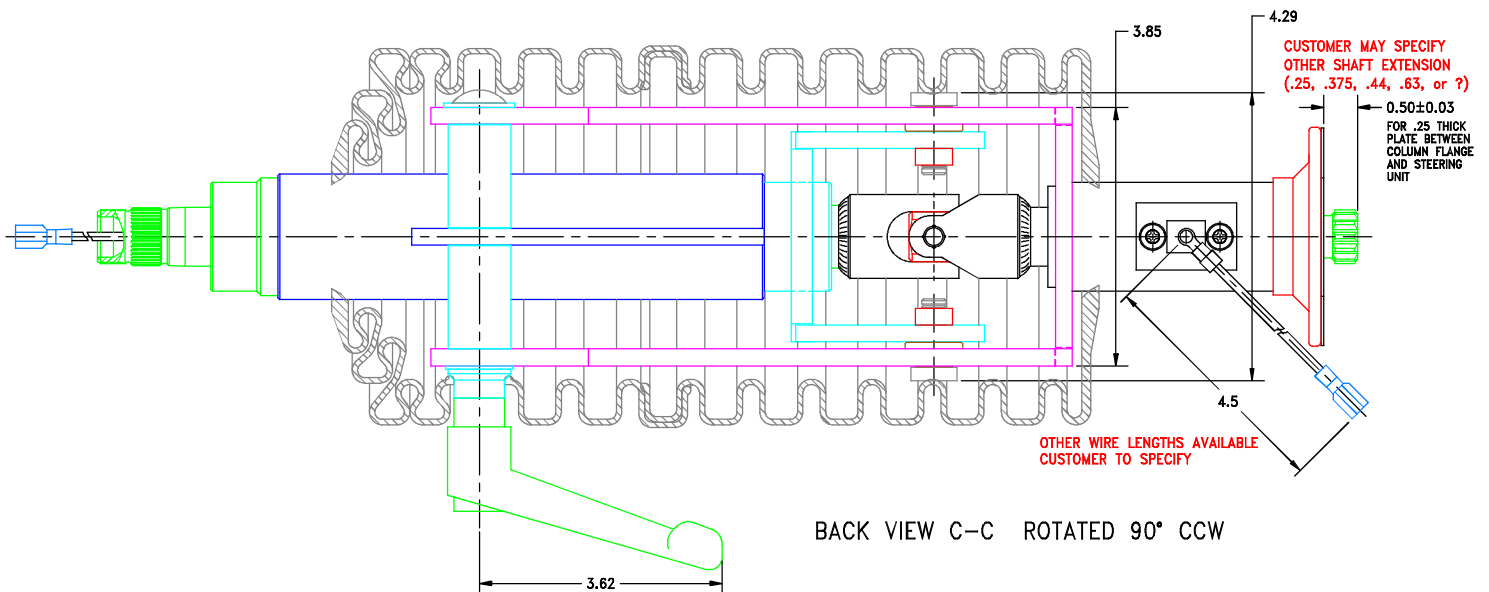
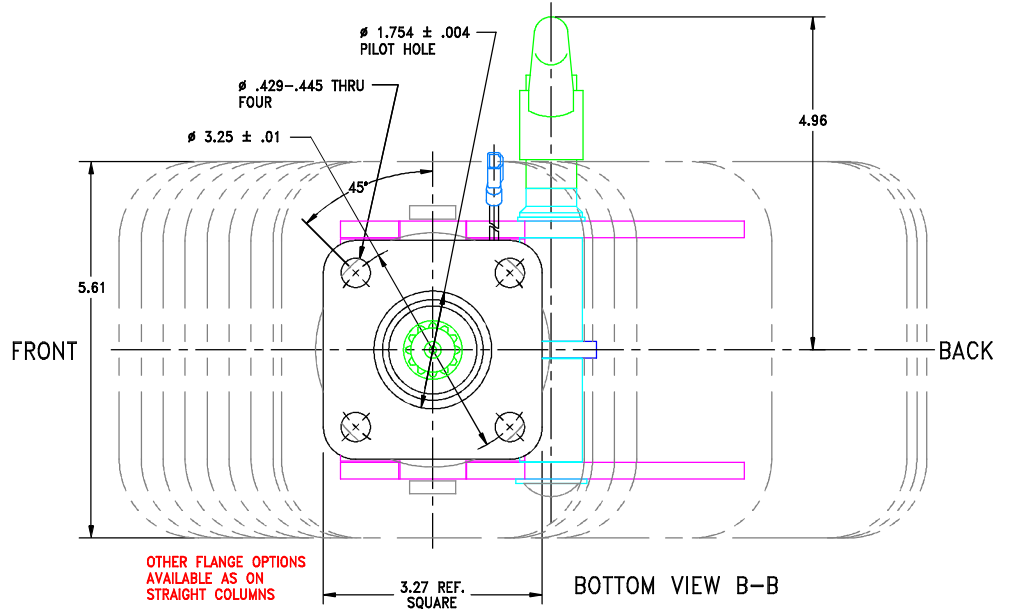
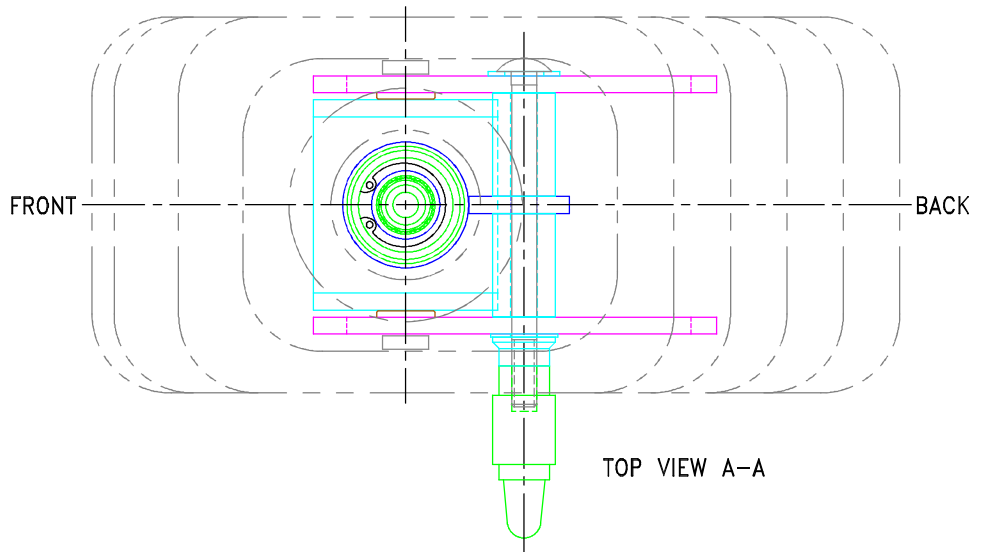
**Heavy Duty
One Lever Operation
Infinite Position
Non Horn Wire**

(cont.)



TELESCOPING TILT COLUMN

Heavy Duty
One Lever Operation
Infinite Position
Single Horn Wire



TELESCOPING TILT COLUMN

Heavy Duty One Lever Operation Infinite Position Single Horn Wire

(cont.)



