Ford VOSS Rail Slides

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

<table>
<thead>
<tr>
<th>Company</th>
<th>Contact</th>
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<tr>
<th>Phone Number</th>
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<thead>
<tr>
<th>City</th>
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<table>
<thead>
<tr>
<th>Project Description</th>
<th>Date needed</th>
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Cylinder Selection/Load

<table>
<thead>
<tr>
<th>Cylinder</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>1430</td>
<td>4” Bore, Narrow Carriage</td>
</tr>
<tr>
<td>1416</td>
<td>4” Bore, Wide Carriage</td>
</tr>
<tr>
<td>1417</td>
<td>6” Bore, Narrow Carriage</td>
</tr>
<tr>
<td>1418</td>
<td>6” Bore, Wide Carriage</td>
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Base Stroke

<table>
<thead>
<tr>
<th>Stroke</th>
<th>Range</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>005-100mm</td>
</tr>
<tr>
<td>B</td>
<td>101-180mm</td>
</tr>
<tr>
<td>C</td>
<td>181-260mm</td>
</tr>
<tr>
<td>D</td>
<td>261-340mm</td>
</tr>
<tr>
<td>E</td>
<td>341-420mm</td>
</tr>
<tr>
<td>F</td>
<td>421-500mm</td>
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Actual Stroke

<table>
<thead>
<tr>
<th>Stroke</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>080</td>
<td>Must be within range of Base Stroke i.e. for 80mm stroke, use Base &quot;A&quot;</td>
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Cylinder Options (Pneumatic)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
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<tbody>
<tr>
<td>01</td>
<td>Double Acting (NPT Ports)</td>
</tr>
<tr>
<td>02</td>
<td>Double Acting (G Ports)</td>
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Switch Location (Lockout assembly located on opposite side)

<table>
<thead>
<tr>
<th>Switch</th>
<th>Location</th>
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<tbody>
<tr>
<td>A</td>
<td>Switch RH Side</td>
</tr>
<tr>
<td>B</td>
<td>Switch LH Side</td>
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</table>
WELDED STEEL CUSTOM BASE

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

NAAMS TRUNNION BLOCKS

KEYED TRUNNION MOUNT

CASE HARDENED STOP BAR

FORD 4" BORE NC9 WIDE 35 RAIL SLIDE
REF WELKER #S01416
**Base Stroke**
- A: 0-100mm
- B: 101-180mm
- C: 181-260mm
- D: 261-340mm
- E: 341-420mm
- F: 421-500mm

**Actual Stroke**
- 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)

**Units are millimeters** (i.e., XX.0mm [XX.X"])

**Do not scale drawing template**

**Slide shown in extended position**

**Ordering Information**
- S01416L01
- FORD 4" BORE NC9 WIDE 35 RAIL SLIDE
- WELKER ENGINEERED PRODUCTS
- UNITS ARE MILLIMETERS (i.e., XX.0mm [XX.X"])
- DO NOT SCALE DRAWING TEMPLATE

**Slide shown in extended position**

**Dimensions:**
- Base A: 900.0 [35.43]
- Base B: 650.0 [25.59]
- Base D: 325.0 [12.79]
- Cylinder Stickout:
  - For Strokes 101-180mm = 0.0 [0.0]
  - For Strokes 181-260mm = 76.0 [3.00]
  - For Strokes 261-340mm = 158.0 [6.22]
  - For Strokes 341-420mm = 241.0 [9.49]
  - For Strokes 421-500mm = 317.0 [12.48]
  - For Strokes 421-500mm = 393.0 [15.47]

**Additional Notes:**
- 4X M12x1.75 Tap Thru
- 2X Ø10.0 P.F. Thru
- Cylinder Stickout:
  - For Strokes 5-100mm = 0.0 [0.0]
  - For Strokes 101-180mm = 0.0 [0.0]
  - For Strokes 181-260mm = 0.0 [0.0]
  - For Strokes 261-340mm = 0.0 [0.0]
  - For Strokes 341-420mm = 0.0 [0.0]
  - For Strokes 421-500mm = 0.0 [0.0]

**Other Details:**
- NAAMS Shock Bracket relocated to match user stroke
- Optional lockout assy
  - 1" Dia Lockout Pin W/ Turck #1627297 located on side opposite the switch

**Drawing Scale:**
- 1/4" = 1'-0"

**File Name:**
- 12/10/2018 2

**Template:**
- S01416.01

**Date, Rev, Draw, CHK, Date, Rev:**
- 12/10/2018 2

**Actual Stroke:**
- 0.0 [0.00]
- 76.0 [3.00]
- 158.0 [6.22]
- 241.0 [9.49]
- 317.0 [12.48]
- 393.0 [15.47]

**Cylinders:**
- Cylinder Options (Pneumatic)
  - 01 Double Acting (NPT Ports)
  - 02 Double Acting (G Ports)

**Switch Location:**
- Switch RH Side
- Switch LH Side (shown)
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)

ORDERING INFORMATION FOR 501-999mm STROKE

- **S01416**
- **G 580 01 A 0 0 0 D M 1 T**

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 [37.892]

