

PULLERS

The best way to remove a gear or bearing from its housing is with a tool designed just for that job: a puller. This simple but ingenious device consists of a set of movable jaws attached at one end to a forcing screw. Turning the screw engages the jaws, causing them to pull the part from its housing. The puller is a real force multiplier: It will pull a wheel, gear, or bearing with much more force than it takes to turn the forcing screw. It will also reach into the most difficult of spots and will pull the part in a way that protects it – and you – from harm.

Because each pulling job is different, Proto makes a range of puller types. We offer enough styles, sizes, and capacities to tackle nearly any industrial pulling task, whether you're working on a truck transmission or an air conditioning compressor, and whether the part you need to remove is flush against the housing or recessed below the surface. Our lineup includes multi-purpose six, eight, and ten-ton pullers; specialty pullers for battery cables, hubs, and steering wheels and slide hammer pullers that are designed to "shock" a stubborn part from its seat.

In fact, we don't just make pullers, we make entire pulling systems. These systems are built around multi-purpose pullers that can be easily reconfigured for different tasks. Our pullers can be fitted with various sized jaws, and can be converted from a standard puller to a slide hammer quickly and without using tools. We package our pulling systems in sets that can be easily carried to and from the work area. This ensures that the technician has all the needed tools right at hand, while reducing the number of pullers that a facility needs to buy.

As is true with all Proto[®] tools, we use only the highest quality parts in our pullers. For example, the floating tips on our forcing screws minimize the chance of damage to the part. Also, our screws' Acme threads feature a reduced thread angle that's more resistant to nicking and binding than conventional rolled, vee, or buttress thread screws, allowing the user to exert more power with less effort.

These little details add up to a huge advantage. While many pullers may look alike, Proto[®] pullers give you all the features you could need to make your pulling jobs easier than ever.

PRODUCT FEATURES AND BENEFITS

ACME THREAD – FORCING SCREW

- Flat rolled edges to resist nicking and binding.
- Fewer threads per inch to work faster than conventional screws.
- Reduced thread angle for more power with less effort.

NON CRUSHING JAWS

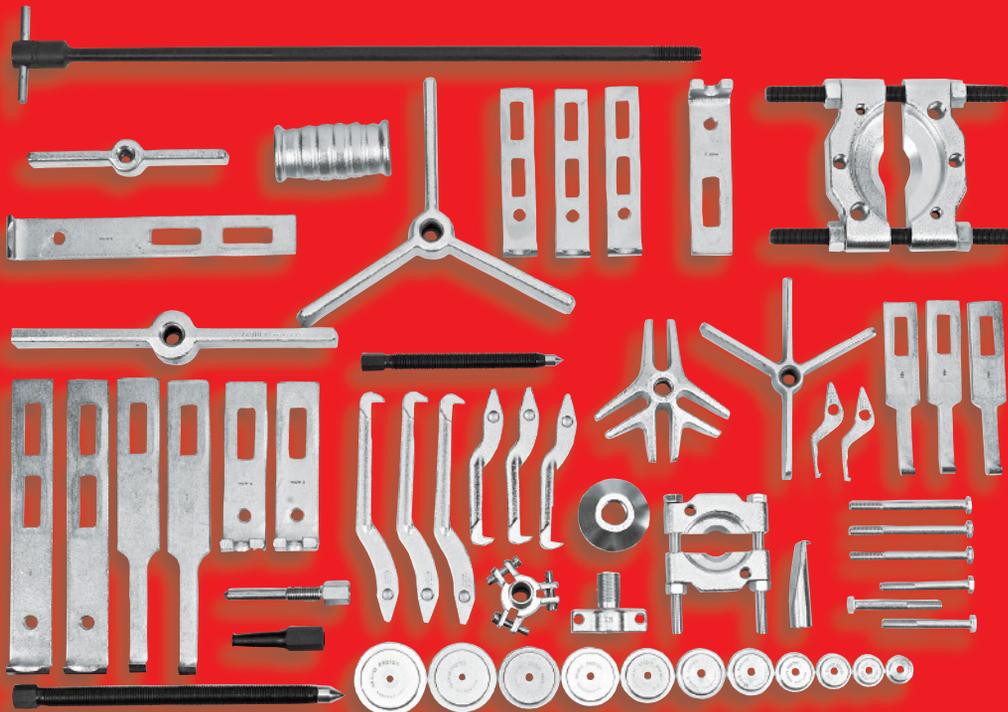
- Jaws can be set at any degree of tightness on the part being pulled. The degree of tightness remains throughout the pull.
- Eliminates distortion or breakage of the object being pulled.

FLOATING TIPS – FORCING SCREW

- Live tip does not rotate as the screw is turned; won't damage or enlarge the shaft.
- Prevents the tip from riding out of center and walking.
- Relieves excess screw strain and keeps the puller aligned during the pull.

REVERSIBLE JAWS

- Jaws on cone pullers can be reversed by simply pulling the locking pin and turning the jaw around.
- Jaws on adjustable jaw and straight jaw pullers can be reversed by sliding the jaw to the end of the crossblock and turning them around 180°.
- Saves time and money.



PULLER SELECTION GUIDE

STEP 1 – DETERMINE WHICH OF THE 3 BASIC PULLING TASKS IS BEING UNDERTAKEN

- External Pull – the jaws face inward pulling on the outside of the object being pulled.
- Internal Pull – the jaws face outward pulling on the inside of the object being pulled.
- Press-N-Pull™ - pulling applications in which a void exists where the forcing screw would normally rest, or where a shaft is being pulled out of a housing.

STEP 2 – DETERMINE WHAT WILL BE PUSHED AGAINST

- Solid Shaft – most pulls involve the forcing screw pushing against a shaft while the jaws pull the object off the shaft.
- Hollow Shaft – Step plate adapters can be used to provide a base for the forcing screw to push against.
- Legs/Pads – Seemingly impossible pulling situations where a center shaft is non-existent to push against can be accomplished with accessories. Legs and pads used in a Press-N-Pull™ set up push against the stationary surface around the part being pulled.

SAFETY TIPS

- Always use safety goggles. Serious eye injury is possible.
- Do not use a power impact wrench with any puller.
- Always use the largest puller that fits the job. Use 3 jaws if possible.
- Use the largest jaws and shortest legs that fit the job.

STEP 3 – DETERMINE THE SIZE OF PULLER REQUIRED

- Jaw Spread – Spread is the distance between the pullers' jaws. Puller jaw spread must be greater than the diameter of the object being pulled to allow the jaw hooks to seat fully.
- Jaw Reach – Reach is the distance from the bottom of the crossarm to the flats of the jaw tips. Puller jaw reach must be greater than the thickness of the object being pulled plus the length of the protruding shaft.
- Jaw Width – Width is the distance across the flats of the jaws. Puller jaw width should be selected to grip as much surface area of the part being pulled as possible. Jaw hooks should also reach far enough onto the part so that they will not slip off under load.

STEP 4 – DETERMINE HOW MUCH PULLER IS NECESSARY FOR A SPECIFIC PULL

- Area of Resistance – Area of resistance is the amount of actual contact between the object being pulled and the part it is being pulled from. The larger the area of resistance, the more power is required to complete the pull. Added resistance can also come from rust, corrosion, dirt and other factors.
- A general rule of thumb is to use as large a puller as possible. Extra power means less work and less chance of breakage.
- 3 Way/ 2 Way – Always use a 3 jaw puller whenever clearance permits. A 3 jaw setup is more stable and disperses pulling pressure over a 50% larger area providing a more even pulling force.

- Be sure to square the puller to the work so that the jaws and screw are parallel.
- Shield work to protect yourself and bystanders.
- Use light lubricating oil on the forcing screw.



Pullers & Puller Sets

SET NO. J4289B - 6 TON GENERAL PULLER SET

- Makes 12 of the most commonly used pullers: Internal, External and Slide hammer.
- Weight: 17.34 lbs.

Product			
ID No.	Contents	Description	Qty.
J4289B	J4260R	T-Handles Rod, 24" Long	1
	J4260H	Slide Hammer, 2-1/2 Lb.	1
	J4250N	Reversible Adjusting Nut	1
	J4250B	2 Jaw Yoke	1
	J4255B	3 Jaw Yoke	1
	J4205B	Slotted Crossarm, 2 Way/ 3 Way	1
	J4056-6	Reversible Jaw, 6" Reach	3
	J4056-4	Reversible Jaw, 4" Reach	3
	J4056-2	Inside Jaw, 2" Reach	2
	J4056PN	Jaw Pivot Pin	3
	J4256S	Inside Hook Jaw	1
	J4205S	Forcing Screw	1
	J4022T	Standard Detachable Tip	1
	J4028	Cap Screw, 3/8-16 X 3"	3
	J4005C	Cap Screw, 3/8-24 X 3"	3
	J4205E	Cap Screw, 3/8-16 X 4"	3
	J4951PB	Molded Plastic Case	1

SET NO. J4291B - 6 TON WIDE PULLER SET

- Designed for pulling machine parts up to 8" in diameter with reach depths to over 7".
- Makes over 12 different adjustable and straight jaw pullers.
- Weight: 29.00 lbs.

Product			
ID No.	Contents	Description	Qty.
J4291B	J4205S	Forcing Screw	1
	J4022T	Standard Detachable Tip	1
	J4208CA	2 Way/ 3 Way Crossarm, 7" Long	1
	J4027	Narrow Jaw	3
	J4026A	Dual-Reach Jaws	3
	J4021S	Spring Clip	3
	J4211BA	Adjustable Jaw Block Assembly	3
	J4206SC	Slotted Crossarm, 2 Way	1
	J4028	Cap Screw, 3/8"-16NC x 3"	2
	J4332	Bearing Separator, 4-3/8" Capacity	1
	J4055H	5 lb. Slide Hammer	1
	J4260R	T-Handles Rod, 24" Long	1
	J4952B	Molded Plastic Case	1



Pullers & Puller Sets



SET NO. J4290B - 6 TON STANDARD PULLER SET

- Makes over 20 of the most often used pullers: Internal, External, Slide Hammer, Rear Axle, Harmonic Balancer, etc.
- Weight: 27.68 lbs.

Product ID No.	Contents	Description	Qty.
J4290B	J4260R	T-Handle Slide Rod, 24" Long	1
	J4260H	2-1/2 lb. Slide Hammer	1
	J4250N	Reversible Adjusting Nut	1
	J4250B	Two Jaw Yoke	1
	J4255B	Three Jaw Yoke	1
	J4205B	Slotted Crossarm, 2 Way/3 Way	1
	J4056-6	Reversible Jaw, 6" Reach	3
	J4056-4	Reversible Jaw, 4" Reach	3
	J4056-2	Inside Jaw, 2" Reach	2
	J4056PN	Jaw Pivot Pin	3
	J4256S	Inside Hook Jaw	1
	J4205S	Forcing Screw	1
	J4022T	Standard Detachable Tip	1
	J4028	Cap Screw, 3/8"-16" x 3"	3
	J4005C	Cap Screw, 3/8"-24NF x 3"	3
	J4205E	Cap Screw, 3/8"-16NF x 4"	3
	J4055H	5 lb. Slide Hammer	1
	J4275R	Short Slide Rod, 12-3/4" Long	1
	J4277B	Rear Axle Flange Foot	1
	J4280	Set Puller Blind Bearing	1
	J4331	Gear and Bearing Separator	1
	J4951PB	Molded Plastic Case	1



SET NO. J4292B - 10 TON PROTO-EASE™ WIDE PULLER SET

- Required for large parts with heavy press-fits.
- Reaches to over 12" and spread of 11"
- Makes over 10 different adjustable and straight jaw pullers.
- Weight: 39.00 lbs.

