TOOLS UNLIMITED

PRESENTS

A PREMIUM HAND TOOL LINE

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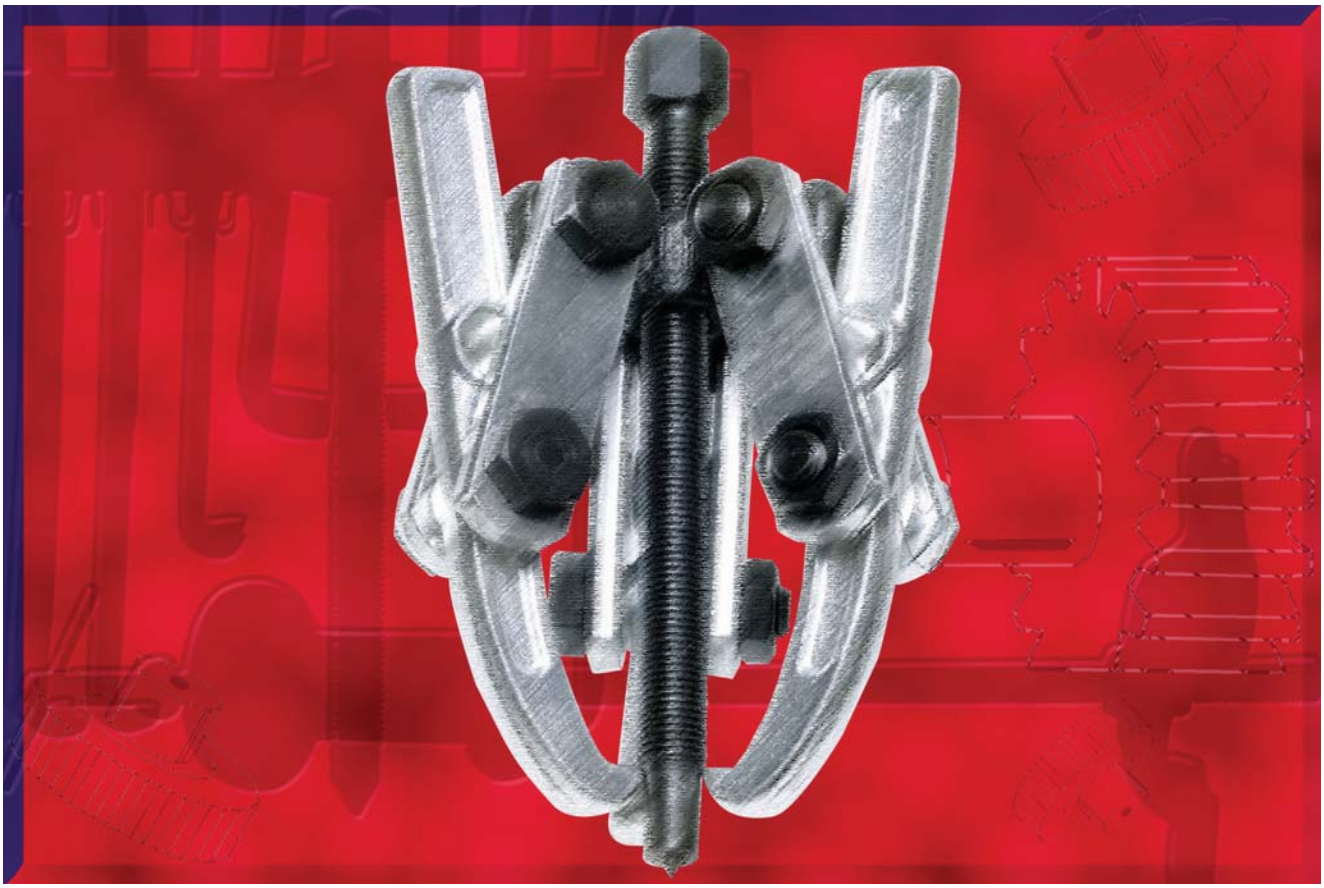
URREA

PROFESSIONAL TOOLS

PULLERS AND CLAMPS

INTRODUCTION TO PULLERS AND CLAMPS

Pullers are tools used for removing items that were inserted under pressure when installed. Clamps hold two or more parts together while you work on them, with applications related to machinery, internal combustion engines, transmissions, the wood and oil industries, heavy industry, and more. Most tools of this type have a threaded shaft and straight, internal or external jaws, fixed, adjustable, or reversible, forged for high-strength. Pullers and clamps are particularly useful in applications where elements are under pressure or where the operating conditions require pulleys, bearings, bushings, and similar items, such as automotive engines, internal machinery parts, structures, industrial installations, and similar applications. This makes URREA pulleys and clamps indispensable tools for industry and automotive service.



There are also specialized pullers, used the primarily in automotive service, to insert or remove pulleys, automotive steering systems, Pitman gears and arms, bearings, bushings, and other items.

The pullers and clamps included in this section are designed for removing and holding items that are assembled under pressure and are made with various materials and sizes. They include jaw pullers, pulley pullers, wheel pullers, adjustable pullers, reversible pullers, bearing separators, bench vises, C-clamps, and many more.

URREA clamps and pullers:

- Our broad and widely varied product line includes more than 44 pulling and clamping tools:
  - Adjustable, reversible, fixed, and separators
  - With steel jaws and grips, internal and external jaws
  - Capacity sizes.
  - From 2 to 10 tons.
  - Openings from 2" to 12"
- Offer a wide variety of designs, sizes, and materials.
- Manufactured from hot-forged steel.
- Bench vises are made of malleable iron, heat-treated, and precision-machined to yield the best combination of hardness, strength, and resistance to high-pressure.
- Bench vise jaws have machined teeth to make their grip even more reliable.
- All URREA pulling tools have a tough nickel-chromium coating. Clamps have a paint coating to prevent corrosion.
- Compliant with American and European domestic and international standards.
- Country of origin stamped permanently and indelibly on each tool, reinforcing their high-quality image.

The information presented in this chapter is organized as follows:

- **Technical standards**
- **Manufacturing process**
- **Detailed product specifications**
- **Safety recommendations**

URREA manufactures its tools in accordance with product technical standards.

A product technical standard is a document that specifies basic design and manufacturing guidelines to ensure the adequate performance of products under the conditions required by users, and which are issued by private or government organizations and associations.

The only organization to issue international standards is known as ISO (International Organization for Standardization), which develops the ISO 9000 series regarding quality systems, but it also issues product technical standards. In the United States there are several organizations that issue or have issued standards, such as GSA/US FEDERAL and ASME.

The Federal standards for hand tools are no longer being updated and are being taken over by ASME, and the same thing is occurring with standards that used to be issued by ANSI.

Currently, ASME standards for hand tools are initially reviewed by committees made up of different tool manufacturers, users and marketers, and subsequently approved and issued by ASME.

Pullers are tools used for removing items that were inserted under pressure when installed, as required by their operating conditions, such as pulleys, bearings, bushings, etc. Clamps hold two or more parts together while you work on them. There are stationary and portable clamps:

Clamps and pullers are manufactured using high-quality alloyed steel and are heat-treated in controlled-temperature furnaces to give them great strength. The technical specifications under which clamps and pullers are designed and manufactured are based on technical product standards such as ASME/ANSI and GSA/US FEDERAL, depending on the type of product.

