



VEHICLE FRAME MANUFACTURING

FRAME (MONGO) CLAMP FOR FORMING & POSITIONING

C4672-1 (FORMING - HIGH FORCE)

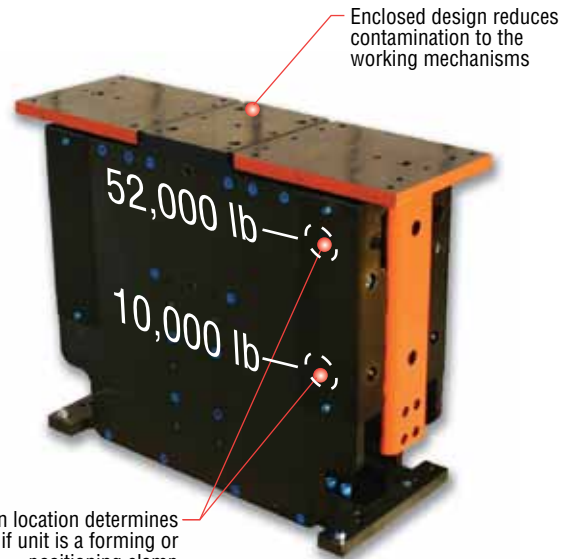
C4672-2 (POSITIONING - LONG JAW TRAVEL)

DEFINITION

Frame forming and positioning is the process of positioning and forming vehicle frame sections so that they can be welded to create a fully "boxed" frame. An alternating series of forming and positioning clamps are used to accurately position and deform the frame sections. The positioning clamps act like a funnel to position the frame sections. The forming clamps press the bottom frame section onto the top frame section until the seams overlap and provide an even seam for welding.

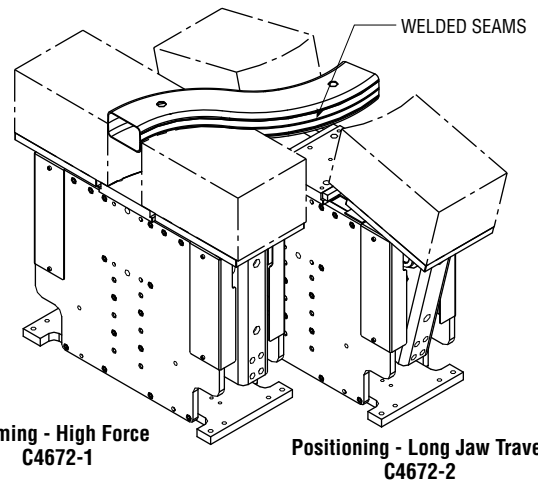
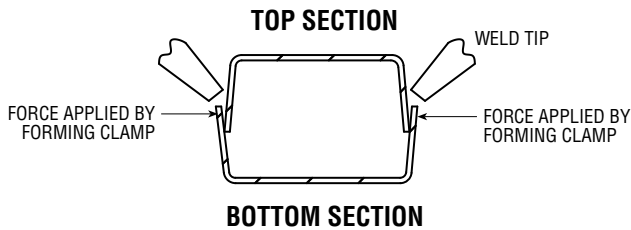
APPLICATION

An array of positioning clamps is closed first and the bottom frame section is placed into the tooling die. An overhead ram positions the top section of the frame into the bottom section. The forming clamps then close and form an even seam. The positioning clamps then open and the frame is welded by robots while being held by the forming clamps.



| SPECIFICATIONS | | IMPERIAL | METRIC |
|--------------------|------------------------|-----------|-------------|
| BORE | | 7" | 178 mm |
| STROKE | | 5-1/2" | 139.7 mm |
| UNIT WEIGHT | | 710 lb | 322 kg |
| TOTAL CLAMP FORCE* | C4672-1 (forming): | 52,000 lb | 231,308 N |
| | C4672-2 (positioning): | 10,000 lb | 44,482 N |
| OPEN ANGLE PER JAW | C4672-1 (forming): | 7° (1/2") | 7° (13 mm) |
| | C4672-2 (positioning): | 14° (3") | 14° (76 mm) |

