

**Model MC-19U Impact Press**  
**Operation & Maintenance Instructions**



**Revised 9/19/07**

## **WARNINGS**

1. Safety glasses must always be worn by the machine operator, as well as any co-workers, or any other persons in the area.
2. Never operate this press unless hands and foreign objects are clear of the pinch point area.
3. Never operate a machine in a pneumatic mode without approved dual hand controls that include anti-tie down features. Pneumatic operation requires the use of a filter-regulator-lubricator in the line. Flow controls must be used in the "U" series units.
4. Never remove any safety guards until the air is turned off and secured in the off position.
5. Never do any maintenance work on the press until the air is turned off and locked out with the air lines removed from the cylinder ports.
6. Never make any tooling or set up change until the air is turned off and locked out.
7. Never operate the press until the impact adjustment and the trip travel adjustment is correct. See operation manual for instructions.
8. Never operate the press with tooling (shank) of improper diameter. See machine specifications for proper shank size.
9. Never use hammer blows on any wrench to tighten any nuts on the machine. Hand tightening with a wrench is sufficient.
10. All moving parts must be regularly lubricated with a light grade machine oil. Periodic preventive maintenance scheduling should be established for cleaning, lubricating and inspection of all moving parts.

## **WARRANTY**

All warranties of the products described herein, express or implied, including the warranties of merchantability and fitness for particular purpose are, except if contrary to state law, specifically excluded except the following: We will repair or replace any machine or machine part, which, within ninety (90) days after sale by us or our distributor is found to be defective in material or workmanship.

This is our sole warranty and shall extend to new equipment that we provide, repair or replace.

Except if contrary to state law, we shall not be liable for any injury or consequential, arising out of the use of, or the inability to use, the products described herein.

**TO VALIDATE YOUR WARRANTY  
PLEASE RETURN THIS PAGE IMMEDIATELY TO:**

**Fax: 1-508-754-3063**

Or

**Warranty Registration Department  
33 Arctic Street  
Worcester, MA 01613**

***Important Notice:***

No person shall operate this equipment without first carefully studying and understanding the instruction manual. Contact us with any questions relating to the safe operation or limitations of this equipment.

The warranty, as presented in the manual, will become effective immediately upon return of this Disclaimer.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

Signed \_\_\_\_\_

Title \_\_\_\_\_

Phone \_\_\_\_\_

E-mail \_\_\_\_\_

Date \_\_\_\_\_

# Model MC-19U Impact Press

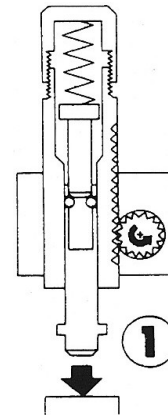
## Operation & Maintenance Instructions

### Principle of Operation

The press contains a large spring that is compressed during energy section travel. When release point is reached, the compressed energy is released causing the internal hammer to deliver the powerful impact.

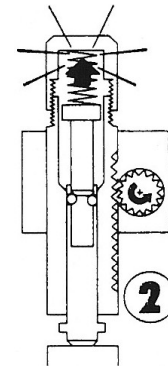
#### Step 1

Energy section advances toward workpiece by gear rack and pinion, powered by double-acting pneumatic cylinder (pneumatic units) or by operator pulling lever (manual units).



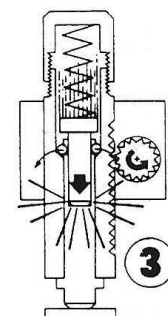
#### Step 2

After workpiece is contacted, stroke continues. The workpiece is held in place by the pressure from the energy section. The Impact Spring is compression builds as the press continues to maintain contact with the workpiece.



#### Step 3

When ball bearings reach release point, the powerful impact is released. The Impact Spring delivers force to the hammer, which in turn strikes the plunger (tool holder).



The result is a strong impact from a small press.

**Delivery:**

Units are shipped in heavy-duty containers to prevent damage in shipment. Should any damage be found, claims should be made immediately against the freight carrier.

**Installation:**

1. The machines should be cleaned and all anti-rust lubrication should be removed.
2. All machines are designed with boltholes in the MAIN CASTING (Part #1). The machine should be bolted securely to a rigid fixture or bench that is level and located in a safe location. Any flex in the fixture will result in a loss of impact force.

**Impact Adjustment:**

1. The press is rated at the maximum force possible.
2. Machines are shipped with three (2) different gauge IMPACT SPRINGS (Part #10).
3. Force can be adjusted by adjusting the IMPACT ADJUST CAP (Part #12)
4. Force can be adjusted by selecting a heavier or lighter gauge IMPACT SPRING (Part #10)
5. When the proper impact force is determined, the IMPACT ADJUST LOCK NUT (Part #15) should be tightened to prevent changes due to vibration or tampering.