URREA now offers pullers with load capacities from 2 to 10 tons and clamps with openings from 2" to 12".

STANDARDS APPLICABLE TO PULLERS AND CLAMPS

GSA

GGG-P-643 A	"Specification puller kit, mechanical"
GGG-P-0078IC	"Puller attachment, Mechanical, and puller set, mechanical"
GGG-P-78ID	"Puller, mechanical, puller, attachment, and puller set mechanical"
GGG-V-410A	"Vise, bench, clamp base; sheet metal works; bench and pipe; jeweler's machinist's and multiposition"
GGG-V-412A	"Vise; hand; pin; Wire pope splicing; and square end sawing, tube"
GGG-V-415A	"Vise, pipe"

ASME ANSI American National Standards Institute

B107.46M,	"stud, screw, and pipe extractors: safety requirements"
B107.52M,	"Nail Puller Bars: Safety Requirements"

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availabilitystartswith

Your URREA distributor is close to you and maintains a local inventory of the URREA products that appear in this catalog, so that you can source your tool needs immediately.

CONTACT US

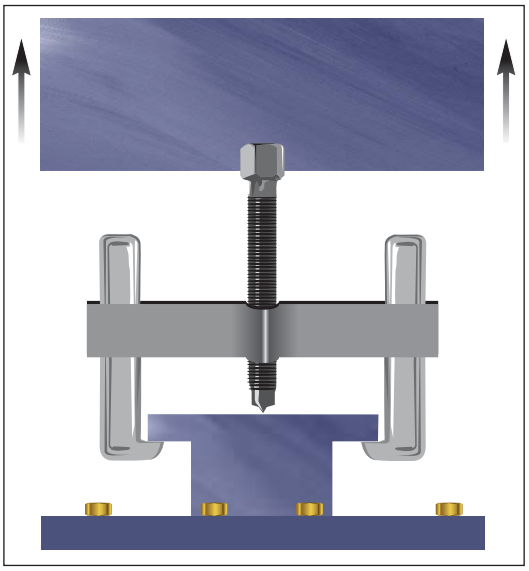
email: customerservice@urrea.com

FAX: (210) 734-8715 **Phone:** (210) 734-8703 / (800) 366-6911

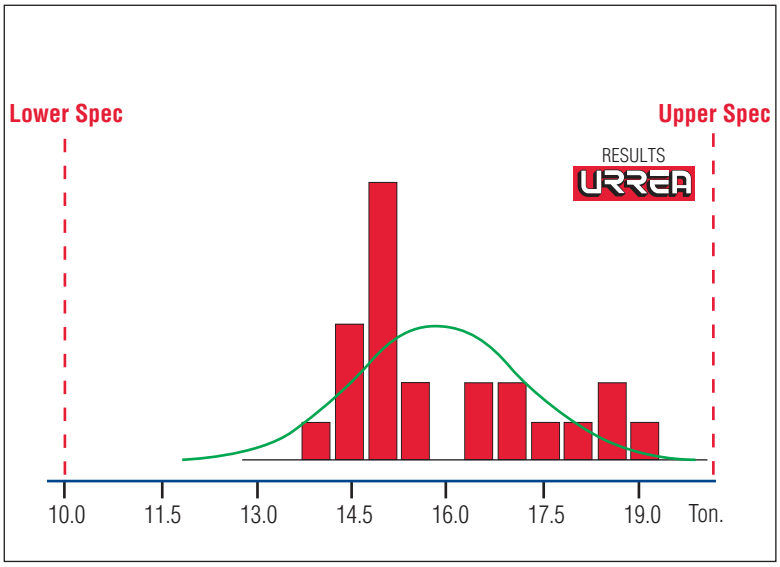
STANDARDS APPLICABLE TO STRAIGHT-JAW PULLERS

Our pullers are designed to withstand more than their rated capacity: when under tension, our 10-ton puller can handle 14.8 tons.

TRACTION FORCE TEST SET-UP



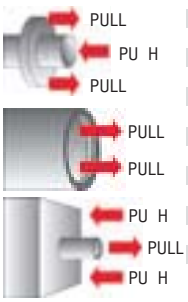
10-TON PULLER STRENGTH TEST



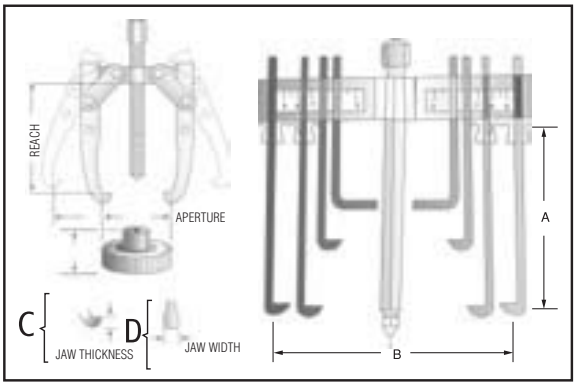
MOST COMMON TYPES OF PULLERS

You can solve the three main pulling problems. First you must precisely identify the type of pulling problem you have.

The following illustrations show the three most common cases:



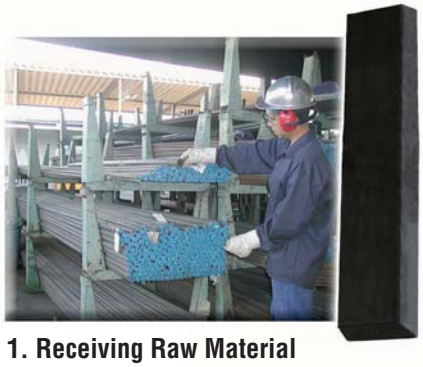
CA E	DE CRIPTION	APPLICATION	TOOL TO U E
PULL PU H PULL	PULL (SEPARATE) SOMETHING FROM A SHAFT	Removal of gears, bearings, wheels, pulleys, etc. To replace or use another part.	*2- or 3-jaw extractor *Slide hammer puller *Combination of foot and bearing pullers
PULL PULL	PULL (OUT) SOMETHING FROM A HOLE	Pulling internal bearing covers. Oil valves or seals inserted under pressure are a prime example.	*Reversible 2- or 3-jaw pullers *Slide hammer pullers with internal accessories.
PU H PULL PU H	PULL (OUT) A SHAFT	Transmission or pinion shafts	*Slide hammer puller *Combination of foot and bearing pullers



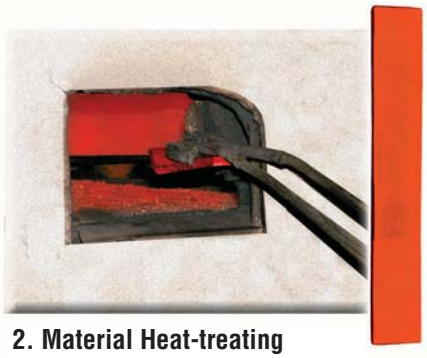
Once the problem is identified, you can select the type of puller you need. For best results and maximum safety, it is very important to use the right tool for the task at hand. To choose the right puller for the job, you must:

1. Select the type of puller or puller combination to be used.
2. Determine the needed reach (A).
   - The puller you select must have a reach greater than or equal to that of the piece you're working on.
3. Determine the aperture (B) that the part will need.
   - The width of the part to be pulled will determine the aperture needed for the puller you select.
4. Consider jaw thickness (C) and jaw width (D).
5. Estimate the force required for the job. A puller with the right reach and aperture for the specific job must also have enough force. However, it is always advisable to use a puller that exceeds the aperture and/or reach needed for the part, especially when working with rough-surfaced parts or when the "area of resistance" is large such that more force will be required.