UNITS ARE MILLIMETERS (i.e. X.XXmm [x.xxx])

DO NOT SCALE DRAWING

FORD 4" BORE DOUBLE WIDE 35 RAIL SLIDE

FILE NAME

DJH 2/9/2012 KPL

FORD 4" BORE NC9 WIDE 35 RAIL SLIDE

N/A

WELKER ENGINEERED PRODUCTS

ENG APPROVAL

UNITS ARE MILLIMETERS (i.e. X.XXmm [x.xxx])

DO NOT SCALE DRAWING

FILE NAME

DJH 2/9/2012 KPL

FORD 4" BORE NC9 WIDE 35 RAIL SLIDE

N/A

WELKER ENGINEERED PRODUCTS

ENG APPROVAL
WELDED STEEL CUSTOM BASE
6" BORE, 2" DIA ROD NC9 TRUNNION CYL
WITH ROD BOOT & EXTRA LONG MALE THREAD
NAAMS TRUNNION BLOCKS
KEYED DRIVE BLOCK
2X ENERTROLS SHOCKS #HPN-6000-RF-M-NC
NAAMS SHOCKSTOP BRACKET #AHM141
NC9 CLEVIS W/ LOCKNUT & ROD LOCK
CASE HARDENED STOP BAR
2X 40mm CUBE SWITCH W/ NAAMS SWITCH MOUNTING ASM550, ASDA040, ASA8000 & UNISTRUT P3000
1" DIA LOCKOUT RECEIVER W/ KEYED MOUNT BOTH SIDES
CUT OUTS FOR CLEVIS ACCESS IN BOTH EXTEND & RETRACT POSITIONS
WELDED STEEL CUSTOM BASE
FORD 6" BORE NC9 NARROW 35 RAIL SLIDE
REF WELKER #S01417
WELDED STEEL CUSTOM BASE
6" BORE, 2" DIA ROD NC9 TRUNNION CYL WITH ROD BOOT & EXTRA LONG MALE THREAD
NAAMS TRUNNION BLOCKS
KEYED DRIVE BLOCK
2X ENERTROLS SHOCKS #HPN-6000-RF-M-NC
NAAMS SHOCK/STOP BRACKET #AHM141
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.
CASE HARDENED STOP BAR
2X 40mm CUBE SWITCH W/ NAAMS SWITCH MOUNTING ASM5050, ASA6040, ASA9000 & UNISTRUT P3000
1" DIA LOCKOUT RECEIVER W/ KEYED MOUNT BOTH SIDES
CUT OUTS FOR CLEVIS ACCESS IN BOTH EXTEND & RETRACT POSITIONS
2X CROWNEHD HARD STOP W/ NAAMS ASP350 GRIND SPACER
NC9 CLEVIS W/ LOCKNUT & ROD LOCK
CASE HARDENED STOP BAR
NC9 CLEVIS W/ LOCKNUT & ROD LOCK
KEYED TRUNNION MOUNT
NAAMS TRUNNION BLOCKS
6" BORE, 2" DIA ROD NC9 TRUNNION CYL WITH ROD BOOT & EXTRA LONG MALE THREAD
KEYED TRUNNION MOUNT
WELDED STEEL CUSTOM BASE
FORD 6" BORE NC9 WIDE 35 RAIL SLIDE REF WELKER #S01418
**ORDERING INFORMATION**

![Diagram of mechanical parts and dimensions]

**SLIDE SHOWN IN EXTENDED POSITION**

**APPROVAL**

**APPROVED:**

**AS NOTED:**

**BY:**

**DATE:**

---

**UNITS ARE MILLIMETERS**

(i.e. x.xxmm [x.xxx”])

**DO NOT SCALE DRAWING**

---

**WELKER ENGINEERED PRODUCTS**

**ENG APPROVAL**

**UNITS ARE MILLIMETERS**

(i.e. X.XXmm [X.XX”])

**DO NOT SCALE DRAWING**

---

**LOCKOUT HOLES FOR Ø1” PIN EXTEND & RETRACT POSITION BOTH SIDES**

**CARRIAGE BASE**

**BASE "A" FOR STROKES 5-100mm = 1100.0 [43.31]**

**BASE "B" FOR STROKES 101-180mm = 1180.0 [46.46]**

**BASE "C" FOR STROKES 181-260mm = 1260.0 [49.60]**

**BASE "D" FOR STROKES 261-340mm = 1340.0 [52.79]**

**BASE "E" FOR STROKES 341-420mm = 1420.0 [56.35]**

**BASE "F" FOR STROKES 421-500mm = 1500.0 [59.06]**

---

**OPTION LOCKOUT ASSY**

PORTS ALWAYS LOCATED ON SIDE OPPOSITE SWITCH. FRONT HEAD PORT ACCESS THRU BURNOUT

---

**CYLINDER STICKOUT**

FOR STROKES 5-100mm = 6.0 [0.24]

