

OPERATION AND MAINTENANCE MANUAL

FOR PEMSERTER® SERIES B49

BENCH-MOUNT PNEUMATIC PRESS

SERIAL NUMBER _____

NOTE: Your New PEMSERTER® Series B49 Bench-Mount Pneumatic Press has been assigned a Serial Number as indicated above.

This Number Must Be Referenced
In all Correspondence



PennEngineering Fastening Technologies

5161 APPLEBUTTER ROAD • BLDG 23
PIPERSVILLE, PENNSYLVANIA 18947
1-800-523-5321 • 1-215-766-3801

Document No. 8008893
Revision 10/03



Read Manual Before Operating Press!

FORWARD

Thank you for purchasing a PEMSERTER® SERIES B49™ PRESS. With the proper care and maintenance, your press will install millions of fasteners safely, quickly and with consistent quality.

The PRESS is covered with a one(1) year warranty.

Should any questions or problems arise concerning your SERIES B49™ PRESS contact PennEngineering Fastening Technologies Service Department. The toll free number is 800-523-5321 (in North America) or 215-766-8853.

Set-up, Training and Repair Service is available to you as long as you are the owner of the press. Free telephone instruction and service are also available for the lifetime of your press by calling the PennEngineering Fastening Technologies Service Department.

SHIPPING DAMAGE

The PEMSERTER® SERIES B49™ press has been shipped to you packaged to withstand normal handling during transit. Upon receipt, the unit should be checked for any damage that may have occurred during shipment due to improper handling. Should any damage be found, the transportation company who delivered the unit must be immediately notified as should the PennEngineering® Fastening Technologies Service Department.

PEMSERTER® SERIES B49™ PNEUMATIC PRESS (Bench Mounted)

The PEMSERTER® SERIES B49™ press is shipped ready to operate and complete with foot control, all hoses, connectors, and the standard tooling accessories.

SPECIFICATIONS:

Ram Force	400 to 8000 lbs. (1.8 to 35.6kN)
Air Requirements	90 to 100 PSI (6 to 7 BAR)
Air Line	½" (12mm) I.D. Minimum line flow
Throat Depth.....	9 ½" (24.1 cm)
Weight (With Stand)	165 lbs. (74.84 kg)
Width.....	2" (5.1 cm)
Air Consumption.....	Approx. 75 cu in (1.3 liters) per cycle

Please read and follow the safety precautions listed below.



SAFETY PRECAUTIONS

- ◆ Always use safety goggles when operating or maintaining the press.
- ◆ Ear Protection is recommended.
- ◆ Before using the press, make sure that a shutoff device has been fitted on the air supply line and the location is easily accessible, so that the air supply to the press can be shut off in an emergency.
- ◆ Check the air hose and fittings regularly for wear.
- ◆ Use only approved parts for maintenance and repairs.
- ◆ Do not use chipped, cracked or damaged accessories and tools.
- ◆ Attach air line securely.
- ◆ Keep body parts away from moving parts.
- ◆ Never wear jewelry, loose clothing or anything that could get caught in moving parts.
- ◆ If a new user is operating the press, be sure these instructions are readily available.
- ◆ Do not use the press in any way other than for its intended purposes.
- ◆ Do not modify the press.

WARRANTY

PennEngineering® Fastening Technologies warrants that this product, when correctly used according to directions and under normal operating conditions, will be free from defects in material and workmanship for a period of one (1) year from the date of purchase.

This warranty shall not apply to any product which has been altered, changed or repaired, normal maintenance excluded, except as authorized by PennEngineering® Fastening Technologies. This warranty shall not apply to any product that has been subject to misuse, negligence or accident.

The purchaser's exclusive and sole remedy shall be limited to repair, modification or replacement at the discretion of PennEngineering® Fastening Technologies. In no event shall PennEngineering® Fastening Technologies be liable for the cost of any indirect or consequential damage. In no case shall PennEngineering® Fastening Technologies' liability exceed the purchase price of the product.

This warranty is exclusive and in lieu of all other warranties. No oral or written information by PennEngineering® Fastening Technologies, its employees, representatives, distributors or agents shall increase the scope of the above warranty or create any new warranty.