* Total clamp force @ 87 psi [6 bar] and 2" [50 mm] above jaw surface



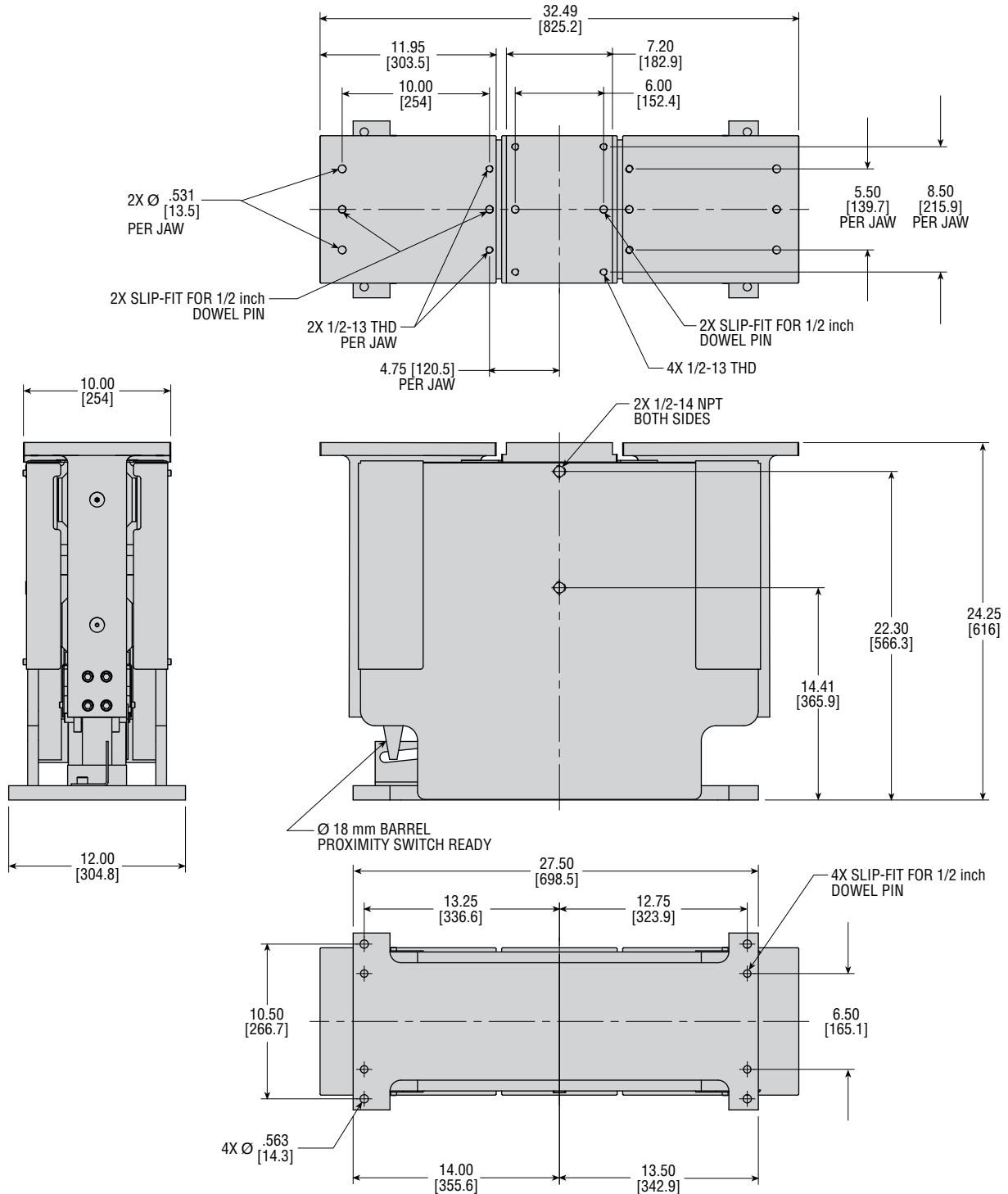
CPC4672A



DIMENSIONS: FRAME FORMING OR POSITIONING CLAMP

C4672-1 (Forming - High Force)

C4672-2 (Positioning - Long Jaw Travel)



ALL DIMENSIONS ARE REFERENCE ONLY. CONTACT PHD, INC. FOR SPECIFIC DIMENSIONAL INFORMATION.

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CPC4672A

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