Product ID No.	Contents	Description	Qty.
J4292B	J4225S	Forcing Screw	1
	J4012T	Standard Tip	1
	J4226CA	2 Way Crossarm, 11" Long	1
	J4227CA	3 Way Crossarm, 11" Long	1
	J4231A	Adjustable Jaw Block Assembly	3
	J4016A	Dual Reach Jaw	3
	J4018	Cap Screw Jaw	3
	J4017	Long Narrow Jaw	3
	J4011S	Spring Clip	3
	J4333	Bearing Separator	1
	J4953PB	Molded Plastic Case	1





Pullers & Puller Sets

SET NO. J4390B - PROTO-EASE™ BEARING SEPARATOR SET

- Removes gears and bearings too close to another surface for a puller jaw grip, or where the pulled out part must be protected.
- Case provides space for step plates and assorted accessories.
- Weight: 27.50 lbs.



Product			
ID No.	Contents	Description	Qty.
J4390B	J4330	Gear and Bearing Separator, 1-13/16" Capacity	1
	J4331	Gear and Bearing Separator, 2-13/32" Capacity	1
	J4332	Gear and Bearing Separator, 4-3/8" Capacity	1
	J4333A	Gear and Bearing Separator, 6" Capacity	1
	J4333R	Threaded Rod, 3/4"-16UNF, 10" Long	2
	J4955PB	Molded Plastic Case	1

SET NO. J4293B - 10 TON PROTO-EASE™ PRESS-N-PULL™ SET

- Presses parts into place without hydraulics.
- Functions as many different pullers either by itself or in combination with other Proto® Pullers.
- Weight: 43.00 lbs.



Product			
ID No.	Contents	Description	Qty.
J4293B	J4012T	Standard Tip	1
	J4229LS	Lock Screw, 7/16"-14UNC x 3/4"	3
	J4235AA	Adapter, 3/4" x 5/8" Acme	1
	J4235CN	Coupling Nut, 3/4"-12 Acme	1
	J4235S	Forcing Screw	1
	J4235UA	Adapter, 3/4" Acme x 5/8"	1
	J4236CA	2 Way Crossarm	1
	J4236N	Forcing Nut	1
	J4236W	Thrust Washer	1
	J4237CA	3 Way Crossarm	1
	J4239SB	Slideblock	3
	J4240-08F	Adapter, 5/8" x 1/2" Fem.	3
	J4240-08M	Adapter, 5/8" x 1/2" Male	3
	J4240-12F	Adapter, 5/8" x 3/4" Fem.	3
	J4240-12M	Adapter, 5/8" x 3/4" Male	3
	J4240-14F	Adapter, 5/8" x 7/8" Fem.	3
	J4240-14M	Adapter, 5/8" x 7/8" Male	3
	J4240L	Medium Leg	3
	J4240SL	Short Leg	3
	J4333	Bearing Separator	1
	J4954PB	Molded Plastic Case	1



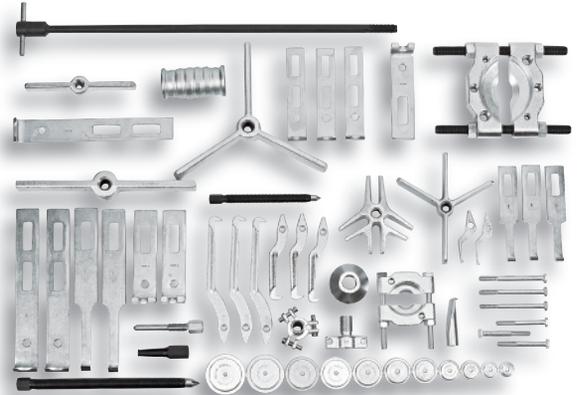
Pullers & Puller Sets



SET NO. J4245 - PROTO-EASE™ GENERAL PULLER SET

- Includes components to assemble a wide variety of 3 ton, 6 ton, 10 ton, slide hammer and threaded part pullers.
- Weight: 46.13 lbs.

Product			
ID No.	Contents	Description	Qty.
J4245	J4005C	Cap Screw, 3/8"-24NF x 3"	3
	J4011S	Spring Clip	3
	J4016A	Dual-Reach Jaws	1
	J4017	Long Narrow Jaw	1
	J4018	Cap Screw Jaw	1
	J4021S	Jaw Spring Clip	3
	J4026A	Dual Reach Jaw	3
	J4027	Narrow Jaw	3
	J4040	Step Plate Adapter Set	1
	J4056-2	Inside Jaw, 2" Reach	2
	J4205B	Slotted Crossarm 2-Way/3-Way	1
	J4205E	Cap Screw, 3/8"-16NC x 4"	3
	J4206CA	2-Way Crossarm	1
	J4208CA	2-Way/3-Way Crossarm	1
	J4227CA	3-Way Crossarm, 11" Long	1
	J4234	10 Ton 2-Way Straight Jaw Puller Set	1
	J4252	6 Ton 2-Way/3-Way Cone Puller Set	1
	J4256S	Inside-Hook Jaw	1
	J4260H	2-1/2 lb. Slide Hammer	1
	J4260R	T-Handle Slide Rod, 24" Long	1
	J4280	Set Puller Blind Bearing	1
	J4331	Gear and Bearing Separator, 2-13/32" Capacity	1
	J4332	Gear and Bearing Separator, 4-3/8" Capacity	1





Pullers & Puller Sets

SET NO. J4235A - PROTO-EASE™ MASTER PULLER SET

- Covers most maintenance operations using standard pullers.
- Contains components necessary to assemble all full-interchange system pullers except Proto® Press-N-Pull™ Pullers.
- Weight: 73.00 lbs.



Product			
ID No.	Contents	Description	Qty.
J4235A	J4205B	Slotted Crossarm, 2 Way/3 Way	1
	J4022T	Standard Detachable Tip	1
	J4205S	Forcing Screw	1
	J4005C	Cap Screw, 3/8"-24NF x 3"	3
	J4205E	Cap Screw, 3/8"-16NF x 4"	3
	J4028	Cap Screw, 3/8"-16NC x 3"	3
	J4206SC	Slotted Crossarm, 2 Way	1
	J4250B	2 Jaw Yoke	1
	J4255B	3 Jaw Yoke	1
	J4056-2	Inside Jaw, 2" Reach	3
	J4056-4	Reversible Jaw, 4" Reach	3
	J4056-6	Reversible Jaw, 6" Reach	3
	J4250N	Reversible Adjusting Nut	1
	J4056PN	Jaw Pivot Pin	3
	J4260H	2-1/2 lb. Slide Hammer	1
	J4260R	T-Handle Slide Rod, 24" Long	1
	J4055H	5 lb. Slide Hammer	1
	J4275R	Short Slide Rod	1
	J4277B	Rear Axle Flange Foot	1
	J4256S	Inside Hook Jaw	1
	J4280	Set Puller Blind Bearing	1
	J4211BA	Adjustable Jaw Block Assembly	3
	J4026A	Dual-Reach Jaw	3
	J4027	Narrow Jaw	3
	J4208CA	2 Way/3 Way Crossarm	1
	J4231A	Adjustable Jaw Block Assembly	3
	J4012T	Standard Tip	1
	J4225S	Forcing Screw	1
	J4226CA	2 Way Crossarm, 11" Long	1
	J4227CA	3 Way Crossarm, 11" Long	1
	J4016A	Dual-Reach Jaw	3
	J4017	Long Narrow Jaw	3
	J4018	Cap Screw Jaw	3
	J4021S	Spring Clip	3
	J4011S	Spring Clip	3
	J4331	Bearing Separator, 2-13/32" Capacity	1
	J4333A	Bearing Separator, 6" Capacity	1
	J4040	Step Plate Adapter Set	1
	J4040-12	Step Plate, 2-1/8" Bore	1
	J4040-13	Step Plate, 2-1/4" Bore	1
	J4040-14	Step Plate, 2-3/8" Bore	1



Pullers & Puller Sets



SET NO. J4235B - PROTO-EASE™ MASTER PULLER SET (WITH BOX)

- Covers most maintenance operations using standard pullers.
- Contains components necessary to assemble all full-interchange system pullers except Proto® Press-N-Pull™ Pullers.
- Weight: 93.00 lbs.



Product			
ID No.	Contents	Description	Qty.
J4235B	J4205B	Slotted Crossarm, 2 Way/3 Way	1
	J4022T	Standard Detachable Tip	1
	J4205S	Forcing Screw	1
	J4005C	Cap Screw, 3/8"-24" x 3"	3
	J4205E	Cap Screw, 3/8"-16" x 4"	3
	J4028	Cap Screw, 3/8"-16" x 3"	3
	J4206SC	Slotted Crossarm, 2 Way	1
	J4250B	2 Jaw Yoke	1
	J4255B	3 Jaw Yoke	1
	J4056-2	Inside Jaw, 2" Reach	3
	J4056-4	Reversible Jaw, 4" Reach	3
	J4056-6	Reversible Jaw, 6" Reach	3
	J4250N	Reversible Adjusting Nut	1
	J4056PN	Jaw Pivot Pin	3
	J4260H	2-1/2 lb. Slide Hammer	1
	J4260R	T-Handle Slide Rod, 24" Long	1
	J4055H	5 lb. Slide Hammer	1
	J4275R	Short Slide Rod	1
	J4277B	Rear Axle Flange Foot	1
	J4256S	Inside Hook Jaw	1
	J4280	Set Puller Blind Bearing	1
	J4211BA	Adjustable Jaw Block Assembly	3
	J4026A	Dual-Reach Jaw	3
	J4027	Narrow Jaw	3
	J4208CA	2 Way/3 Way Crossarm	1
	J4231A	Adjustable Jaw Block Assembly	3
	J4012T	Standard Tip	1
	J4225S	Forcing Screw	1
	J4226CA	2 Way Crossarm, 11" Long	1
	J4227CA	3 Way Crossarm, 11" Long	1
	J4016A	Dual-Reach Jaw	3
	J4017	Long Narrow Jaw	3
	J4018	Cap Screw Jaw	3
	J4021S	Spring Clip	3
	J4011S	Spring Clip	3
	J4331	Bearing Separator, 2-13/32" Capacity	1
	J4333A	Bearing Separator, 6" Capacity	1
	J4040	Step Plate Adapter Set	1
	J4040-12	Step Plate, 2-1/8" Bore	1
	J4040-13	Step Plate, 2-1/4" Bore	1
	J4040-14	Step Plate, 2-3/8" Bore	1
	J9969-NA	Steel Box	1



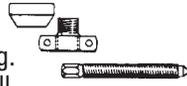


Pullers & Puller Sets

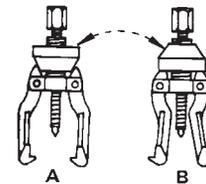
OPERATIONAL FEATURES - 6 TON PROTO-EASE™ CONE PULLERS

Forcing screws should be easy to turn—and most are—when the load is fairly light. But tough pulling jobs are a different story. Most screws tighten up when the going gets rough, resulting in far less output than you apply. Why? Because there's frictional resistance. The thread and threaded hole are fighting each other all the way. Not with Proto! We've got Acme threads to increase your muscle power. Acme is the thread with a long-lasting reputation for easy turning and smooth-as-silk performance.

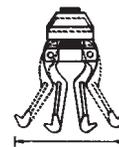
Since the Adjusting Cone threads on the Crossblock and not onto the forcing screw, it is isolated from the torque of the screw. This means there's no unwanted jaw tightening. Go ahead—turn down the screw. Apply all the pressure you need. You won't change the set of the jaws. You can hold onto a gear, bushing or sleeve with unheard of precision and maximum control. No more stretching, scoring or crushing. Unwanted tightening is a thing of the past.



Reversing jaws from an external pull (A) to an internal pull (B) used to be a problem. It was tedious and took time. No more! Now Proto® threads the cone on the crossblock. A few turns and it's off. Flip it and a few turns puts it on again. Reversing the jaws is even faster. Pop the pivot pins out, turn the jaws and pop the pins in again. The screw? It stays put. You're ready to pull.