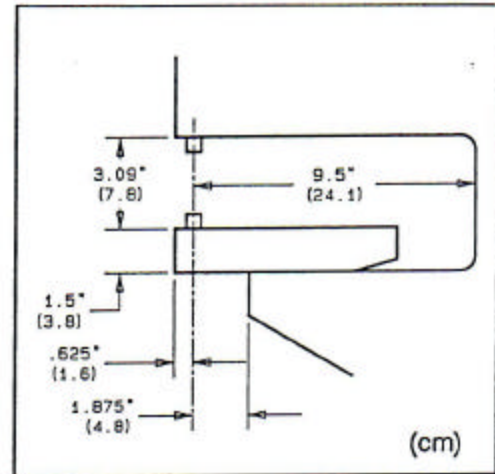
AIR SUPPLY REQUIREMENTS

Connection should be made to a clean filtered air supply. A standard filter, lubricator and regulator assembly is recommended. Adjust the regulator to 90 PSI (6 BAR). This setting remains fixed for all operations. The oiler drip rate should be set very low, at about one drop for each ten (10) cycles.

ADJUSTING THE SQUEEZE

Stroke control: Note the pull down pin and clamping knob. This feature is very useful in setting up and when necessary, to restrict the return stroke. It has no effect on power output of the tool.

The SERIES B49™ delivers a squeezing action, **not a hammer blow**. This squeezing action is absolutely essential for proper installation and retention of PEM® hardware.



DO NOT ATTEMPT TO CONTROL THE SQUEEZE BY ADJUSTING LINE PRESSURE.

Precise squeeze is obtained by adjusting the GAP, or distance between the ram and lower anvil. The GAP is the distance between the upper and lower anvils when the ram is in the full down position.

The ram will always bottom out at the same exact full down position, even under full load, except for the following two (2) conditions, both of which result in improper use of the machine.

1. Attempting to squeeze material which is much too hard, such as heat treated tool steel.
2. The GAP is too small. This prevents the ram from reaching the full down position.

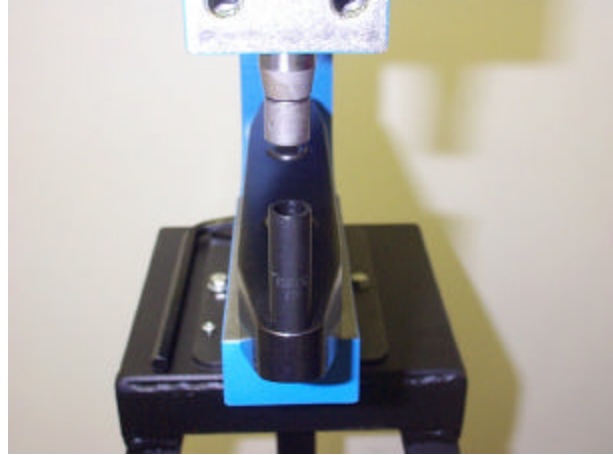
No damage will occur in either case, but no useful work can result. Keep in mind that when closing the GAO in an attempt to get more squeeze (for example, adding a shim), the very opposite will occur. You will get less squeeze as the machine will be in a stalled condition. The remedy: Open the GAP by removing shims or use shorter anvils. In other words: To get more, use less.

TOOLING INFORMATION

Each tooling set is used in conjunction with the standard tooling bar. Both sets are designed for PEM® studs, nuts and standoffs. Some members of each group are multipurpose as indicated on the accompanying charts. Note: One end of the stud members of “A” group and one side of the stud buttons of the “B” group have a slight chamfer. This chamfer is necessary when installing studs in thin material of .032” (0.81mm) or less. Each set its special advantage depending upon the requirements of the workpiece. The “B” group is necessary for studs and standoffs longer than ½”. In all cases, follow recommendations for installation.



“A” Tooling Set



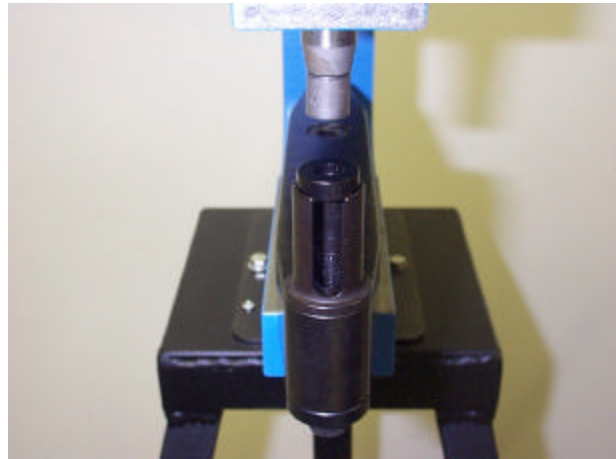
“A” Tooling Set-up on Press

TOOLING SET "A" - PART NO. 982020001

PennEngineering P/N	Description	Fastener / Size
982035032	ANVIL	AC, AS, LAC, LAS-440
982035033	ANVIL	AC, AS, LAC, LAS-632/832
982035030	ANVIL	CLS, S-256/348/440/632
982035031	ANVIL	CLS, S-832/1032
982035022	ANVIL	FH, FHA, FHS-256
982035023	ANVIL	FH, FHA, FHS-440
982035024	ANVIL	FH, FHA, FHS-632
982035025	ANVIL	FH, FHA, FHS-832
982035026	ANVIL	FH, FHA, FHS-032
982035027	ANVIL	FH, FHA, FHS-0420
982035025	ANVIL	SO, SOA, SOS-440
982035028	ANVIL	SO, SOA, SOS-440/632
982035029	ANVIL	SO, SOA, SOS-632/832/032



