





# **Aligned with Your Expectations**

Dowel pins are used as locking devices, pivots, hinges, shafts, jigs, or fixtures to align parts within machinery to achieve maximum holding power with increased shear strength to absorb lateral stress. They provide a secure joint without altering the shape or impacting the frame of the finished piece and facilitate quick disassembly/re-assembly.

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# STANDARD DOWEL PINS

ASME B18.8.2 standard dowel pins have a radius on one end and a chamfer on the other. DIN 7 pins have a spherical radiused crown on each end. DIN 7 pins are unhardened.

### **Imperial Alloy**



DOW = Alloy Steel, Plain\* DOWBO = Alloy Steel, Black Oxide

### **Imperial Stainless**



DOWS = 416 Stainless Steel, Plain DOWS3 = 18-8 Stainless Steel, Plain DOWS6 = 316 Stainless Steel, Plain

#### **Metric**

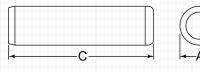


DOWM = Carbon Steel, Plain\*
DOWM6 = 316 Stainless Steel, Plain
DOWMS = 300 Series Stainless Steel, Plain

Locking device in u-joint assembly

Vise positioning element

### **ASME B18.8.2**

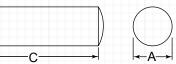


#### NOTE:

MEASURE IMPERIAL PINS END TO END

MEASURE METRIC PINS
TANGENT POINT TO
TANGENT POINT





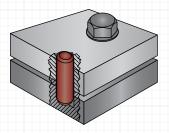
# HARDENED DOWEL PINS

DIN 6325 dowel pins are hardened for heavy duty use. They have a tapered radiused crown on one end and a spherical radiused crown on the other. Available in metric sizes only.

#### **Metric**

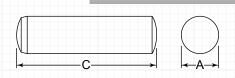


DOWMH = Alloy Steel, Plain\*



As an alignment device

### **DIN 6325**



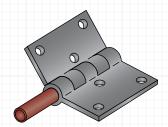
# **OVERSIZED DOWEL PINS**

ASME B18.8.2 oversized dowel pins are typically used in aftermarket applications. Parts have a radius on one end and a chamfer on the other, and are .001" oversized to fit into worn or out-of-round holes.

### **Imperial**

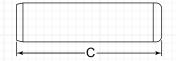


DOWO = Alloy Steel, Plain\*



Ideal for hinge-type applications

### **ASME B18.8.2**





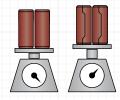
# **GROUND HOLLOW DOWEL PINS**

Hollow pin typically used in alignment applications. Reduces the need to drill additional holes required for standard solid dowel alignment applications.

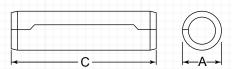
#### **Metric**



DOWGHM = Low Carbon Steel, Plain\*



Ground Hollow Dowel pins weigh substantially less than solid pins



# **PULLOUT DOWEL PINS**

Internally threaded cylindrical pin for use in blind holes. Metric pullout dowel pins are manufactured to DIN 7979D specifications. Identical to standard dowel pins with chamfers on both ends.

### **Imperial**

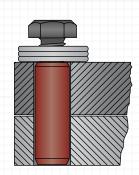


DOWP = Alloy Steel, Plain\* DOWPS = 18-8 Stainless Steel, Plain

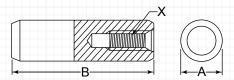
#### **Metric**



DOWPM = Alloy Steel, Plain\*



Threaded hole allows installation of a bolt and washers to assist in removal



X A

**DIN 7979D** 

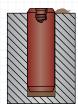
# **FLAT VENT DOWEL PINS**

Flat vent dowel pins are identical to pullout dowel pins with the added feature of a slightly flattened side which allows gas or liquid to escape while the medium is displaced during insertion.

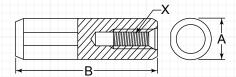
### **Imperial**



DOWPF = Alloy Steel, Plain\*



The flat vent allows media to be displaced when installed into a blind hole



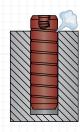
# **GROOVED DOWEL PINS**

The internal threads assist in removal of the dowel pins from a blind hole. External grooves are cut in a spiral along the entire length which allows gas or liquid to escape during insertion while maintaining a 360° circumference contact.

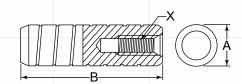
### **Imperial**



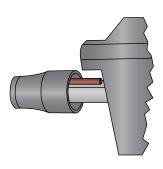
DOWPG = Alloy Steel, Plain\*



Spiral grooves allow air to escape during installation



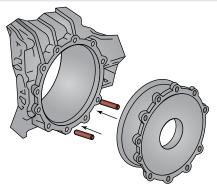
Versatile precision ground steel dowel pins aide in alignment and eliminate play in automotive, agricultural, aerospace, and other manufacturing applications.



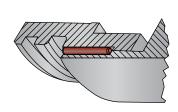
Locks head into place



Serves as a stop in mechanical timers



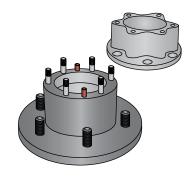
Bell housing positioning element



Transmits torque in a seal



Use as a stop pin for a rotating handle



Eases alignment of hub assembly components

Do not use

### **Design Considerations**

#### **RADIUS END**



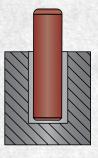
Radius end resists part deformation during installation

#### **CHAMFER END**

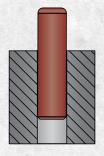


Chamfer end helps guide the pin into the hole

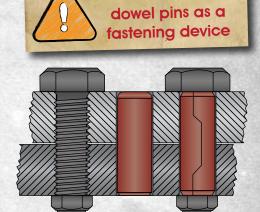
### SLIP FIT VS. PRESS FIT



Slip fitted dowel pins have some play when



Press fitted dowel pins fit tightly and do not move when installed



Dowel pins do not have features that hold items together; Hollow dowels allow a fastening device to pass through the same hole.

Dowel pins with both ends radiused or chamfered eliminate possible "wrong end" assembly.



Never strike with a hammer or mallet as it may cause the pin to fail.