**NOTE**

IMPACT FORCE IS **NOT** ADJUSTED BY CHANGING THE AIR PRESSURE TO THE MACHINE CYLINDER

## Tooling Installation:

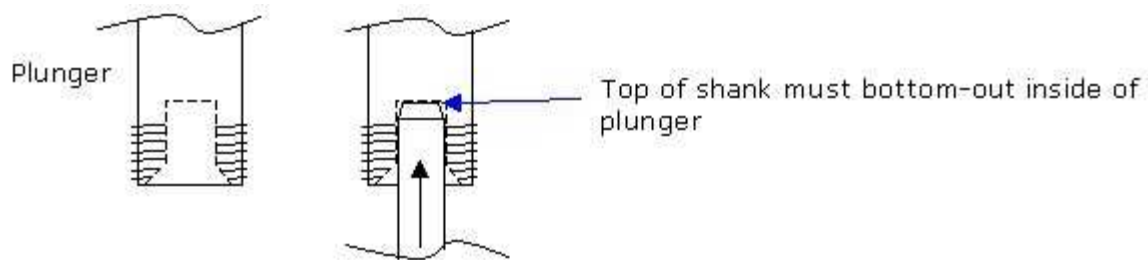
### CAUTION

ALL AIR SUPPLY TO THE MACHINE MUST BE SECURED IN THE OFF POSITION PRIOR TO TOOLING INSTALLATION.

1. This press uses a collet arrangement for retaining the tooling in the machine. For proper retention in the collet, the shank size is critical. The following shank size must be used:  
**6.0mm dia. X 27mm**
2. The COLLET NUT (Part #23) must be loosened and the tool shank inserted through the COLLET (Part #22) until it is bottomed into the PLUNGER (Part #19).
3. Tighten the COLLET NUT (Part #23) securely to prevent tool rotation.

### NOTE

DO NOT USE HAMMER BLOWS AGAINST THE WRENCH TO TIGHTEN.

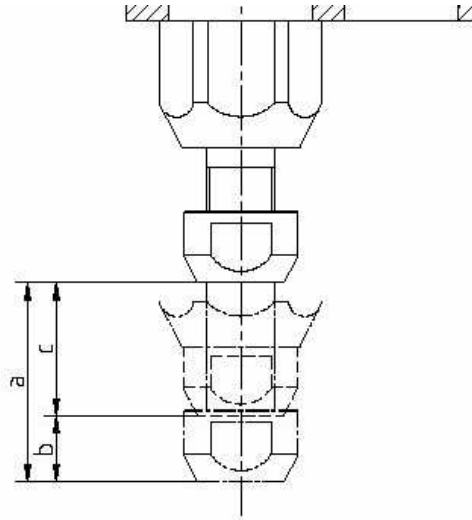


Collet, Collet Nut, Trip Travel Adjust Nut, Trip Travel Lock Nut And Trip Travel Lock Washer are not shown for clarity

\*\*Standard plunger and shank shown. Some systems are specially modified per application.

**Operating Height Adjustment:**

a	Maximum Total Travel	35.0mm
b	Compression required to realize impact	11.5mm
c	Maximum distance between tool and work piece in rest position (Optimal distance is 6mm or less)	23.5mm



**NOTE**

THE DISTANCE FROM THE TOOLING TO THE WORKPIECE, WITH MACHINE AT REST, SHOULD BE KEPT TO A MINIMUM (1/4" OR LESS).

## **Pneumatic Operation:**

### **CAUTION**

**PRIOR TO ANY HOOK-UP TO PNEUMATIC VALVING, THE MANUAL OPERATING LEVER (Part #35) MUST BE REMOVED.**

### **CAUTION**

**DO NOT USE FOOT PEDAL CONTROLS**

1. Although the press can be operated in a manual mode, it is equipped with a double acting pneumatic cylinder that will require a four-way valve for pneumatic operation.
2. For safe press operation, only DUAL HAND CONTROLS with ANTI-TIEDOWN features should be used and a FILTER-REGULATOR-LUBRICATOR should be used in every installation.
3. With the MANUAL-OPERATING LEVER (Part #35) removed, connect compressed air to the cylinder and turn the airline regulator to a low setting. Operate the pneumatic press controls to signal the press to travel down against the work piece. With the regulator set at a low-pressure setting, the press should not impact.
4. Increase the air pressure at the regulator until the machine impacts against the work piece. **The line pressure to the machine should not exceed the pressure required to trigger the impact.**
5. Changes to the impact setting will require the line pressure to be adjusted, and visa-versa.

## **Maintenance:**

### **CAUTION**

**ALL AIR SUPPLY MUST BE SECURED IN THE OFF POSITION PRIOR TO MAINTENANCE OR TOOLING CHANGE.**

1. Depending on the usage and operating conditions, the machine should be regularly lubricated at all wear points. Periodically, the machine should be disassembled for cleaning, inspected for worn parts and lubricated completely.  
  