FOR STROKES 101-180mm = 8.0 [0.32]

FOR STROKES 181-260mm = 14.0 [0.55]

FOR STROKES 261-340mm = 24.0 [0.95]

FOR STROKES 341-420mm = 40.0 [1.57]

FOR STROKES 421-500mm = 52.0 [2.05]

---

**2X ENERTROLS SHOCK**

HPM-6000-RF-M-NC

---

**2X 40mm CUBE SWITCH**

TURCK #1627297

---

**2X 1/2 NPT PORTS**

PORTS ALWAYS LOCATED ON SIDE OPPOSITE SWITCH. FRONT HEAD PORT ACCESS THRU BURNOUT

---

**6" BORE TRUNNION MOUNTED**

NO CYLINDER W/ CLEVIS & ROD BOOT

---

**620.0 [24.41]**

**2X M16x2 TAP THRU**

---

**2X Ø12.0 P.F. THRU**

---

**10X Ø13.0 DRILL THRU**

---

**4X Ø12.0 S.F. THRU**

---

**412.50 [16.24]**

---

**295.00 [11.61] TYP**

---

**325.00 [12.79]**

---

**350.00 [13.78]**

---

**387.50 [15.25]**

---

**412.50 [16.24]**

---

**52.00 [2.05]**

---

**525.00 SHOWED**

---

**280.0 [11.02]**

---

**350.00 [13.78]**

---

**387.50 [15.25]**

---

**412.50 [16.24]**

---

**350.00 [13.78]**

---

**387.50 [15.25]**

---

**412.50 [16.24]**

---

**52.00 [2.05]**

---

**2X 3/4 NPT PORTS**

PORTS ALWAYS LOCATED ON SIDE OPPOSITE SWITCH. FRONT HEAD PORT ACCESS THRU BURNOUT

---

**LOCKOUT HOLES FOR Ø1” PIN EXTEND & RETRACT POSITION BOTH SIDES**

---

**2X 1/2 NPT PORTS**

PORTS ALWAYS LOCATED ON SIDE OPPOSITE SWITCH. FRONT HEAD PORT ACCESS THRU BURNOUT

---

**6" BORE TRUNNION MOUNTED**

NO CYLINDER W/ CLEVIS & ROD BOOT

---

**4X M16x2 TAP THRU**

---

**2X Ø12.0 P.F. THRU**

---

**10X Ø13.0 DRILL THRU**

---

**4X Ø12.0 S.F. THRU**

---

**412.50 [16.24]**

---

**387.50 [15.25]**

---

**350.00 [13.78]**

---

**295.00 [11.61] TYP**

---

**325.00 [12.79]**

---

**350.00 [13.78]**

---

**387.50 [15.25]**

---

**412.50 [16.24]**

---

**52.00 [2.05]**

---

**2X 3/4 NPT PORTS**

PORTS ALWAYS LOCATED ON SIDE OPPOSITE SWITCH. FRONT HEAD PORT ACCESS THRU BURNOUT

---

**LOCKOUT HOLES FOR Ø1” PIN EXTEND & RETRACT POSITION BOTH SIDES**

---

**2X 1/2 NPT PORTS**

PORTS ALWAYS LOCATED ON SIDE OPPOSITE SWITCH. FRONT HEAD PORT ACCESS THRU BURNOUT

---

**6" BORE TRUNNION MOUNTED**

NO CYLINDER W/ CLEVIS & ROD BOOT

---

**4X M16x2 TAP THRU**

---

**2X Ø12.0 P.F. THRU**

---

**10X Ø13.0 DRILL THRU**

---

**4X Ø12.0 S.F. THRU**

---

**412.50 [16.24]**

---

**387.50 [15.25]**

---

**350.00 [13.78]**

---

**295.00 [11.61] TYP**

---

**325.00 [12.79]**

---

**350.00 [13.78]**

---

**387.50 [15.25]**

---

**412.50 [16.24]**

---

**52.00 [2.05]**

---

**2X 3/4 NPT PORTS**

PORTS ALWAYS LOCATED ON SIDE OPPOSITE SWITCH. FRONT HEAD PORT ACCESS THRU BURNOUT

---

**LOCKOUT HOLES FOR Ø1” PIN EXTEND & RETRACT POSITION BOTH SIDES**

---

**2X 1/2 NPT PORTS**

PORTS ALWAYS LOCATED ON SIDE OPPOSITE SWITCH. FRONT HEAD PORT ACCESS THRU BURNOUT
ORDERING INFORMATION FOR 501-999mm STROKE

**SLIDE SHOWN IN EXTENDED POSITION**

### Base Stroke

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

### Actual Stroke

 Actual stroke 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)

### 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