.25 BLADE RECEPTACLE
FULLY INSULATED
REF. SAE J858
SEE PAGE 33 FOR
OTHER TERMINAL OPTIONS

.8125-20 UNEF-2A

36 TOOTH STRAIGHT SERRATION
(7/8 X 36)
.858 ± .002 MAJOR Ø
.816 ± .002 ROOT
90° ± 1° INCL. ROOT ANGLE
.9488 ± .002 Ø OVER
TWO .0625 Ø PINS

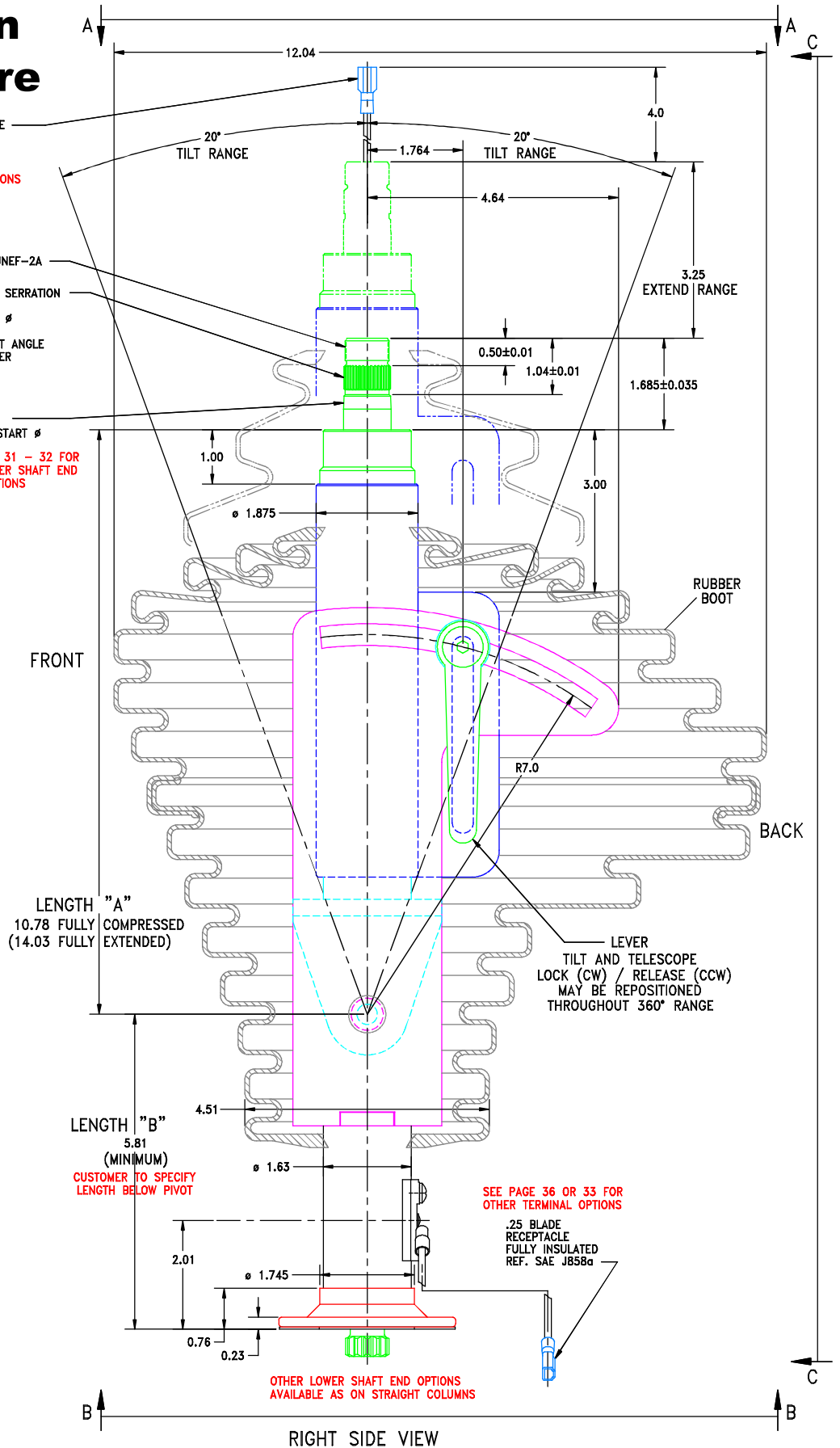
.052:1
.859 ± .001 START Ø

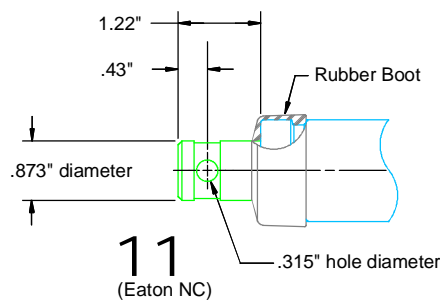
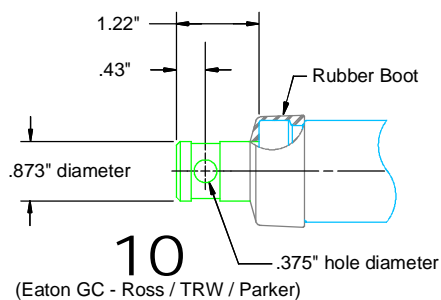
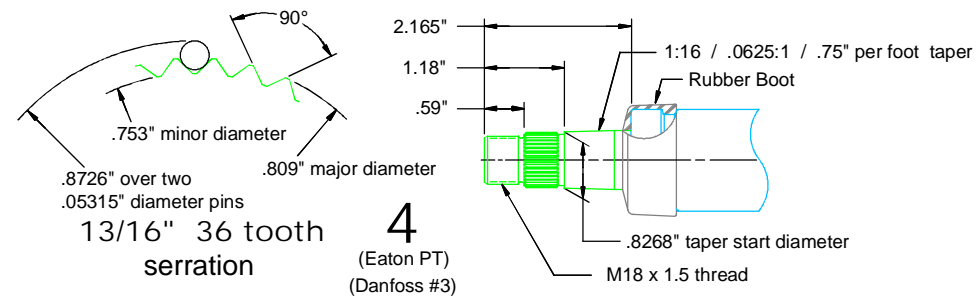
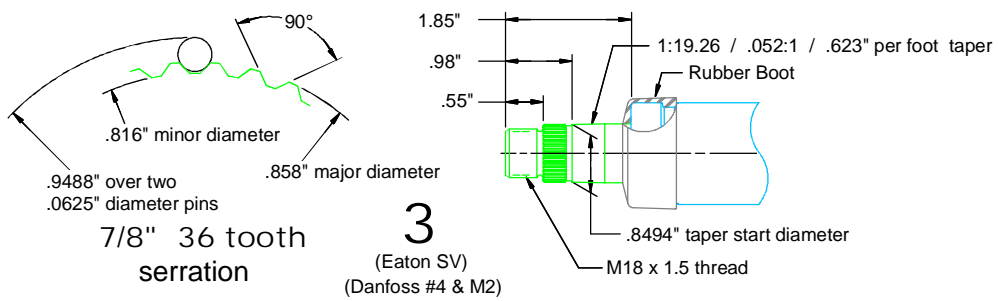
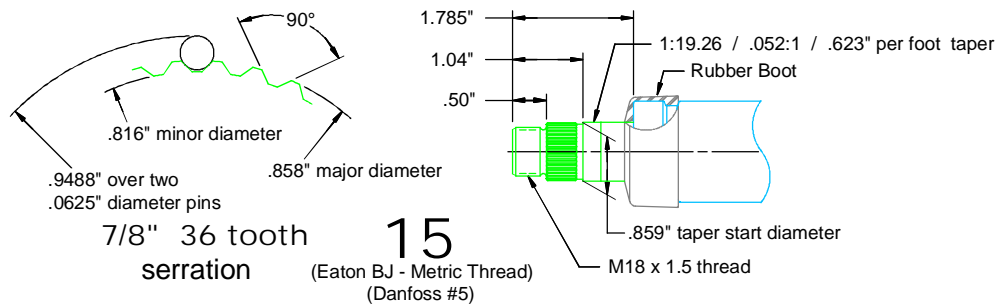
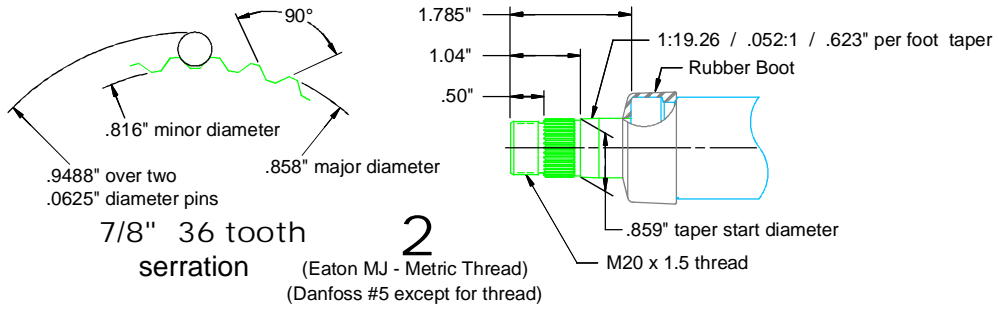
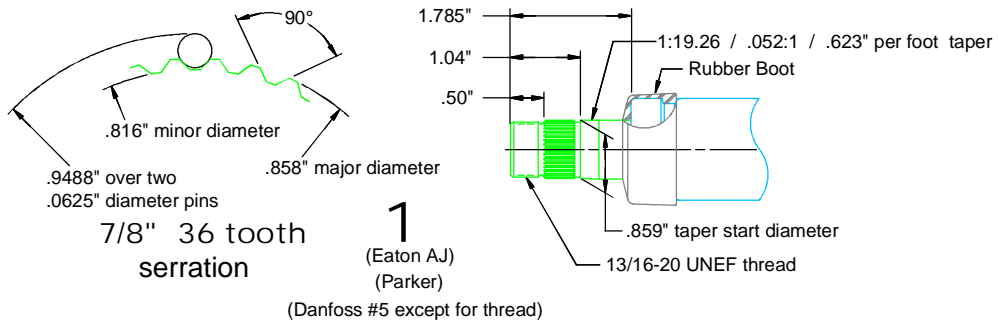
SEE PAGES 31 - 32 FOR
OTHER UPPER SHAFT END
CONFIGURATIONS