Use a lightweight machine oil like 3-In-One™ to lubricate machine thorough the oil fittings (Part #69). Apply general-purpose lithium grease to the Piston Rod (Part #45) and the Lower Tube (Part #2).
2. Care must be given to the pneumatic lubricator oil level to assure proper lubrication of the pneumatic cylinder.

**Parts ordering - Information required:**

1. Please furnish part number and part name.
2. Please furnish machine model number.
3. Please furnish serial number.
4. Please furnish quantity desired.

For all information and/or correspondence concerning this machine, please state type and serial number.

Serial Number: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

## Spare Parts List Model MC-19U

Mark	New Part #	Old Part #	Description 1	Description 2
1	20-114001	20-MC1901U	Housing Block	HOUSING BLOCK U
2	20-101102	20-MC1902	Lower Tube	RACK
3	20-101103	20-MC1903	Sleeve Return Spring	SLIDING-BUSH SPRING
4	20-101104	20-MC1904	Bearing Sleeve	SLIDING-BUSH
5	20-101105	20-MC1905	Tube Guide	GUIDE SLEEVE
6	20-101106	20-MC1906	Ball Bearings	BALLS Ø2,5
7	20-101107	20-MC1907	Tube Guide Return Spring	GUIDE-SLEEVE SPRING
8	20-101108	20-MC1908	Upper Tube	COUPLING SLEEVE
9	20-101109	20-MC1909	Hammer	HAMMER
10	20-101110	20-MC1910	Impact Spring- 2.3mm Wire Diameter	PENETRATION SPRING
10	20-101110	20-MC1910	Impact Spring- 2.5mm Wire Diameter	PENETRATION SPRING
12	20-111112	20-MC1912	Impact Adjust Nut	CAP
19	20-101119	20-MC1919	Plunger	TOOL-HOLDER
20	20-101120	20-MC1920	Plunger Key	TOOL-HOLDER KEY
21	20-101121	20-MC1921	Plunger Retaining Nut	RETAINING NUT
22	20-101122	20-MC1922	Collet	COLLET
23	20-101123	20-MC1923	Collet Nut	COLLET NUT
24	20-111024	20-MC1924	Lower Tube Key	RACK KEY
25	20-101025	20-MC1925	Lower Tube Key Nut	KEY NUT M4
26	20-101026	20-MC1926	Pinion	PINION
27	20-111027	20-MC1927	Pinion Shaft Bushing	PIN GUIDE
28	20-101028	20-MC1928	Pinion Shaft Bush Screw	ALLEN SCREW M5X10
29	20-111029	20-MC1929	Lever Housing	LEVER COUPLING
31	20-101031	20-MC1930	Pinion Drive Pin	RETAINING SCREW
32	20-101032	20-MC1931	Lever Housing	LEVER SPRING
33	20-101033		Lever Spring	SPRING HOUSING
35	20-111035	20-MC1935	Lever Handle	DRIVING LEVER
36	20-101036	20-MC1936	Lever Handle Ball	ROUND KNOB BALL
39	20-101039	20-MC1139	Spring	Spring

<b>Mark</b>	<b>New Part #</b>	<b>Old Part #</b>	<b>Description 1</b>	<b>Description 2</b>
40	20-111040	20-MC1940	Pinion Shaft Bearing	TIGHTENING PLAY
43	20-102043	20-MC1943	Collar	RING MC18
45	20-111045	20-MC1945	Piston Rod	PISTON RACK
53	20-111053	20-MC1953	Lower Cylinder End	LOWER BEARING
54	20-111054	20-MC1954	Cylinder Seal	O-RING AN 27
55	20-111055	20-MC1955	Cylinder	CYLINDER
56	20-111256	20-MC1956	Piston	COMPLETE PISTON
59	20-111059	20-MC1959	Cylinder Tie Bolts	CYLINDER SCREW
60	20-111060	20-MC1960	Top Cylinder End	UPPER BEARING
61	20-111061	20-MC1961	Piston Rod Seal	O-RING AN 11
63	20-101163	20-MC1963	Upper Tube Lock Nut	CAP LOCKNUT
65	20-101165	20-MC1965	Shock Absorber	STOP RING
66	20-111066	20-MC1966	Safety Plunger Bolt	SPRING
67	20-111067	20-MC1967	Safety Plunger Bolt	BOLT PIVOT
68	20-111168	20-MC1968	Allen Screw	ALLEN SCREW M6X20
69	20-101069	20-MC1969	Oil Fitting	BALL GREASER D6
70	20-111070	20-MC1970	Safety Plunger	SAFETY BOLT
78	20-101078	20-MC1978	Washer	WASHER
57	20-111057	20-MC19157	Allen Screw	Allen Screw
168	20-111068	20-MC1968t	Nut	Nut
157	20-111157	20-MC1957a	Piston Rod Bolt Washer	WASHER

Please contact us with errors or omissions in this information.

MC-19U