“B” Tooling Set



“B” Tooling Set-up on Press

TOOLING SET "B" - PART NO. 982020002

PennEngineering P/N	Description	Fastener / Size
982035014	ANVIL	AC, AS, LAC, LAS-440/632
982035015	ANVIL	AC, AS, LAC, LAS-832
982035016	ANVIL	AC, AS, LAC, LAS-032
982035011	ANVIL	CLA, CLS, S-256/348/440/632
982035012	ANVIL	CLA, CLS, S-832
982035013	ANVIL	CLA, CLS, S-032
982035017	ANVIL	CLA, CLS, S-0420
982035019	ANVIL	CLA, CLS, S-0516
982035003	ANVIL	FH, FHA, FHS-256
982035004	ANVIL	FH, FHA, FHS-440
982035005	ANVIL	FH, FHA, FHS-632
982035006	ANVIL	FH, FHA, FHS-832
982035007	ANVIL	FH, FHA, FHS-032
982035008	ANVIL	FH, FHA, FHS-0420
982035018	ANVIL	FH, FHA, FHS-0516
982035006	ANVIL	SO, SOA, SOS-440
982035009	ANVIL	SO, SOA, SOS-440/632
982035010	ANVIL	SO, SOA, SOS-632/832/032
982035020	BUTTON HOLDER	
982035021	CAP, BUTTON HOLDER	
982035079	AHCS 3/8-16 x 1 1/2	

“C” TOOLING SET

Tooling set “C” is designed to install PEM® nuts and studs in unified and metric sizes. The unified tooling set contains punches and anvils to install nuts and studs (up to ½” in length). The metric tooling set installs nuts and studs (up to 12mm in length). Tooling set “C” is used primarily in conjunction with the threaded mandrel for quick set-up and changeover.



“C” Tooling Set

“C” Tooling Set-up on Press

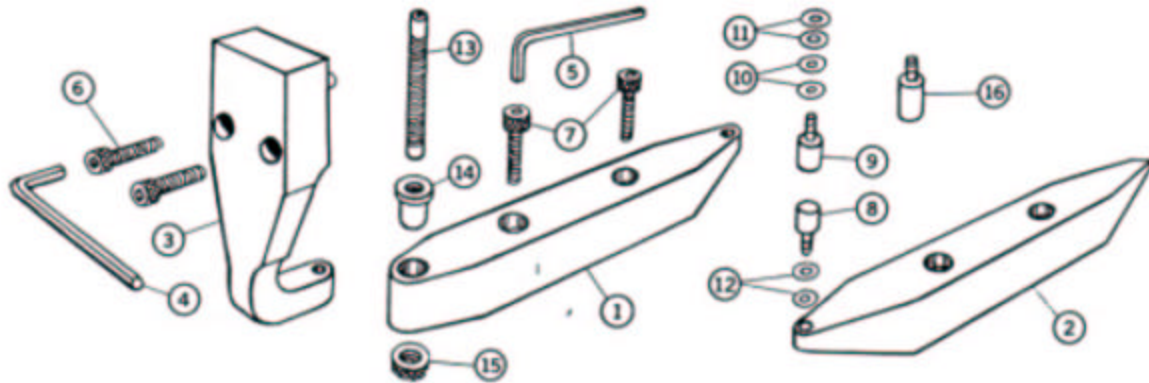
TOOLING SET "C" - PART NO. 981820005 (UNIFIED)

PennEngineering P/N	Description	Fastener / Size
981835079	ANVIL	S CLS-256
981835080	ANVIL	S CLS-440
981835081	ANVIL	S CLS-632
981835082	ANVIL	S CLS-832
981835083	ANVIL	S CLS-032
981835084	ANVIL	FH FHA FHS-256
981835085	ANVIL	FH FHA FHS-440
981835086	ANVIL	FH,FHA,FHS-632
981835087	ANVIL	FH FHA FHS-832
981835088	ANVIL	FH FHA FHS-032
981835093	SHIM	1/64"THK
981835094	SHIM	1/32"THK
981835095	SHIM	1/16"THK
981835097	PUNCH	3/8-9.5MM LG
981835098	PUNCH	7/16,11MM LG
981835099	PUNCH	1/2-12.5lg.