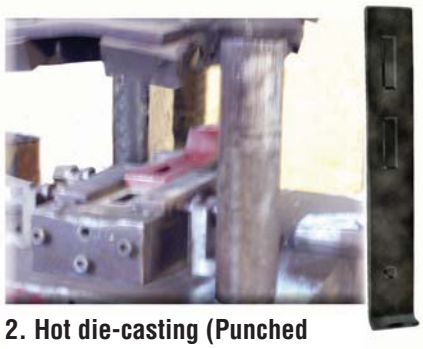
Manual pullers require a puller screw that is easy to move, and the reach and opening needed for the job must be known. Compare these measurements with those shown for the URREA pullers included in this section.



1. Receiving Raw Material



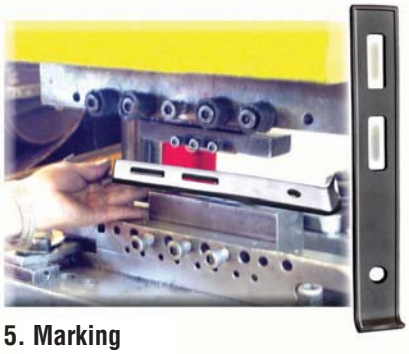
2. Material Heat-treating in Furnace



2. Hot die-casting (Punched and Bent into the Claw)

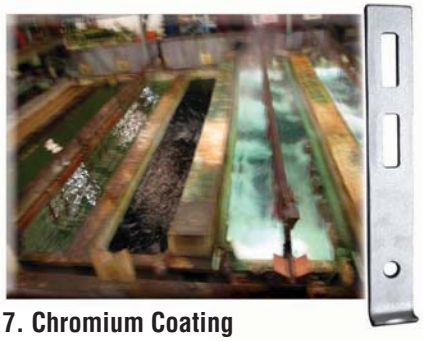
3. Cleaning

4. Polishing



5. Marking

6. Tempering



7. Chromium Coating

PULLER MANUFACTURING PROCESS (BODY)

1. Cutting the Steel

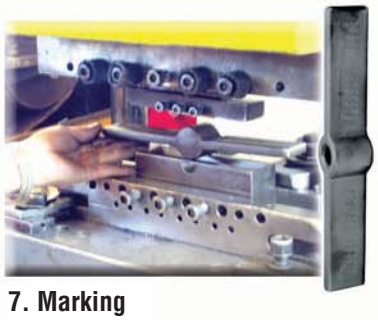
2. Hot Forging

3. Cleaning

4. Drilling and Beveling

5. Threading

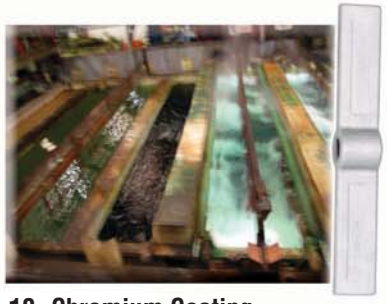
6. Polishing



7. Marking

8. Tempering

9. Cleaning

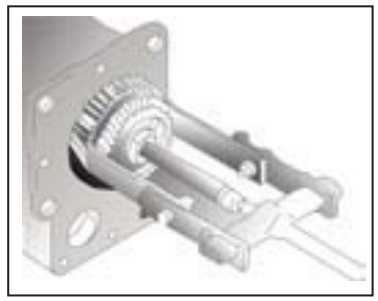


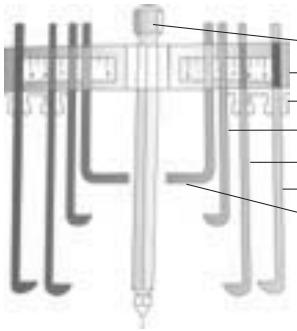
10. Chromium Coating

These pullers are commonly used in automotive repair and machinery maintenance. They can be extended using the holes and grooves in each leg.

Straight-jaw pullers are the most versatile, because it is possible to combine different types of jaws on a crossbar. The following table shows the variety of URREA puller sets available, a short description of each part, and their respective codes and components.

CODE	BOX	CROSSBAR	CLAMP	SCREW	SHORT JAW	DOUBLE-REACH JAW	NARROW JAW	SCREW/ HEAD JAW	TOTAL NO. OF PIECES
	1	2	3	4	5	6	7	8	
4216	0	1	6	1	3	3	3	3	20
4121SJ	0	1	4	1	2	2	2	2	14
4030B	1	1	4	1	2	2	2	2	14
4030	0	1	4	1	2	2	2	2	14
4234B	1	1	4	1	0	2	2	2	12
4234	0	1	4	1	0	2	2	2	12
4238B	1	1	2	1	0	2	0	2	8
4238	0	1	2	1	0	2	0	2	8
4232SJB	1	1	2	1	2	2	0	0	8
4232SJ	0	1	2	1	2	2	0	0	8





④ SCREW Threaded shaft with floating tip that exerts the extraction force.
② CROSSBAR: Body of the puller, where the jaws and pressure screw are attached.
③ CLAMP: Piece of sheet metal, die-stamped and hardened to hold the jaws on the puller body.
⑤ SHORT JAW: For general applications with no restrictions on space, maneuverability, or reach.
⑥ DOUBLE-REACH JAW: Especially for deep applications, e.g., when the piece to be extracted is installed in a long shaft.
⑦ NARROW JAW: The tip of the jaw at the end that grips the piece to be removed is narrower, permitting an excellent grip in tight spaces.
⑧ SCREW HEAD JAW: The tip of the puller is notched for gripping and pulling on screw heads.