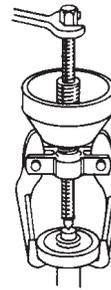
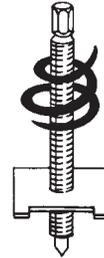
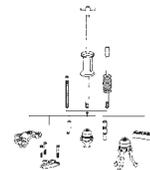
Jaws are configured to cam smoothly within the adjusting cone resulting in smoother jaw action and wider jaw spread.



Switching from a forcing screw to a slide hammer used to be a problem. You had to unscrew the forcing screw from BOTH crossblock and adjusting cone and this caused you to lose the set of your jaws. Then you had to "hook-up" all over again. No more! Out comes the screw and in goes the slide rod. You've got a slide hammer puller. The adjusting cone? It stays put... on the crossblock.



Now, both slide rods mate up with ALL attachments... So does the forcing screw. They're all threaded alike. Slide rods, forcing screws and attachments... ALL threaded 5/8"-12 ACME!



Pullers & Puller Sets



SET NO. J4250 - 6 TON 2-WAY CONE PULLER SET

- Reach: 4" — Spread: 5".
- Weight: 2.43 lbs.

Product			
ID No.	Contents	Description	Qty.
J4250	J4022T	Standard Detachable Tip	1
	J4056-4	Reversible Jaw, 4" Reach	2
	J4056PN	Jaw Pivot Pin	2
	J4205S	Forcing Screw	1
	J4250B	2 Jaw Yoke	1
	J4250N	Reversible Adjusting Nut	1

SET NO. J4251 - 6 TON 2-WAY CONE PULLER SET

- Reach: 4" and 6" – Spread: 5" and 7"
- Weight: 2.96 Lbs.

Product			
ID No.	Contents	Description	Qty.
J4251	J4022T	Standard Detachable Tip	1
	J4056-4	Reversible Jaw, 4" Reach	2
	J4056-6	Reversible Jaw, 6" Reach	2
	J4056PN	Jaw Pivot Pin	2
	J4205S	Forcing Screw	1
	J4250B	2 Jaw Yoke	1
	J4250N	Reversible Adjusting Nut	1

SET NO. J4252 - 6 TON PROTO-EASE™ 2-WAY/3-WAY CONE PULLER SET

- Reach: 4" and 6" — Spread: 5" and 7".
- Weight: 4.12 lbs.

Product			
ID No.	Contents	Description	Qty.
J4252	J4022T	Standard Detachable Tip	1
	J4056-4	Reversible Jaw, 4" Reach	3
	J4056-6	Reversible Jaw, 6" Reach	3
	J4056PN	Pivot Pin	3
	J4205S	Forcing Screw	1
	J4250B	2 Jaw Yoke	1
	J4255B	3 Jaw Yoke	1
	J4250N	Reversible Adjusting Nut	1





Pullers & Puller Sets

SET NO. J4255 - 6 TON PROTO-EASE™ 3-WAY CONE PULLER SET

- Reach: 4" — Spread: 5".
- Weight: 2.59 lbs.

Product			
ID No.	Contents	Description	Qty.
J4255	J4022T	Standard Detachable Tip	1
	J4056-4	Reversible Jaw, 4" Reach	3
	J4056PN	Pivot Pin	3
	J4205S	Forcing Screw	1
	J4255B	3 Jaw Yoke	1
	J4250N	Reversible Adjusting Nut	1



SET NO. J4257 - 6 TON 3-WAY CONE PULLER

- Reach: 6" – Spread: 7"
- Weight: 2.50 lbs.

Product			
ID No.	Contents	Description	Qty.
J4257	J4022T	Standard Detachable Tip	1
	J4056-6	Reversible Jaw, 6" Reach	3
	J4056PN	Jaw Pivot Pin	3
	J4205S	Forcing Screw	1
	J4255B	3 Jaw Yoke	1
	J4250N	Reversible Adjusting Nut	1

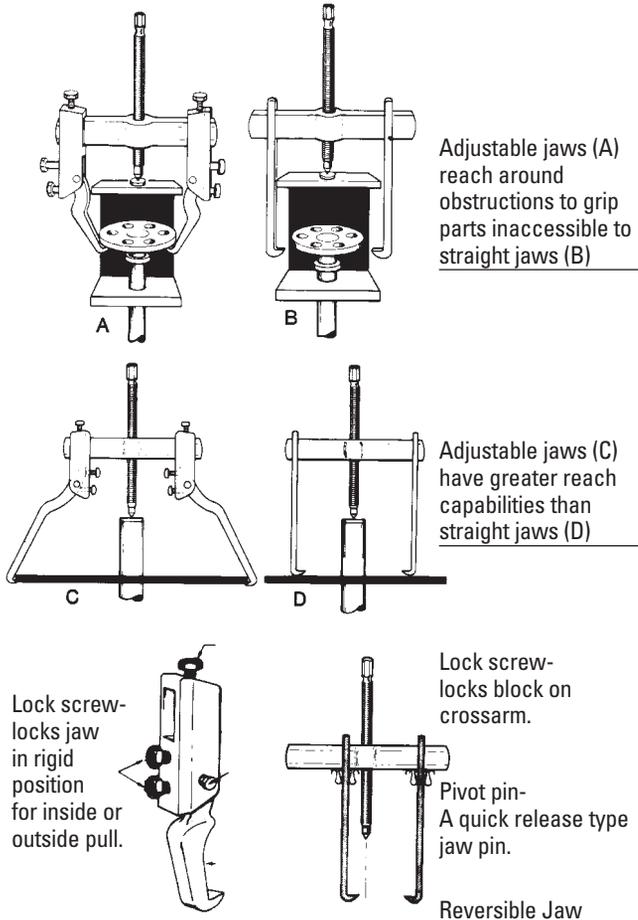


Pullers & Puller Sets



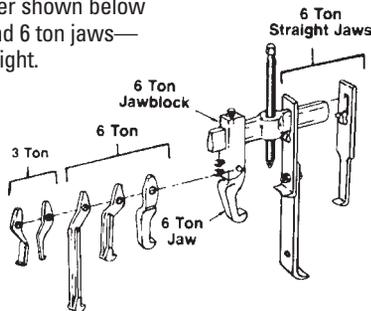
OPERATIONAL FEATURES

6 TON PROTO-EASE™ WIDE PULLERS



Jaws slide into place along crossarm and may be positioned at unequal distances from the forcing screw for unusual pulling applications.

The 6 ton wide puller shown below accepts all 3 ton and 6 ton jaws—adjustable and straight.

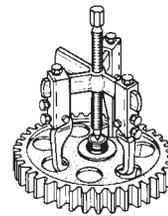


NOTE: Tonnage ratings do not apply when 1) using jaw blocks with lock screws facing inboard (see drawing C above), 2) jaw angle exceeds 7° or 3) lighter adjustable jaws are used in heavier jaw blocks.

TYPICAL APPLICATIONS

PROTO-EASE™ NO. J4217

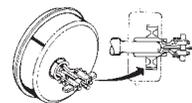
6 TON 2-WAY/3-WAY ADJUSTABLE JAW



Puller is used to pull a gear off a hub. Gear has holes positioned close to the hub so medium size pullers can get a grip without damaging the case-hardened gear teeth. To avoid damage, when pulling gears in particular, a 3-way puller is generally preferred to a 2-way puller.



Puller is used to remove the pilot bearing from a transmission output shaft (adjustable jaws are shown used at straight jaws since no angle-of-grip adjustment is required). Each adjustable jaw block assembly slides along the crossarm for positioning—just as straight jaws, but with an important difference: Lock screw on top of jaw blocks secures each jaw assembly for a safe, slip-resistant grip.



Proto-Ease™ No. J4212E 6 ton 2-way adjustable jaw puller is used here for an “internal” pull—jaws reversed, tips out—so jaws fits flush within the internal groove of the object being pulled—in this case, a hollow shaft reducer, mounted on the drive shaft of a speed reduction gear box. The adjustable jaws are configured so that when they are reversed and adjusted for angle-of-grip, the puller doubles as a bearing and cup puller—usually considered a “specialty” puller, requiring a separate investment—making the 4241E two pullers in one!

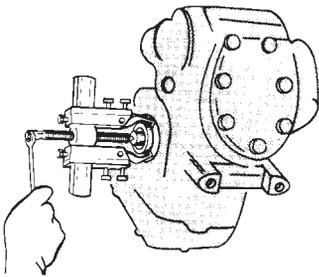


Pullers & Puller Sets

SET NO. J4217 - 6 TON PROTO-EASE™ 2-WAY/3-WAY ADJUSTABLE JAW PULLER

- Reach: 4-1/2" — Spread: 8".
- Weight: 6.25 lbs.

Product			
ID No.	Contents	Description	Qty.
J4217	J4022T	Standard Detachable Tip	1
	J4056PN	Pivot Pin	3
	J4205S	Forcing Screw	1
	J4208CA	2-Way/3-Way Crossarm	1
	J4209JB	Jaw Block	3
	J4209LS	Lock Screw	9
	J4210RJ	Reversible Jaw, 4-1/2" Reach	3



The bearing housing of this air conditioning compressor has been removed, exposing to view the crankshaft bearing, a part that frequently requires replacement—often calling for additional compressor disassembly to remove. Further disassembly can be avoided, however, with a pair of jaws strong enough, yet slim enough to slip between the bearing and compressor walls. The 6 ton puller is equipped with No. J4210SJ short jaws, specially shaped for minimum clearance pulling situations like this. Although rated at a maximum of 3 tons, these jaws are best used with a 6 ton puller assembly, as shown. In extremely limited access situations, these jaws can be inserted sideways, individually, then turned back to standard pulling position before hook-up with sliding jaw blocks.

SET NO. J4212SJB - 6 TON PROTO-EASE™ 2-WAY STRAIGHT JAW PULLER SET

- Reach: 2" and 4" — Spread: 6".
- Includes Steel Storage Box.
- Weight: 4.87 lbs.

Product			
ID No.	Contents	Description	Qty.
J4212SJB	J4021S	Standard Spring Clip	2
	J4022T	Standard Detachable Tip	1
	J4026A	Dual Reach Jaw	2
	J4027	Narrow Jaw	2
	J4205S	Forcing Screw	1
	J4206CA	2-Way Crossarm	1
	J4029	Steel Storage Box	1



Pullers & Puller Sets



SET NO. J4212SJ - 6 TON 2-WAY STRAIGHT JAW PULLER SET

- Reach: 2" and 4" – Spread: 6"
- Weight: 3.19 lbs.

Product ID No.	Contents	Description	Qty.
J4212SJ	J4021S	Spring Clip	2
	J4022T	Standard Detachable Tip	1
	J4026A	Dual Reach Jaw	2
	J4027	Narrow Jaw	2
	J4205S	Forcing Screw	1
	J4206CA	2-Way Crossarm	1

SET NO. J4212E - 6 TON 2-WAY ADJUSTABLE JAW PULLER

- Reach: 4-1/2" – Spread: 8"
- Weight: 4.39 lbs.

Product ID No.	Contents	Description	Qty.
J4212E	J4022T	Standard Detachable Tip	1
	J4056PN	Jaw Pivot Pin	2
	J4205S	Forcing Screw	1
	J4206CA	2-Way Crossarm	1
	J4209JB	Jaw Block	2
	J4209LS	Lock Screw	6
	J4210RJ	Reversible Jaw, 4-1/2" Reach	2

SET NO. J4211BA - 6 TON JAW BLOCK ASSEMBLY

- Weight: 1.37 lbs.