TOOLING SET "C" - PART NO. 981820006 (METRIC)

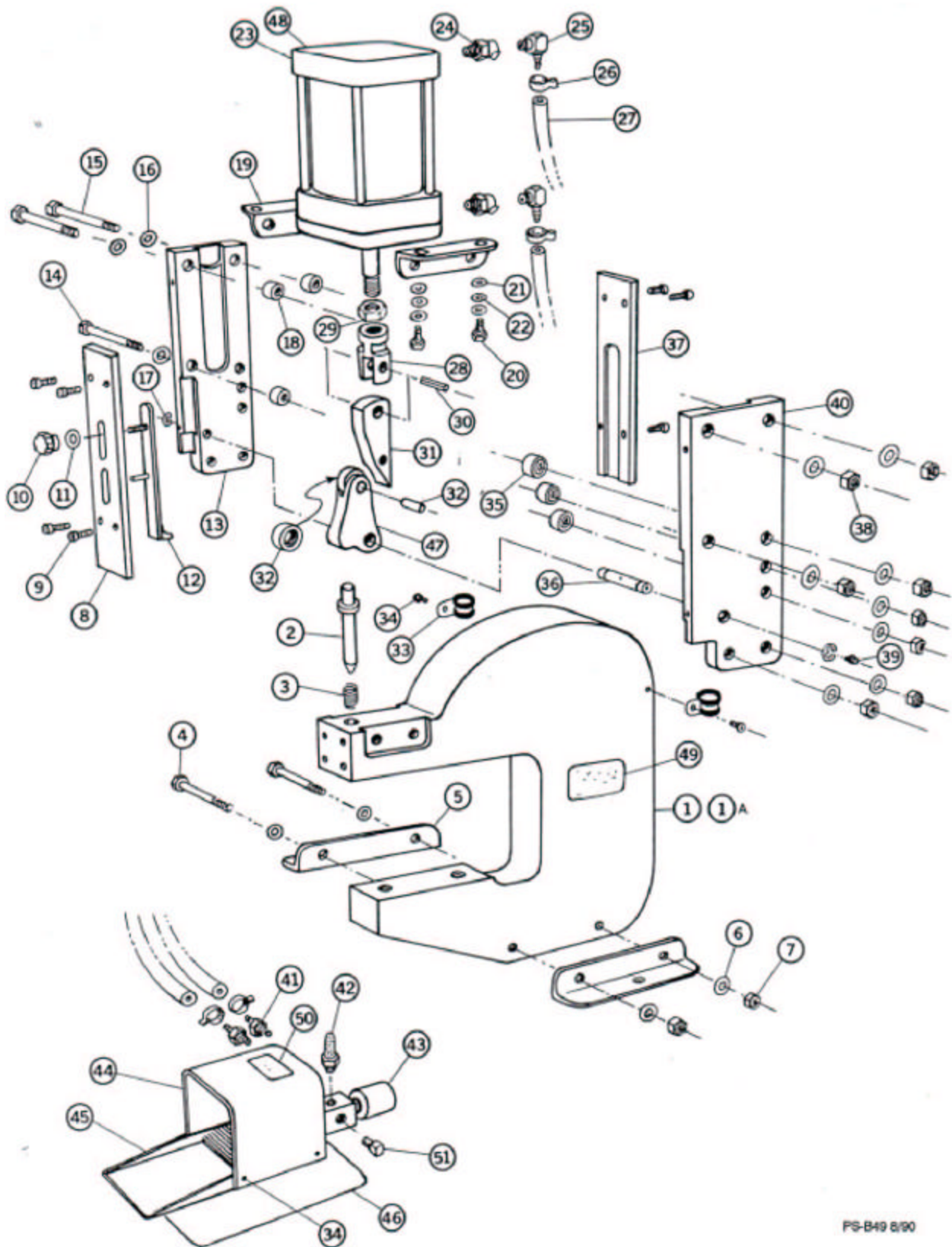
PennEngineering P/N	Description	Fastener / Size
981835080	ANVIL	S CLS-M3
981835081	ANVIL	S CLS-M3.5
981835082	ANVIL	S CLS-M4
981835083	ANVIL	S CLS-M5
981835089	ANVIL	FH FHA FHS-M2.5 -12 MAX LG
981835090	ANVIL	FH FHA FHS- M3 -12 MAX LG
981835086	ANVIL	FH,FHA,FHS- M3.5 -12 MAX LG
981835091	ANVIL	FH FHA FHS- M4 -12 MAX LG
981835092	ANVIL	FH FHA FHS-(.199) -12 MAX LG
981835093	SHIM	1/64"THK
981835094	SHIM	1/32"THK
981835095	SHIM	1/16"THK
981835097	PUNCH	3/8-9.5MM LG
981835098	PUNCH	7/16,11MM LG
981835099	PUNCH	1/2-12.5lg.