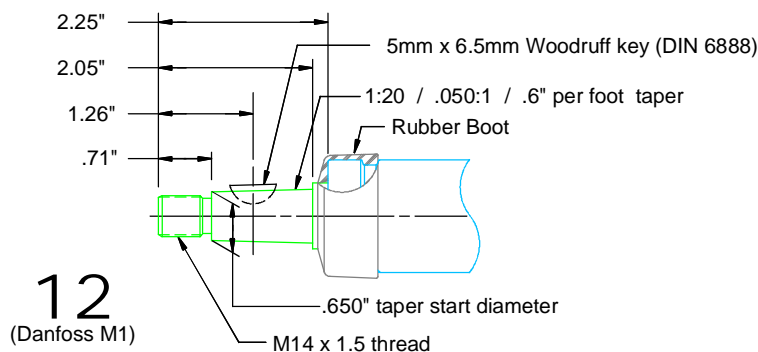
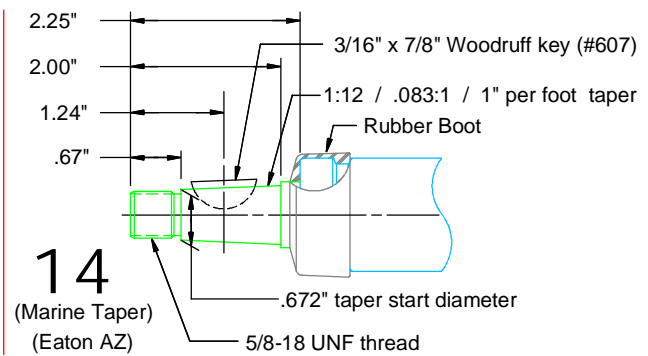
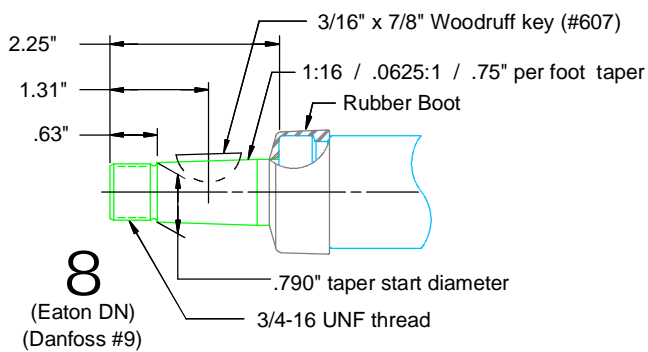
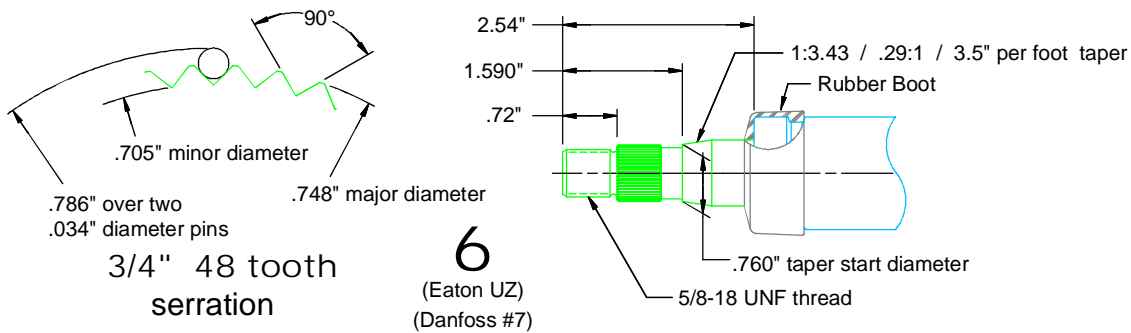
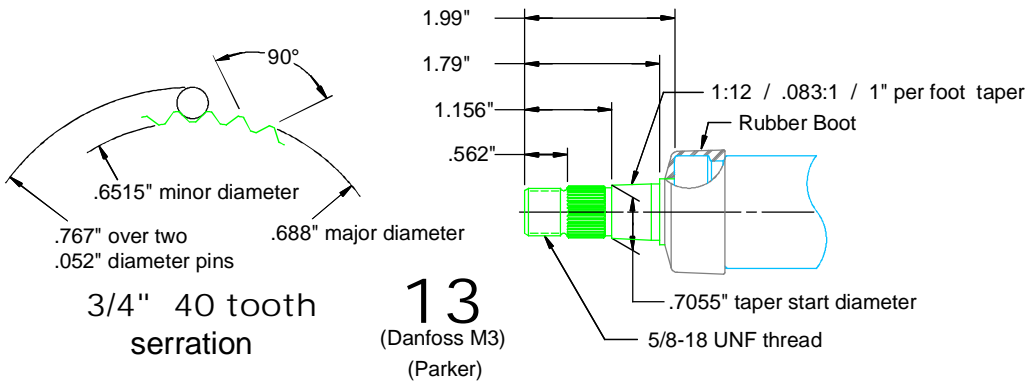
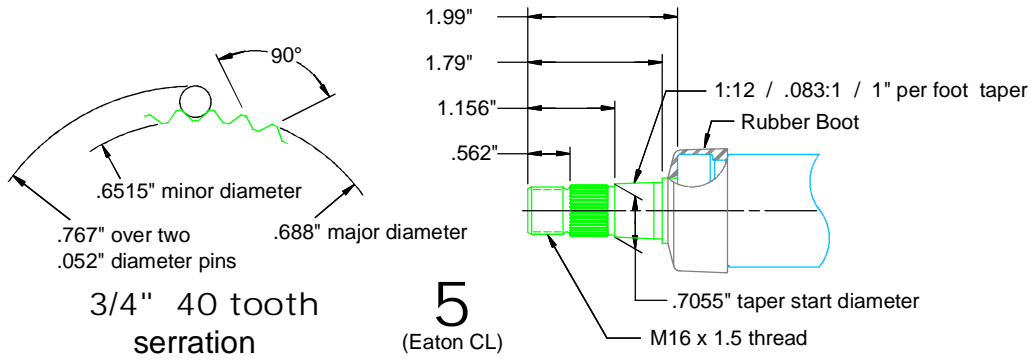
SEE PAGE 36 OR 33 FOR
OTHER TERMINAL OPTIONS

