



Flexible Automation Components

Locate · Clamp · Position · Eject · Slide · Lift · Lockout · Index

Ford VOSS Rail Slides

To request CAD files, use the worksheet below and email to eng@ewelker.com or fax to (248) 528-0920

Company _____ Contact _____
 Phone Number _____ Contact email _____
 Address _____
 City _____ State/Zip _____
 Project Description _____ Date needed _____

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Cylinder Selection/Load

- 1430 4" Bore, Narrow Carriage
- 1416 4" Bore, Wide Carriage

Base Stroke

- A 005-100mm
- B 101-180mm
- C 181-260mm
- D 261-340mm
- E 341-420mm
- F 421-500mm

Actual Stroke

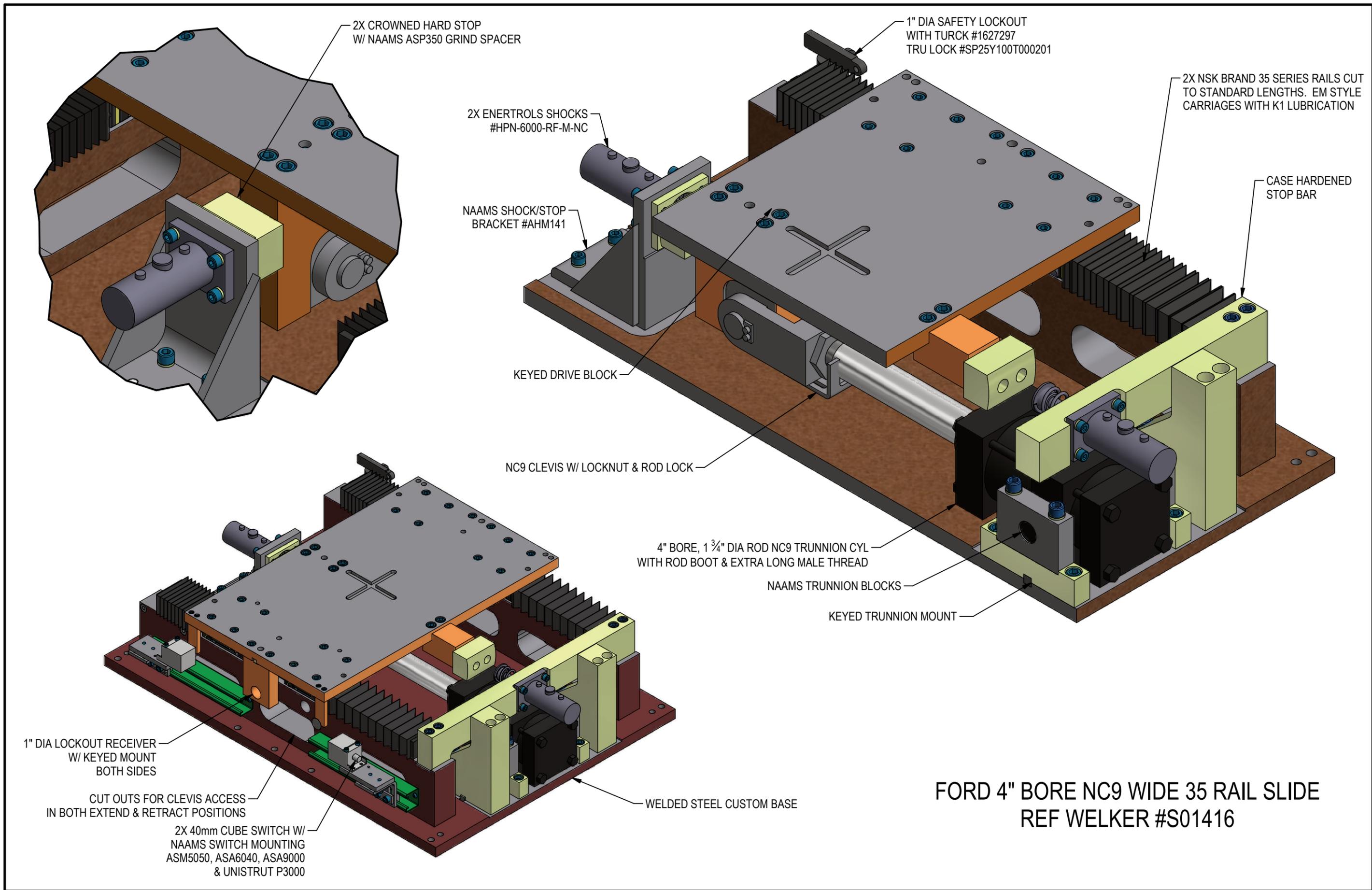
- 080 Must be within range of Base Stroke
i.e. for 80mm stroke, use Base "A"

Cylinder Options (Pneumatic)

- 01 Double Acting (NPT Ports)
- 02 Double Acting (G Ports)

Switch Location (Lockout assembly located on opposite side)

