



Single Blow Air Hammer Models 75AT and 85AT

Operation Manual

CMT COLUMBIA
MARKING
TOOLS

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What are the CMT Models 75AT/85AT?

The Columbia Marking Tools' models 75AT or 85AT are single blow pneumatic air hammers for marking steel. They are easy-to-use alternatives to the hammer-and-stamp method of marking for industrial manufacturing. The 75AT/85AT also uses adjustable air pressure for differing steel hardness, providing a perfectly embedded character every time.

The following are perfect applications for the handheld air hammers:

- Operator ID
- Date Code
- Pass Test
- QC Mark
- Station ID

Use of the handheld air hammers will result in lower injuries and downtime over standard hand stamping.



Product Information

75AT Single Blow Air Hammer – Max Pressure 1500 Lbs. [6.7 kN] impact Force

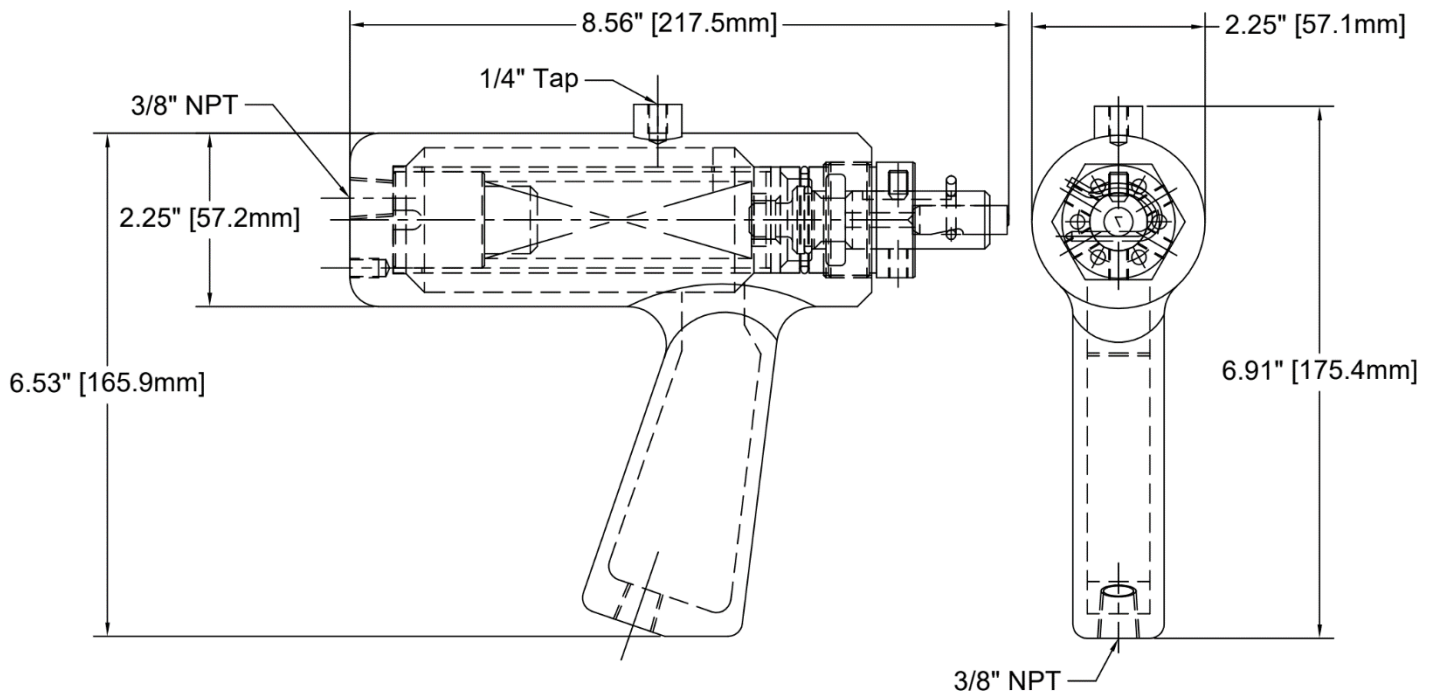
85AT Single Blow Air Hammer – Max Pressure 2200 Lbs. [11 kN] impact Force