Product ID No.	Contents	Description	Qty.
J4211BA	J4056PN	Jaw Pivot Pin	1
	J4209JB	Jaw Block	1
	J4209LS	Lock Screw	3
	J4210RJ	Reversible Jaw, 4-1/2" Reach	1

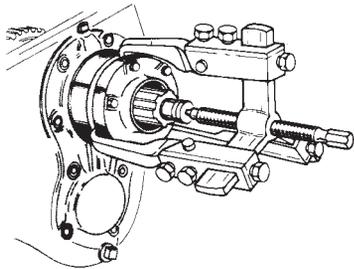
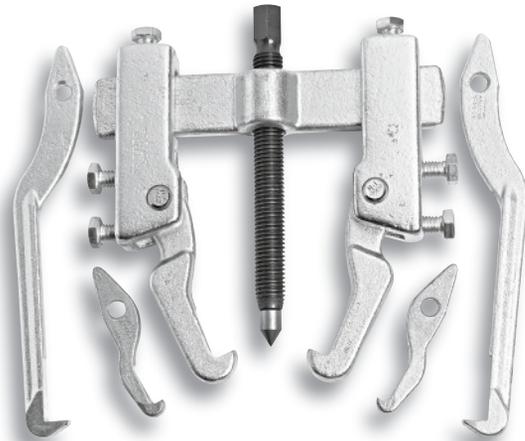


Pullers & Puller Sets

SET NO. J4212MJ - 6 TON PROTO-EASE™ 2-WAY ADJUSTABLE JAW PULLER SET

- Reach: 7-3/4" — Spread: 11".
- Weight: 5.12 lbs.

Product ID No.	Contents	Description	Qty.
J4212MJ	J4022T	Standard Detachable Tip	1
	J4056-6	Reversible Jaw, 6" Reach	2
	J4056PN	Pivot Pin	2
	J4205S	Forcing Screw	1
	J4206CA	2-Way Crossarm	1
	J4209JB	Jaw Block	2
	J4209LS	Lock Screw	6
	J4210RJ	Reversible Jaw, 4-1/2" Reach	2
	J4210SJ	Short Jaw	2



Puller is used to remove a truck input shaft's entire bearing retainer assembly. Three heavy-duty adjustable jaws (No. J4230RJ) grip assembly behind the front bearing cap while the 10 ton forcing screw bears down on the input shaft. A step plate adapter, No J4040-2, is placed between the forcing screw tip and the input shaft to prevent damage to shaft and screw tip.

SET NO. J4233E – 10 TON PROTO-EASE™ 3-WAY ADJUSTABLE JAW PULLER

- Reach: 5" — Spread: 12".
- Weight: 10.68 lbs.

Product ID No.	Contents	Description	Qty.
J4233E	J4012T	Standard Tip	1
	J4056PN	Pivot Pin	3
	J4225S	Forcing Screw	1
	J4227CA	3-Way Crossarm, 11" Long	1
	J4229JB	Jaw Block	3
	J4229LS	Lock Screw, 7/16-14UNC x 3/4	9
	J4230RJ	Adjustable Reversible Jaw	3
	J4019	Steel Storage Box	



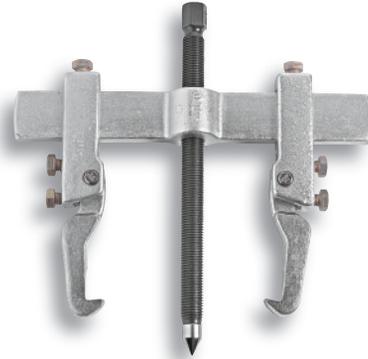
Pullers & Puller Sets



SET NO. J4232E – 10 TON PROTO-EASE™- 2-WAY ADJUSTABLE JAW PULLER

- Reach: 5" — Spread: 12".
- Weight: 7.81 lbs.

Product ID No.	Contents	Description	Qty.
J4232E	J4012T	Standard Tip	1
	J4056PN	Pivot Pin	2
	J4225S	Forcing Screw	1
	J4226CA	2-Way Crossarm, 11" Long	1
	J4229JB	Jaw Block	2
	J4229LS	Lock Screw, 7/16-14UNC x 3/4	6
	J4230RJ	Adjustable Reversible Jaw	2



SET NO. J4231A - 10 TON JAW BLOCK ASSEMBLY

- Weight: 2 lbs.

Product ID No.	Contents	Description	Qty.
J4231A	J4056PN	Jaw Pivot Pin	1
	J4209JB	Jaw Block	1
	J4209LS	Lock Screw	3
	J4210RJ	Reversible Jaw, 4-1/2" Reach	1

SET NO. J4234 - 10 TON 2-WAY STRAIGHT JAW PULLER SE

- Reach: 2-15/16", 4-11/16" and 7-1/8" (18" with jaws bolted together) - Spread: 10"
- Weight: 11.50 lbs.

Product ID No.	Contents	Description	Qty.
J4234	J4011S	Spring Clip	2
	J4012T	Detachable Tip	1
	J4016A	Dual Reach Jaw	2
	J4017	Long Narrow Jaw	2
	J4018	Cap Screw Jaw	2
	J4225S	Forcing Screw	1
	J4226CA	2-Way Crossarm, 11" Long	1



Pullers & Puller Sets

SET NO. J4238 - 10 TON 2-WAY STRAIGHT JAW PULLER SET

- Reach: 2-15/16", 4-11/16" and 7-1/8" (18" with jaws bolted together) - Spread: 10"
- Weight: 8.37 lbs.

Product ID No.	Contents	Description	Qty.
J4238	J4011S	Spring Clip	2
	J4012T	Detachable Tip	1
	J4016A	Dual Reach Jaw	2
	J4018	Cap Screw Jaw	2
	J4225S	Forcing Screw	1
	J4226CA	2-Way Crossarm, 11" Long	1

SET NO. J4232 - 10 TON 2-WAY STRAIGHT JAW PULLER SET

- Reach: 4-11/16" and 7-1/8" – Spread: 10"
- Weight: 6.75 lbs.

Product ID No.	Contents	Description	Qty.
J4232	J4011S	Spring Clip	3
	J4012T	Detachable Tip	1
	J4016A	Dual Reach Jaw	2
	J4225S	Forcing Screw	1
	J4226CA	2-Way Crossarm, 11" Long	1

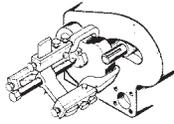


Pullers & Puller Sets

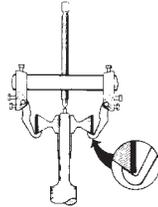


OPERATIONAL FEATURES

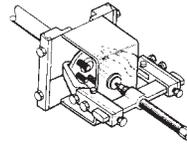
10 TON PROTO-EASE™ PULLERS



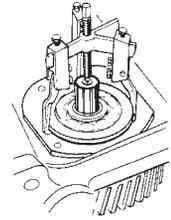
Proto-Ease™ No. J4233E 10 Ton 3-Way Adjustable Jaw Puller. Adapts easily to the job of pulling a cam from a shaft. Jaws are positioned asymmetrically on all three arms to accommodate the cam's irregular shape. Whether straight jaw or adjustable jaw, Proto-Ease™ pullers mean maximum adaptability to any pulling situation.



Proto-Ease™ No. J4232E 10 Ton 2-Way Adjustable Jaw Puller, shown at left pulling a gear without actually touching or in any way damaging the case hardened outer face of the gear. The jaws are locked in place and will not contract or squeeze together as pressure is applied. Precision, damage free pulling requires precision jaw positioning. Proto-Ease™ gives you that precision!



A J4232E Adjustable Jaw Puller clears a bearing splitter bridge to grip the truck rear axle bearing behind it.



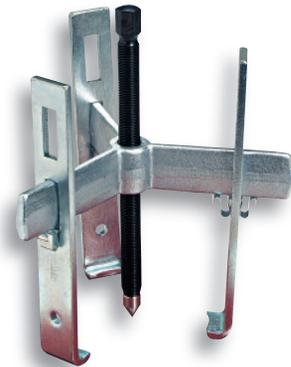
An Adjustable Jaw Puller can grip an object larger in diameter than the length of its crossarm. The trick is to reverse the jaw blocks so the lock screws face inboard. Doing this can add as much as 27° more jaw spread for external pulls—30° more for internal pulls, with a corresponding reduction in load capacity. (See note below).

NOTE: Tonnage ratings do not apply when 1) using jaw blocks with lock screws facing inboard (see above illustration), 2) jaw angle exceeds 7° or 3) lighter adjustable jaws are used in heavier jaw blocks.

SET NO. J4233SJ – 10 TON PROTO-EASE™ - 3-WAY STRAIGHT JAW PULLER

- Reach: 4-11/16" and 7-1/8"—Spread: 10".
- Weight: 9.00 lbs.

Product ID No.	Contents	Description	Qty.
J4233SJ	J4011S	Spring Clip	3
	J4012T	Standard Tip	1
	J4016A	Dual Reach Jaw	3
	J4225S	Forcing Screw	1
	J4227CA	3-Way Crossarm, 11" Long	1
	J4019	Steel Storage Box	



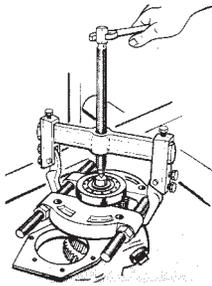


Pullers & Puller Sets

SET NO. J4234B – 10 TON PROTO-EASE™ 2-WAY STRAIGHT JAW PULLER SET

- Reach: 2-15/16", 4-11/16" and 7-1/8" (18" with jaws bolted together) —Spread: 10".
- Weight: 15.37 lbs.

Product			
ID No.	Contents	Description	Qty.
J4234B	J4011S	Spring Clip	2
	J4012T	Standard Tip	1
	J4016A	Dual Reach Jaw	2
	J4017	Long Narrow Jaw	2
	J4018	Cap Screw Jaw	2
	J4225S	Forcing Screw	1
	J4226CA	2-Way Crossarm, 11" Long	1
	J4019	Steel Storage Box	1



Puller is used with a separator to remove a truck countershaft's rear bearing. Notice separator is positioned so bearing rests on flat side of plates, while gear beneath nests within plate concavity. Note too, how Heavy-Duty 10 Ton adjustable jaws (No. J4230RJ) "cradle" the separator's threaded rods for maximum gripping surface. No. J4229JB jawblocks must be positioned at the ends of the crossarm to produce this "cradling" effect.

SET NO. J4232SJ – 10 TON PROTO-EASE™ 2-WAY STRAIGHT JAW PULLER SET

- Reach: 4-11/16" and 7-1/8" (12" with jaws bolted together) —Spread: 10".
- Weight: 8.68 lbs.

Product			
ID No.	Contents	Description	Qty.
J4232SJ	J4011S	Spring Clip	2
	J4012T	Standard Tip	1
	J4015	Short Jaw	2
	J4016A	Dual Reach Jaw	2
	J4225S	Forcing Screw	1
	J4226CA	2-Way Crossarm, 11" Long	1

Puller removes a gear with two sets of straight jaws, bolted together for extra reach. Set comes with two sets of jaws—Jaw No. J4015 has a 4-11/16" reach and No. J4016A has a 7-1/8" reach. Bolted together they easily clear the 8" long gear shaft.



Pullers & Puller Sets



OPERATIONAL FEATURES

10 TON PRESS-N-PULL™ PULLERS

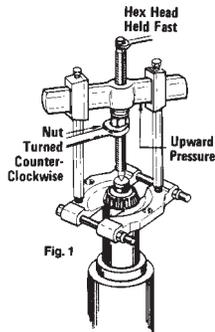


Fig. 1

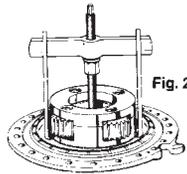


Fig. 2

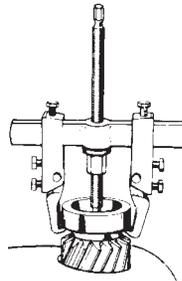
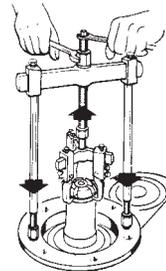


Fig. 3

With Press-N-Pull™ Pullers the forcing screw is not turned, as with a regular puller. Instead, the forcing screw's hex head is held fast, while the forcing nut is turned counterclockwise, forcing the smooth bored crossarm up. With it comes the object being pulled, in this case a bearing, gripped by a separator (Fig. 1). Since Press-N-Pull™ Pullers smooth bored crossarms accept regular jaws, whether straight jaws (Fig. 2) or adjustable jaws (Fig. 3), every Press-N-Pull™ puller can double as a regular puller. It's like having two pullers in one.