SET OF 6-TON STRAIGHT-JAW PULLERS

4216

20 PIECE

20-PIECE PULLER SET WITH 3-ARM CROSSBAR AND 12 JAWS, WITHOUT BOX

DE CRIPTION	QUANTITY
3-arm crossbar	1
Clamps	6
Screw	1
Short jaw	3
Long jaw	3
Narrow jaw	3
Screw head jaw	3

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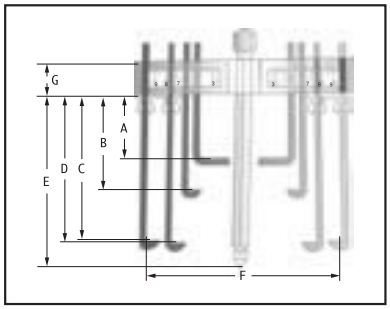
SPECIFICATIONS

MAXIMUM JAW REACH				FREE CREW DI TANCE	MAXIMUM JAW OPENING	CRO BAR HEIGHT		
A	B	C	D	E	F	G		
in	in	in	in	in	in	in	grs	lbs
2 5/8"	4"	5 7/16"	5 1/2"	4 5/8"	6"	1 1/8"	3,500	7.71



- For extracting pulleys with a variety of diameters
- crew with sharp reinforced tip
- High-strength forged steel 2-arm crossbar, 4212 J
- High-strength forged steel 3-arm crossbar, 4216
- 6 tons of force

4212SJB
14 PIECE
14-PIECE 2-ARM PULLER SET WITH 8 JAWS, WITH BOX

4212SJ
14 PIECE
14-PIECE 2-ARM PULLER SET WITH 8 JAWS, WITHOUT BOX

DE CRIPTION	QUANTITY
Crossbar	1
Clamps	4
Screw	1
Short jaw	2
Long jaw	2
Narrow jaw	2
Screw head jaw	2

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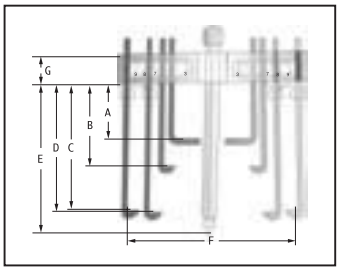
SPECIFICATIONS

MAXIMUM JAW REACH A in	B in	C in	D in	FREE CREW DI TANCE E in	MAXIMUM JAW OPENING F in	CRO BAR HEIGHT G in	grs	lbs
2 5/8"	4"	5 7/16"	5 1/2"	4 5/8"	6"	1 1/8"	2,650	5.84



- For extracting pulleys with a variety of diameters
- crew with sharp reinforced tip
- High-strength forged steel 2-arm crossbar, 4212 J
- High-strength forged steel 3-arm crossbar, 4216
- 6 tons of force

SET OF 10-TON STRAIGHT-JAW PULLERS

4030B
14-PIECE 2-ARM PULLER SET WITH 8 JAWS, WITH BOX

4030
14-PIECE 2-ARM PULLER SET WITH 8 JAWS, WITHOUT BOX

DE CRIPTION	QUANTITY
Crossbar	1
Clamps	4
Screw	1
Short jaw	2
Double-reach jaw	2
Narrow jaw	2
Screw head jaw	2

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ASME / ANSI B107.52M
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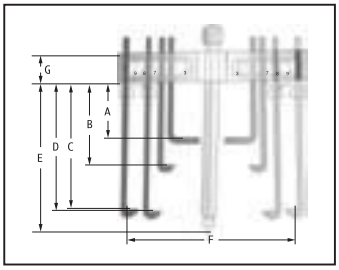
4030B



4030B, 4030 SPECIFICATIONS

CODE	MAXIMUM JAW REACH A in	A mm	B in	B mm	C in	C mm	D in	D mm	FREE CREW DI TANCE E in	E mm	MAXIMUM JAW OPENING F in	F mm	CRO BAR HEIGHT G in	G mm	grs	lbs
4030B	3"	76.2	4 23/32"	119.9	7"	177.8	7 9/32"	184.9	8 9/16"	217.5	10"	254	1 5/8"	41.3	3,800	14.99
4030	3"	76.2	4 23/32"	119.9	7"	177.8	7 9/32"	184.9	8 9/16"	217.5	10"	254	1 5/8"	41.3	3,800	13.45

- For extracting pulleys with a variety of diameters
- crew with sharp reinforced tip
- High-strength forged steel 2-arm crossbar
- 10 tons of force

4234B
12-PIECE 2-ARM PULLER SET WITH 6 JAWS, WITH BOX

4234
12-PIECE 2-ARM PULLER SET WITH 6 JAWS, WITHOUT BOX

DE CRIPTION	QUANTITY
Crossbar	1
Clamps	4
Screw	1
Double-reach jaw	2
Narrow jaw	2
Screw head jaw	2

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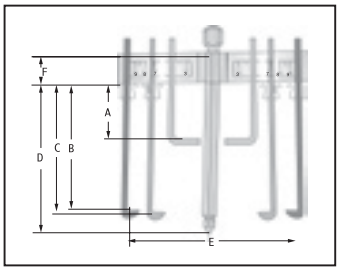
4234B



4234B, 4234 SPECIFICATIONS

CODE	MAXIMUM JAW REACH A		MAXIMUM JAW REACH B		FREE CREW DI TANCE C		MAXIMUM JAW OPENING D		CRO BAR HEIGHT E			
	in	mm	in	mm	in	mm	in	mm	in	mm	grs	lbs
4234B	3"	76.2	7"	177.8	7 9/32"	184.9	8 9/16"	217.5	10"	254	1 5/8"	41.3	5,100	11.24
4234	3"	76.2	7"	177.8	7 9/32"	184.9	8 9/16"	217.5	10"	254	1 5/8"	41.3	4,540	10.01

- For extracting pulleys with a variety of diameters
- crew with sharp reinforced tip
- High-strength forged steel 2-arm crossbar
- 10 tons of force

4238B
8-PIECE 2-ARM PULLER SET WITH 4 JAWS, WITH BOX

4238
8-PIECE 2-ARM PULLER SET WITH 4 JAWS, WITHOUT BOX

DE CRIPTION	QUANTITY
Crossbar	1
Clamps	2
Screw	1
Double-reach jaw	2
Screw head jaw	2

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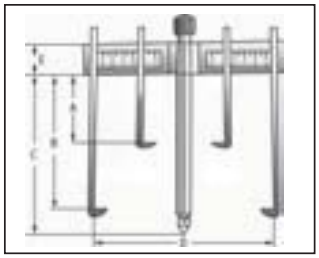
ASME / ANSI B107.52M
FEDERAL GGG-P-781

4238B



4238B, 4238 SPECIFICATIONS

CODE	MAXIMUM JAW REACH A		MAXIMUM JAW REACH B		FREE CREW DI TANCE C		MAXIMUM JAW OPENING D		CRO BAR HEIGHT E			
	in	mm	in	mm	in	mm	in	mm	in	mm	grs	lbs
4238B	3"	76.2	7 9/32"	184.9	8 9/16"	217.5	10"	254	1 5/8"	41.3	4,200	9.26
4238	3"	76.2	7 9/32"	184.9	8 9/16"	217.5	10"	254	1 5/8"	41.3	3,650	8.05

- For extracting pulleys with a variety of diameters
- crew with sharp reinforced tip
- High-strength forged steel 2-arm crossbar
- 10 tons of force

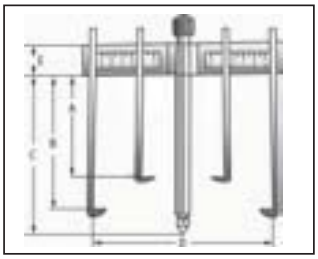
4232SJB
8-PIECE 2-ARM PULLER SET WITH 4 JAWS, WITH BOX