Compressed Air Connection – 3/8" NPT

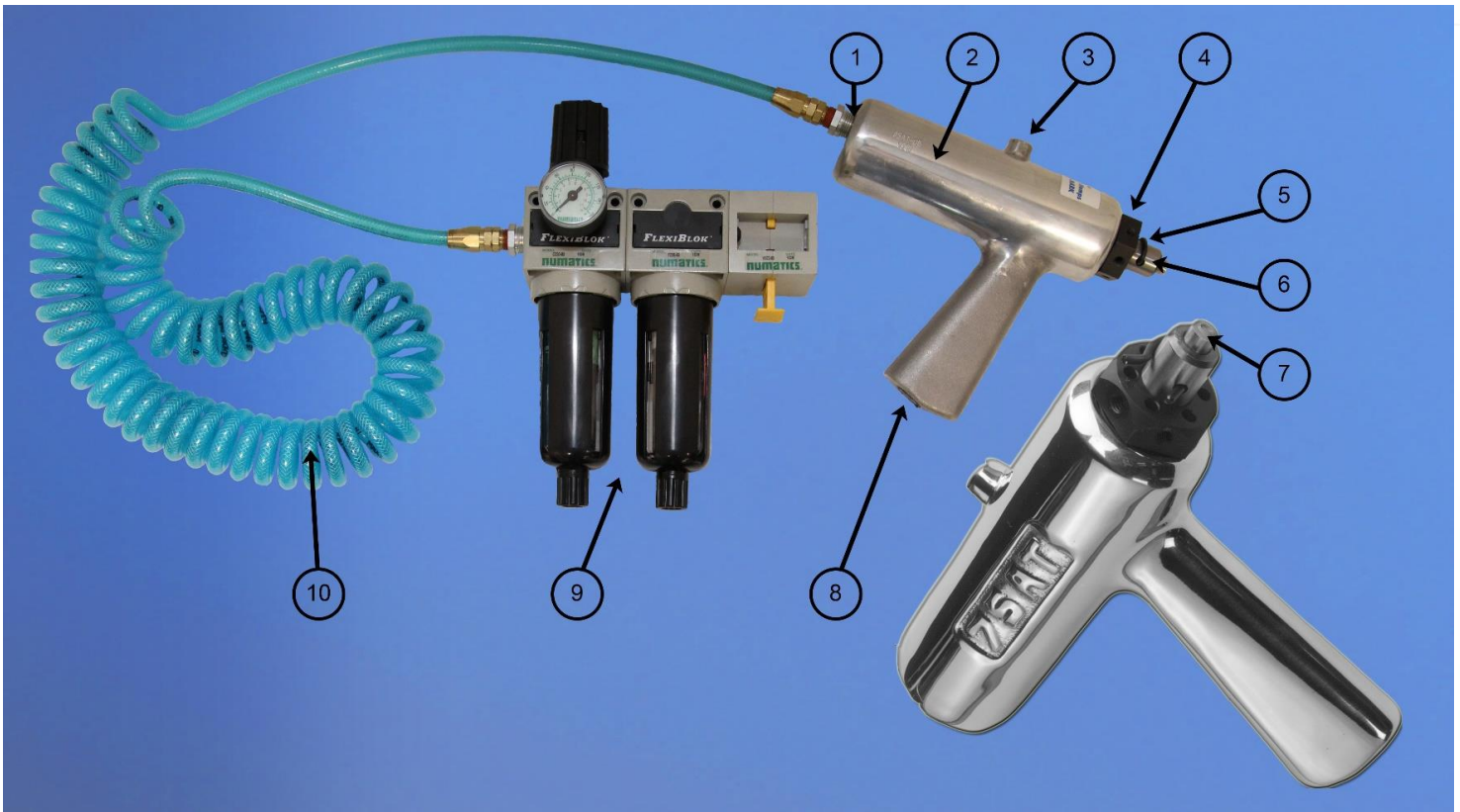
Dimensions – 6.91" x 8.56" x 2.25" [175.4mm x 217.5mm x 57.1mm]

Weight – 3 Lbs. [1.36 Kg]

Operating Pressure Range - 20-80 PSI [1.3-5.5 Ba]