TYPICAL APPLICATIONS

10 TON PRESS-N-PULL™ PULLERS



Medium duty 6 ton adjustable jaws are used here to pull an output shaft from the rear of a transmission case. Jaws are arranged for an "external" pull—tips facing in. Press-N-Pull™ 2-way crossarm is unthreaded, so forcing screw rises straight up—without revolving—when nut on top of crossarm is turned down.

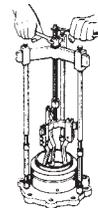


Fig. 1

To remove a Cross Bearing Cup a Proto-Ease™ Press-N-Pull™ 3-way puller is hooked up to a 6 Ton 3-way puller with 6" jaws (Fig. 1). Since it's an "internal" pull, jaws are reversed—tips out. A J4235AA screw adapter joins the forcing screw to the 6 ton crossarm. Three J4240-08F leg adapters connect medium legs to short legs for necessary clearance. Pressure pads protect short leg ends.

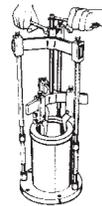
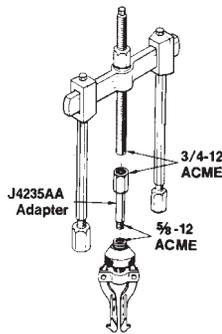


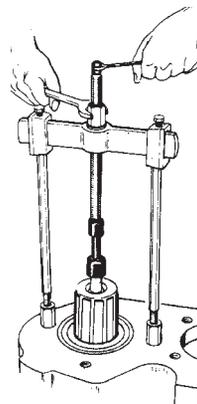
Fig. 2

Heavy-duty 10 ton adjustable jaws are also reversed in Fig. 2 for an "internal" pull—tips out—to pull the sleeve from an industrial cylinder. Jaws belong to No. J4233E 10 ton 3-way puller—which threads directly onto the Press-N-Pull™ forcing screw. No need for a screw adapter—both are threaded 3/4-12 ACME.

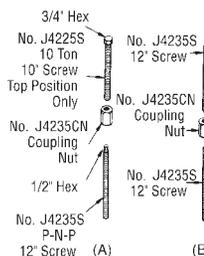


No. J4235AA
Male Acme Thread Screw Adapter
Permits Press-N-Pull™ forcing screw hook up with an Acme threaded 6 ton puller—in this case, with a 6 ton No. J4250.

No. J4235UA
A Second Screw Adapter, has 5/8-18UNF male thread for Press-N-Pull™ forcing screw hook up with all three female adapters plus all three male adapters, used to hook up with internally and externally threaded shafts.

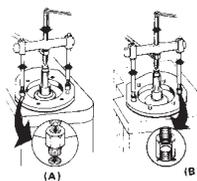


This pressed-in transmission output shaft has a threaded end to hook up with, but the Press-N-Pull™ forcing screw requires two adapters to accomplish this. First, a J4235UA male screw adapter is attached to the forcing screw. To this is added a J4240-14F Female adapter with internal thread (7/8-14 UNF) to mate up with the output shaft's threaded end. Since the forcing screw travels straight up—without revolving—there's no danger of accidental unthreading—also no unnecessary rotational resistance during pulling.



No. J4235CN Forcing Screw Coupling Nut—has 3/4-12 Acme thread—same as 10 ton forcing screws. Couples 10 ton 10" forcing screw with Press-N-Pull™ 12" screw (A). Also joins two 10 ton Press-N-Pull™ 12" screws for maximum forcing screw extension (B).

NOTE: Forcing screw attachments and leg adapters can be found in Section 14, Miscellaneous Tools & Repair Parts.



(A)

(B)

Since both of these Press-N-Pull™ 2-way pullers have forcing nuts and washers positioned beneath the crossarm, downward pressure will be exerted on the screw while upward pressure will pull at the legs—which must be screwed into threaded holes or onto threaded studs by means of leg adapters. Puller A is pressing an output shaft forward, legs equipped with male leg adapters. Puller B is pressing a driveshaft out of a gearbox, legs equipped with female leg adapters.



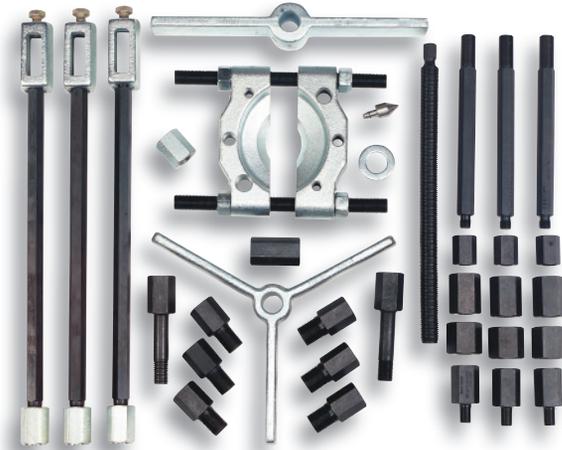
Pullers & Puller Sets

SET NO. J4293SP-STK - 10 TON PRESS-N-PULL™ 3-LEG PULLER SET

- Reach: 22" – Spread: 11".
- Weight: 35.24 lbs.

Product

ID No.	Contents	Description	Qty.
J4293SP-STK			
J4012T		Standard Tip	1
J4229LS		Lock Screw, 7/16-14UNC x 3/4	3
J4236CA		2-Way Crossarm	1
J4237CA		3-Way Crossarm	1
J4235S		Forcing Screw	1
J4235AA		Adapter 3/4" x 5/8" Acme	1
J4235UA		Adapter 3/4" Acme x 5/8"	1
J4235CN		Coupling Nut, 3/4"-12 Acme	1
J4236N		Forcing Nut	1
J4236W		Thrust Washer	1
J4239SB		Slideblock	3
J4240SL		Short Leg	3
J4240L		Medium Leg	3
J4240P		Leg Pressure Pad	3
J4240-08F		Adapter, 5/8" x 1/2" Female	3
J4240-08M		Adapter, 5/8" x 1/2" Male	3
J4240-12F		Adapter, 5/8" x 3/4" Female	3
J4240-12M		Adapter, 5/8" x 3/4" Male	3
J4240-14F		Adapter, 5/8" x 7/8" Female	3
J4240-14M		Adapter, 5/8" x 7/8" Male	3
J4332		Bearing Separator, 4-3/8" Capacity	1



Pullers & Puller Sets



SET NO. J4243ML - 10 TON PRESS-N-PULL™ 3-LEG PULLER SET

- Reach: 22" – Spread: 11".
- Weight: 20.81 lbs.

Product ID No.	Contents	Description	Qty.
J4243ML	J4012T	Detachable Tip	1
	J4229LS	Lock Screw, 7/16-14UNC x 3/4"	3
	J4237CA	3-Way Crossarm	1
	J4235S	Forcing Screw	1
	J4235AA	Adapter 3/4" x 5/8" Acme	1
	J4235UA	Adapter 3/4" Acme x 5/8"	1
	J4236N	Forcing Nut	1
	J4236W	Thrust Washer	1
	J4239SB	Slideblock	3
	J4240L	Medium Leg	3
	J4240SL	Short Leg	3
	J4240P	Leg Pressure Pad	3
	J4240-08F	Adapter, 5/8" x 1/2" Female	3
	J4240-08M	Adapter, 5/8" x 1/2" Male	3
	J4240-12F	Adapter, 5/8" x 3/4" Female	3
	J4240-12M	Adapter, 5/8" x 3/4" Male	3
	J4240-14F	Adapter, 5/8" x 7/8" Female	3
J4240-14M	Adapter, 5/8" x 7/8" Male	3	

SET NO. J4243 - 10 TON PRESS-N-PULL™ 3-LEG PULLER

- Reach: 14" – Spread: 11"
- Weight: 12.50 lbs.

Product ID No.	Contents	Description	Qty.
J4243	J4012T	Detachable Tip	1
	J4229LS	Lock Screw, 7/16-14UNC x 3/4"	3
	J4235S	Forcing Screw	1
	J4236N	Forcing Nut	1
	J4236W	Thrust Washer	1
	J4237CA	3-Way Crossarm	1
	J4239SB	Slideblock	3
	J4240L	Medium Leg	3
	J4240P	Leg Pressure Pad	3



Pullers & Puller Sets

SET NO. J4242 - 10 TON PRESS-N-PULL™ 2-LEG PULLER

- Reach: 14" – Spread: 11"
- Weight: 9.18 lbs.

Product ID No.	Contents	Description	Qty.
J4242	J4012T	Standard Tip	1
	J4229LS	Lock Screw, 7/16-14UNC x 3/4	2
	J4235S	Forcing Screw	1
	J4236CA	2-Way Crossarm	1
	J4236N	Forcing Nut	1
	J4236W	Thrust Washer	1
	J4239SB	Slideblock	2
	J4240L	Medium Leg	2
	J4240P	Leg Pressure Pad	2



SET NO. J4244ML - 10 TON PRESS-N-PULL™ 2-LEG PULLER SET

- Reach: 22" – Spread: 11"
- Weight: 20.81 lbs.

Product ID No.	Contents	Description	Qty.
J4244ML	J4012T	Detachable Tip	1
	J4229LS	Lock Screw, 7/16-14UNC x 3/4"	2
	J4236CA	2-Way Crossarm	1
	J4235S	Forcing Screw	1
	J4235AA	Adapter 3/4" x 5/8" Acme	1
	J4235UA	Adapter 3/4" Acme x 5/8"	1
	J4235CN	Forcing Screw Coupling Nut, 3/4"-12 Acme	1
	J4236N	Forcing Nut	1
	J4236W	Thrust Washer	1
	J4239SB	Slideblock	2
	J4240L	Medium Leg	2
	J4240SL	Short Leg	2
	J4240P	Leg Pressure Pad	2
	J4240-08F	Adapter, 5/8" x 1/2" Female	2
	J4240-08M	Adapter, 5/8" x 1/2" Male	2
	J4240-12F	Adapter, 5/8" x 3/4" Female	2
	J4240-12M	Adapter, 5/8" x 3/4" Male	2
	J4240-14F	Adapter, 5/8" x 7/8" Female	2
	J4240-14M	Adapter, 5/8" x 7/8" Male	2



Pullers & Puller Sets

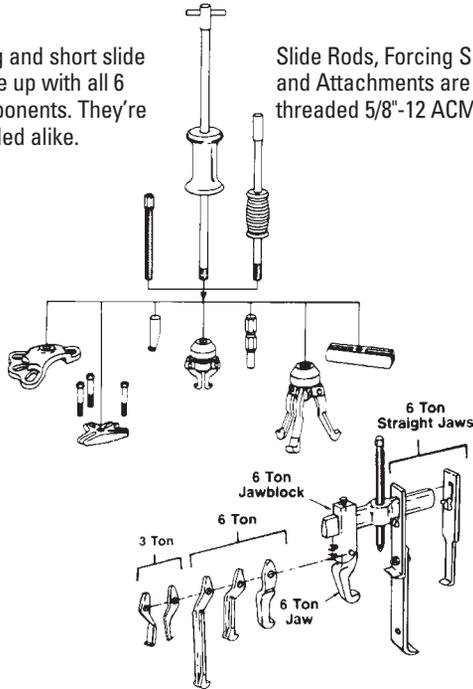


OPERATIONAL FEATURES

6 TON PROTO-EASE™ SLIDE HAMMER PULLERS

Both long and short slide rods mate up with all 6 Ton components. They're all threaded alike.

Slide Rods, Forcing Screws, and Attachments are all threaded 5/8"-12 ACME



ROLLED ACME vs VEE and BUTTRESS THREADS
A smaller flank angle requires less torque.