4232SJ
8-PIECE 2-ARM PULLER SET WITH 4 JAWS, WITHOUT BOX

DE CRIPTION	QUANTITY
Crossbar	1
Clamps	2
Screw	1
Short jaw	2
Double-reach jaw	2

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

4232SJB



4232SJB, 432SJ SPECIFICATIONS

CODE	MAXIMUM JAW REACH A		B		FREE CREW DI TANCE C		MAXIMUM JAW OPENING D		CRO BAR HEIGHT E			
	in	mm	in	mm	in	mm	in	mm	in	mm	grs	lbs
4232SJB	4 23/32"	119.9	7 9/32"	184.9	8 9/16"	217.5	10"	254	1 5/8"	41.3	5,200	11.46
4232SJ	4 23/32"	119.9	7 9/32"	184.9	8 9/16"	217.5	10"	254	1 5/8"	41.3	4,540	10.01

- For extracting pulleys with a variety of diameters
- crew with sharp reinforced tip
- High-strength forged steel 2-arm crossbar
- 10 tons of force

REPLACEMENT PARTS FOR STRAIGHT-JAW PULLERS

Crossbar: Body of the puller, where the jaws and pressure screw are attached.
Screw: Threaded shaft with floating tip that exerts the extraction force.

401X
MISCELLANEOUS

CODE	DE CRIPTION
4011S	Spring Clips
4011	Crossbar
4012S	Screw

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

421X
MISCELLANEOUS

CODE	DE CRIPTION
4211S	Spring Clips
4211	Crossbar
4212	Screw

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

4011S / 4211S

4011 / 4211

4012S / 4212

401X
JAWS

CODE	DE CRIPTION
4015	Short jaw 4 11/16"
4016	Dual reach Jaw 4 11/16"
4017	Long narrow jaw 7 3/16"
4018	Cap screw jaw 2 15/16"

421XQ
JAWS

CODE	DE CRIPTION
4215Q	Short jaw 4"
4216Q	Long narrow jaw 5 1/2"
4217Q	Long narrow jaw 5 7/16"
4218Q	Cap screw jaw 2 5/8"

4015

4215Q

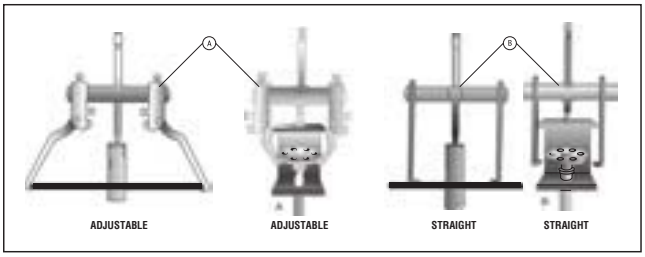
These pullers incorporate an automatic gripping system, which makes them excellent for countless different jobs.
It is important to choose the puller that will have the best hold on the piece being extracted. The decision between a two- or three-jaw puller depends on the piece and its location. However, use of a 3-jaw puller is preferred whenever space permits, since there will be a better grip on the piece and more equal distribution of the pulling force.

The following types of pullers are available:

2 jaws, adjustable (A)
2 jaws, reversible (A)
3 jaws, adjustable (B)
2- or 3-jaw combinations (C)

CODE	TYPE	PREAD CAPACITY in	REACH in	CAPACITY tons	MINIMUM TEST LOAD lbs
4033	A	4"	3 1/2"	2	2,500
4034	B	4"	3 1/2"	2	2,500
4044	A	6"	3 1/2"	5	8,000
4045	A	9"	5 1/2"	7	8,000
4046	C	7"	3 1/2"	5	8,000
4047	C	10"	5 1/2"	7	8,000

ASME / ANSI B107.46M
ASME / ANSI B107.52M
NORMA FEDERAL GGG-P-781



Adjustable-jaw pullers have larger hold apertures than straight-jaw pullers (A).
They can also reach into places inaccessible to straight jaws (B)

2-POSITION PULLERS

4033

2-POSITION PULLER, 2 JAWS, 2-TON CAPACITY

DE CRIPTION	JAW TYPE	NUMBER OF JAW	PREAD CAPACITY, IN.	REACH, IN.	CAPACITY, TON	grs	lbs
2-JAW ADJUSTABLE PULLER (2-TON)	ADJUSTABLE, 2 POSITIONS	2	4"	3 1/2"	2	415	0.91

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

- For extracting pulleys with a variety of diameters
- crew with sharp reinforced tip
- High-strength forged steel 2-arm crossbar
- 2 tons of force

4034

2-POSITION PULLER, 3 JAWS, 2-TON CAPACITY

DE CRIPTION	JAW TYPE	NUMBER OF JAW	PREAD CAPACITY B in	REACH A in	CAPACITY, TON	grs	lbs
3-JAW ADJUSTABLE PULLER	ADJUSTABLE, 2 POSITIONS	3	4"	3 1/2"	2	750	1.65

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

- For extracting pulleys with a variety of diameters
- crew with sharp reinforced tip
- High-strength forged steel 3-arm crossbar
- 2 tons of force

2-JAW REVERSIBLE PULLERS

404X

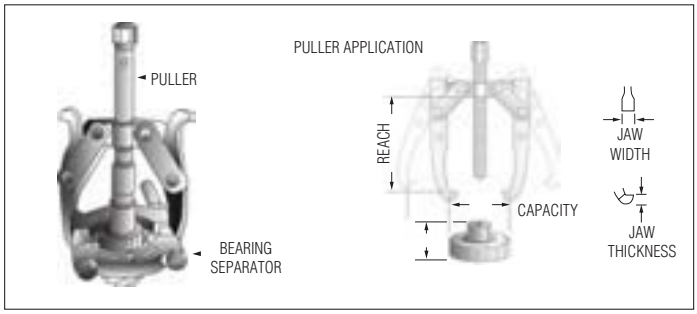
CODE	DE CRIPTION	JAW TYPE	NUMBER OF JAW	PREAD CAPACITY in	REACH in	CAPACITY, TON	grs	lbs
4044	Reversible 2-jaw puller with 5-ton capacity	Reversible	2	6"	3 1/2"	5	893	1.97
4045	Reversible 2-jaw puller with 7-ton capacity	Reversible	2	9"	5 1/2"	7	1,865	4.11

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

- For extracting pulleys with a variety of diameters
- crew with sharp reinforced tip
- High-strength forged steel 2-arm crossbar
- 7 or 5 tons of force (depending on the model)

Code 4044
Two-jaw reversible puller

Adjust the puller's center screw depending on the pulley's position with respect to the central bar or shaft, engage the jaws on the edge of the pulley and begin to pull by turning the puller's center screw, which will be supported against the bar. Preferred for use on machinery where there are power transmission elements.



4044 Versatile puller designed for maximum utility. Reversible jaws have a wide face at one end and narrow at the other.

4045 Heavy-duty puller. Designed for automotive as well as industrial use, reversible jaws. On end of each jaw is notched for pulling gears and pulleys. Works with bearing separator No. 4332 (shown in Fig. A).

2- OR 3-JAW REVERSIBLE PULLERS

The following pullers have a versatile body that can be assembled to form 2- or 3-jaw pullers, depending on whether or not greater stability and grip are required. Versatile and with the best combination of the advantages of 2- and 3-jaw pullers. Reversible jaws add to the benefits. Each jaw is notched at one end for pulling gears and pulleys.

