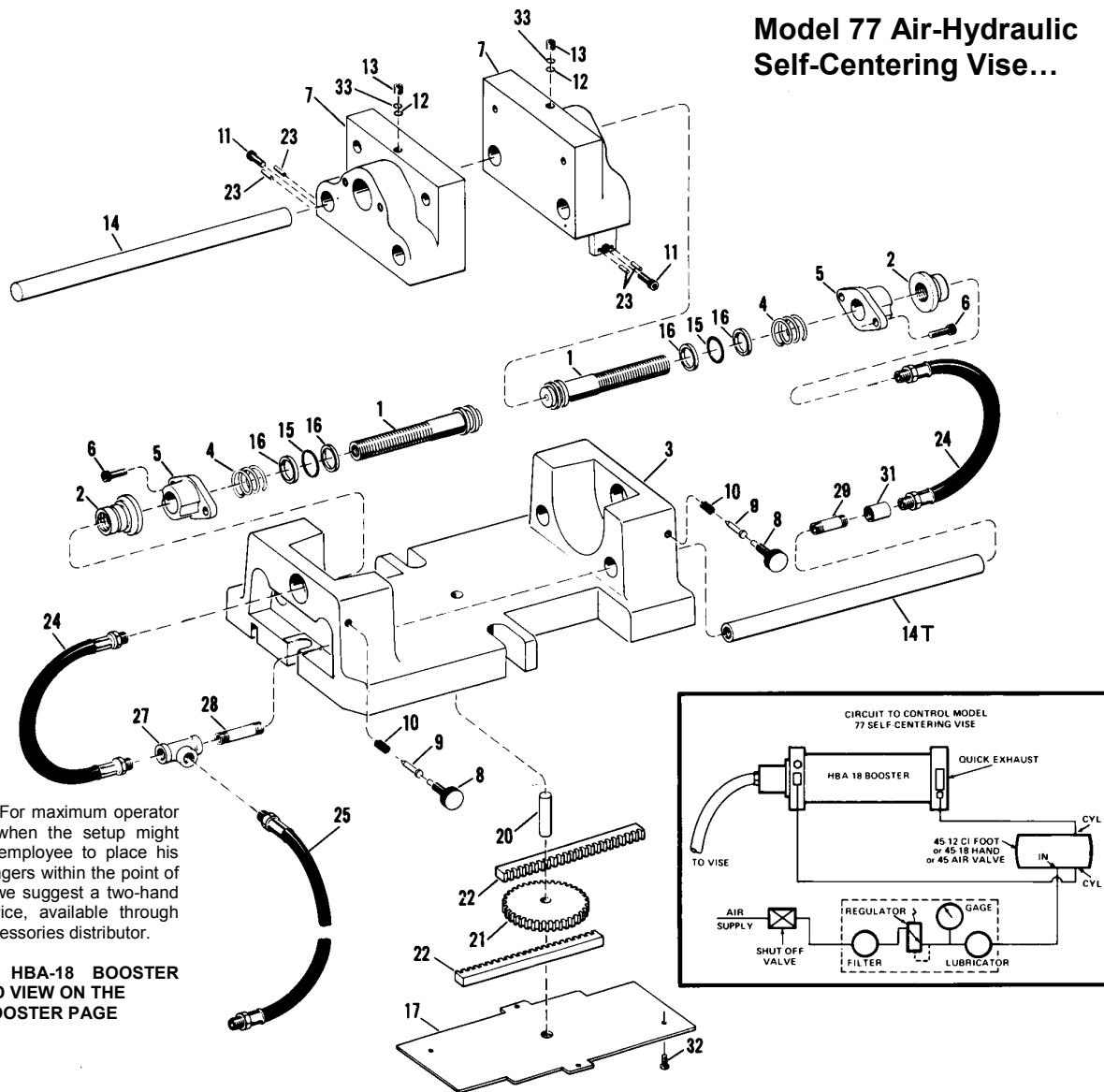


# heinrich

# SELF-CENTERING VISE

## Model 77 Air-Hydraulic Self-Centering Vise...



CAUTION: For maximum operator protection when the setup might cause the employee to place his hands or fingers within the point of operation, we suggest a two-hand control device, available through your air accessories distributor.

SEE NO. HBA-18 BOOSTER EXPLODED VIEW ON THE HBA-18 BOOSTER PAGE

### OPERATION:

Connect two of the three identical hoses to the two adaptors on the booster and to the two adapters on the four-way valve, marked "CYL". Connect the other hose to the adapter on the valve marked "IN" and to the air supply line. See diagram above. The Model 77 vise can be used safely on air supply lines with pressures up to 150 psi. The range of holding power can be controlled by installing an Air Regulator between the supply line and the four-way valve. While all operating parts are protected from oils, coolants, chips, etc., the cylinders and controls could be damaged by foreign matter in the air supply line. This can be prevented by using an Air Filter, between the air supply and the air regulator and/or control valve.

Combination Filter-Regulator may be used in place of the individual filter and regulator.