ROLLED ACME THREAD

- Transmits power more efficiently.
- Lower frictional resistance.
- Durable.



VEE THREAD

- High frictional resistance.
- Easily nicked.



BUTTRESS THREAD

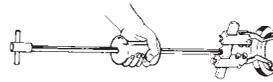
- Load can be applied in one direction only.
- Users often insert screw in wrong direction.
- Easily nicked.



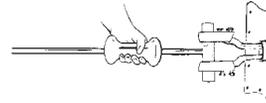
Switching from a Forcing Screw to a Slide Hammer used to be a problem. You had to unscrew with Forcing Screw from BOTH Crossblock and Adjusting Cone and this caused you to lose the set of your Jaws. Then you had to "hook-up" all over again. No More! Out comes the Screw and in goes the Slide Rod. You've got a Slide Hammer Puller. The Adjusting Cone? It stays put... on the Crossblock.

TYPICAL APPLICATIONS

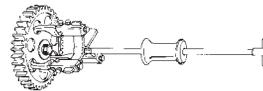
6 TON PROTO-EASE™ SLIDE HAMMER PULLERS



A 6 ton slide rod with 5 lb. hammer is threaded into a 6 ton 2-way adjustable puller to "shock" a bearing cup out. The jawblocks are reversed for greater jaw spread.



The same puller is used to "shock-out" an oil seal from its housing. Here, both jawblocks are positioned in the conventional pulling position—lock-screws outboard, while the jaws remain reversed, tips out.



No. J4215 puller is shown removing a large gear by gripping through the lightening holes. Recommended where periphery of pulled part could be damaged by gripping the outer diameter.



Pullers & Puller Sets

SET NO. J5040 - 10-WAY PROTO-EASE™ ADVANTAGE SLIDE HAMMER PULLER SET

- Slide hammer puller set packaged in a convenient plastic blow molded carrying/storage case.
- Weight: 25 lbs.



SET NO. J5033 - BLIND HOLE PULLER SET

- This set stores in its own metal box and provides a complete selection of expanding collets ranging in size from 5/16" to 1-3/4".
- Collet is placed through bore of part to be removed, then expanded with actuator pin so that lips of collet secure a positive grip for pulling.
- Force is exerted by means of a forcing screw and bridge assembly or a slide hammer.
- Weight: 21 lbs.

Product ID No.	Description	Qty.
J5033	Forcing Screw	1
	Forcing Screw Nut	1
	2-1/2 Lb. Hammer	1
	Shank And Tee Bar Assembly	1
	Actuator Pin, 1/8" Dia. For Use W/Collets 33856 & 33857	1
	Actuator Pin, 3/16" Dia. For Use W/Collets 33858 & 33862	1
	Actuator Pin, 1/2" Dia. For Use W/Collets 33863 & 33865	1
	Metal Box	1
	Collet 5/16" To 3/8"	1
	Collet 3/8" To 7/16"	1
	Collet 7/16" To 1/2"	1
	Collet 1/2" To 5/8"	1
	Collet 5/8" To 3/4"	1
	Collet 3/4" To 7/8"	1
	Collet 7/8" To 1"	1
	Collet 1" To 1-1/4"	1
	Collet 1-1/4" To 1-1/2"	1
	Collet 1-1/2" To 1-3/4"	1



Pullers & Puller Sets



SET NO. J5049 - REVERSIBLE JAW SLIDE HAMMER PULLER

- Versatile puller which will accomplish many pulling jobs involving gears, bearings, outer races, grease retainers, oil seals, etc.
- Either two or three puller jaws may be used to handle "inside" pulling jobs such as bearing cups and outer racers, as well as regular "outside" pulling jobs.
- The 5 lb. slide hammer can be removed and used independently.
- Weight: 11 lbs.
- Overall Length: 27"



2-Jaw Spread				3-Jaw Spread			
Inside		Outside		Inside		Outside	
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1-1/4"	3-1/2"	1"	4-1/2"	1-1/2"	4-1/4"	1-1/2"	4-1/2"

SET NO. J4275 - 6 TON PROTO-EASE™ 2-WAY PILOT BEARING/SMALL BUSHING PULLER

- Reach: 2" – Spread: 5/8" to 2-1/2" inside.
- Weight: 5.18 lbs.

Product ID No.	Contents	Description	Qty.
J4275	J4056-2*	Inside Jaw, 2" Reach	2
	J4056PN	Pivot Pin	2
	J4250B	2-Jaw Yoke	1
	J4250N	Reversible Adjusting Nut	1
	J4260H	2-1/2 lb. Slide Hammer	1
	J4275R	Short Slide Rod	1

*Jaw capacity: 3 tons



SET NO. J5036 - STEERING WHEEL REMOVER

- Compresses the steering wheel lock plate to remove or install the snap ring.
- Needed for accessing the turn signal switch and S.I.R. modules on current GM vehicles.
- Also works on older GM, AMC and Chrysler vehicles.
- Weight: 11.12 lbs.

SET NO. J5037 - BUSHING REMOVER SET UP TO 2"

- Starter set, disc range in size from 5/8" - 2" diameter, in 1/16" increments.
- Contains the proper size driver for any seal, bearing or bushing installing job.
- Set includes discs and handles you assemble to provide a pilot, spacer and driver.
- Weight: 4 lbs. 2 oz.



Pullers & Puller Sets

SET NO. J5038 - BUSHING REMOVER SET UP TO 3"

- Basic set, disc range in size from 1/2" - 3" Diameter, in 1/16" Increments.
- Contains the proper size driver for any seal, bearing or bushing installing job.
- Set includes discs and handles you assemble to provide a pilot, spacer and driver.
- Weight: 22 lbs. 13 oz.

SET NO. J5041 - BEARING SPLITTER COMBO PACK

- This combo pack contains four of the most requested bearing splitters plus a pulley pulling attachment.
- A rugged organizer case is included, enabling you to keep the tools together for instant use.
- Weight: 30.5 lbs.

Product ID No.	Description	Qty.
J5041	Bearing Splitters:	
	1/4" Min. - 15/16" Max. Spread	1
	1/8" Min. - 2" Max. Spread	1
	1/2" Min. - 4-5/8" Max. Spread	1
	1/2" Min. - 9" Max. Spread	1
	Pulley pulling attachment with a 1-3/4" Min. - 5-7/8" Max Spread.	1

SET NO. J5042 - PILOT BEARING PULLER

- Very versatile puller, built especially for inside pulling jobs, and particularly for removing flywheels.
- Pilot bearings on automobiles, trucks and tractors.
- Very practical for pulling motor, generator, and magneto bearings.
- Weight: 4lbs. 4 oz.
- Reach: 3/4"
- I.D. Spread: 1/2" Min. - 1-1/2" Max.

SET NO. J5043 - SPECIAL SLIDE HAMMER PULLER

- Ideal for pulling jobs in very close quarters, as in removal of small-bore bushings, bearings, oil seals, etc.
- Internal pulling attachment has jaw spread of 1/2" - 1-3/8" adjusted by turning slide hammer handle.
- Handle end has a 1/2"-20" thread.
- Weight: 3.8 lbs.



Pullers & Puller Sets



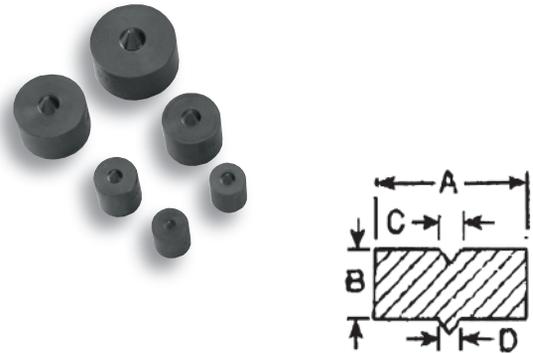
SET NO. J5044 - INTERNAL PULLING ATTACHMENT

- Approved by leading bearing manufacturers.
- Internal pulling attachments remove bearing cups, oil seals, bushings, and other parts from blind holes quickly and easily.
- Attachment is designed for use with a corresponding push-puller or slide hammer assembly.
- Weight: 4 lbs. 4 oz.
- I.D. Spread: 1/2" Min. – 1-1/2"
- Reach: 3/4"

SET NO. J5045 - SHAFT PROTECTOR SET

- Designed to protect shaft center from distortion when extreme pressures are applied with push pullers.
- Weight: 1.2 lbs.

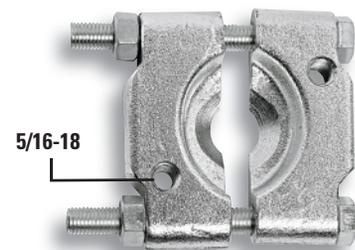
A (Width)	B (Depth)	C (Hole)	D
1-1/2"	3/4"	3/8"	7/16"
1-1/4"	3/4"	3/8"	3/8"
1"	3/4"	3/8"	5/16"
3/4"	3/4"	1/4"	1/4"
5/8"	5/8"	1/4"	1/4"
5/8"	5/8"	3/16"	3/16"



SET NO. J4330 - PROTO-EASE™ GEAR AND BEARING SEPARATOR

- Capacity: 1-13/16"
- Weight: .07 lbs.

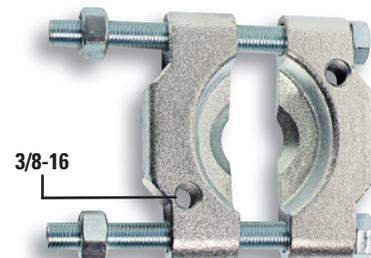
Product ID No.	Contents	Description	Qty.
J4330	J4330N	Hex Nut, 5/16-24UNF-2B	2
	J4330P	Separator Plate, Size #0	2
	J4330R	Cap Screw, 5/16-24UNF x 3	2



SET NO. J4331 - PROTO-EASE™ GEAR AND BEARING SEPARATOR

- Capacity: 2-13/32"
- Weight: 1.48 lbs.

Product ID No.	Contents	Description	Qty.
J4331	J4331N	Hex Nut, 7/16-20UNF-2B	2
	J4331P	Separator Plate, Size #1	2
	J4331R	Cap Screw, 7/16-20UNF x 4-1/2	2

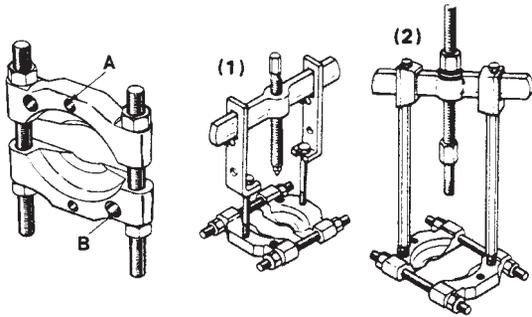




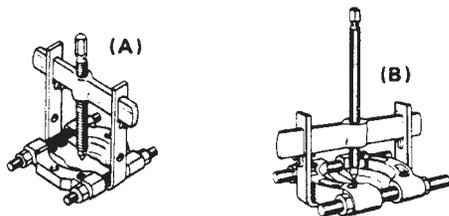
Pullers & Puller Sets

OPERATIONAL FEATURES & TYPICAL APPLICATIONS

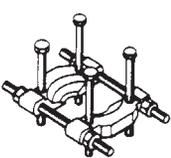
PROTO-EASE™ GEAR AND BEARING SEPARATORS



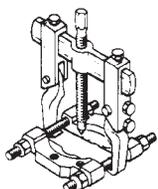
No. J4332 has two sets of drilled holes. One set (A) directly apart, has 1/2-13 UNC thread, to accept common 1/2" cap screws—easily gripped with No. J4018 cap screw jaws (1). A second set (B), diagonally apart, has 5/8-18UNF threaded holes to accept Press-N-Pull™ leg ends (2).