STANDARD ACCESSORIES GROUP



ITEM#	PART NUMBER	QTY	DESCRIPTION
1	982035034	1	Standard Bar
2	982035035	1	Special Bar
3	982035036	1	Flanger
4	982035097	1	Wrench Allen Head 5/16"
5	982035098	1	Wrench Allen Head 3/8"
6	982035079	2	AHCS 3/8" x 16 x 1-1/2"
7	982035078	2	AHCS 1/2" x 13 x 1-3/4"
8	982035037	1	Flat Squeezer Set 1/2"
9	982035038	1	Flat Squeezer Set 9/16"
10	981835093	6	Shim 1/64" Thick
11	981835094	6	Shim 1/32" Thick
12	981835095	6	Shim 1/16" Thick
13	982035151	1	Mandrel, Threaded 1/2" x 20
14	982035043	1	Bushing, Threaded
15	982035044	1	Locking Ring, Knurled
16	982035045	1	Ram Extender

IDENTIFICATION DRAWING – PRESS ASSEMBLY



PS-B49 6/00

IDENTIFICATION DRAWING – PRESS ASSEMBLY (Continued)

ITEM#	PART NUMBER	QTY	DESCRIPTION
1	982035062	1	Yoke, Stationary 9-1/2" Reach
2	982035051	1	Set Holder
3	982035046	1	Spring, Set Holder
4	982035085	2	Bolt 5/16 x 18 x 3" Base Mtg.
5	982035058	2	Bracket, Yoke, Rt. Angle Mtg.
6	982035089	4	Washer, Plain 5/16"
7	982035086	2	Nut, Hex 5/16" x 18"
8	982035169	1	Cover, Front Stroke Adj.
9	982035077	8	Screw, AHCS 3/8" x 10-32
10	982035063	1	Knob, Clamping, Stroke Adj.
11	982035091	1	Washer, Fiber 1/4"
12	982035061	1	Follower, Set Holder
13	982035060	1	Frame Tool R.H.
14	982035082	6	Bolt 1/2" (AN8-23A)
15	982035083	2	Bolt 1/2" (AN8-25A)
16	982035090	16	Washer, Plain 1/2"
17	982035047	2	"E" Ring
18	982035055	3	Spacer
19	982035057	2	Bracket, Cylinder Mount
20	982035084	4	Bolt, Hex 3/8" (AN6-10A)
21	982035092	4	Washer, 3/8" Int. Shake Proof
22	982035093	8	Washer, Plain, 3/8"
23	982035067	1	Cylinder, Air 4" Bore Complete
24	982035068	2	Coupler, Quick Disconnect
25	982035074	2	Air Fitting Right Angle 1/4"
26	982035073	4	Clamp, Hose
27	982035065	2	Hose, Air 1/4" x 8' Heavy Duty
28	982035056	1	Fork
29	982035087	1	Nut, Brass, Jam 3/4" x 16
30	982035094	1	Pin, Roll 5/16" x 1-3/4"
31	982035069	1	Wedge
32	982035048	1	Bearing, Assy Lever, Compl.
33	982035075	2	Clamp, Hose, Yoke
34	982035080	6	Screw, AH Button 1/4" x 20 x 1/4"
35	982035049	3	Bearing Roller Assy
36	982035095	1	Pin, Lever
37	982035054	1	Cover Plate, Bearing, Rear
38	982035088	8	Nut, Hex Nylon Lock 1/2" x 20
39	982035158	1	Fitting, Grease
40	982035059	1	Frame, Tool L.H.
41	982035072	2	Fitting 1/4" NPT to 1/4" BARB
42	980039021	1	Muffler, 1/4" NPT
43	982035071	1	Valve, Foot Control
44	982035052	1	Hood, Cover Foot Control
45	982035053	1	Base, Foot Control
46	982035064	1	Base, Rubber, Ribbed
47	982035070	1	Lever, Complete Assembly
48	982035076	1	Kit, Seal, Cylinder, Complete
49	982035096	2	Nameplate, Tool Identification
50	982035097	1	Nameplate, Foot Control
51	982035081	1	Plug, Pipe, 1/4" NPT