Parts Breakdown



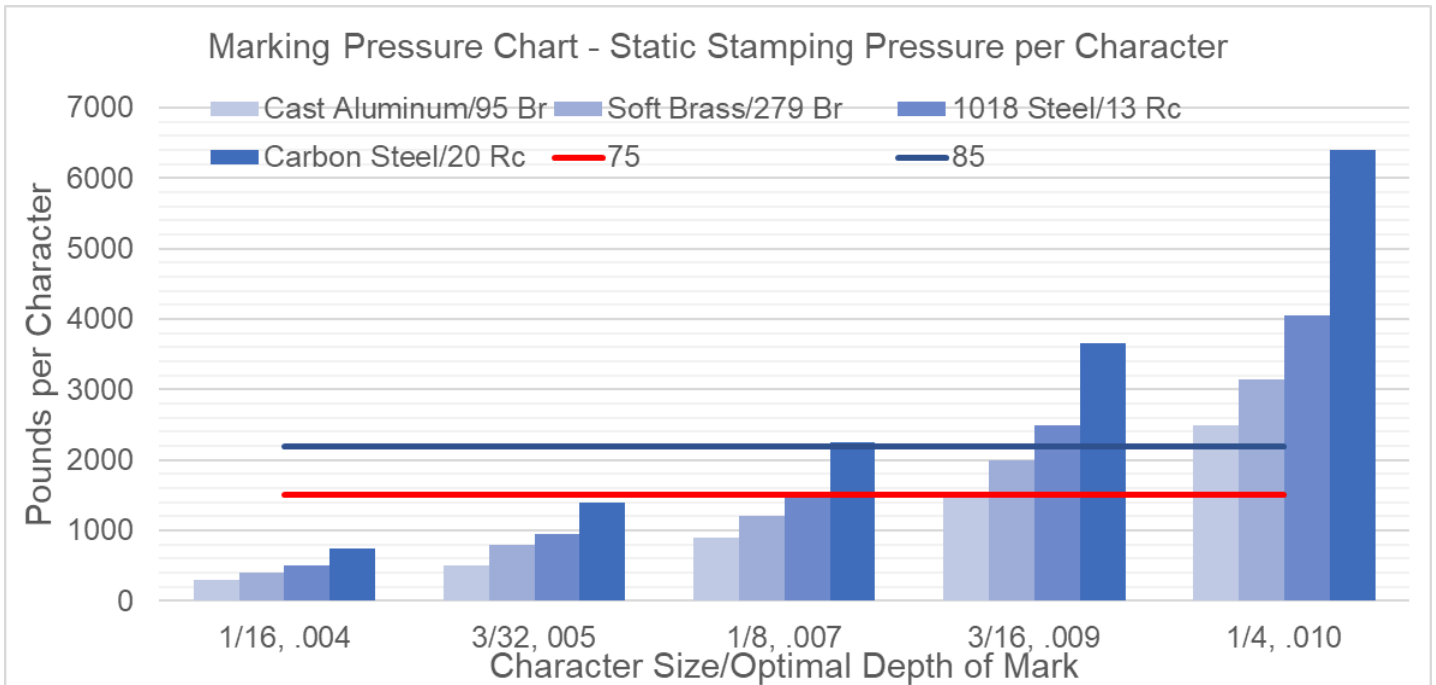
1. Air Inlet – One of two compressed air connections
2. Frame – solid design for industrial use
3. Connection for tool balancer
4. Collar – removed for maintenance
5. Stamp Pin – retaining clip wearable part
6. Stamp Holder – center rod
7. Stamp – wearable tooling, replace when worn
8. Air inlet – One of two compressed air connections
9. FRL Filter Regulator Lubricator (sold separately)
10. Hose (included with FRL)

Marking Character Capacity

- With A style Rod – (4) 1/16" [1.6mm] characters, (2) 1/8" [3.2mm] characters
- With AS38 style Rod – (6) 1/16" [1.6mm] characters, (4) 3/32" [2.4mm] characters, (3) 1/8" [3.2mm] characters
- With B style Rod – (1) CM8X round insert

Important Notes:

- 1) The higher and lower ranges of the PSI range shown will mark deeper or shallower respectively. Adjust PSI to suit your marking material.
- 2) The Single Blow air hammers have a maximum impact force of 1500 and 2200 lbs. The force required for a given marking application is based on the character and the material using the chart below. Then multiply this value by the number of characters to get the total force required for the mark.



General Safety Warning

WARNING: READ ALL SAFETY WARNINGS BEFORE USE.

Work Area

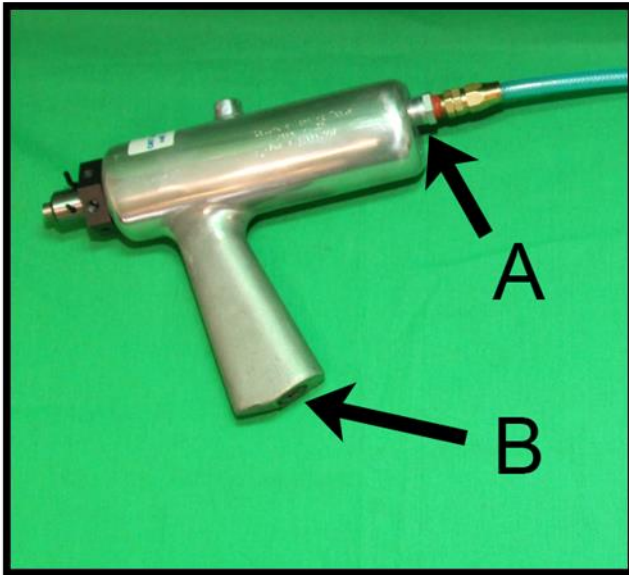
- **Keep your work area clean and well lit.** Cluttered or dimly lit work benches risk {unintentional mishaps}.
- **Keep your product out of the reach of children when stored.**
- **Keep bystanders and children away from the product when in use.**
Distractions can cause you to lose control.