404X

CODE	DE CRIPTION	JAW TYPE	NUMBER OF JAW	PREAD CAPACITY B in	REACH A in	CAPACITY, TON	grs	lbs
4046	Reversible 2 or 3 jaw puller with 5-ton capacity	Reversible	2 or 3	7"	3 1/2"	5	1,255	2.77
4047	Reversible 2 or 3 jaw puller with 7-ton capacity	Reversible	2 or 3	10"	5 1/2"	7	2,664	5.87

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

- For extracting pulleys with a variety of diameters
- crew with sharp reinforced tip
- High-strength forged steel 2 or 3-arm crossbar
- 5 or 7 tons of force (depending on the model)

Ideal design for removing bearings, bushings, counterweights, oil seals, gaskets, gears, and bearing covers. Jaws can be positioned both “internally” and “externally”, pulling with either two or three jaws. Adjustment cone applies constant pressure to all jaws.

2- OR 3-BAR SLIDE HAMMER PULLERS

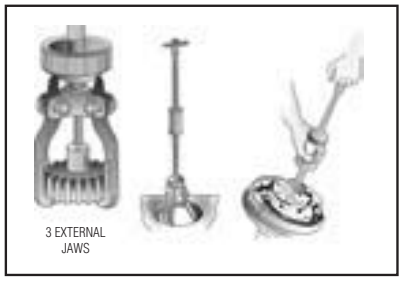
4285

2- OR 3-BAR SLIDE HAMMER PULLER AND 3 ACCESSORIES WITH 6-TON CAPACITY

	JAW TYPE	PART	CONTENT	PREAD RANGE IN	JAW TYPE	HAMMER WEIGHT lbs	MINIMUM TE T LOAD lbs	grs	lbs
	Reversible	2	Internal 1-1/4” minimum – 3-3/8” maximum	1 1/4”-3 3/8”	DOUBLE INTERNAL	3	5,000	4,250	9.37
			External 1” minimum – 4-1/2” maximum	1”-4 1/2”	DOUBLE EXTERNAL	3	5,000		
	Reversible	3	Internal 1-5/16” minimum – 4-3/4” maximum	1 5/16”-4 3/4”	TRIPLE INTERNAL	3	5,000		
			Internal 1-1/2” minimum – 4-1/2” maximum	1 1/2”-4 1/2”	TRIPLE EXTERNAL	3	5,000		
	ACCESSORIES.								
*	3-lb hammer mounted on a 5/8”–18” bar with 22” stroke								
**	A hook accessory for removing gears, bushings, fasteners, and bearing races with thread dimensions of 5/8”-18”								
***	Special accessory for pulling generator and drive bearings								

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

- For extracting bearings from drive shafts
- liding bar and hammer
- 6 tons of force



11

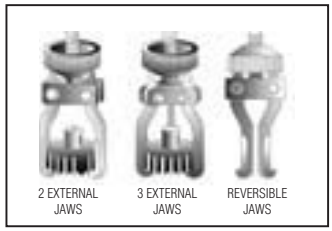
4270A

2- OR 3-BAR SLIDE HAMMER PULLER AND 1 ACCESSORIE WITH 6-TON CAPACITY

JAW TYPE	PART	CONTENT	PREAD RANGE IN	JAW TYPE	HAMMER WEIGHT lbs	MINIMUM TE T LOAD lbs	grs	lbs
Reversible	2	Internal 1-1/4” minimum – 3-3/8” maximum	1 1/4”-33/8”	DOUBLE INTERNAL	3	5,000	3,200	7.05
		External 1” minimum – 4-1/2” maximum	1”-4 1/2”	DOUBLE EXTERNAL	3	5,000		
Reversible	3	Internal 1-5/16” minimum – 4-3/4” maximum	1 5/16”-4 3/4”	TRIPLE INTERNAL	3	5,000		
		Internal 1-1/2” minimum – 4-1/2” maximum	1 1/2”-4 1/2”	TRIPLE EXTERNAL	3	5,000		
ACCESSORIES.								
3-lb hammer mounted on a 5/8”–18” bar with 22” stroke								

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

- For extracting bearings from drive shafts
- liding bar and hammer
- 6 tons of force



6-TON FLANGE-TYPE SLIDE HAMMER PULLERS

Puller for difficult jobs, works on most popular automobile and light truck models with flanged shafts. 5-lb hammer provides the force needed to slide on its 5/8"-18" bar with 22" stroke.

4277

CREW RANGE CIRCULAR	HAMMER	APPLICATION	grs	lbs
4 1/2" A 5 1/2"	5 Lbs.	DESIGN CAN BE USED ON SHAFTS WITH 4, 5, OR 6 STUDS IN A CIRCULAR PATTERN	4,250	9.37

ACCESSORIES.
5-lb hammer
5/8"-18" bar with 22" stroke

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

- For extracting bearings and components from drive shafts
- liding bar and hammer
- High-strength forged steel 3-arm crossbar
- 6 tons of force

Code 4277
Flange-type slide hammer puller

Flange-type slide hammer puller: place and adjust the puller's crossbar on the wheel, aligning the holes in the crossbar with the studs on the wheel. Turn the screws and begin to strike toward yourself with the 5-lb hammer that runs along the bar on the puller. Used for removing automotive drive shafts.

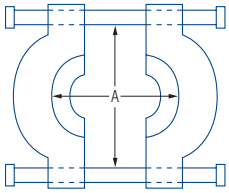
Bearing separators are designed for removing gears and bearings. Their design lets them reach parts in tight spaces where jaw pullers don't fit. Their internal faces are angled for better grip on the bearing, reducing the risk of damaging the part removed. They are easy to position on the back of the part to be held and grip a base area even in very tight spaces.

Bearing separators are designed for removing generator gears and tapered bearings. Their design lets them reach parts in tight spaces where jaw pullers don't fit. Their internal faces are angled for better grip on the bearing, reducing the risk of damaging the part removed. They are easy to position on the back of the part to be adjusted or removed and grip a base area even in very tight spaces.

