

# Rivet Installation Guide

**Tip:** Set your PDF viewer to "Actual size" before printing to maintain scale.

## Step-by-Step Installation Procedure

---

### Step 1: Prepare Materials

- Clean all joint surfaces - remove paint, oil, dirt, and oxidation for maximum joint strength
- Align materials precisely - mark hole locations if drilling through multiple layers
- Clamp materials together firmly to prevent shifting during drilling and riveting
- Verify material thickness and measure total grip to select correct rivet length

### Step 2: Drill Hole

- Select drill bit slightly larger than rivet diameter (see size chart for recommendations)
- Use sharp bits - dull bits create rough, oversized holes that weaken joints
- Drill perpendicular to surface - angled holes cause rivet misalignment
- Drill through all layers in one operation when possible for best alignment
- For countersunk rivets, create countersink AFTER drilling through-hole

### Step 3: Deburr Hole

- Remove all burrs and sharp edges from both sides of hole
- Use deburring tool, countersink bit, or file - critical for proper rivet seating
- Burrs prevent head from sitting flush and reduce joint strength
- Clean away all chips and debris from hole and joint area

### Step 4: Select Proper Nosepiece

- Rivet tools use interchangeable nosepieces sized for different rivet diameters
- Match nosepiece size to rivet diameter - using wrong size damages rivet or tool
- Common nosepiece sizes: 3/32", 1/8", 5/32", 3/16", 1/4" (or metric equivalents)
- Ensure nosepiece is fully seated and locked in tool before use

### Step 5: Insert Rivet

- Insert rivet from the "show" side (front, visible side) of assembly
- Push rivet through hole until head contacts surface
- Verify rivet head is flush and properly seated - not tilted or cocked
- Mandrel (stem) should extend fully from blind side

### Step 6: Position Rivet Tool

- Slide rivet mandrel into tool nosepiece from front side
- Push tool forward until nosepiece contacts rivet head
- Hold tool perpendicular to work surface for best results
- Apply slight forward pressure throughout pulling process

# Rivet Installation Guide

## Step 7: Set Rivet

**Hand Tool:** Squeeze handles together fully - may require multiple squeezes

**Pneumatic Tool:** Pull trigger and hold until mandrel breaks (1-2 seconds)

**Battery Tool:** Press trigger until tool cycles and mandrel breaks automatically

- Maintain forward pressure until you hear/feel mandrel snap
- Do NOT release trigger or handles until mandrel breaks completely

## Step 8: Inspect Installation

- Check that rivet head is tight against surface with no gaps
- Verify mandrel broke flush or slightly recessed in rivet head
- Feel blind side if accessible - should have bulbed head formation
- Check for material dimpling or deformation - indicates incorrect rivet length
- Test joint by attempting to move materials - properly set rivet won't allow movement

## Step 9: Clean Up

- Remove broken mandrel from tool collection chamber
- Collect and dispose of mandrel pieces properly - sharp edges can cause injury
- Clean any metal shavings or debris from work area

# Rivet Installation Guide

## Troubleshooting Common Installation Problems

Problem	Cause	Solution
Rivet spins in hole	Hole too large	Use next size larger rivet or fill hole and re-drill
Head not flush with surface	Burrs not removed or debris in hole	Deburr thoroughly; clean hole before riveting
Rivet too long, excessive bulge	Wrong grip range selected	Select shorter rivet with appropriate grip range
Rivet too short, weak joint	Wrong grip range; insufficient mandrel pull	Use longer rivet; check tool operation
Mandrel won't break	Worn nosepiece; wrong nosepiece size	Replace nosepiece; verify correct size
Material dimpling around rivet	Material too thin; excessive clamping force	Use large-flange rivet; back up thin material
Mandrel pulls through rivet	Rivet body too long for grip	Select shorter rivet with correct grip
Uneven blind head formation	Materials not clamped together	Clamp firmly before riveting

## Installation Best Practices

### Rivet Spacing and Edge Distance

- **Minimum edge distance:** 2× rivet diameter from any edge
- **Preferred edge distance:** 3× rivet diameter for maximum strength
- **Minimum rivet spacing:** 3× rivet diameter center-to-center
- **Preferred spacing:** 4-5× diameter for even load distribution
- Too close to edge: Material tears or cracks during installation
- Too close together: Rivets compete for material, weakening joint

### Material Preparation

- Remove all paint, coating, or oxidation from joint surfaces
- For maximum strength, metal-to-metal contact is essential
- Support thin materials on solid backing during installation
- Pre-assemble and test-fit components before drilling holes

### Tool Maintenance

- Clean tool regularly - remove mandrel pieces and metal chips
- Lubricate moving parts per manufacturer recommendations
- Replace worn nosepieces - worn nosepieces damage rivets
- For pneumatic tools: use clean, dry air at recommended pressure (90 PSI typical)
- Check tool operation before starting job - test on scrap material

### Safety Considerations

- Wear safety glasses - mandrels can eject at high speed when breaking

# Rivet Installation Guide

## Safety Considerations (continued)

- Broken mandrel ends are sharp - handle carefully and dispose properly
- Secure workpiece - don't hold small parts in hand while riveting
- Use proper hearing protection with pneumatic tools
- Keep fingers clear of rivet head and nosepiece during operation

Quality Products That Last - Right Off the Rack®

[www.albanycountyfasteners.com](http://www.albanycountyfasteners.com)

© 2025 Albany County Fasteners. All rights reserved.