Operation Safety

- **Always wear eye and ear protection.**
- **Wear anti-vibration gloves** if you use the tool frequently.
- **Handle with care.** Stay alert and handle the tool delicately, dropping or otherwise mishandling the tool can cause unintended misfires.
- **Use properly.** Refer to [page 7](#) for instruction on proper use. Using the tool incorrectly can lead to personal injury.
- **Respond to problems.** If the tool is marking too lightly, too heavily, is hurting the user, or otherwise not behaving properly; cease using the product and seek a resolution for the problem.
- **Only use marker on compatible material.** Intended for use on Marking Material with Rc <35. In addition, using the CMT 75AT on any fragile or shattering material may cause safety hazards with flying debris.

Marking Operation

WARNING: READ ALL OPERATION INSTRUCTIONS BEFORE USE.



Mounting/Air Connection:

The single blow air hammer requires a compressed air connection. There are two air-port locations on the handheld version: one at the base of the handle (B), and one on the back of the unit (A - opposite the stamp holder). Connect an airline to either one of these locations. Keep the other location plugged.

Model 75AT/85AT is air powered generate the marking force. CMT recommends a 3/8" minimum shop airline, and each unit should be installed with its own FRL (Filter Regulator Lubricator). Maximum operating air pressure is 80 psi, minimum operating air pressure is 20 psi.

Item 75FRL15 includes:

- Filter to keep compressed air clean.
- Regulator to control air pressure to the single blow air hammer – and the resulting marking depth.
- Lockout – for safety shut off air during tooling changeover and maintenance.
- Hose – Blue flexible hose to allow for flexible easy hand help operation, 15 ft [4.5 m].



How to use:

Assure that the stamp is mounted onto the end of the marker and the pin is holding it in place. Grasp the handle of the marker firmly with your wrist straight. Hold the marker against the surface you wish to mark at a 90°(square) angle to assure that all characters on the stamp are touching the surface. Press the marker down **hard and quickly**.

Lifting the marker off the surface will reset it. The internal anvil will make an audible “**Click**” sound to indicate that it has reset and is ready to fire again.

Use of the marker should leave a cleanly embedded character on the intended surface if used correctly, if the mark is too light or too heavy, refer to the [pressure guide](#).

IMPORTANT POINT

The higher the air pressure used, the harder you must push to fire the marker.



Adjustments

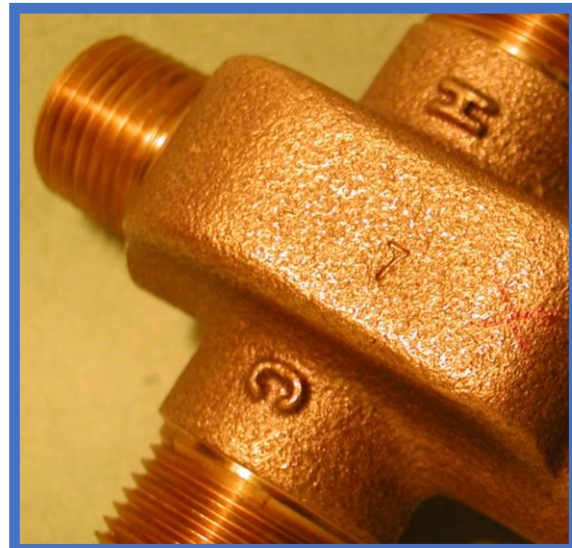
Mark Depth - Increase air pressure to mark deeper. Decrease air pressure to mark lighter. To regulate marking pressure adjust FRL (Filter/Regulator/Lubricator unit) *.

*Sold separately

Final adjustment of the air pressure will be required to find the perfect marking results for your application. The following table will provide some general recommendations for different types of commonly used material/character size combinations. Please note that marking applications noted with NA are not advisable with either the 75AT or 85AT.

Steel	Character size	Recommended PSI	
		75AT	85AT
Aluminum	(1) 1/8"	30	20
Brass	(1) 1/8"	50	40
Mild Steel	(1) 1/8"	70	60
Carbon			
Steel	(1) 1/8"	NA	80
Aluminum	(4) 1/16"	60	40
Brass	(4) 1/16"	NA	60
Mild Steel	(4) 1/16"	NA	70
Carbon			
Steel	(4) 1/16"	NA	NA
Aluminum	(2) 1/8"	NA	60
Brass	(2) 1/8"	NA	NA
Mild Steel	(2) 1/8"	NA	NA
Carbon			
Steel	(2) 1/8"	NA	NA

Larger characters may be possible to be marked with the POW-R-MARK model 95.



FAQ – Frequently Asked Questions

Q: What are the needed spare parts?

A: There are three basic spare parts: 1) Stamps 2) Spring Clip (retaining clip) 3) Seals

Q: How often to change stamp?

A: Each application is different. The speed with which the stamp wears depends on a combination of factors: 1) Hardness of the material being marked 2) Production rate or parts being marked per day 3) Air pressure. When the stamp is worn 40% - it will take more than double the force to achieve the same depth of mark. New stamps are a small price to pay to keep a clear mark in the manufacturing process.