- A Switch RH Side
- B Switch LH Side



2X CROWNED HARD STOP
W/ NAAMS ASP350 GRIND SPACER

1" DIA SAFETY LOCKOUT
WITH TURCK #1627297
TRU LOCK #SP25Y100T000201

2X NSK BRAND 35 SERIES RAILS CUT
TO STANDARD LENGTHS. EM STYLE
CARRIAGES WITH K1 LUBRICATION

2X ENERTROLS SHOCKS
#HPN-6000-RF-M-NC

CASE HARDENED
STOP BAR

NAAMS SHOCK/STOP
BRACKET #AHM141

KEYED DRIVE BLOCK

NC9 CLEVIS W/ LOCKNUT & ROD LOCK

4" BORE, 1 3/4" DIA ROD NC9 TRUNNION CYL
WITH ROD BOOT & EXTRA LONG MALE THREAD

NAAMS TRUNNION BLOCKS

KEYED TRUNNION MOUNT

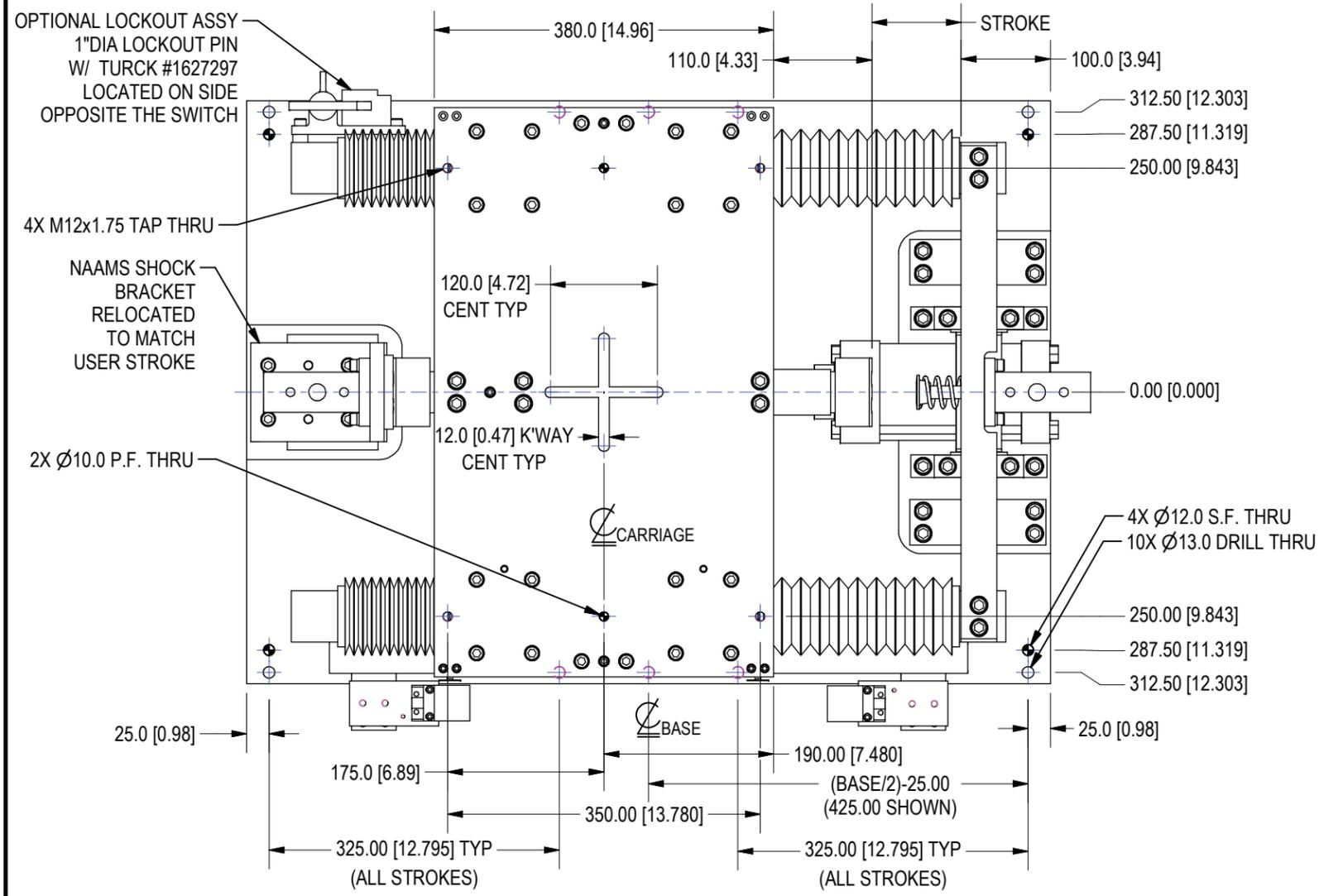
1" DIA LOCKOUT RECEIVER
W/ KEYED MOUNT
BOTH SIDES

CUT OUTS FOR CLEVIS ACCESS
IN BOTH EXTEND & RETRACT POSITIONS

2X 40mm CUBE SWITCH W/
NAAMS SWITCH MOUNTING
ASM5050, ASA6040, ASA9000
& UNISTRUT P3000

WELDED STEEL CUSTOM BASE

FORD 4" BORE NC9 WIDE 35 RAIL SLIDE
REF WELKER #S01416



OPTIONAL LOCKOUT ASSY
1" DIA LOCKOUT PIN
W/ TURCK #1627297
LOCATED ON SIDE
OPPOSITE THE SWITCH

4X M12x1.75 TAP THRU

NAAMS SHOCK
BRACKET
RELOCATED
TO MATCH
USER STROKE

2X Ø10.0 P.F. THRU

ORDERING INFORMATION

S 0 1 4 1 6 - A 0 8 0 0 1 A 0 0 0 0 M 1 T

Base Stroke

- A 005-100mm
- B 101-180mm
- C 181-260mm
- D 261-340mm
- E 341-420mm
- F 421-500mm

Actual Stroke

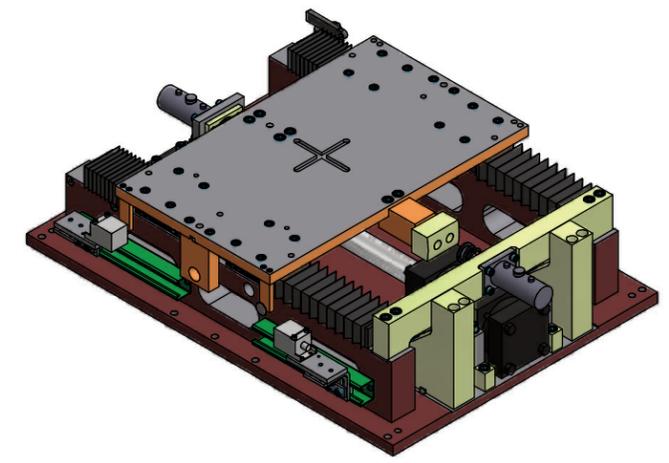
080 Must be within range of Base Stroke
i.e. for 80mm stroke, use Base "A"

Cylinder Options (Pneumatic)

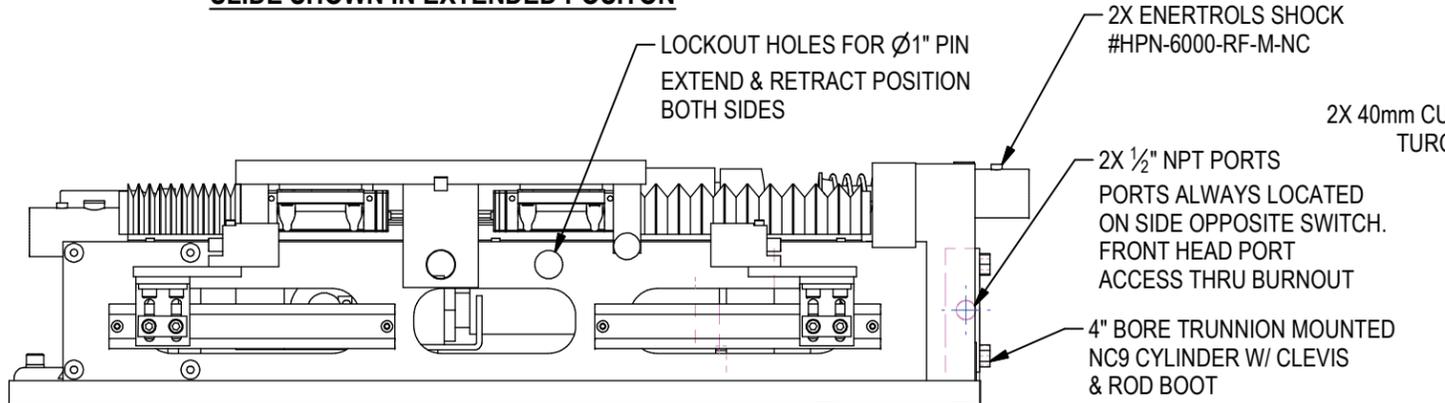
- 01 Double Acting (NPT Ports)
- 02 Double Acting (G Ports)