.25 BLADE
RECEPTACLE
FULLY INSULATED
REF. SAE J858a

OTHER LOWER SHAFT END OPTIONS
AVAILABLE AS ON STRAIGHT COLUMNS



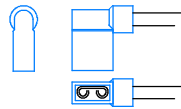




Terminals

blade type - .25" wide, .032" thick ref SAE J858a

13



Waytek # 31535

blade receptacle, fully insulated flag type

1



Panduit # DNF 14-250FIB-3K

blade receptacle, fully insulated
standard for shaft end wire and
standard for horn brush wire on side of column

2



Waytek # 31513

blade receptacle, fully insulated

3



Thomas & Betts # 14RB-2577

blade receptacle, fully insulated

4



Panduit # DVF 14-250

blade receptacle

5



Amp # 2-520103-2

blade, fully insulated

pin or bullet - .156" diameter ref SAE J928 Type 1

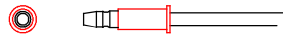
6



Waytek # 30761 and 38020

pin or bullet with double socket connector

7



Waytek # 30761

pin or bullet

ring (eyelet) type - .03" thick ref SAE J561

8



Panduit # PN14-10R

#10 size, .20" hole, insulated

9



Waytek # 31003

#10 size, .20" hole, non-insulated

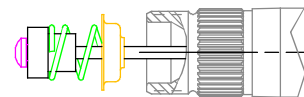
bare wire, stripped and tinned .25"

10



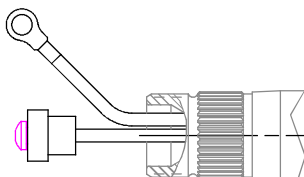
Eaton standard shaft wire end for single horn wire

11

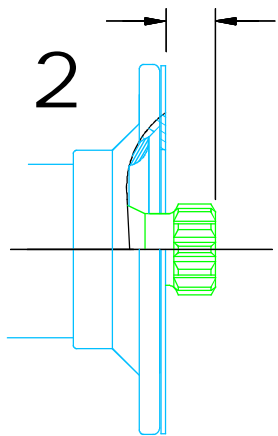


Eaton standard shaft wire end for two horn wires

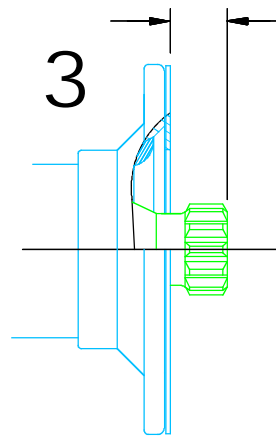
12



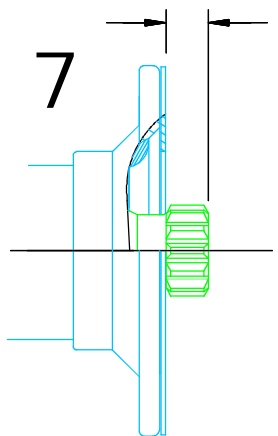
Alternate Lower Shaft End Extensions ³⁴



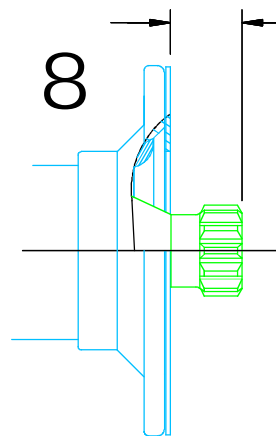
.44" Lower Shaft End Extension for .188" thick plate between column and Eaton or Danfoss steering unit, .37" Spline Length.



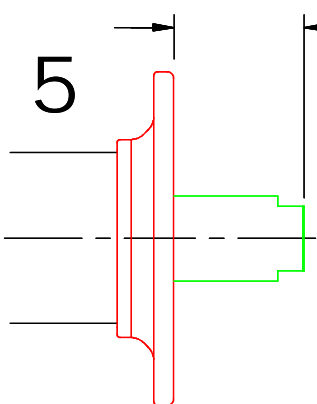
.50" Lower Shaft End Extension for .25" thick plate between column and Eaton or Danfoss steering unit, .37" Spline Length.



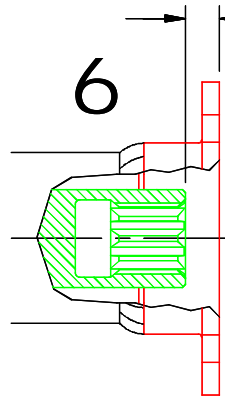
.375" Lower Shaft End Extension for .125" thick plate between column and Eaton or Danfoss steering unit, .37" Spline Length.



.63" Lower Shaft End Extension for .375" thick plate between column and Eaton or Danfoss steering unit, .37" Spline Length.



1.15" Lower Shaft End Extension for .25" thick plate between column and Parker HGF steering unit.



.30" Recessed Lower Shaft End for .25" thick plate between column and Danfoss OSPM mini steering unit.

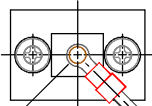
It is recommended to add an ample amount of heavy grease to the interface of the column lower shaft spline and the steering unit spline to avert moisture and unnecessary wear.

If a plate or bulkhead is mounted between the column and the steering unit, a pilot extension may be recommended. Contact BSM for details.

Horn Brush Assembly Options

For 1.5" diameter column

(4.5" standard wire length)



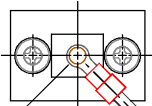
4.5"

1

pin or bullet type

.156" diameter pin or bullet with double socket connector
terminal specification on page 33 #6

service parts kit # KHBA-22235-045



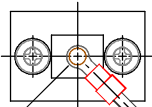
4.5"

2

blade type

.25" wide blade receptacle, fully insulated
terminal specification on page 33 #1

service parts kit # KHBA-201162-045



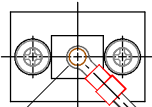
4.5"

3

blade type

.25" wide blade, fully insulated
terminal specification on page 33 #5

service parts kit # KHBA-23962-045



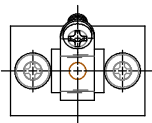
4.5"

4

bare wire

stripped and tinned .25"

service parts kit # KHBA-23887-045



5

nut plate type

nut plate .38" wide, .05" thick

#8 - 32 UNC thread, with screw

service parts kit #KHBA-10440

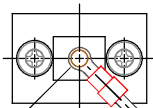


Horn Brush Assembly Options

For 1.63" diameter column (Tilt)

36

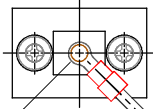
(4.5" standard wire length)



1 pin or bullet type

.156" diameter pin or bullet with double socket connector
terminal specification on page 33 #6

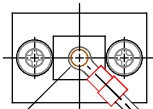
service parts kit # KHBA-22317-045



2 blade type

.25" wide blade receptacle, fully insulated
terminal specification on page 33 #1

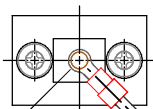
service parts kit # KHBA-10646-045



3 blade type

.25" wide blade, fully insulated
terminal specification on page 33 #5

service parts kit # KHBA-10654-045



4 bare wire

stripped and tinned .25"

service parts kit # KHBA-10644-045

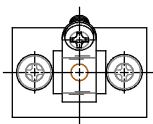


5 nut plate type

nut plate .38" wide, .05" thick

#8 - 32 UNC thread, with screw

service parts kit #KHBA-10892



Parts kits include Horn Brush Assembly, 2 screws, capsule of grease, and instruction sheet.

Holes may be provided in the column for switch or lever locating.
Specify size and location from pivot point and orientation to tilt direction.

A collar or sleeve may be provided on the column to increase column O.D.
1.75" O.D. by 1.69" or 2.00" long is typical.

Specify location from pivot point.

If threaded hole is required, specify size and location as above.