Q: How to order stamps?

A: The stamps can be order through our [online store](#) – for the most discounted pricing. Please note that online store is a credit card payment only. For a formal quote, email: quotes@columbiamt.com.

Q: What is the delivery on replacement stamps?

A: Standard CMT Groove style and CM8X round inserts ship in 1 week or less. The shipment point is from our main factory in the USA located in Chesterfield MI.

Q: How often is it required to change the seals?

A: The wear on the seals will depend on the quality of the compressed air source and how well the filter is maintained. CMT suggests that for high volume production requires the seals to be replaced every 3 months. Once a year, for use in low volume production or clean room environments should be sufficient. Seal wear will affect the final impact force.

Q: How can the air returned for repair?

A: The following link is for an easy online [RMA](#) (Return Materia Authorization) form. Information required includes: Contact details, model information, and issues.

Upon completion of submitting this form you will receive an email notification with an RMA number please print and send with product to:

Cylinder/Stamp Returns
Columbia Marking Tools
27430 Luckino Dr.
Chesterfield Twp MI 48047

Important: When shipping from outside the US. Specify Harmonized Tariff Code 9801.00.10.31 "Products of the United States when returned after having been exported, without having been advanced in value or improved in condition by any process of manufacture or other means while abroad."

All shipping, duties, and services to be charged to the shipper.

Please allow on average 1-2 days for analysis and review. This time may be less for easily identifiable issues and repairs. A quotation of the repair will be provided via email.

To proceed with the repair please use the EASY BUTTON in the email for payment and processing or call with charge card information.

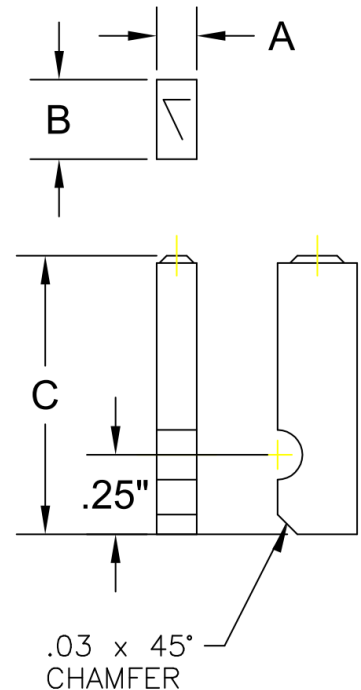


Spare Parts

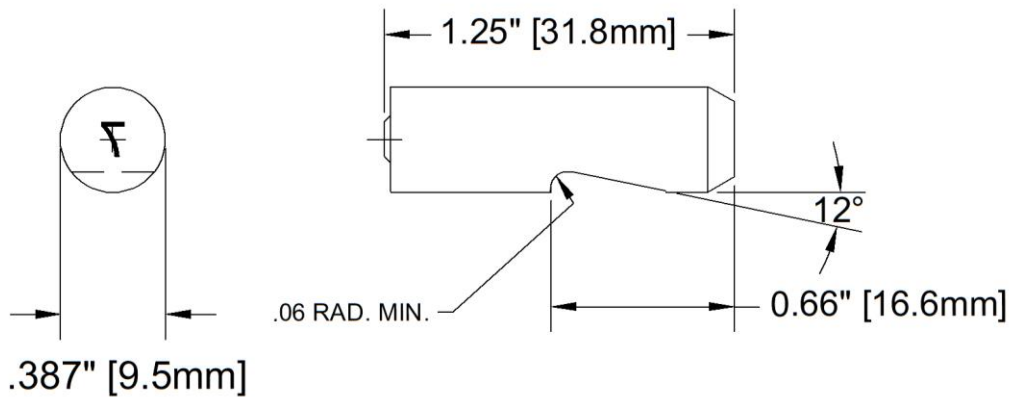
Stamps: Rectangular: CMG Groove Style

Style G Groove Type				
Char Size	A	B	C	Catalog No.
1/16"	1/16"	1/4"	7/8"	CMG06-
3/32"	3/32"			CMG09-
1/8"	1/8"			CMG13-

- When ordering please use the character required after the dash. Example "CMG13-A" would be for the 1/8" letter A.
- Symbols and punctuation are available – please see chart for reference.
- Special length characters may be needed to mark in recess. C is available up to 3" long.
- Dot Style characters are a great solution for reducing the required force needed to mark a specific character size. For example – if the tool is not capable to mark a 3/16" character into the material you are marking, please try the CMG13DOT the dot style configuration reduces the force needed to mark the part.