Switch Location (Lockout assy located on opposite side)

- A Switch RH Side
- B Switch LH Side (shown)

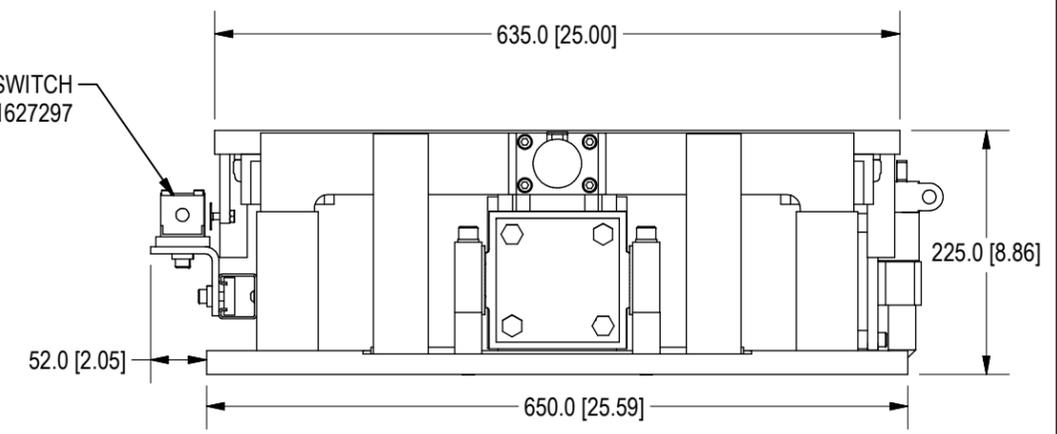


SLIDE SHOWN IN EXTENDED POSITON



BASE "A" FOR STROKES 5-100mm = 900.0 [35.43]
 BASE "B" FOR STROKES 101-180mm = 980.0 [38.58]
 BASE "C" FOR STROKES 181-260mm = 1060.0 [41.73]
 BASE "D" FOR STROKES 261-340mm = 1140.0 [44.88]
 BASE "E" FOR STROKES 341-420mm = 1220.0 [48.03]
 BASE "F" FOR STROKES 421-500mm = 1300.0 [51.18]

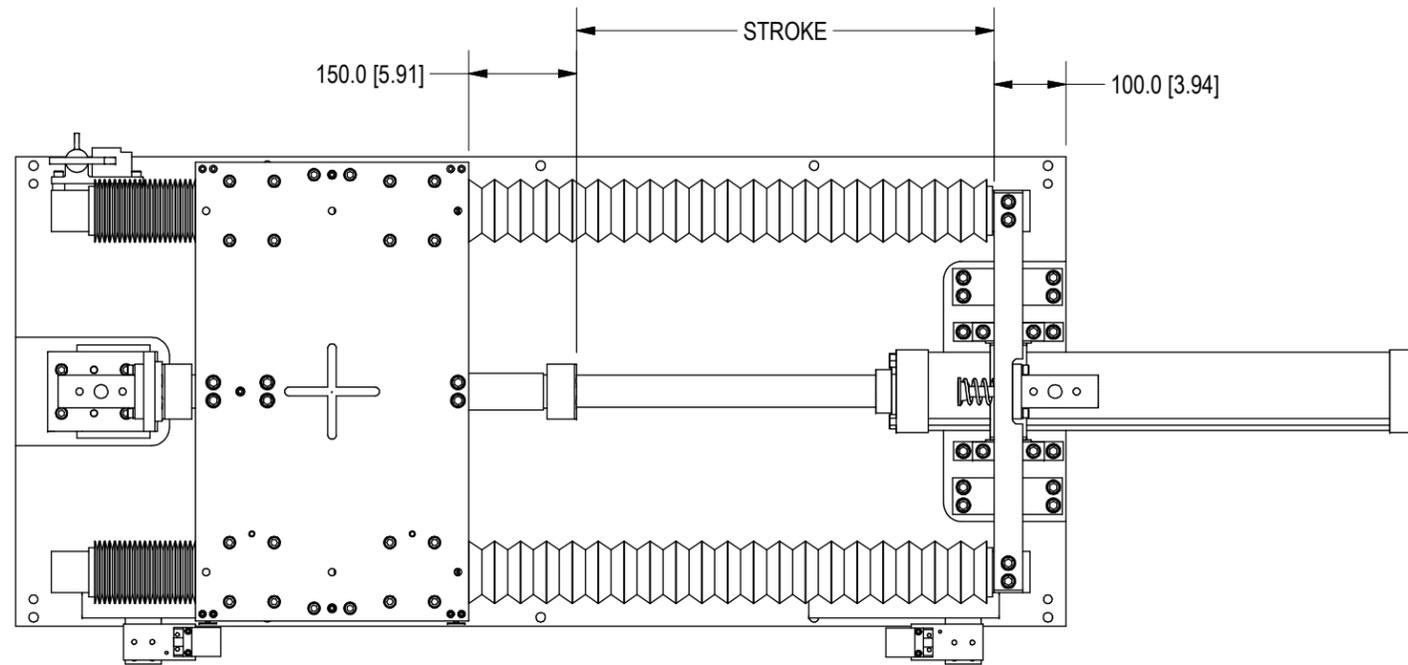
CYLINDER STICKOUT:
 FOR STROKES 5-100mm = 0.0 [0.00]
 FOR STROKES 101-180mm = 76.0 [3.00]
 FOR STROKES 181-260mm = 158.0 [6.22]
 FOR STROKES 261-340mm = 241.0 [9.49]
 FOR STROKES 341-420mm = 317.0 [12.48]
 FOR STROKES 421-500mm = 393.0 [15.47]



