

## Push-Puller

The Push-Puller is designed to quickly remove or install gears, bearings, pulleys, couplings, sprockets, shafts, and other press-fitted parts without damage to the part. A variety of adapters, attachments, and legs may be used with the push-puller to apply either pushing or pulling force.

### Assembly

- Consider how the tool will be used, and determine whether the forcing screw will be pushing or pulling.
  - **If the forcing screw will be pushing** (removing a gear from a shaft):
    - Insert the forcing screw into the cross block with the forcing nut and washer assembled **below** the cross block. See Figure 1.
    - Slide a leg assembly into each end of the cross block with the sliding plates and nuts assembled **above** the cross block and the washers assembled **below** the cross block. See Figure 1.
  - **If the forcing screw will be pulling** (removing a shaft from a housing):
    - Insert the forcing screw into the cross block with the forcing nut and washer assembled **above** the cross block. See Figure 2.
    - Slide a leg assembly into each end of the cross block with the nuts and washers assembled **above** the cross block and the sliding plates assembled **below** the cross block. See Figure 2.

**⚠ Caution:** To help prevent personal injury caused by tool failure, the sliding plates **MUST** be assembled on the opposite side of the cross block from the forcing nut.

- Regularly clean and lubricate the forcing screw to ensure the correct operation of the tool.

### Safety Precautions

- ⚠ Caution:** To help avoid personal injury or equipment damage,
- Wear eye protection that meets the requirements of ANSI Z87.1 and OSHA.
  - The tool setup must be rigid and aligned with the part.
  - Do not couple puller legs together. This reduces the tonnage capacity and increases the chance of tool or equipment damage.
  - Always use the shortest legs possible for an application to reduce the chance of tool or equipment damage.
  - Cover the tool setup and part with a protective blanket (see catalog) or canvas before applying force, because high forces exerted on the part being pushed or pulled can cause breakage.
  - Apply force gradually. The part should "give" a little at a time. Do not try to speed the operation by using an impact wrench on the forcing screw.
  - If maximum force has been applied, and the part has not moved, use a tool with a larger capacity. Do not hit the part with a hammer in an attempt to jar it loose.

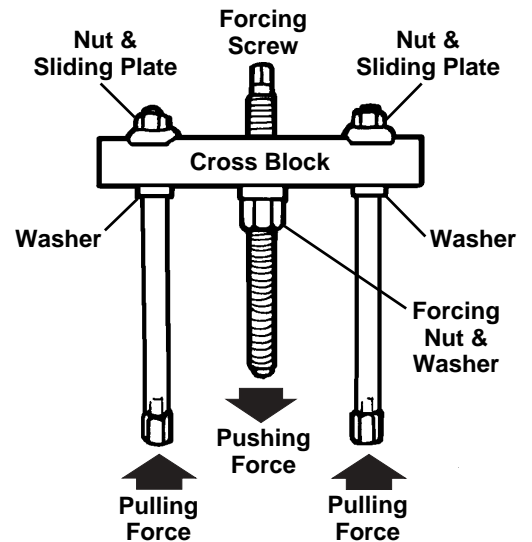


Figure 1

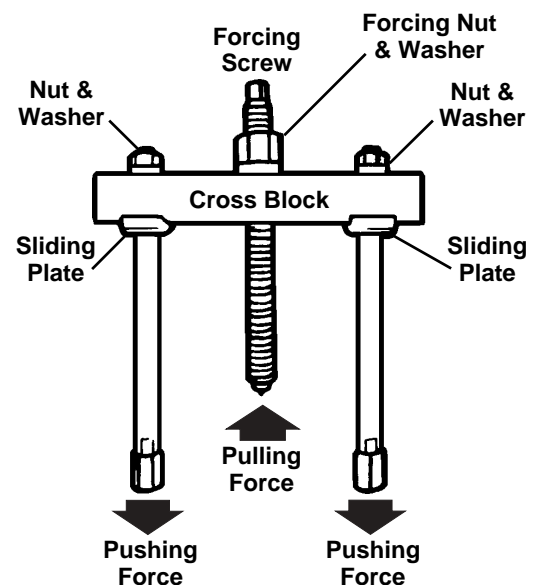


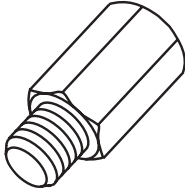
Figure 2

# Optional Adapters

The following adapters may be purchased for use with the OTC No. 1180 Push-Puller Set. (There is an open cavity in the No. 1180 storage box that may be used to store optional adapters.)