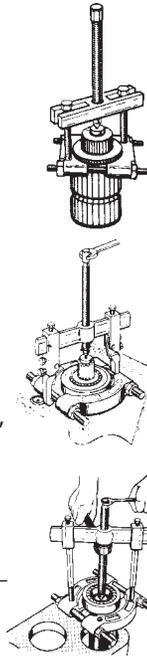
No. J4333 has two sets of drilled holes. One set (A) directly apart, has 1/2-13 UNC thread, to accept common 1/2" cap screws—easily gripped with No. J4018 cap screw jaws (1). A second set (B), diagonally apart, has 5/8-18UNF threaded holes to accept Press-N-Pull™ leg ends (2).



The larger separator, No. J4333 has 4-corner symmetrical jacking holes for 5/8-18 cap screws. Permits separator action where space does not allow for puller accessories.

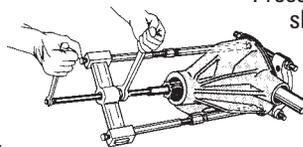


Adjustable Jaws also grip separators directly—mid-point on the threaded rods. For positive grip, jaws may be angled, tips inboard, and locked in place, so as to "cradle" the rods.



Proto-Ease™ No. J4330 Separator with No. J4214 6 Ton slotted Crossarm Puller—Used to remove an electric motor commutator. The smallest of separators (size #0) has diagonally positioned threaded holes to accommodate size 5/16-18UNC cap screws—(Not included in the J4214 set).

Proto-Ease™ No. J4333 Separator with No. J4232E 10 Ton Adjustable Jaw Puller—Used to remove the rear bearing from an output shaft. Thin, tapered separator edges fit behind bearings when space is too limited for puller jaws.



Proto-Ease™ No. J4333 Separator with No. J4242 Press-N-Pull™ Puller—Used to remove the rear bearing from an auxiliary counter-shaft. Separator plate threaded holes, and Press-N-Pull™ leg ends are threaded alike—with 5/8-18UNF. Hooks up fast for a positive, safe, non-slip grip.

Proto-Ease™ No. J4333A Separator and Press-N-Pull™ 2-Way Puller with medium and short legs. Used to press the pinion shaft out of a differential housing. Separator's extra long 13" threaded rods permit maximum separator plate spread—sufficient to straddle the differential housing and match the spread of Press-N-Pull™ slide blocks, extended to their maximum width along the crossarm.

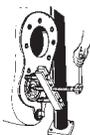


Proto-Ease™ No. J4332 Separator mounted on a shop forcing press, beneath a hydraulic press ram. Used to remove the bearing from a rear axle. Ram forces axle down through the separator opening, freeing the bearing. To protect the bearing and the gear beneath it the separator is placed so the bearing rests on the flat side of the separator plates.



PROTO-EASE™ CAP SCREW PULLERS

Proto-Ease™ No. J4214 6 ton slotted crossarm puller is used at top left to pull a gear from a crankshaft. Since both 3/8-16x3 cap screws are threaded directly into the gear being pulled, the gear will pull OFF when the forcing screw's pressure is applied to the shaft. At bottom left, the same puller's cap screws are anchored on either side of an object being pushed OUT—in this case, a countershaft, pressed towards the rear, until it frees the front bearing.



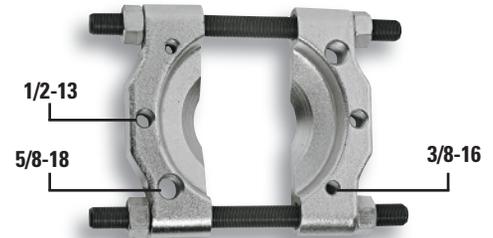
Pullers & Puller Sets



SET NO. J4332 - PROTO-EASE^{ff} GEAR AND BEARING SEPARATOR

- Capacity: 4-3/8".
- Weight: 5.57 lbs

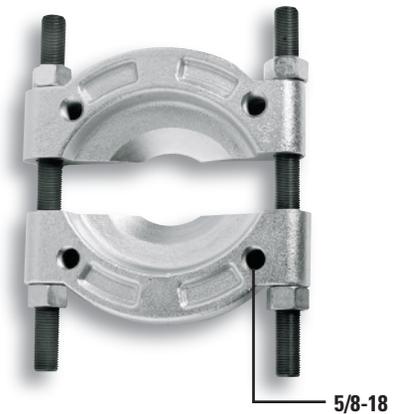
Product ID No.	Contents	Description	Qty.
J4332	J4332N	Hex Nut, 5/8-18UNF	4
	J4332P	Separator Plate, Size #2	2
	J4332R	Threaded Rod, 5/8-18UNF	2



SET NO. J4333 - PROTO-EASETM GEAR AND BEARING SEPARATOR

- Capacity: 6".
- Weight: 11.75 lbs.

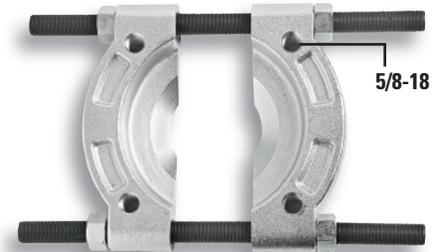
Product ID No.	Contents	Description	Qty.
J4333	J4333N	Hex Nut, 3/4-16UNF-2B	4
	J4333P	Separator Plate, Size #3	2
	JJ4333R	Threaded Rod, 3/4-16UNF-2A x 10	2



SET NO. J4333A - PROTO-EASETM GEAR AND BEARING SEPARATOR

- Capacity: 6".
- Weight: 12.50 lbs.

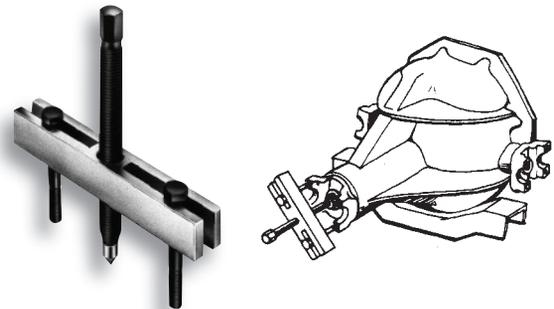
Product ID No.	Contents	Description	Qty.
J4333A	J4333N	Hex Nut, 3/4-16UNF-2B	4
	J4333P	Separator Plate, Size #3	2
	J4333AR	Threaded Rod, 3/4-16UNF-2A x 13	2



SET NO. J4214 - 6 TON 2-WAY THREADED PART PULLER

- Slotted crossarm puller used to remove a universal joint flange.
- Span 1-1/4" to 6-1/4"—Bolt Size: 3/8-16NC x 3.
- Weight: 1.93 lbs.

Product ID No.	Contents	Description	Qty.
J4214	J4022TS	Small Detachable Tip	1
	J4022T	Standard Detachable Tip	1
	J4205S	Forcing Screw	1
	J4206SC	Slotted Crossarm 2-Way	1
	J4028	Cap Screw, 3/8-16NC x 3	2





Pullers & Puller Sets

SET NO. J4040 - 11 PC. STEP PLATE ADAPTER SET

- Includes Nos. J4040-1 thru J4040-11.
- Overall diameter 1" to 2-7/8"
- For bore diameter 3/4" to 2".
- Lower Step 3/4" to 2-3/8"
- Weight: 3.00 lbs.



SET NO. J4033 - 2 JAW GEAR PULLER, 4"

- Weight: 1.00 lbs.

Maximum Spread	Maximum Reach	Forcing Screw Length	Thread	Rating
4"	3-1/2"	4-3/4"	3/8"-24	2 Ton



SET NO. J4034 - 3 JAW GEAR PULLER, 4"

- Weight: 1.43 lbs.

Maximum Spread	Maximum Reach	Forcing Screw Length	Thread	Rating
4"	3-1/2"	4-3/4"	3/8"-24	2 Ton



SET NO. J4035 - 2 JAW GEAR PULLER, 7"

- Weight: 2.19 lbs.

Maximum Spread	Maximum Reach	Forcing Screw Length	Thread	Rating
7"	5-1/2"	7"	9/16"-20	5 Ton



Pullers & Puller Sets



SET NO. J4036 - 3 JAW GEAR PULLER, 8"

- Weight: 3.00 lbs.

Maximum Spread	Maximum Reach	Forcing Screw Length	Thread	Rating
8"	3-1/2"	7"	9/16"-20	5 Ton



SET NO. J4037 - 2 JAW GEAR PULLER, 10"

- Weight: 4.75 lbs.

Maximum Spread	Maximum Reach	Forcing Screw Length	Thread	Rating
10"	9"	9"	11/16"-18	7 Ton



SET NO. J4038 - 3 JAW GEAR PULLER, 11"

- Weight: 6.38 lbs.

Maximum Spread	Maximum Reach	Forcing Screw Length	Thread	Rating
11"	9"	9"	11/16"-18	7 Ton



SET NO. J4041 - BATTERY CABLE AND SMALL BEARING PULLER

- Uses toggle-type action to grip onto all standard post battery terminals.
- Pulls small bearings and gears with 1" reach and spread.
- Weight: .65 lbs.





Pullers & Puller Sets

SET NO. J4044 – 2 JAW GEAR PULLER, 6" — REVERSIBLE

• Weight: 2.06 lbs.

Maximum Spread	Maximum Reach	Forcing Screw Length	Thread	Rating
6"	3-1/2"	7"	9/16"-20	5 Ton



SET NO. J4045 – 2 JAW GEAR PULLER, 9" — REVERSIBLE

• Weight: 2.28 lbs.

Maximum Spread	Maximum Reach	Forcing Screw Length	Thread	Rating
9"	5-1/2"	9"	11/16"-20	7 Ton



SET NO. J4046 – 3 JAW GEAR PULLER, 7" — REVERSIBLE

• Weight: 2.97 lbs.

Maximum Spread	Maximum Reach	Forcing Screw Length	Thread	Rating
7"	5-1/2"	7"	9/16"-20	5 Ton



SET NO. J4047 – 3 JAW GEAR PULLER, 10" — REVERSIBLE

• Weight: 5.93 lbs.

Maximum Spread	Maximum Reach	Forcing Screw Length	Thread	Rating
10"	5-1/2"	9"	11/16"-18	7 Ton



Pullers & Puller Sets



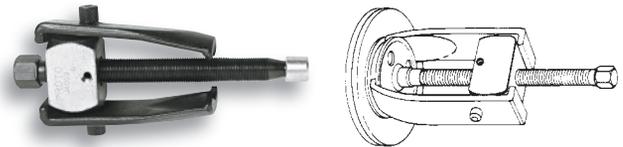
SET NO. J4052 – PITMAN ARM PULLER

- For full size cars and light trucks
- Weight: 2.16 lbs.



SET NO. J4053 – PULLEY PULLER

- For removing single and two-groove pulleys from alternators and power steering pumps.
- Two position yoke permits pulling bearings on both standard and heavy-duty alternators.
- Weight: 2.10 lbs.



SET NO. J4059 - CLOSE QUARTERS PILOT BEARING PULLER

- Designed to pull flywheel pilot bearings with inside diameters 1/2" to 1-1/2".
- Removes bearings and bushings from starters, generators, magnetos and small electric motors.
- Weight: 2.30 lbs.



SET NO. J4001G – HUB PULLER

- Pulls wheel hubs on cars and light trucks.
- Legs are drilled for 9/16" studs.
- Unit can be used without legs as a cap screw puller with bolts up to 1/2".
- J4001T Steel Storage Box
- Weight: 13.00 lbs.



Product

ID No.	Contents	Description	
J4001G	J4001B	Hub Crossarm	1
	J4001J	Hub Leg	3
	J4001S	Forcing Screw	1
	J4001ST	Puller Tip	1
	J4001T	Puller Box	1
	J4001W	Striking Wrench	1



Pullers & Puller Sets

PULLER STEP PLATE ADAPTERS

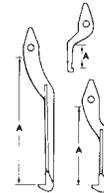
- Provides forcing screw base for hollow shaft applications 3/4" to 2-3/8" bore.
- Protects bearings that are being pressed in shafts that are not center drilled.