UNITS ARE MILLIMETERS
(i.e.X.XXmm [x.xxx"])
DO NOT SCALE DRAWING

WELKER					
WELKER ENGINEERED PRODUCTS					
TOOL NAME FORD 4" BORE NC9 WIDE 35 RAIL SLIDE					
TEMPLATE					
DATE	REV	DRAWN BY	DATE	CHK'D BY	ENG APPROVAL
12/10/2018	2	DJH	2/9/2012	KPL	
SCALE	N/A	FILE NAME	S01416L01		

ORDERING INFORMATION FOR 501-999mm STROKE



S 0 1 4 1 6 - G 5 8 0 0 1 A 0 0 0 0 M 1 T

Base Stroke

- G 501-580mm
- H 581-660mm
- J 661-740mm
- K 741-820mm
- L 821-900mm
- M 901-980mm
- N 981-999mm

Actual Stroke

- 580 Must be within range of Base Stroke
i.e. for 580mm stroke, use Base "G"

Cylinder Options (Pneumatic)

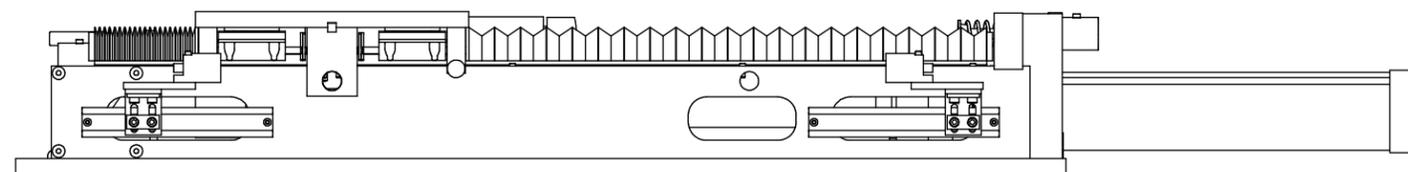
- 01 Double Acting (NPT Ports)
- 02 Double Acting (G Ports)

Switch Location (Lockout assy located on opposite side)

- A Switch RH Side
- B Switch LH Side (shown)

SLIDE SHOWN IN EXTENDED POSITION

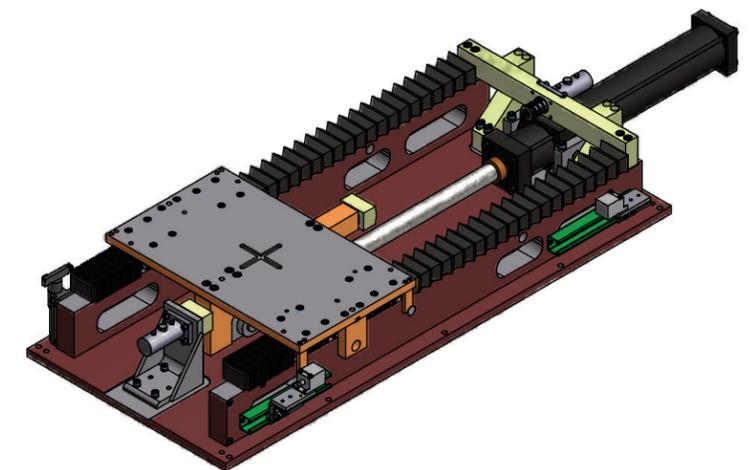
FOR ALL OTHER PRODUCT AND DIMENSIONAL INFORMATION, SEE 5-500mm STROKE TEMPLATE



- BASE "G" FOR STROKES 501-580mm = 1460.0 [57.48]
- BASE "H" FOR STROKES 581-660mm = 1540.0 [60.63]
- BASE "J" FOR STROKES 661-740mm = 1620.0 [63.78]
- BASE "K" FOR STROKES 741-820mm = 1700.0 [66.93]
- BASE "L" FOR STROKES 821-900mm = 1780.0 [70.08]
- BASE "M" FOR STROKES 901-980mm = 1860.0 [73.23]
- BASE "N" FOR STROKES 981-999mm = 1940.0 [76.38]

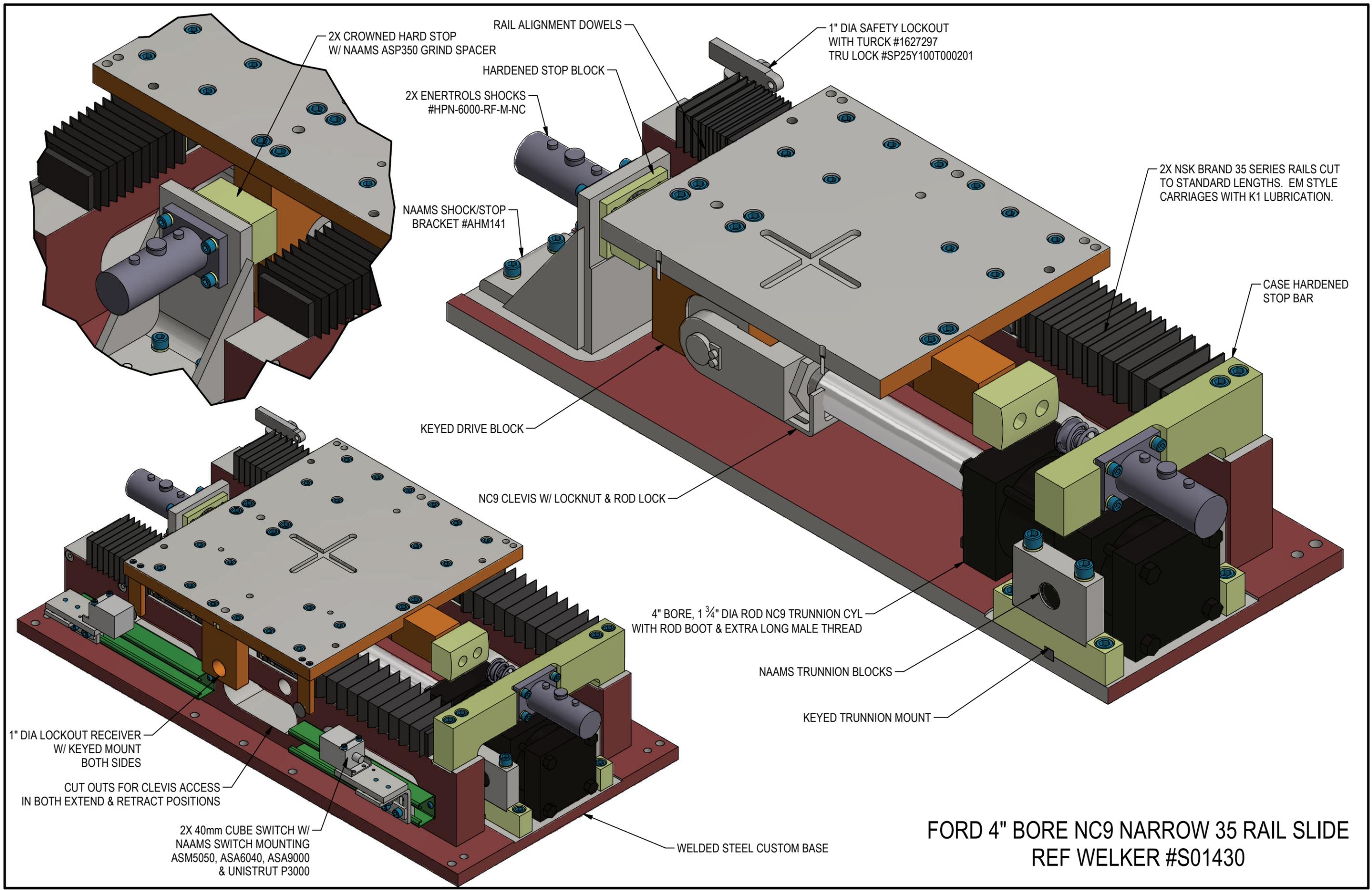
CYLINDER STICKOUT:

- FOR STROKES 501-580mm = 482.0 [18.98]
- FOR STROKES 581-660mm = 558.0 [21.969]
- FOR STROKES 661-740mm = 641.0 [25.236]
- FOR STROKES 741-820mm = 717.0 [28.228]
- FOR STROKES 821-900mm = 800.0 [31.496]
- FOR STROKES 901-980mm = 876.0 [34.488]
- FOR STROKES 981-999mm = 965.0 [37.992]



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(i.e.X.XXmm [x.xxx"])
DO NOT SCALE DRAWING

WELKER					
WELKER ENGINEERED PRODUCTS					
TOOL NAME FORD 4" BORE NC9 WIDE 35 RAIL SLIDE					
TEMPLATE					
DATE	REV	DRAWN BY	DATE	CHK'D BY	ENG APPROVAL
12/10/2018	2	DJH	2/9/2012	KPL	
SCALE		N/A		FILE NAME	S01416L02



2X CROWNED HARD STOP
W/ NAAMS ASP350 GRIND SPACER

RAIL ALIGNMENT DOWELS

1" DIA SAFETY LOCKOUT
WITH TURCK #1627297
TRU LOCK #SP25Y100T000201

HARDENED STOP BLOCK

2X ENERTROLS SHOCKS
#HPN-6000-RF-M-NC

2X NSK BRAND 35 SERIES RAILS CUT
TO STANDARD LENGTHS. EM STYLE
CARRIAGES WITH K1 LUBRICATION.

NAAMS SHOCK/STOP
BRACKET #AHM141

CASE HARDENED
STOP BAR

KEYED DRIVE BLOCK

NC9 CLEVIS W/ LOCKNUT & ROD LOCK

4" BORE, 1 3/4" DIA ROD NC9 TRUNNION CYL
WITH ROD BOOT & EXTRA LONG MALE THREAD

NAAMS TRUNNION BLOCKS

KEYED TRUNNION MOUNT

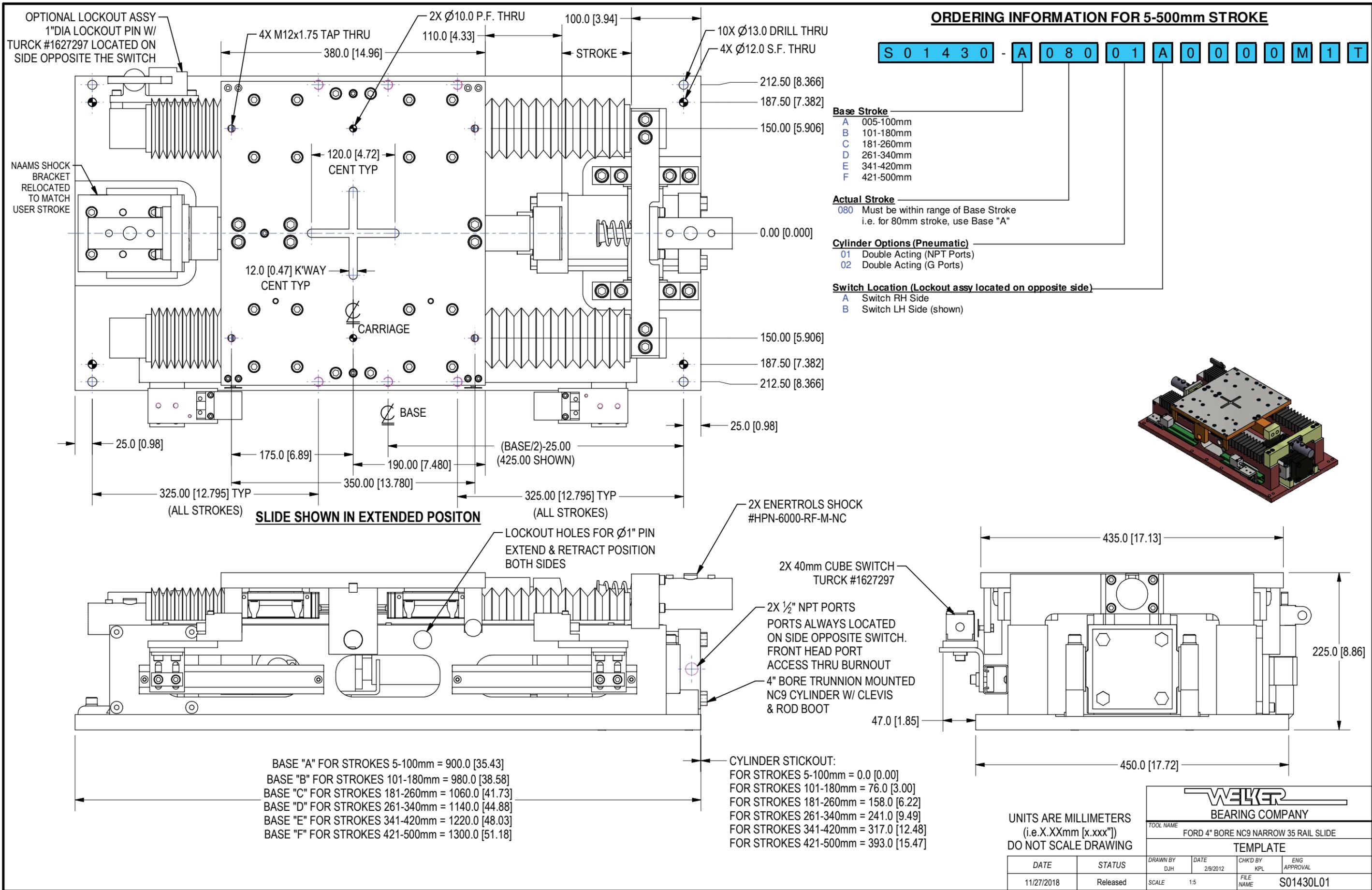
1" DIA LOCKOUT RECEIVER
W/ KEYED MOUNT
BOTH SIDES

