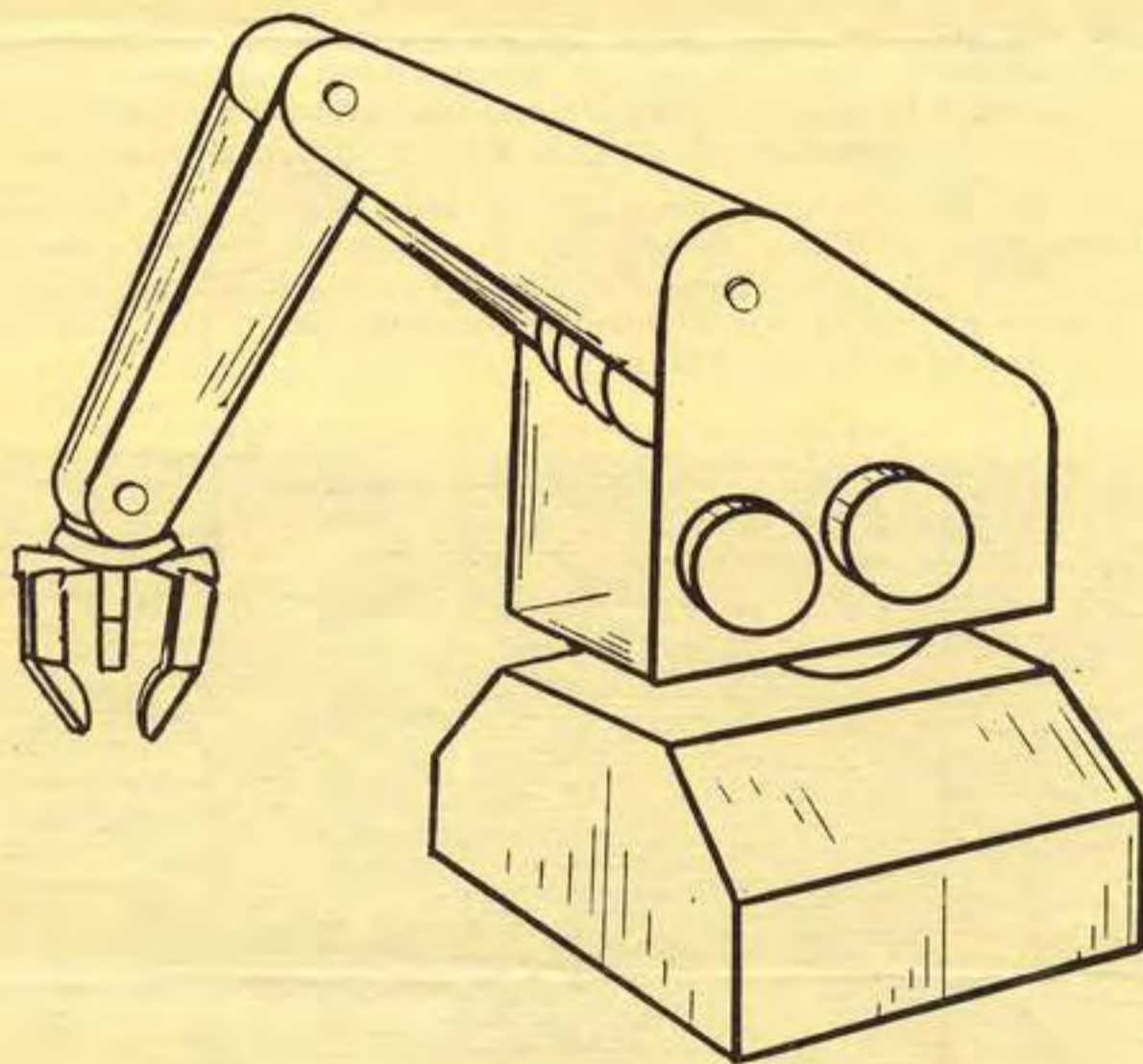


# THE ROBOTIC ARM



## ARMOROID

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COLNE ROBOTICS, INC.  
207 N.E. 33rd Street  
Fort Lauderdale, Fla. 33334

## WHAT IS A ROBOT?

A robot is a reprogrammable, multifunctional manipulator designed to move material, parts, tools or specialized devices through variable programmed motions.

The essential difference between a robot and a automated machine tool is that the industrial machine tool is specialized in its application while the robot is infinitely variable and can be used as part of a flexible production line.

The industrial robot has been in existence for many decades but the development of the microprocessor and micro-electronics has made them economically viable. The development of the small robotic arm, the ARMDROID I has been made possible due to the silicon chip "revolution".

## OPERATION:

The ARMDROID I is a computer controlled manipulator with five axes of rotation and a three fingered gripper. It is a continuous path robot arm allowing all motions to be operated simultaneously. The unit can be operated under direct microcomputer keyboard control or can be taught a series of motions which can be repeated as often as desired. The rubberized three fingers can hold items of various sizes and shapes.