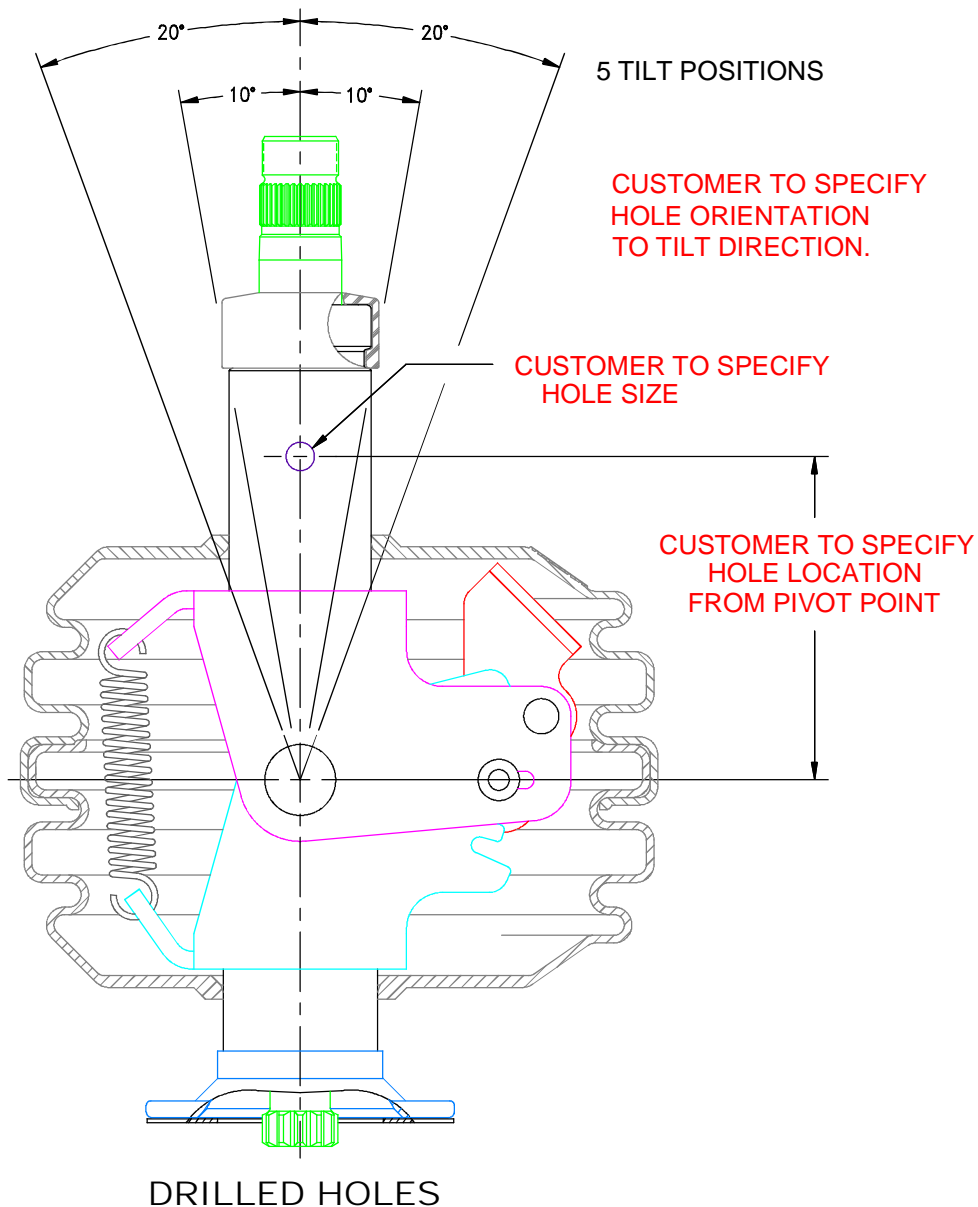
Brackets may be provided on the column for switch or lever mounting.

Specify size and location from pivot point and orientation to tilt direction.

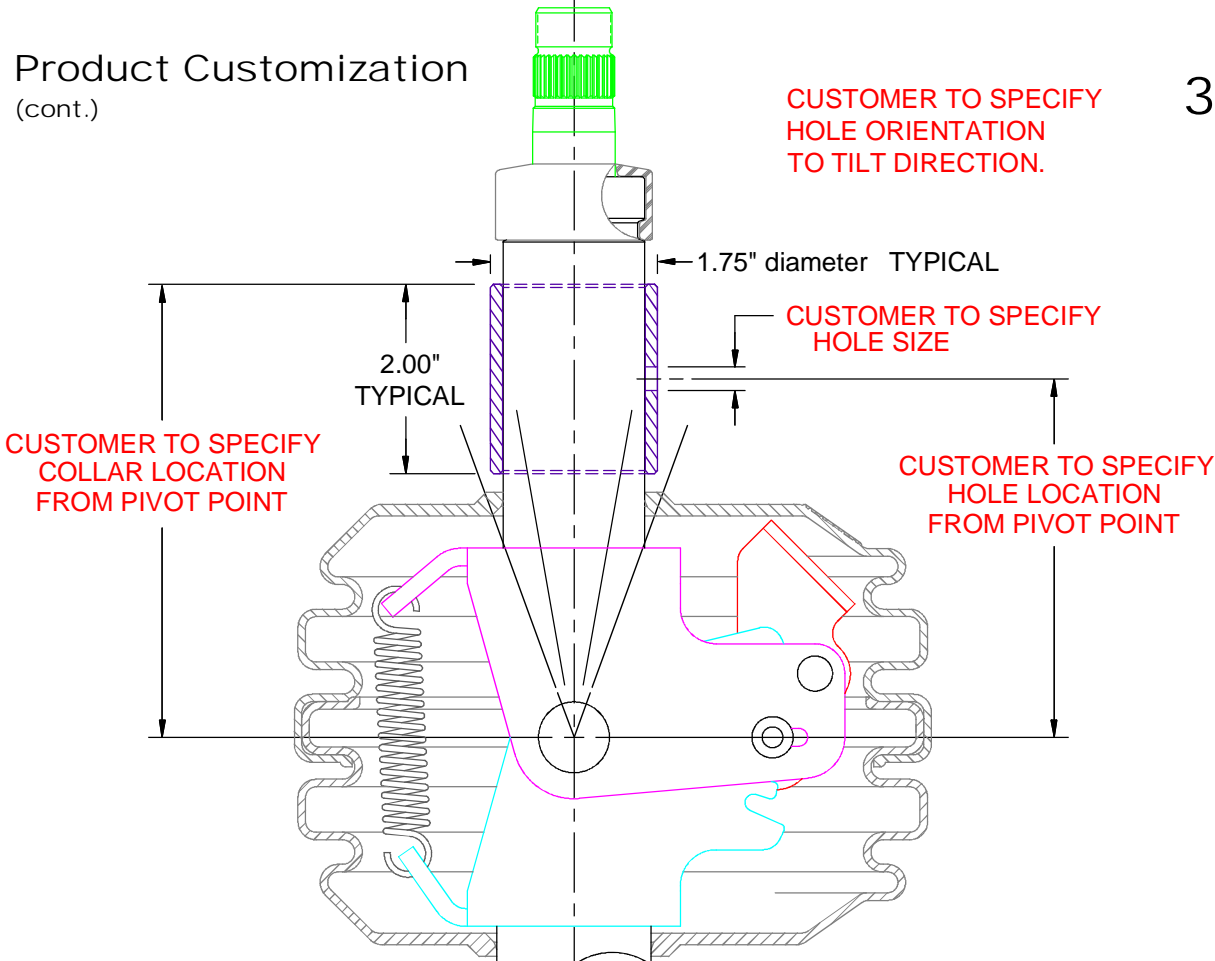
Brackets may be provided on the column for mounting of the column
(and steering unit) to the vehicle.

Specify size and location from pivot point and orientation to tilt direction.

Any combination of holes, collars, and/or bracketry is available upon request.