CUT OUTS FOR CLEVIS ACCESS
IN BOTH EXTEND & RETRACT POSITIONS

2X 40mm CUBE SWITCH W/
NAAMS SWITCH MOUNTING
ASM5050, ASA6040, ASA9000
& UNISTRUT P3000

WELDED STEEL CUSTOM BASE

FORD 4" BORE NC9 NARROW 35 RAIL SLIDE
REF WELKER #S01430



ORDERING INFORMATION FOR 5-500mm STROKE

S 0 1 4 3 0 - A 0 8 0 0 1 A 0 0 0 0 M 1 T

Base Stroke

- A 005-100mm
- B 101-180mm
- C 181-260mm
- D 261-340mm
- E 341-420mm
- F 421-500mm

Actual Stroke

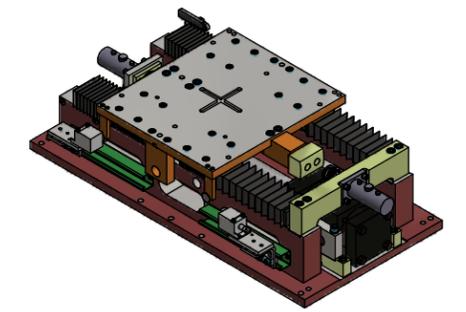
080 Must be within range of Base Stroke
i.e. for 80mm stroke, use Base "A"

Cylinder Options (Pneumatic)

- 01 Double Acting (NPT Ports)
- 02 Double Acting (G Ports)

Switch Location (Lockout assy located on opposite side)

- A Switch RH Side
- B Switch LH Side (shown)



SLIDE SHOWN IN EXTENDED POSITON

- BASE "A" FOR STROKES 5-100mm = 900.0 [35.43]
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DATE	STATUS	DRAWN BY	DATE	CHK'D BY	ENG APPROVAL
11/27/2018	Released	DJH	2/9/2012	KPL	
SCALE		1:5		FILE NAME	
				S01430L01	

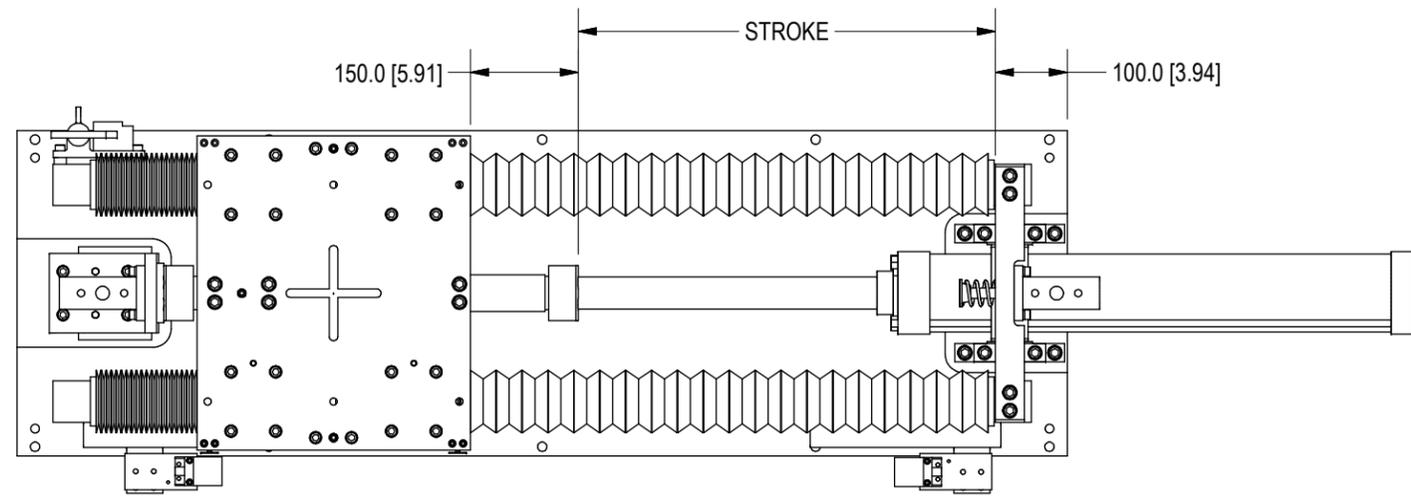
WEKER BEARING COMPANY

TOOL NAME: FORD 4" BORE NC9 NARROW 35 RAIL SLIDE

TEMPLATE

ORDERING INFORMATION FOR 501-999mm STROKE

S 0 1 4 3 0 - G 5 8 0 0 1 A 0 0 0 0 M 1 T



SLIDE SHOWN IN EXTENDED POSITION

Base Stroke

- G 501-580mm
- H 581-660mm
- J 661-740mm
- K 741-820mm
- L 821-900mm
- M 901-980mm
- N 981-999mm

Actual Stroke

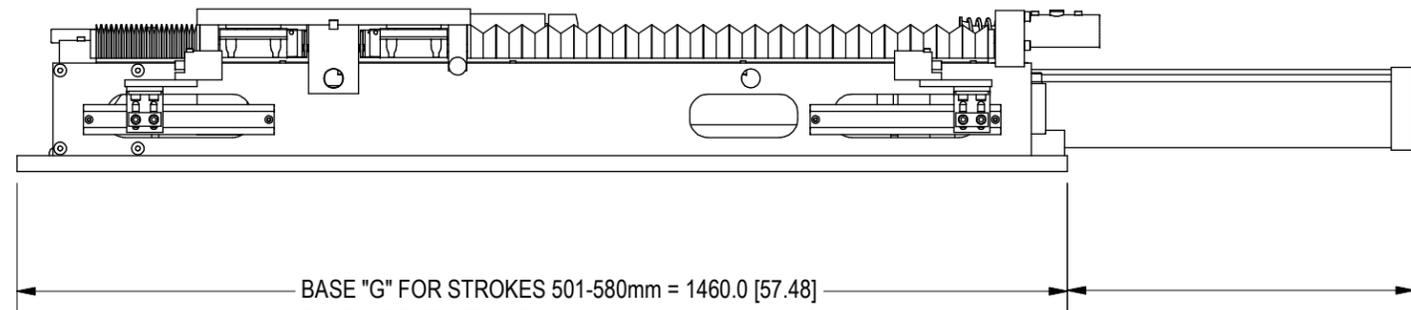
580 Must be within range of Base Stroke
i.e. for 580mm stroke, use Base "G"