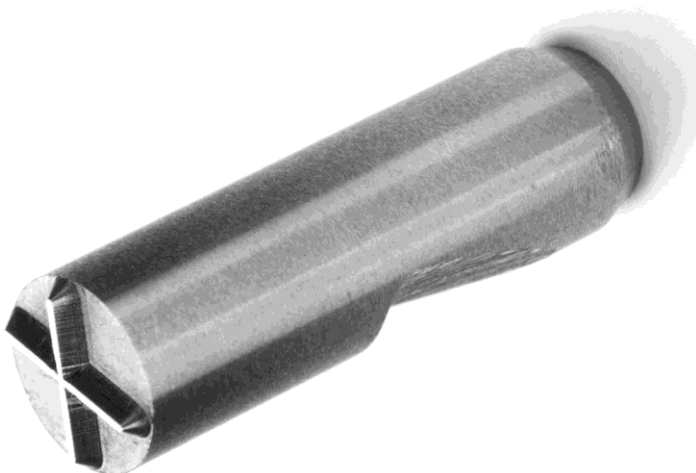
Stamps: Round: CM8X Standard Round Inserts



- When ordering please use the character required after the dash. Example “CM8X13-A” would be for the 1/8” letter A.
- Symbols and punctuation are available – please see chart for reference.
- Special length characters may be needed to mark in recess. C is available up to 3” long.
- Dot Style characters are a great solution for reducing the required force needed to mark a specific character size. For example – if the tool is not capable to mark a 3/16” character into the material you are marking, please try the CM8X13DOT

CM8X Round Insert	
Char Size	Catalog No
1/16”	CM8X06-
3/32”	CM8X09-
1/8”	CM8X13-
5/32”	CM8X16-
3/16”	CM8X19-
1/4”	CM8X25-

the dot style configuration reduces the force needed to mark the part.



Repair Kit

Complete 75-RKSN repair kit shown. Easy to replace parts make the Single-Blow-Air-Hammer a long-lasting durable tool. Works with 75AT/85AT/75S/85S models.

075RKSN-Repair kit (all items required to repair marker):

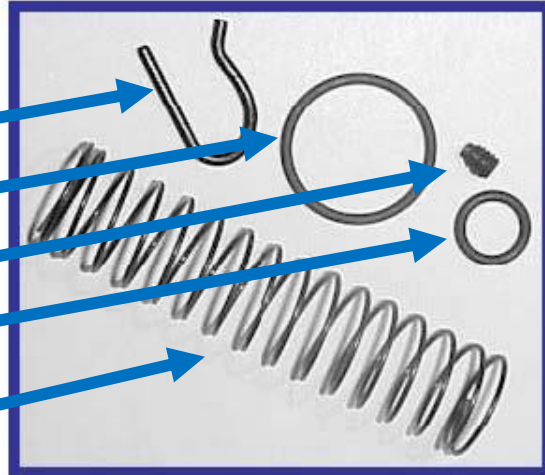
75-10 Spring Clip

75-5 O-Ring

v75-11A Set Screw

75-8 O-Ring

75A-3 Compression Spring



All items in the repair kit sold separately.



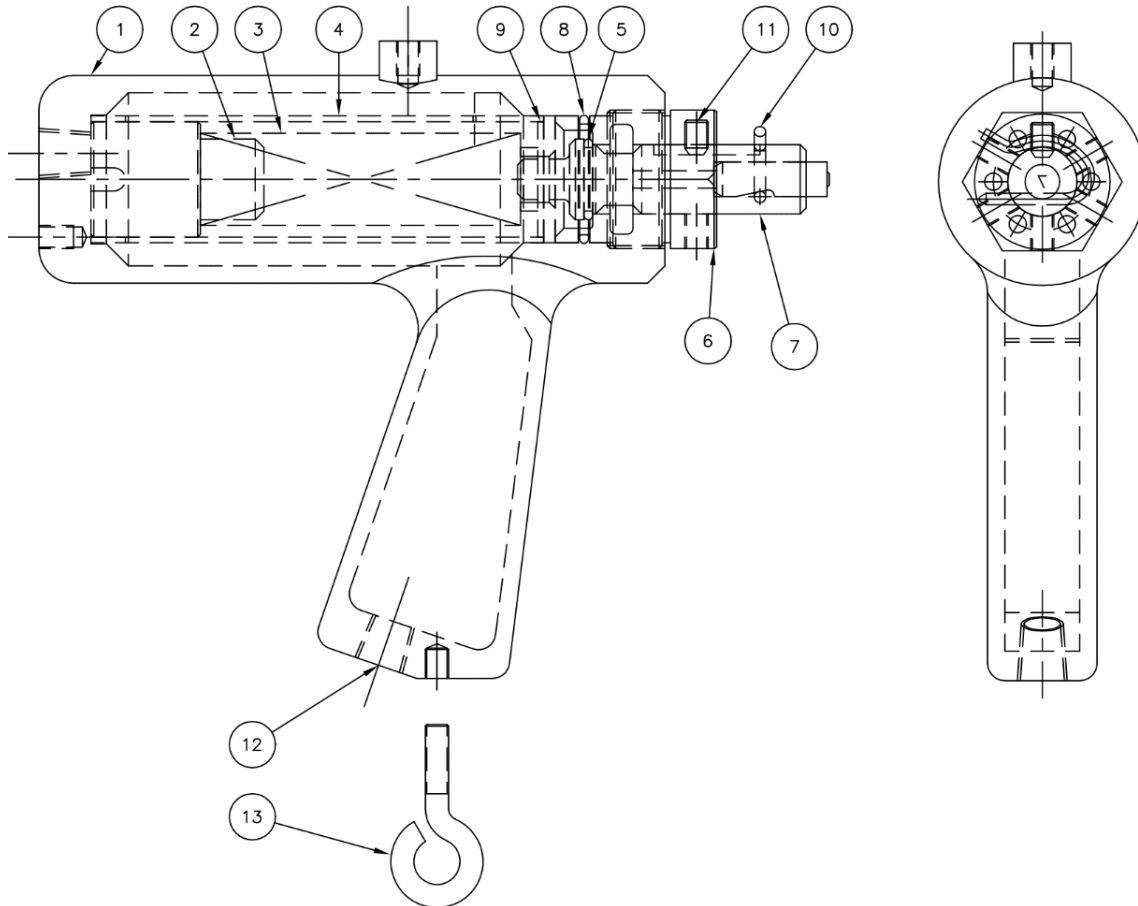
- Applications requiring extensive changeover of character stamps may require additional spring clips.
- Applications using high air pressure will require additional compression springs.
- Applications subject to extensive aerial particulate will require additional seals.