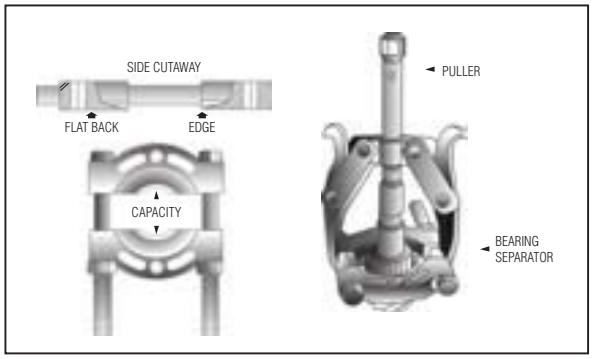
433X
BEARING SEPARATORS

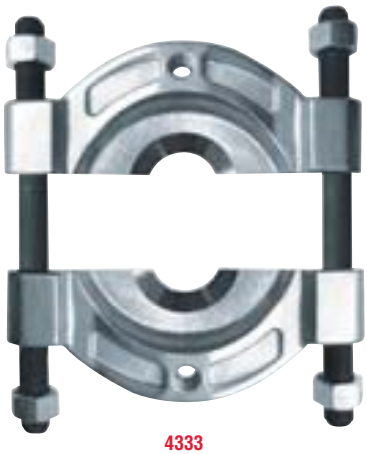
CODE	CAPACITY				C EW	C EW TH EAD
	MIN.		MAX.			
	in	mm	in	mm		
4331	3/8"	10	2 3/8"	60	10 X 2.4 X 12.3 mm	10 X 2.4
4332	1 1/8"	30	4 1/2"	115	12 X 20 X 13.2 mm	12 X 20
4333	3 7/8"	100	5 7/8"	150	3/4" - 16 NF X 10"	3/4" - 16 NF
4334	5 7/8"	150	7 7/8"	200	1" - 12 NF X 13"	1" - 12 NF

STANDARDS: FEDERAL GGG-P-781



4332





4333

Code 4332
Bearing separator

Insert the separator jaws between the bearing and the bar in which it is located, tighten both separator screws until you are sure that the jaws are holding the edges of the bearing. Install another 2-jaw puller and make sure that the puller screw is aimed at the bar that's holding the bearing, fit the jaws on the edges of the bearing separator and begin to extract the bearing. Preferred for use on machinery where there are power transmission elements.

HARMONIC BALANCER AND STEERING PULLERS

Sets containing everything you need to remove domestic or imported automobile or light truck steering wheels. Also used to pull parts with bearings, wheels, gears, and pulleys.

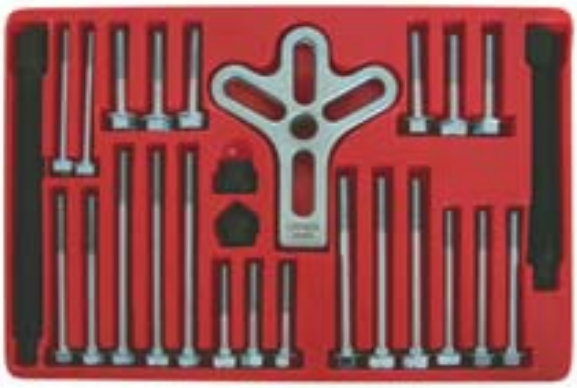
4205A

25-PIECE HARMONIC BALANCER AND STEERING PULLER SET

TOTAL NO. OF PIECE	PIECE	CONTENT	grs	lbs
25	3	Screw 3/8" - 16" X 4"	2,015	4.44
	3	Screw 3/8" - 24" X 2"		
	3	Screw 5/16" - 18" X 2"		
	3	Screw M8 X 1.25 X 80 mm		
	3	Screw M10 - 1.50 X 50 mm		
	2	Screw 1/4" - 28" x 3"		
	2	Screw 5/16" - 24" x 3 1/2"		
	3	Screw 5/16"-18" x 4 1/2"		
	1	Center screw 5/8" x 5" (with tip)		
	1	Center screw 5/8" x 6 1/2" (with tip)		
	1	Body (chicken foot)		

* Packed in plastic tray

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781



- Chrome-coated 4-arm crossbar
- Long-reach screws

4205

16-PIECE HARMONIC BALANCER AND STEERING PULLER SET

TOTAL NO. OF PIECE	PIECE	CONTENT	grs	lbs
16	3	Screw 3/8" - 16" X 4"	1,500	3.31
	2	Screw 3/8" - 24" X 2"		
	3	Screw 5/16" - 18" X 2"		
	3	Screw M8 X 1.25 X 80 mm		
	3	Screw M10 - 1.50 X 50 mm		
	1	Center screw		
	1	5/8" X 5" (with tip)		
	1	Body (chicken foot)		

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

- Chrome-coated 4-arm crossbar
- Long-reach screws

PITMAN PULLERS

Used to extract steering assembly Pitman arms, when you need the stability and smooth extraction provided by a screw puller. Forged from alloyed steel and heat-treated.

405X

CODE	DE C IPTION	U E	grs	lbs
4052	Heavy-duty PITMAN puller	Large automobiles	950	2.09
4051	Light-duty PITMAN puller	Small automobiles	448	0.99

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

GOAT LEG PULLEY PULLER

For extracting pulleys with one or two grooves from alternators and starters. Long screw lets it remove standard heavy-duty bearings from alternators.

4053

DESCRIPTION	APERTURE, cm	HEIGHT cm	grs	lbs
GOAT LEG PULLEY PULLER	35	65	1,100	2.43

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

- emoves single- and double-channel pulleys
- emoves pulleys and bearings from electrical system alternators.
- emoves pulleys and bearings from the hydraulic steering system.
- Goat-leg fork lets it extract bearings from automotive or heavy-duty alternators.

SCREW BOLTS

9500B

5 PIECE

5-PIECE SPIRAL SCREW BOLT EXTRACTOR SET

TYPE	PIECE	CONTENT
piral crew	5	et of 5 spiral screw extractors for 1/8" to 3/4" screws
Vinyl pouch		

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

9500X

SPIRAL SCREW BOLT EXTRACTORS

CODE	DE C IPTION	C EW IZE		C EW NUT IZE		LENGTH			
		in	mm	in	mm	in	mm	grs	lbs
95001	1/8" to 1/4"	5/64"	2.0	1/8"-1/4"	3.2-6.3	1 27/32"	47.0	2	0.00
95002	1/4" to 5/16"	7/64"	2.8	1/4"-5/16"	6.3-7.9	2 1/4"	57.0	6	0.01
95003	5/16" to 7/16"	5/32"	4.0	5/16"-7/16"	7.9-11.1	2 1/2"	64.0	12	0.03
95004	7/16" to 9/16"	7/32"	5.6	7/16"-9/16"	11.1-14.3	2 7/8"	73.0	22	0.05
95005	9/16" to 3/4"	17/64"	6.8	9/16"-3/4"	14.3-19.0	3 3/16"	81.0	47	0.10

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

Code 9500B
Screw extractor

Spiral screw extractors are used for removing pieces of broken screws. Insert the screw extractor into the hole where the piece of threaded screw is located, strike the end of the extractor with a hammer until you are sure that the extractor is set, then turn it counterclockwise using an adjustable wrench like those found in machine shops, maintenance shops, and heavy industry.

BOLT EXTRACTOR

5200S
5 PIECE
5-PIECE SET OF BOLT REMOVERS

TYPE	PIECE	CONTENT
Bolt remover	5	et of 5 bolt removers, 1/4" to 1/2"
Blister		

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

- Grabs hold of 1/4" - 1/2" rusted, rounded and stuck fasteners on these and hundreds more.
- Can be used with box, open end or adjustable wrenches / socket sets.