Cylinder Options (Pneumatic)

- 01 Double Acting (NPT Ports)
- 02 Double Acting (G Ports)

Switch Location (Lockout assy located on opposite side)

- A Switch RH Side
- B Switch LH Side (shown)

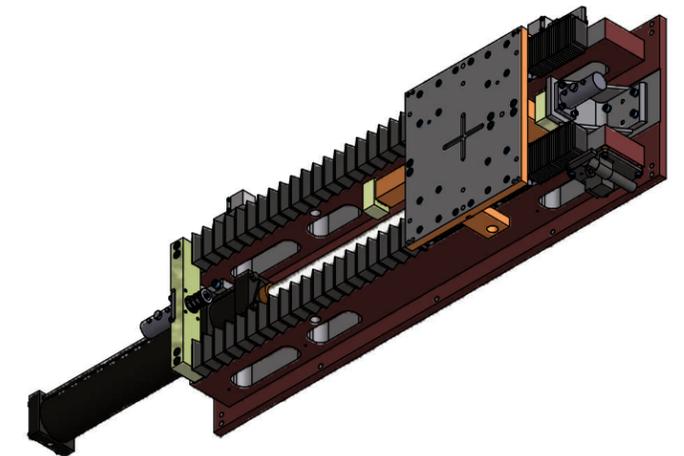


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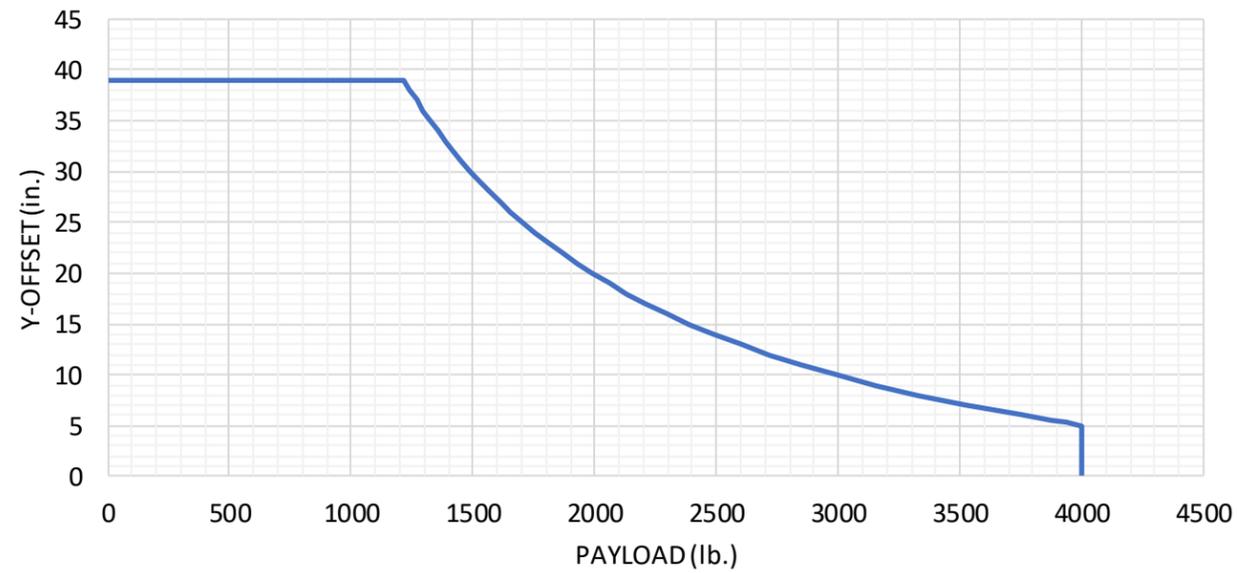
FOR ALL OTHER PRODUCT AND DIMENSIONAL INFORMATION, SEE 5-500mm STROKE TEMPLATE



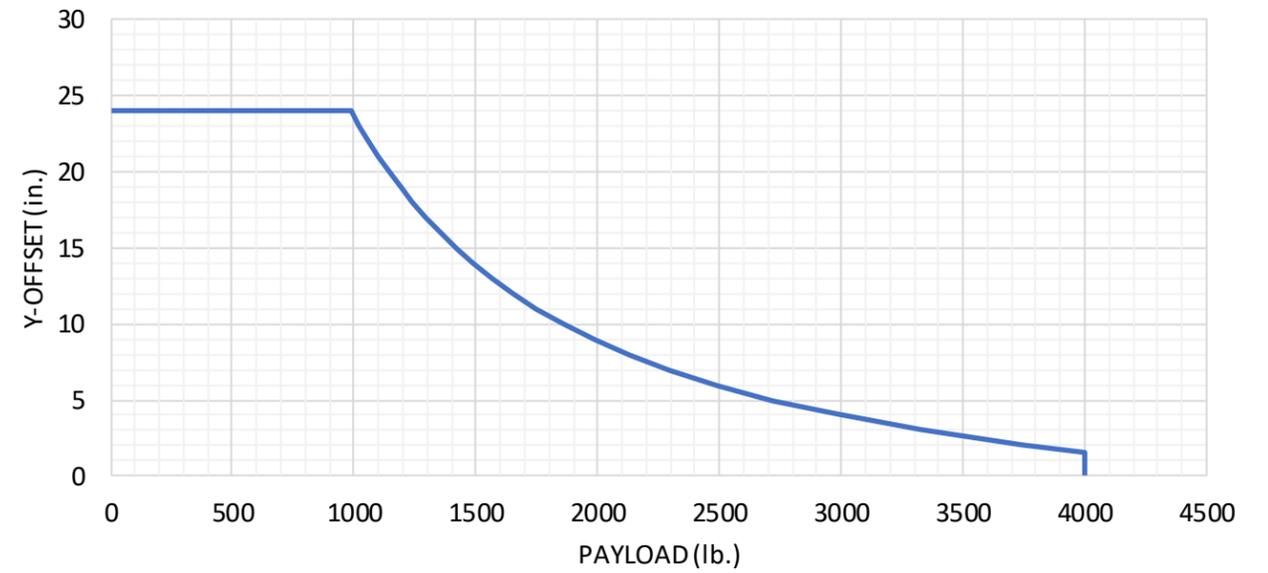
UNITS ARE MILLIMETERS
(i.e.X.XXmm [x.xxx"])
DO NOT SCALE DRAWING