Bill of Materials

13- Chu-07040 Eye Bolt*	7B-75AT-7B "B" Ram for round inserts
12-3/8" NPT Flt piper plug	6- 75AT-6 Collar
11- Half dog pf NY loc set scr	5- 75AT-5 "O" Ring
10- 75AT-10 Sprint Clip	4- 75AT-4 Sleeve
9- 75AT-9 Spacer	3- 75AT-3 Comp Spring
8- 75AT-8 "O" Ring	2- 75AT-2 Plunge
7A- 75AT-7A "A" Ram for rectangular stamps	2- 85AT-2 Plunge for model 85
	1- 75AT Housing

All components are the same for the model 75AT and 85AT except for the Plunge.

*Sold Separately



Maintenance

WARNING: TURN OFF ALL AIR PRESSURE BEFORE PREFORMING ANY MAINTENANCE.

Tools required:

- A flathead screwdriver.
- A 1/8" Allen wrench
- Crescent wrench that can extend beyond 1.75" (for changing the seals)

Disassembling the 75AT is very easy and can be performed with simple tools.

Stamp replacement:

- Stamps should be replaced every 3-6 months depending on wear
- Remove (75AT-10) Spring clip. To do this, simply insert your flathead screwdriver into the space between the bend in the pin and the hammer, then lever the pin out. Then the stamp can simply be pulled out.
- Replace stamps and put spring clip back on.
- Do not use cotter pins. CMT recommends using the CMT brand spring clips

Online store links for: [ROUND INSERTS](#) or [RECTANGULAR TYPE](#)

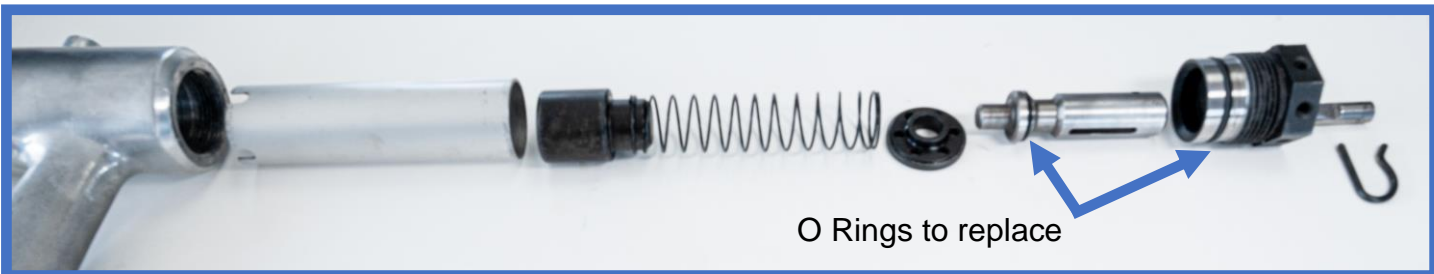


Seal Replacement:

- To access the internal parts of the model 75AT/85AT disassembly begins with removing the set screw.
- Insert a 1/8" Allen key into the set screw and unscrew it from place. After this, the hammer can now rotate freely.
- The next step is to remove the black collar from the steel frame. Simply use a wrench to unscrew the collar from place.
- The components within the air hammer will freely fall out.