To insure accuracy, it is important that these instructions be followed closely when setting up the vise for operation:

1. SHUT OFF THE AIR PRESSURE.
2. Loosen both thumb screws (8) counter-clockwise, approximately three turns to unlock knurled adjusting nuts (2).
3. Turn adjusting nuts (2) clockwise on piston (1), toward the jaws (7).
4. Move jaws (7) by hand to desired opening, allowing minimum clearance to remove and insert part piece.
5. Leaving jaws in this position, adjust one nut (2) back to main body casting, and turn corresponding thumb screw (8) until locking pin (10) engages the "V" in the adjusting nut (2), and tighten securely by hand. DO NOT USE PLIERS OR WRENCH.
6. Repeat No. 5 with opposite end.
7. Insert part piece AS CLOSE AS POSSIBLE TO CENTER OF JAWS; apply air pressure; move **entire** vise into position for operation.
8. Clamp vise to work table, using side mounting lugs at **center** of vise. (Cont. on next page)

## ... single-acting cylinders



### MODEL 77

Index No.	Part Name	Part No.	Price
1	Piston (2 required)	77-1	
2	Adjusting Nut (2 required)	77-2	
3	Body Casting (Note 1)	77-3	
4	Return Spring (2 required)	77-4	
5	Spring Cover Casting (2 required)	77-5	
6	5/16-18 x 1 Screw (4 required)	77-6	
7	Jaw Casting (2 required) -- (Note 2)	77-7	
8	Thumb Screw (2 required)	77-8	
9	Locking Pin (2 required)	77-9	
10	Locking Pin Spring (2 required)	77-10	
11	1/4-20 x 7/8 Screw (2 required)	305-8	
12	O-Ring p6227-03 -- for Bleeder (2 required)	77-12	
13	3/8-24 x 3/8 Screw (2 required)	77-13	
14	Guide Bar	77-14	
14T	Guide Bar	77-14T	
15	O-Ring #6227-22 -- for Piston (2 required)	77-15	
16	Back-Up Washer #6246-22 -- for Piston (4 required)	77-16	
17	Equalizing Gear Cover	77-17	
18	Air-Hydraulic Booster	HBA-18	
20	5/8 x 1 1/2 Dowel	6600-20	
21	Equalizing Gear	77-21	
22	Equalizing Gear Rack (2 required)	77-22	
23	3/16 x 1 1/8 Rollpin	2316-A	
24	Hose Assembly (2 required)	77-24	
25	Hose Assembly	77-25	
27	Female "T" 1/4" Steel 6000#	77-27	
28	Pipe Nipple -- 1/4 x 3	77-28	
29	Pipe Nipple -- 1/4 x 2	77-29	
31	1/4" Coupling	77-31	
32	1/4-20 x 1/2 Screw (4 required)	2200-42	
33	Washer, Backup (2 required)	77-13A	

**Note 1:** Price not shown, as replacement body castings are not available.

**Note 2:** If replacement jaw casting is required, the entire vise must be returned to the factory, freight charges prepaid, so that the replacement jaw can be machined, assembly in the customer's vise.

Recommended spare parts to be retained in stock at all times to support each unit in service: REPAIR KIT FOR MODEL 77 VISE (Part No. RK-77) consisting of (2) #77-12 (6227-03) O-Rings for Bleeder; (2) #77-15 (6227-22) O-Rings for Piston; (4) #77-16 (6246-22) Back-Up Washers for Piston

### WHEN ORDERING PARTS, INDICATE PART NUMBER AND MODEL NUMBER.

#### MODEL 77 INSTRUCTIONS (Cont. from prev. page)

#### MAINTENANCE:

Never use air hose to clean vise, as chips can be blown into vise jaw guide bar holes. Although the centering mechanism is guarded to prevent chips from entering, air pressure can force them into the gear and rack.

If, after continued use, there is a noticeable reduction in the 11/16" length of stroke in each jaw, or there is a loss of holding pressure, this is probably an indication that oil has escaped or that there is air in the hydraulic system.

1. Check oil reservoir (35). Oil must be visible in reservoir. To add oil, open spring cover on top of reservoir and fill with a good grade of light hydraulic oil.

2. Loosen, but do not remove 3/8 socket head screws (13) in each jaw; place part piece in vise, apply air pressure and activate jaws until air bubbles no longer appear at screws (13) in jaws.

3. Tighten two screws (13). Using pressure, check to be sure length of stroke for each jaw is 11/16". If 11/16" stroke is not obtained, repeat above instructions.

Disassemble booster to service O-Rings and parts other than cup seal. (21). To replace cup seal only (21) booster must remain assembled. Advance piston to the forward position leaving air pressure on. Bleed oil from the line. Disconnect and remove adapter bushing (28), cap screw (20), and washer (19). Cup seal can be removed with a sharp hooked tool. Reverse this procedure to install new cup seal. After re-installing booster, check to see if oil is visible in oil reservoir (35). If oil level is low or if reservoir is empty, fill per instruction No. 1. All air must be bled from high pressure oil line. See above instructions. 2 and 3. The booster will automatically replenish lost oil from the reservoir.