WEKER BEARING COMPANY					
TOOL NAME FORD 4" BORE NC9 NARROW 35 RAIL SLIDE					
TEMPLATE					
DATE	STATUS	DRAWN BY	DATE	CHK'D BY	ENG APPROVAL
11/27/2018	Released	DJH	2/9/2012	KPL	
SCALE		1:5		FILE NAME	S01430L02

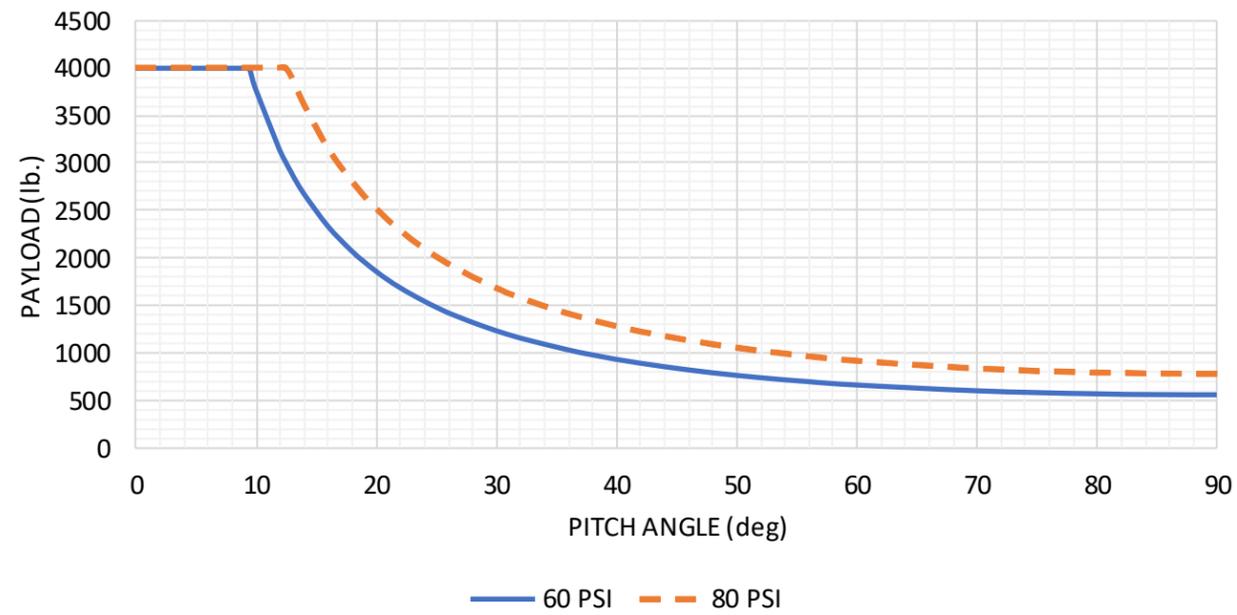
S01416 PAYLOAD v. Y-OFFSET CAPACITY



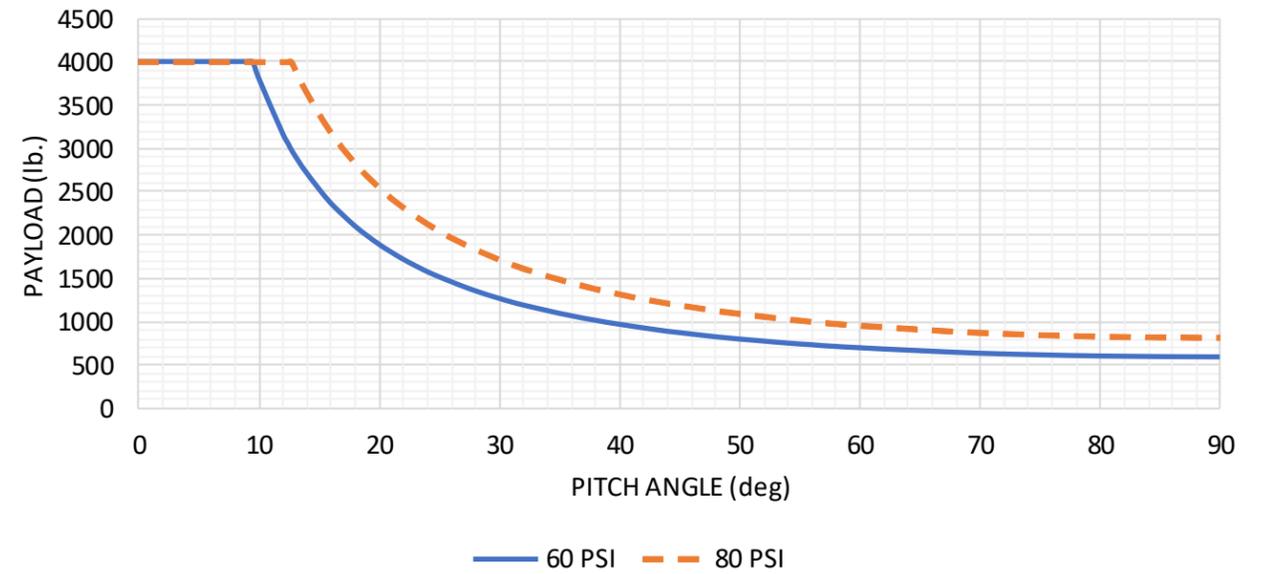
S01430 PAYLOAD v. Y-OFFSET CAPACITY



S01416 PITCH ANGLE v. PAYLOAD CAPACITY



S01430 PITCH ANGLE v. PAYLOAD CAPACITY



UNITS ARE MILLIMETERS
(i.e.X.XXmm [x.xxx"])
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EXCEPT AS NOTED
DECIMAL TOL SHALL BE:
0 PLACE (FRACTIONS) ± .4 [1/64"]
1 PLACE ± .2 [0.01"]
2 PLACE ± .10 [0.005"]
3 PLACE ± .010 [0.0005"]
ALL DOWEL LOC± 0.03 [0.01"]
BETWEEN HOLES

EXCEPT AS NOTED, MAXIMUM
ALLOWABLE ROUGHNESS SHALL BE:
1 PLACE FINISH 6 MICRONS (250 MICROINCHES)
2 PLACE FINISH 3 MICRONS (125 MICROINCHES)
3 PLACE FINISH 1.6 MICRONS (63 MICROINCHES)

WELKER			
WELKER ENGINEERED PRODUCTS			
TOOL NAME VOSS LOAD CHARTS			
DRAWN BY CMcWilliams	DATE 8/18/21	LAST EDIT BY CMcWilliams	ENG APPROVAL
SHEET 1	OF 1	FILE NAME	S01416 & S01430
SCALE			

REV	REV BY	REV DATE	CHK BY	DESCRIPTION