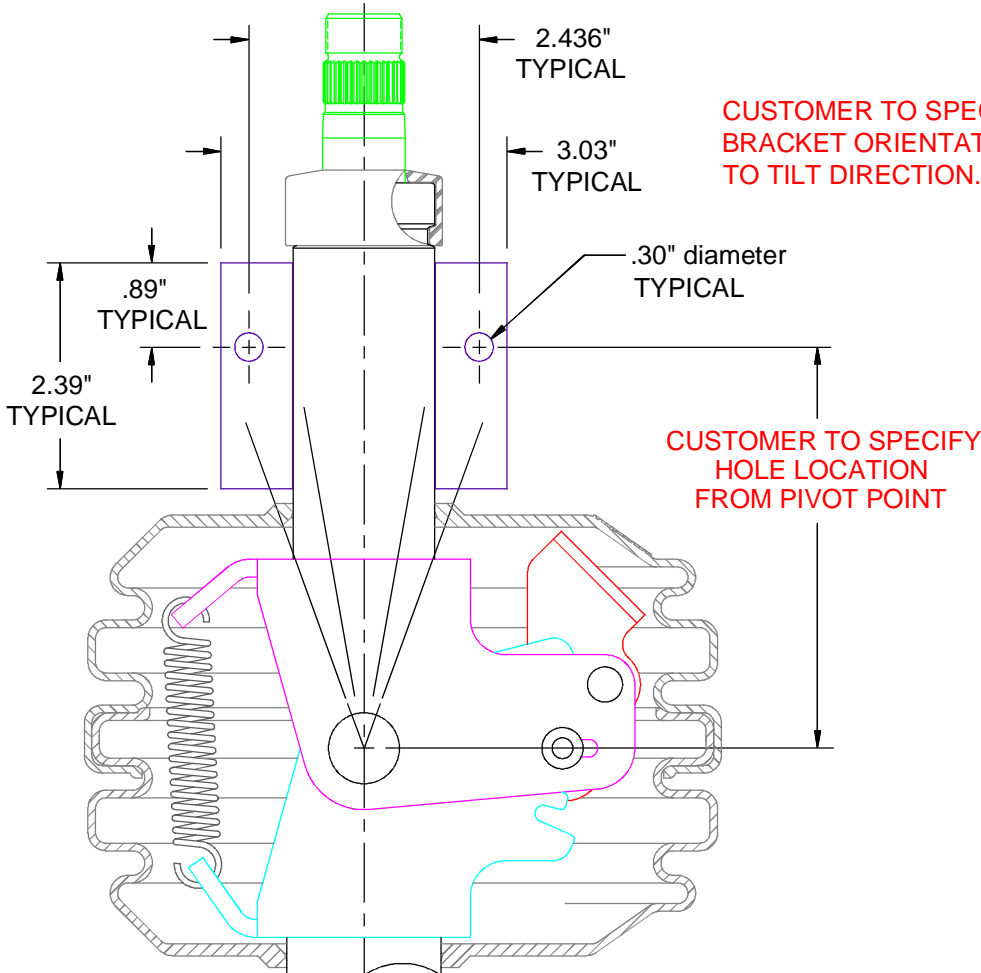


CUSTOMER TO SPECIFY HOLE ORIENTATION TO TILT DIRECTION.



COLLARS

CUSTOMER TO SPECIFY BRACKET ORIENTATION TO TILT DIRECTION.



BRACKETS

Product Customization

Holes may be provided in the column for switch or lever locating.

Specify size and location from bottom of flange and orientation to another feature (mounting hole, horn brush, etc.).

A collar or sleeve may be provided on the column to increase column O.D.

1.75" O.D. by 1.69" or 2.00" long is typical.

Specify location from bottom of flange.

If hole or threaded hole is also required, specify size and location as above.

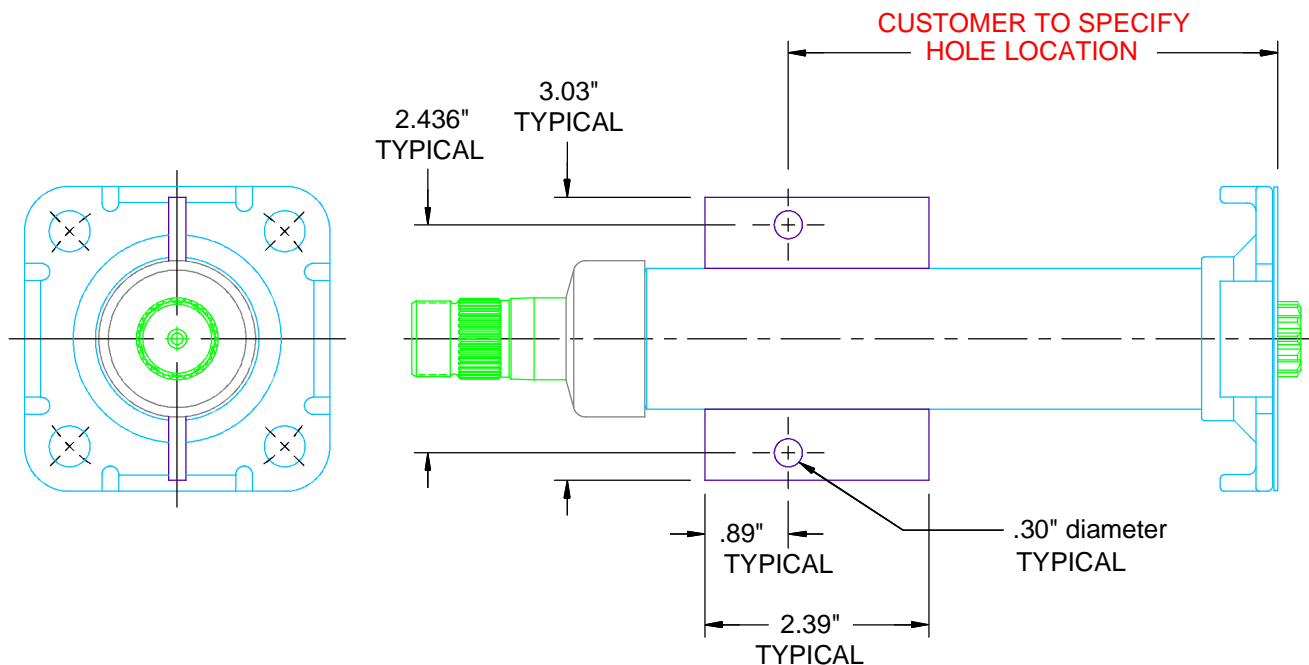
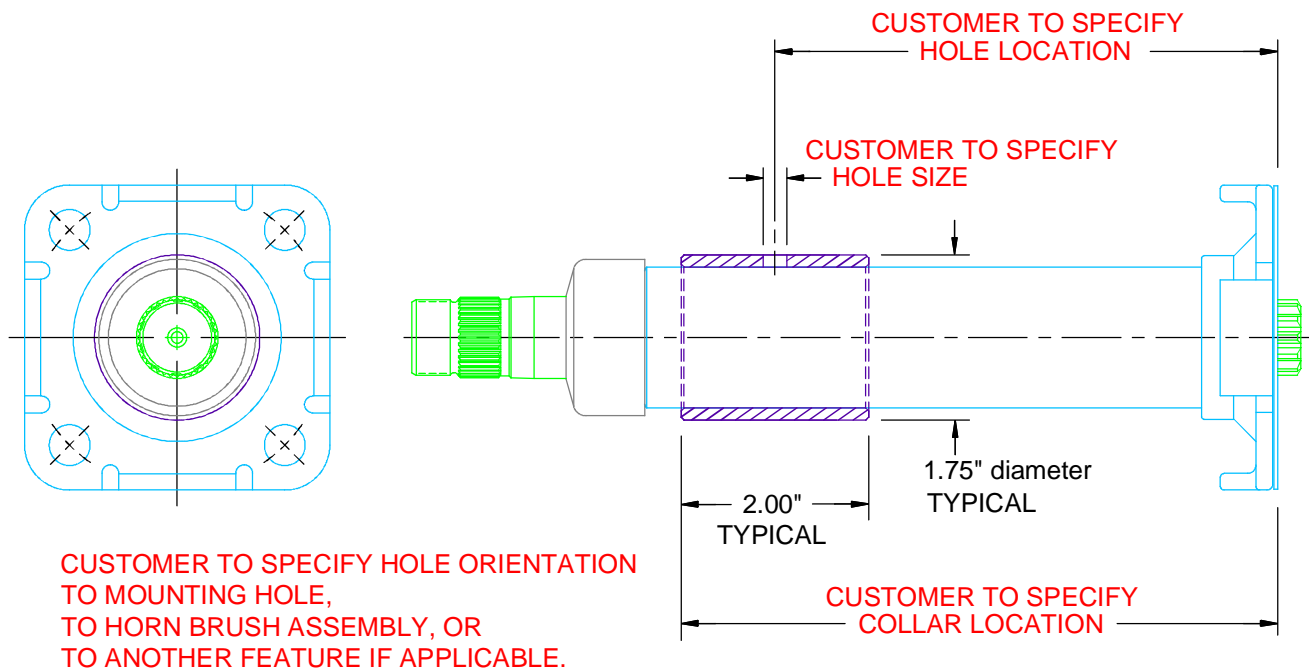
Brackets may be provided on the column for switch or lever mounting.