- The two seals can be changed out with the assistance of the screwdriver.
- Once replaced, reassemble system.
- When reassembling, keep in mind not to tighten the set screw too much, as this will prevent the hammer from moving back and forth.



Troubleshooting table

Common Issue	Symptoms	How to Fix
Low air pressure	Shallow or incomplete marking.	Turn up air pressure. Check hose size, should be 3/8", and air connection.
High air pressure	Too deep or hard to control marking.	Turn down air pressure. Model 75/85 should not be connected directly into shop air, may need to install 75FRL.
Set screw is too tight	The rod is frozen in place, preventing normal function	Untighten the set screw.
Set screw is not set in place	The rod is spinning freely	Align the slash in the rod with the position of the set screw and tighten.
Incomplete seal	The tool is leaking air when pressurized.	Disassemble the 75AT and check the O-ring for damage. Replace O-ring if damaged. If the O-ring is not damaged, clean unit and replace lock-tight.
Worn stamps	Shallow or incomplete mark, or having to use higher air pressure	Replace with new stamps. Online store links for: ROUND INSERTS or RECTANGULAR TYPE

Most common issues are due to insufficient air supply. Strongly recommends the purchase of the FRL to assure a regulated compressed air source.

Warranty Information

Limited One-Year Warranty

Columbia Marking Tools manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry-standard practices. Columbia warrants that the hardware products it manufactures will be free from defects in materials and workmanship. The warranty term is one year beginning on the date of invoice, as further described in the following text.

Damage due to shipping the products to you is covered under this warranty. Otherwise, this warranty does not cover damage due to external causes, including accident, abuse, misuse, problems with electrical power, servicing not authorized by Columbia Marking Tools, usage not in accordance with product instructions, failure to perform required preventive maintenance, and problems caused by use of parts and components not supplied by CMT.

This warranty does not cover any items that are in one or more of the following categories: software; external devices (except as specifically noted); accessories, parts or components added to a Columbia system after the system is shipped from CMT; accessories, parts or components that are not installed in the Columbia Marking Tools factory or associative companies; or accessories, parts or components that are sold with an expressed specific warranty in place of being covered under this warranty.

Columbia will repair or replace products covered under this limited warranty that are returned to Columbia's facility. To request warranty service, you must call Columbia's Return Material Authorization or Service Department within the warranty period. If warranty service is required, Columbia will issue a Return Material Authorization Number. You must ship the products back to Columbia in their original or equivalent packaging, prepay shipping charges, and insure the shipment or accept the risk of loss or damage during shipment. Columbia will ship the repaired or replacement products to you (freight prepaid) if you use an address in the continental U.S., where applicable. Shipments to other locations will be made freight collect. Columbia Marking Tools will not take responsibility for the cost of transportation required for the unit to be returned to the purchaser/owner.

NOTE: Before you ship the product(s) to Columbia, back up the data on the hard-disk drive(s) and any other storage device(s) in the product(s). Remove any removable media, such as diskettes, CDs, or PC Cards. CMT does not accept liability for lost data or software. ** CMT owns all parts removed from repaired products. Columbia Marking Tools will use new and reconditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If Columbia repairs or replaces a product, its warranty term is not extended.

General Provisions

COLUMBIA MARKING TOOLS MAKES NO EXPRESS WARRANTIES OR CONDITIONS BEYOND THOSE STATED IN THIS WARRANTY STATEMENT. CMT DISCLAIMS ALL OTHER WARRANTIES AND CONDITIONS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE UNLESS AUTHORIZED BY CMT'S GENERAL MANAGEMENT. SOME STATES (OR JURISDICTIONS) DO NOT ALLOW LIMITATIONS ON IMPLIED WARRANTIES OR CONDITIONS, SO THIS LIMITATION MAY NOT APPLY TO YOU.

COLUMBIA MARKING TOOLS' RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN HARDWARE IS LIMITED TO REPAIR AND REPLACEMENT AS SET FORTH IN THIS WARRANTY STATEMENT. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE (OR JURISDICTION TO JURISDICTION).

COLUMBIA MARKING TOOLS DOES NOT ACCEPT LIABILITY BEYOND THE REMEDIES SET FORTH IN THIS WARRANTY STATEMENT OR LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION ANY LIABILITY FOR PRODUCTS NOT BEING AVAILABLE FOR USE OR FOR LOST DATA OR SOFTWARE.

SOME STATES (OR JURISDICTIONS) DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE PRECEDING EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU.

These provisions apply to CMT's limited one-year warranty only. For provisions of any service contract covering your system, refer to your invoice or the separate service contract that you will receive.

In any instance in which Columbia issues a Return Materials Authorization Number, Columbia Marking Tools must receive the product(s) for repair prior to the expiration of the warranty period in order for the repair(s) to be covered by the warranty.