An ARMDROID feature is its "parallelogram" operation. Starting with the upper arm verticle, the forearm horizontal and the hand pointing downward, the shoulder joint can be rotated and the forearm and hand will retain their orientation. The forearm can be raised and lowered and the hand will remain pointing downward. This feature can be important when picking and placing objects.

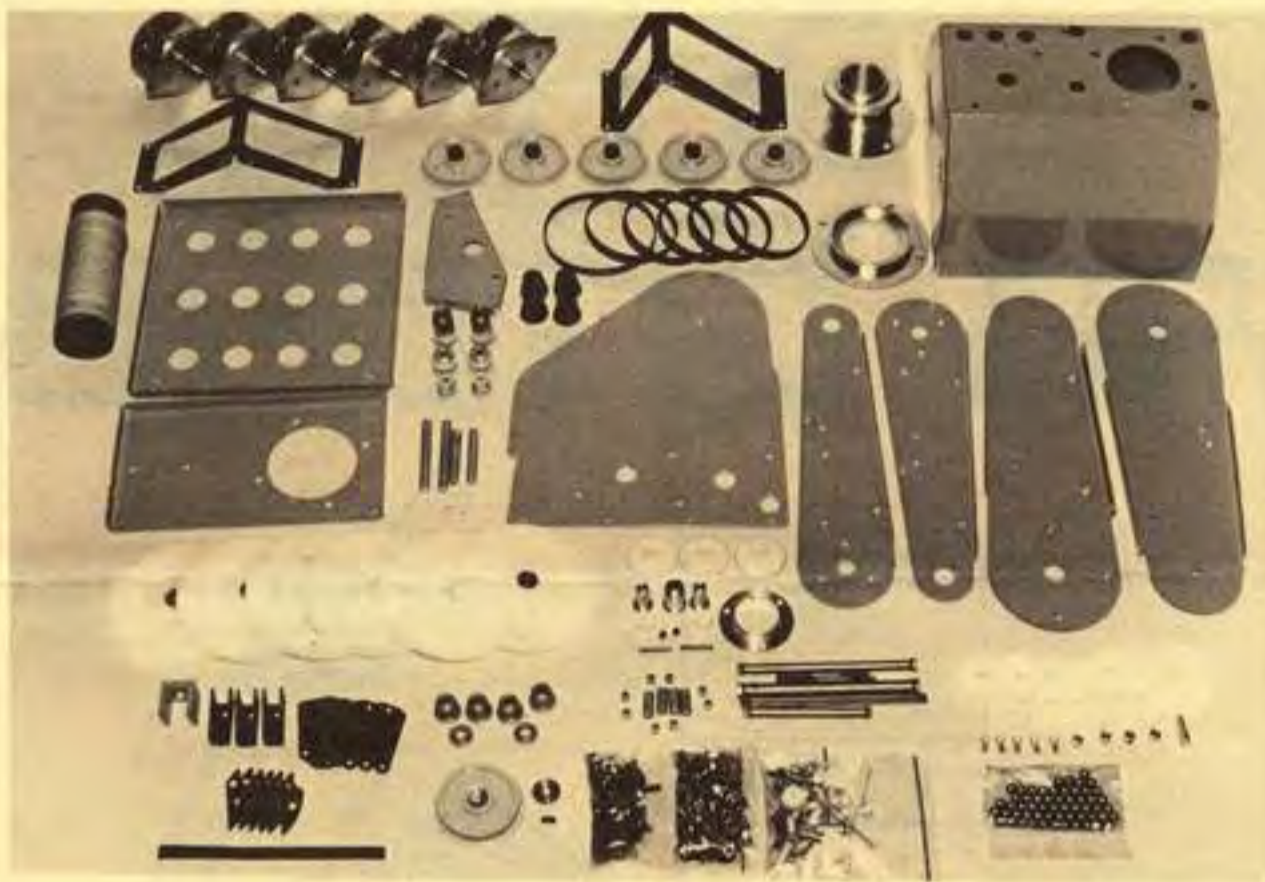


## THE COMPLETE ARMDROID I UNIT, ASSEMBLED:

The completely assembled unit includes a separate power supply, software cassette and owners manual. With the addition of the computer connector lead, the unit is really to be plugged in and operated.

## LIMITED WARANTEE

All parts and materials are waranted by the manufacturer for a period of one year under normal usage. Parts used in kits will only be replaced if inspected by the manufacturer to ascertain that the unit was assembled properly.



#### **THE ARMDROID I KIT, UNASSEMBLED:**

The kit contains all of the necessary parts to assemble a complete unit, including the power supply, assembly and owners manual and software cassette. Some tools are included. The average assembly time for an experienced builder is 20 to 25 hours.

#### **USAGE:**

This low cost robotic tool can be used in the home, school or research laboratory as an educational device or in the factory as a light industrial tool. It can be driven and controlled by most any microcomputer and can be used as a computer peripheral.