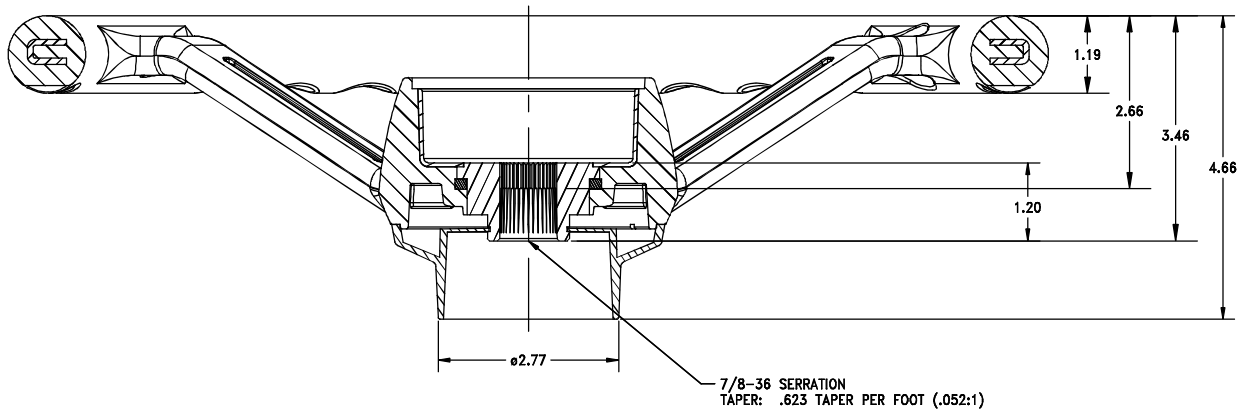
Specify size and location from bottom of flange and orientation to another feature (mounting hole, horn brush, etc.).

Brackets may be provided on the column for mounting of the column and steering unit to the vehicle.

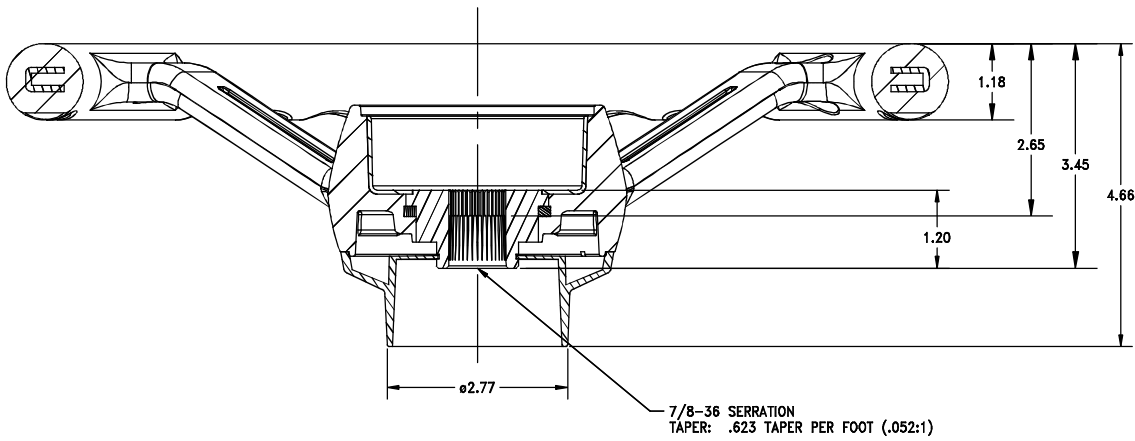
Specify size and location from bottom of flange and orientation to another feature (mounting hole, horn brush, etc.).

Any size or combination or arrangement of holes, collars, or bracketry or custom request may be made available upon request.





F10387 16" DIAMETER



F10386 14" DIAMETER

Steering Wheel Accessories

Part Number Description



F10384-100 Center Cap



F10383 Horn Button



F10382 Spinner Knob



F10374	Wheel Nut	13/16-20 UNEF
F10233	Wheel Nut	M20 x 1.5
F10239	Wheel Nut	M18 x 1.5
F10240	Wheel Nut	M16 x 1.5
F10283	Wheel Nut	M14 x 1.5
F10234	Wheel Nut	3/4-16 UNF
F10238	Wheel Nut	5/8-18 UNF

Stop Mechanism

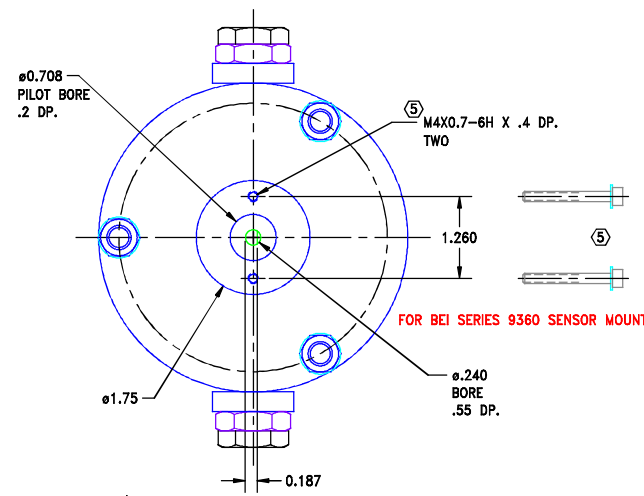
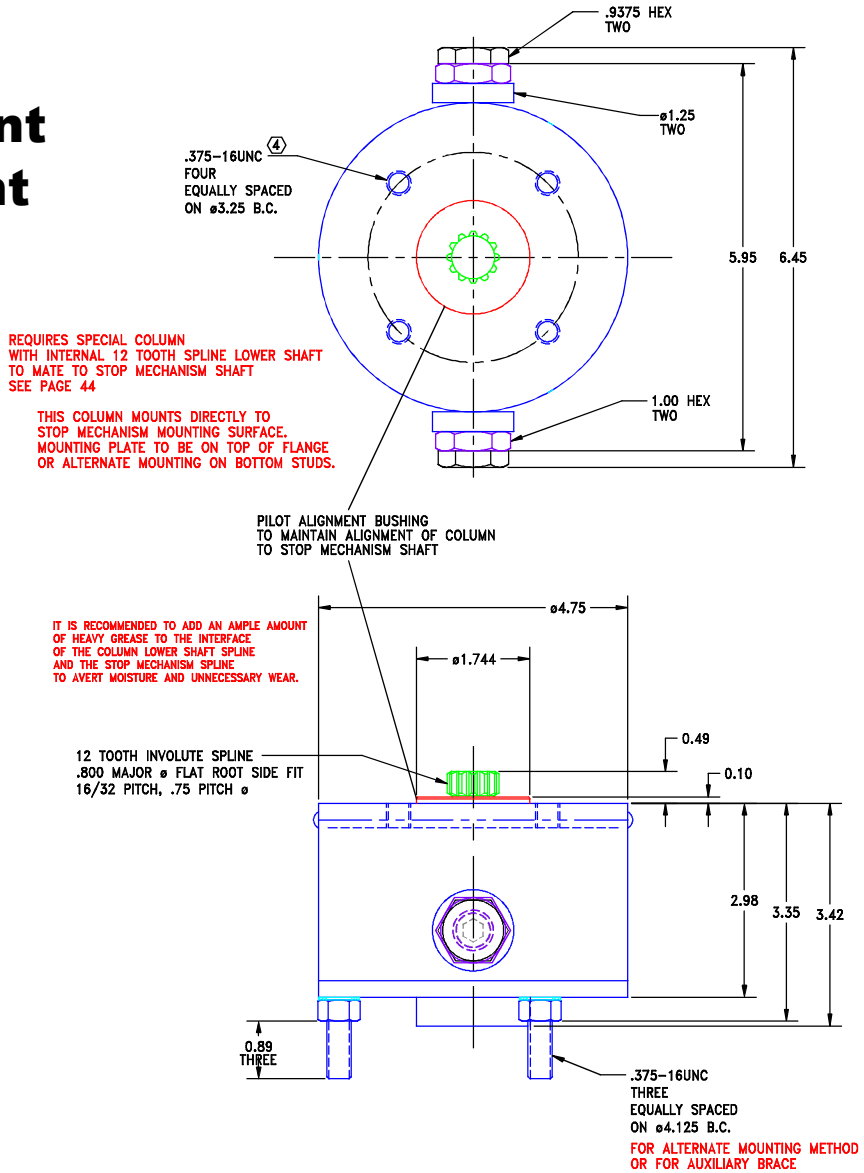
Friction Hold