PIPE EXTRACTORS

9500A
5 PIECE
5-PIECE SET OF STRAIGHT PIPE EXTRACTORS

TYPE	PIECE	CONTENT
traight	5	et of 5 straight pipe extractors, 1/8" to 3/8"
Vinyl pouch		

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

952X
STRAIGHT PIPE EXTRACTORS

CODE	PIPE DIAMETE		TIP WIDTH		TAIL WIDTH		LENGTH			
	in	mm	in	mm	in	mm	in	mm	grs	lbs
9521	1/8"	3.1	1/8"	3.1	3/16"	4.7	2 5/16"	47.0	9.0	0.02
9522	1/8"	3.1	11/64"	4.3	3/16"	4.7	2 5/8"	57.0	9.0	0.02
9523	1/8"	3.1	13/64"	5.1	1/4"	6.3	2 7/8"	64.0	18.1	0.04
9524	1/4"	6.3	19/64"	7.5	5/16"	7.9	3"	73.0	31.7	0.07
9525	3/8"	9.5	11/32"	8.7	3/8"	9.5	3 1/4"	81.0	49.8	0.11

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

qualitystartswith

URREA tools are designed and manufactured to meet or exceed the most demanding industry standards, such as the SAE, (Society of Automotive Engineers), ASME/ANSI (American Society of Mechanical Engineers/American National Standards Institute), ISO (International Standardization Organization), GSA USA Federal (General Services Administration USA Federal Government), and NOM (Norma Oficial Mexicana - Official Mexican Standard).

Visit our website: www.urrea.com

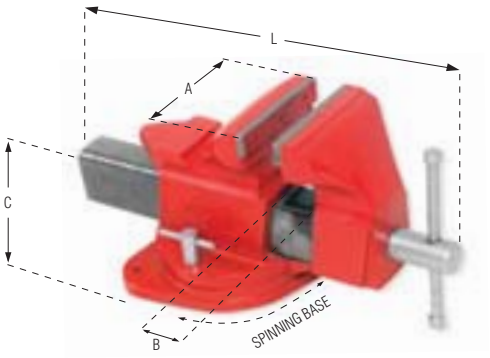
BENCH VISES

Tough and reinforced, ideal for heavy-duty work. Tempered steel jaws and U-bar steel guide for extra working strength, protecting the screw and the brass nut. Removable jaws for better grip on circular pieces. Base rotates 360 degrees.

42X

CODE	DESCRIPTION	JAW WIDTH A	MAXIMUM OPENING B	HEIGHT C	TOTAL LENGTH L		
		in	in	cms	cms	grs	lbs
424	Bench vise 4"	4"	4"	20	40	21,000	46.30
425	Bench vise 6"	6"	6"	24	51	32,500	71.65
426	Bench vise 7 1/2"	7" 1/2"	7" 1/2"	27	58.5	44,500	98.11
427	Bench vise 10"	10"	10"	30	63	58,000	127.87

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781



PRECISION MILLING VISES

4510X

PRECISION MILLING VISES 1 AXIS

CODE	JAW WIDTH	MAXIMUM OPENING	JAW DEPTH		
	in	in	in	grs	lbs
45102	2"	2"	1"	3,500	7.71
45103	3"	3"	1 5/16"	9,350	20.61
45104	4"	4"	1 1/2"	17,000	37.47
45105	5"	5"	2"	30,000	71.00
45106	6"	6"	2"	38,800	85.00

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

4520X

PRECISION MILLING VISES 2 AXIS

CODE	JAW WIDTH	MAXIMUM OPENING	JAW DEPTH		
	in	in	in	grs	lbs
45202	2"	2"	1"	3,500	7.71
45203	3"	3"	1 5/16"	9,350	20.61
45204	4"	4"	1 1/2"	17,000	37.47
45205	5"	5"	2"	30,000	71.00
45206	6"	6"	2"	38,800	85.00

ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

4530X

PRECISION MILLING VISES 3 AXIS

CODE	JAW WIDTH	MAXIMUM OPENING	JAW DEPTH		
	in	in	in	grs	lbs
45304	2"	2"	1"	4,000	8.81
45305	3"	3"	1 5/16"	10,700	23.58
45306	4"	4"	1 1/2"	20,500	45.19

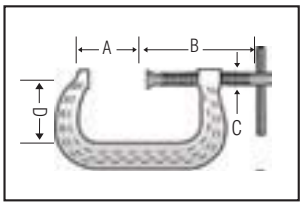
ASME / ANSI B107.46M
ASME / ANSI B107.52M
FEDERAL GGG-P-781

FORGED C-CLAMPS

4XX
FORGED DEEP-THROAT C-CLAMP

CODE	DESCRIPTION	A CAPACITY	B SCREW LENGTH		C SCREW DIAMETER		D THROAT SIZE		MAXIMUM CAPACITY		
		in	mm	in	mm	in	mm	in	lbs	grs	lbs
402	Forged Deep-Throat C-Clamp 0"- 2"	0" - 2"	120.65	4 3/4"	12.7	1/2"	50.8	2"	3,300	600	1.32
403	Forged Deep-Throat C-Clamp 0" - 3"	0" - 3"	146.05	5 3/4"	12.7	1/2"	60.3	2 3/8"	3,500	850	1.87
404	Forged Deep-Throat C-Clamp 0" - 4"	0" - 4"	193.67	7 5/8"	19.1	3/4"	69.9	2 3/4"	4,100	1,450	3.20
406	Forged Deep-Throat C-Clamp 0" - 6"	0" - 6"	247.01	9 7/8"	19.1	3/4"	66.7	3 5/8"	5,400	2,183	4.81
408	Forged Deep-Throat C-Clamp 0" - 8"	0" - 8"	314.25	12 3/8"	19.1	3/4"	114.3	4 1/2"	5,900	3,450	7.61
410	Forged Deep-Throat C-Clamp 3" - 10"	3" - 10"	314.25	12 3/8"	19.1	3/4"	136.5	5 3/8"	6,200	4,750	10.47
412	Forged Deep-Throat C-Clamp 4" - 12"	4" - 12"	342.9	13 1/2"	22.2	7/8"	146.1	5 3/4"	9,300	6,100	13.45

ASME / ANSI B107.46M
NORMA FEDERAL GGG-P-781



Swivel-tip screw adapts to the surface of the part to be held.

Deeper throat

Larger parts for greater versatility
Forged body.

Code 412
Forged deep-throat C-clamp

Deep-throat C-clamps with forged body, ideal for clamping jobs where parts must be held immobile and handled more reliably. Commonly used for welding work, in workshops and in heavy industry.

"F" CLAMPS

4F0X
F CLAMPS

CODE	OPENING		THROAT DEPTH		RAIL SIZE		WEIGHT	
	in	mm	in	mm	in	mm	grs	lbs
4F04	3 15/16	100	1 31/32	50	19/32 x 13/64	15 x5	260	0.57
4F08	7 7/8	200	1 31/32	50	19/32 x 13/64	15 x5	310	0.68

ASME / ANSI B107.46M
NORMA FEDERAL GGG-P-781

SAFETY RECOMMENDATIONS FOR PULLERS AND CLAMPS

Always wear safety glasses.

Always make sure that the center screw is clean and well lubricated.

The use of a three-jaw puller is preferred whenever possible.

Use the right puller size for the job.

Never strike the lever to try to add more pressure to the clamped object.

11

Never use the clamp to load objects.

Clamps are not recommended for gripping soft objects.