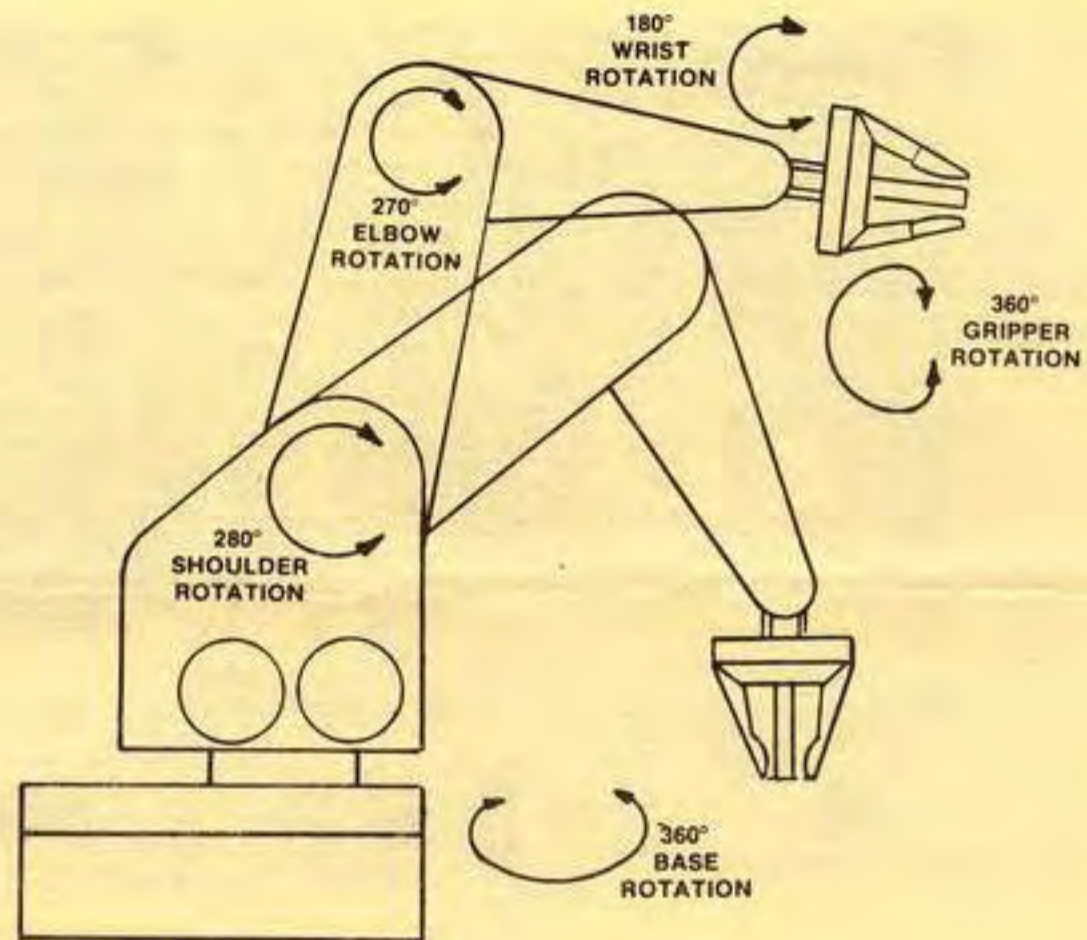
#### **SOFTWARE:**

Programs have been written for most of the microcomputers, either in machine code or BASIC. They are memory oriented and have a learning capability. Higher language programs are being developed and will be made available to ARMDROID I owners. A "learn" program cassette is provided with each ARMDROID, at no cost, for use with the Radio Shack TRS-80 model I computer. Cassettes for other microcomputers such as the PET and Apple are available at a small additional charge.

#### **MANUALS:**

A complete owners manual is provided with each assembled unit. An assembly manual is also provided with each kit. Either of these manuals may be ordered separately for \$5.00 each. Additionally, the complete "Learn" program listing can be provided for a cost of \$5.00.

Due to the variations in microcomputer port connectors, the connector is not supplied as part of the assembly or kit. Please order separately specifying which computer is to be used.



### ARMROID I SPECIFICATION:

Weight .....	8 pounds (excluding power supply)
Size .....	6" x 9" x 12" high (retracted)
Reach .....	17" (shoulder to fingertip, extended)
Load Capacity .....	10 ounces (with arm fully extended)
Gripping Force .....	5 pounds (maximum)
Drive .....	6 stepper motors, open loop system
Controller .....	Any 8-bit parallel port computer
Power Requirements .....	15 volts, d.c., 3 to 5 amps (power unit supplied requires 115VAC, 60Hz)
Resolution .....	0.15 inch. (Can be fine tuned)

### ARMROID I OPTIONS:

A number of optional ad-ons are being designed which will provide for greater utilization of the ARMROID I. Manual control, closed loop control, vision, vacuum operated paper suction devices, and a variety of sensors are but some of the items which will be available. Owners will be provided with new product releases.

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305/566-3101