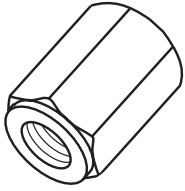
## Male—Female Metric Adapters

Add metric capability to push-puller legs or forcing screws.

	Tool No.	Female End	Male End	Length	Tool No.	Female End	Male End	Length
	8111	5/8"-18	M6 x 1.0	2 1/4"	8121	5/8"-18	M14 x 1.5	2 1/4"
	8112	5/8"-18	M8 x 1.0	2 1/4"	8122	5/8"-18	M14 x 2.0	2 1/4"
	8113	5/8"-18	M8 x 1.25	2 1/4"	8123	5/8"-18	M16 x 1.5	2 3/4"
	8114	5/8"-18	M10 x 1.25	2 1/4"	8124	5/8"-18	M16 x 2.0	2 3/4"
	8115	5/8"-18	M10 x 1.5	2 1/4"	8125	5/8"-18	M20 x 1.5	2 3/4"
	8116	5/8"-18	M12 x 1.25	2 1/4"	8126	5/8"-18	M20 x 2.5	2 3/4"
	8117	5/8"-18	M12 x 1.75	2 1/4"				

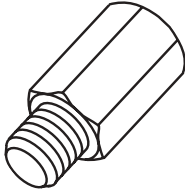
## Female Metric Adapters

Add metric capability to push-puller legs or forcing screws.

	Tool No.	Std. End	Metric End	Length	Tool No.	Std. End	Metric End	Length
	8131	5/8"-18	M6 x 1.0	1 5/8"	8135	5/8"-18	M14 x 2.0	1 5/8"
	8132	5/8"-18	M8 x 1.25	1 5/8"	8136	5/8"-18	M16 x 2.0	1 5/8"
	8133	5/8"-18	M10 x 1.5	1 5/8"	8137	5/8"-18	M20 x 2.5	1 5/8"
	8134	5/8"-18	M12 x 1.75	1 5/8"				

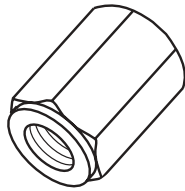
## Male—Female Threaded Adapters

Use on the ends of push-puller legs or forcing screws when pulling shafts, bearing caps, pinions, etc.

	Tool No.	Female End	Male End	Length	Tool No.	Female End	Male End	Length
	8000	5/8"-18	1/4"-20	2 1/4"	8009	5/8"-18	9/16"-12	2 1/4"
	8001	5/8"-18	5/16"-18	2 1/4"	8010	5/8"-18	5/8"-11	2 1/4"
	8002	5/8"-18	7/16"-14	2 1/4"	8013	5/8"-18	3/4"-16	2 1/4"
	8003	5/8"-18	7/16"-20	2 1/4"	8015	5/8"-18	3/4"-10	2 1/4"
	8004	5/8"-18	3/8"-24	2 1/4"	8017	5/8"-18	7/8"-14	2 1/4"
	8005	5/8"-18	3/8"-16	2 1/4"	8018	5/8"-18	7/8"-9	2 1/4"
	8006	5/8"-18	1/2"-20	2 1/4"	8019	5/8"-18	1"-14	2 1/4"
	8007	5/8"-18	1/2"-13	2 1/4"	8022	5/8"-18	1/8" pipe	2 1/4"
	8008	5/8"-18	9/16"-18	2 1/4"				

## Female Threaded Adapters

Use on the ends of push-puller legs or forcing screws when removing shafts, axles, and housing.

	Tool No.	Female End "A"	Female End "B"	Tool No.	Female End "A"	Female End "B"
	8035	1/2"-20	5/8"-18	8040	5/8"-18	1"-14
	8037	5/8"-18	5/8"-18	8041	5/8"-18	1 1/8"-12
	8038	5/8"-18	3/4"-16	8042	5/8"-18	1 1/4"-12
	8039	5/8"-18	7/8"-14	8043	5/8"-18	1 1/2"-12