334° Stop to Stop

Direct Column Mount

Direct Sensor Mount

F6555



NOTES:

- 1 SHAFT IS HELD BY FRICTION REQUIRING 10 LB.IN. TO ROTATE.
- 2. THERE ARE 334° OF SHAFT ROTATION BETWEEN STOPS.
- 3. STOPS WILL WITHSTAND UP TO 220 LB.FT. OF TORQUE ON INPUT SHAFT.
- ④ .72 MAXIMUM SCREW PENETRATION ALLOWED OR SHAFT ROTATION MAY BE HINDERED. (.375-16 UNC x .75 LONG WITH WASHER RECOMMENDED WITH BSM COLUMN WITHOUT MOUNTING PLATE)
- ⑤ .52 MAXIMUM SCREW PENETRATION ALLOWED OR SHAFT ROTATION MAY BE HINDERED. (FOR BEI SERIES 9360 SENSOR MOUNT, TWO M4X0.7 X 35mm LONG SHCS'S AND WASHERS PROVIDED)

Stop Mechanism

Self-Centering

+/- 135° from Center

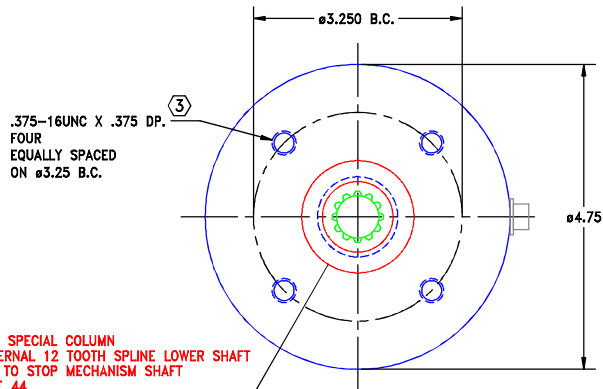
for .25 Plate Between

Column and Mount

Direct Sensor Mount

43

F6557



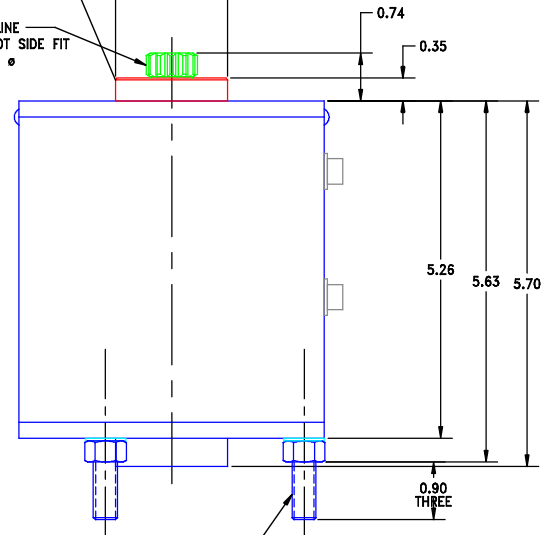
REQUIRES SPECIAL COLUMN
WITH INTERNAL 12 TOOTH SPLINE LOWER SHAFT
TO MATE TO STOP MECHANISM SHAFT
SEE PAGE 44

PILOT ALIGNMENT BUSHING
TO MAINTAIN ALIGNMENT OF COLUMN
TO STOP MECHANISM SHAFT

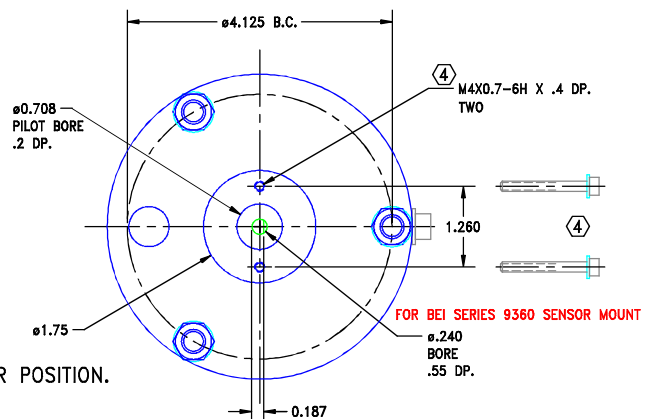
REQUIRES .25 THICK MOUNTING PLATE BETWEEN
COLUMN BASE AND STOP MECHANISM MOUNTING SURFACE.
SPACER PLATES CAN BE PROVIDED TO ACCOMMODATE THINNER
MOUNTING PLATE THICKNESSES BETWEEN COLUMN BASE
AND STOP MECHANISM MOUNTING SURFACE

12 TOOTH INVOLUTE SPLINE
.800 MAJOR Ø FLAT ROOT SIDE FIT
16/32 PITCH, .75 PITCH Ø

IT IS RECOMMENDED TO ADD AN AMPLÉ AMOUNT
OF HEAVY GREASE TO THE INTERFACE
OF THE COLUMN LOWER SHAFT SPLINE
AND THE STOP MECHANISM SPLINE
TO AVERT MOISTURE AND UNNECESSARY WEAR.



FOR ALTERNATE MOUNTING METHOD
OR FOR AUXILIARY BRACE



FOR BEI SERIES 9360 SENSOR MOUNT

NOTES:

1. SHAFT ROTATIONAL STOPS AT +/- 135° WITH SPRING RETURN TO CENTER POSITION.
2. STOPS WILL WITHSTAND UP TO 220 LB.FT. OF TORQUE ON INPUT SHAFT.

③ .63 MAXIMUM SCREW PENETRATION ALLOWED OR SHAFT ROTATION MAY BE HINDERED.
(.375-16 UNC x 1.0 LONG WITH WASHER RECOMMENDED WITH BSM COLUMN AND .25 MOUNTING PLATE BETWEEN)

④ .52 MAXIMUM SCREW PENETRATION ALLOWED OR SHAFT ROTATION MAY BE HINDERED.
(FOR BEI SERIES 9360 SENSOR MOUNT, M4X0.7 X 35mm LONG SCREWS AND WASHERS PROVIDED)

Square Flat Flange / Non Horn Wire to Mount to Stop Mechanism (pages 42, 43)