Product ID No.	Description	Small Diameter	Large Diameter
J4040-1	Step Plate Adapter	3/4"	1"
J4040-2	Step Plate Adapter	7/8"	1 1/8"
J4040-3	Step Plate Adapter	1"	1 1/4"
J4040-4	Step Plate Adapter	1 1/8"	1 3/8"
J4040-5	Step Plate Adapter	1 1/4"	1 5/8"
J4040-6	Step Plate Adapter	1 3/8"	1 3/4"
J4040-7	Step Plate Adapter	1 1/2"	1 7/8"
J4040-8	Step Plate Adapter	1 5/8"	2"
J4040-9	Step Plate Adapter	1 3/4"	2 1/8"
J4040-10	Step Plate Adapter	1 7/8"	2 3/8"
J4040-11	Step Plate Adapter	2"	2 1/2"
J4040-12	Step Plate Adapter	2 1/8"	2 5/8"
J4040-13	Step Plate Adapter	2 1/4"	2 3/4"
J4040-14	Step Plate Adapter	2 3/8"	2 7/8"

JAWS

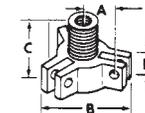
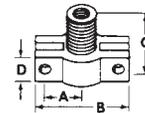
Product ID No.	Description	(A) Reach
J4056-2*	Inside Jaw, 2" Reach	1-11/16"
J4056-4	Reversible Jaw, 4" Reach	3-3/4"
J4056-6	Reversible Jaw, 6" Reach	6-1/16"

* 3 Ton



YOKE

Product ID No.	Description	(A) Length	(C) Ht.	(D) Ht.	Internal Thread	External Thread
J4250B	2-Jaw Yoke	11/32"	2"	3/4"	5/8-12 Acme	7/8-14 UNF
J4255B	3-Jaw Yoke	11/32"	2"	3/4"	5/8-12 Acme	7/8-14 UNF



CAP SCREW

- Weight: 2.19 lbs.

Product ID No.	Description	Thread	Length
J4205E	Cap Screw	3/8"-16NCx	4"
J4028	Cap Screw	3/8"-16NCx	3"
J4005C	Cap Screw	3/8"-24	3"

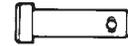


Pullers & Puller Sets



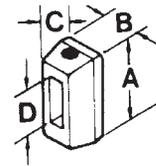
PIVOT PIN – PULLER REPLACEMENT PART

Product ID No.	Description	Length	Pin Diameter
J4056PN	Jaw Pivot Pin NOTE: 4056PN is also a 10 ton part.	1-11/32"	5/16"



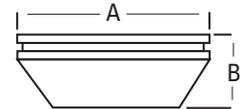
SLIDEBLOCK

Product ID No.	Description	(A) Length	(B)	(C)	(D)
J4239SB	Slideblock	2-25/32"	1-19/64"	1-7/32"	1-21/32"



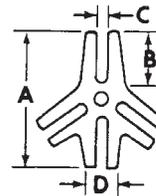
REVERSIBLE ADJUSTING NUT

Product ID No.	Description	(A) O.D.	(B) Ht.	(C)
J4250N	Reversible Adjusting Nut	2-1/2"	1-3/32"	7/8-14 UNF



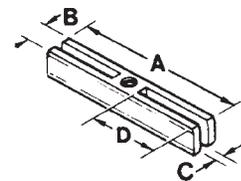
SLOTTED CROSSARM (2-WAY & 3-WAY)

Product ID No.	Description	(A) Length	(B)	(C)	(D)
J4205B	Slotted Crossarm (2 & 3-Way)	5"	1-7/8"	25/64"	1-1/16"



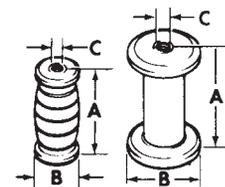
SLOTTED CROSSARM THREADED 5/8—12 ACME

Product ID No.	Description	(A)	(B)	(C)	(D)
J4206SC	Slotted Crossarm Threaded 5/8-12 Acme	6-3/4"	1" Sq.	3/8"	2-25/32"



SLIDE HAMMER

Product ID No.	Description	Height (A)	Outside Diameter (B)	Hole Diameter (C)
J4260H	2-1/2 lb. Slide Hammer	4"	2"	5/8"
J4055H	5 lb. Slide Hammer	5-5/16"	3-1/4"	5/8"

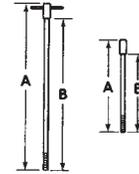




Pullers & Puller Sets

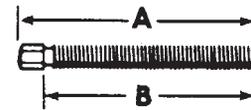
T-HANDLE SLIDE RODS

Product ID No.	Description	(A) Length	(B) Length	Shaft Diameter	Thread Size
J4260R	Slide Rod	24"	22"	9/16"	5/8-12 Acme
J4275R	Short Slide Rod	12-3/4"	10-3/4"	9/16"	5/8-12 Acme



FORCING SCREW

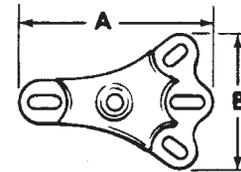
Used with No. 4280S.



Product ID No.	Description	Acme Thread	(A) Length	(B) Length	Hex	Tip
J4205S	Forcing Screw	5/8-12	6-1/4"	5-5/8"	9/16"	Drilled for Replacement Tips 4022T, 4022TS, 4222T, 4043T.
J4225S	Forcing Screw	3/4-12	10-1/4"	9-1/4"	3/4"	4012T
J4235S	Forcing Screw	3/4-12	12"	11-1/16"	1/2"	4012T

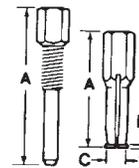
REAR AXLE FLANGE FOOT

Product ID No.	Description	(A) Length	(B) Length	Shaft Diameter	Thread Size
J4277B	Rear Axle Flange Foot	6-3/4"	4-5/8"	5/8-12	1-7/32"



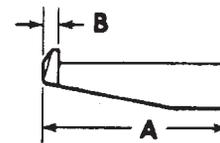
BLIND BEARING

Product ID No.	Description	(A) Length	(B)	(C) Closed	(D) Open
J4280B	Blind Bearing Collet	3-1/8"	3/32"	9/16" for 9/16" I.D.	49/64" for 11/16" I.D.



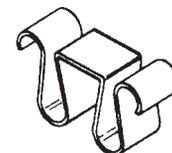
INSIDE HOOK JAW

Product ID No.	Description	(A) Length	(B) Tip	Internal Thread	Use On
J4256S	Inside Hook Jaw	2-7/8"	3/32"	5/8-12 Acme	5/8" Hole (Min.)



SPRING CLIP

Product ID No.	Description	Use with Jaws
J4021S	Spring Clip	4025, 4026A*, 4027
J4011S	Spring Clip	4015, 4016, 4017, 4018



*Replaces Jaw J4026.



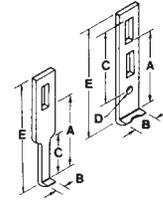
Pullers & Puller Sets



JAWS

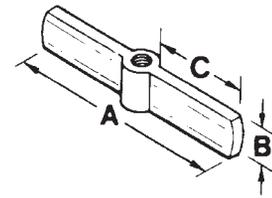
Product ID No.	Description	(A) Reach	(B) Width	(C)	(D)	(E)
J4026A*	Dual Reach Jaw	4" & 2"	1-1/4"	4"	25/64"	6"
J4027	Long Narrow Jaw	4"	1/2"	2-1/16"	—	6"

*Replaces Jaw J4026.



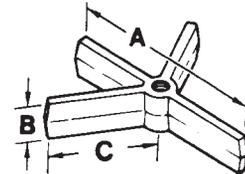
2-WAY CROSSARM THREADED 5/8—12 ACME

Product ID No.	Description	Length (A)	(B)	(C)	
J4206CA	2-Way Crossarm Threaded 5/8—12 Acme	7"	1-15/64"	3-1/2"	6 ton
J4226CA	2-Way Crossarm Threaded 3/4—12 Acme	11"	1-5/8"	5-1/2"	10 ton



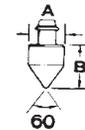
2-WAY/3-WAY CROSSARM THREADED 5/8—12 ACME

Product ID No.	Description	Length (A)	Height (B)	Leg Length (C)
J4208CA	2-Way/3-Way Crossarm Threaded 5/8 — 12 Acme	7"	1-15/64"	3-1/2"



STANDARD TIP

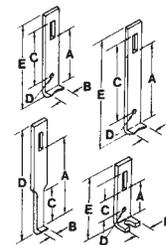
Product ID No.	Description	Taper	(A)	(B)	Use With Screws
J4012T	Standard Tip	60°	5/8"	29/32"	4225S & 4235S



JAWS

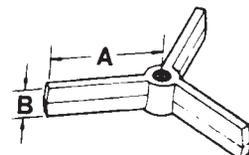
Product ID No.	Description	Reach (A)	Width (B)	(C)	(D)	Length (E)
J4015	Short Jaw	4-11/16"	1-1/2"	5-1/8"	25/64"	7-9/16"
J4016A*	Dual Reach Jaw	7-1/8" & 4-11/16"	1-1/2"	7-3/8"	25/64"	10"
J4017	Long Narrow Jaw	7-3/16"	7/8"	3-3/4"	—	10"
J4018	Cap Screw Jaw	2-15/16"	1-1/2"	3-9/16"	25/64"	5-7/8"

*Replaces Jaw J4016



3-WAY CROSSARM THREADED 3/4—12 ACME

Product ID No.	Description	(A)	(B)
J4227CA	3-Way Crossarm Threaded 3/4 — 12 Acme	5-1/2"	1-5/8"

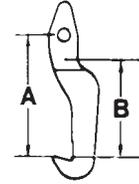




Pullers & Puller Sets

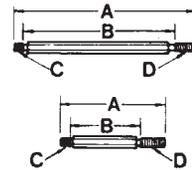
ADJUSTABLE REVERSIBLE JAW

Product ID No.	Description	(A)	(B) Reach
J4230RJ	Adjustable Reversible Jaw	3-5/8"	2-3/4"



LEGS

Product ID No.	Description	(A) Length	(B)	(C) Thread	(D) Thread
J4240L	Medium Leg	14-3/16"	12-19/64"	1/2"-20 UNF	5/8"-18 UNF



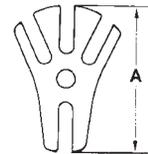
SEPARATOR THREADED RODS

Product ID No.	(A) Length	Thread	For Separator
J4332R	8-1/2"	5/8-18 UNF	4332
J4333R	10"	3/4-16 UNF	4333



CROSSARM

Product ID No.	Description	(A) Length	Use with Forcing Screw
J4001B	Crossarm	6-5/8"	4001S



FORCING SCREW

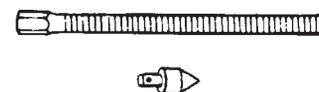
Product ID No.	Description	(A) Length	(C) Hex	Thread	Tip No.	Use with Crossarm
J4001S	Forcing Screw	7-1/8"	1-1/8"	1-8	4001ST	4001B



NOTE: ALL PROTO-EASE™ forcing screws are coated at the factory with the latest aerospace dry film lubricant designed to increase screw life, reduce wear and torque required for screw turning. It is recommended that a few drops of medium grade oil (SAE 30 or equivalent) be added to screw threads prior to every use. Screw threads must be kept clean at all times.

FORCING SCREW

Product ID No.	Description	Length	Hex Head	Thread	Detachable Tip
J4012	Forcing Screw	11-13/16"	3/4"	3/4"-10	4012T



NOTE: ALL PROTO-EASE™ forcing screws are coated at the factory with the latest aerospace dry film lubricant designed to increase screw life, reduce wear and torque required for screw turning. It is recommended that a few drops of medium grade oil (SAE 30 or equivalent) be added to screw threads prior to every use. Screw threads must be kept clean at all times.

