Documentation Package
for CF-9 Taped Radial Component Lead Former
PN 901-1-01

CONTENTS of CF-9 Documentation Package	
Operating Guide	In addition to installation, set up, and operating procedures, this guide includes electrical schematics and maintenance, troubleshooting, spare parts, and specifications details.
Bills of Material	Includes an illustrated bill of material with associated part numbers for each CF-9 subassembly.
Die Catalog	Catalog of dies precisely manufactured by GPD Global® to accurately form Radial components into a wide variety of component shapes.
Set Up Form	Fill out this Set Up form and then use it as a guide for consistent results for each component part number.

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CF-9

Radial Lead Forming Machine

User's Guide

Version 2.1
June 4, 2014

Prepared by
GPD Global® Documentation Department

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Warranty

GPD Global (GPD) warrants that this product will be free from defects in material and workmanship for a period of one (1) year from the date of original purchase. GPD will repair, or at its option, replace this GPD product during the warranty period at no charge, provided it is returned (shipping-postage paid) to the GPD, Colorado service facility.

The one year warranty does not cover normal wear and tear to the cutting and forming tooling, since life usually depends on use.

This warranty does not apply if the GPD product has been damaged by accident, abuse, misuse, or misapplication, has been modified without the written permission of GPD, or if any GPD serial number has been removed or defaced.

GPD IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY INCLUDING ANY COSTS OR DAMAGE TO PROPERTY, AND, TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES. ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO ONE (1) YEAR FROM THE DATE OF RECEIPT OF THIS PRODUCT. GPD'S LIABILITY ON ANY CLAIM OF ANY KIND INCLUDING NEGLIGENCE, FOR LOSS OR DAMAGE ARISING OUT OF, CONNECTED WITH OR RESULTING FROM THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY OR THE DELIVERY, REPAIR, OR USE OF ANY GPD PRODUCT SHALL IN NO CASE EXCEED THE PRICE ALLOCABLE TO THE GPD PRODUCT WHICH GIVES RISE TO THE CLAIM.

Specifications, descriptions, and all information contained in this manual are subject to change and/or correction without notice.

Although reasonable care has been exercised in the preparation of this manual to make it complete and accurate, this manual does not purport to cover all conceivable problems or applications pertaining to this machine.

Safety Instructions

Symbol samples and definitions for the DANGER, WARNING, CAUTION, IMPORTANT and NOTE safety notices used in this document are as follows:

**** D A N G E R ****

Danger notices are used in this document to emphasize life threatening or potentially harmful situations.

W A R N I N G

Warning notices are used in this document to emphasize chance of injury, harm to life or limb due largely to something beyond one's control.

C A U T I O N

Caution notices are used in this document to alert one to avoid danger or harm and where equipment might be damaged if care is not taken.

I M P O R T A N T

Important notices are used in this document to call attention to imperative information.

NOTE

Note is used in this document to call attention to information that is especially significant in understanding and operating the equipment.

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Introduction

This document is intended for use by those who install, operate and maintain GPD's CF-9 Radial Lead Forming Machine (GPD Part# CF9.BASE.120 or CF9.BASE.230).

CF-9 Radial Lead Forming Machine

GPD's self-contained CF-9 Radial Lead Forming Machine has become the industry standard for versatility, accuracy, repeatability, and ease of setup and change over. The CF-9 forms and cuts to length a wide variety of two- and three-leaded taped radial components such as TO-92's, capacitors, transistors, and LED's. It processes both standard and special forms precisely and repeatedly.

Two die stations with standard micrometer scale indicators adjust independently. Performing adjustments with the micrometer scales enables quick setup of proper forming and/or cutting settings.

As the first component moves through the system, it is presented to two die stations. The first die station is generally used to form components, and the second to cut components from the tape. Depending on the components being processed and the desired component lead form, the second station may be used to both cut and form, just cut, or be excluded in order to leave components on tape.

The indexing system, the heart of the CF-9, drives the studded transfer belt. The studs, or pins, on the belt pick up the tape holes and index exactly 1/2" (12.70 mm) every time.

The CF-9 is ruggedly constructed of heavy duty parts and sealed ball bearing shaft assemblies for low maintenance. All of the machine's parts are precisely made and treated to prevent corrosion, enhance appearance, or facilitate proper function.

The tape roller guide includes studded protrusions to hold the component tape solidly in place — the tape cannot run off the drive belt mechanism. Waste tape feeds down a tape exit chute and out to the side of the machine for easy disposal.

The CF-9's capabilities expand with its Loose/Bulk Component Feeder and Automatic Taped Component Re-reeler accessories by combining the functions of several machines into one. Additional accessories such as the Electronic Component Counter, Component Detection System, Lazy Susan, Work Station, and Footswitch are also available to help increase your production and profit.

CF-9 Lead Forming Dies

The CF-9 offers unique versatility through the use of a large selection of dies. The CF-9 operates on a system of dies and die blocks. Each die combination is designed to form a specific lead configuration. Numerous standard and special CF-9 Lead Forming Die sets are available to provide a variety of component forms and lead configurations. Many different die sets for various transistor hole patterns are also available.

A minimal amount of preparation time is required to reset the machine for processing different component sizes. Dies are easily replaced within minutes.

GPD's CF-9 dies are precisely manufactured using a unique die construction process. Most dies are built with a sectional, laminated construction method for exceptional wearing ability. Before lamination, all dies are buffed and polished to exacting smoothness, particularly in the actual forming and cutting areas.

Function

CF-9 Radial Lead Forming Machine

The CF-9 performs the following functions:

- Forms and cuts up to 25,000 radial components per hour with a variable speed motor.
- Produces a variety of lead forms.
- Accommodates components with a wide range of lead diameters.
- Handles a diversity of hole-to-hole spacings.
- Controls accuracy and repeatability through the use of a solid gear train, cam, and cam follower indexing system.

Most cutting and forming needs are covered with the standard dies we offer. Several of the most common component forms the CF-9 produces are illustrated in the *Common CF-9 Lead Forms* appendix.

CF-9 Lead Forming Dies

CF-9 Lead Forming Die sets are available to perform the following functions:

- Produce both common and special configurations. GPD is pleased to design custom dies for you. If you have unusual requirements, your GPD representative will be happy to assist you with any custom die orders.
- Form two-leaded components with up to .400" (10.16 mm) center-to-center dimensions.
- Form three-leaded TO-92 transistors.
- Offer unique versatility through the use of a large selection of different dies to form a wide variety of component shapes.

NOTE

All CF-9 dies will also work on the GPD CF-10 Loose/Bulk Component Lead Former.

Theory of Operation

The CF-9 performs the following steps during a cycle:

1. Feeds taped radial components from the reel holder through a pair of tape roller guides into the feeding mechanism and the forming and cutting die stations.
2. Forms the component in the first die station.
3. Indexes the formed component to the second die station while simultaneously indexing the next component into the first die station.
4. Cuts the formed component from the tape in the second die station, drops the component in the component bin, and disposes of the tape down a waste tape exit chute while simultaneously forming the component at the first die station.
5. Initiates next cycle.

NOTE

Depending on the components being processed and the desired component lead form, die Station 2 may be used to both cut and form, just cut, or be excluded in order to leave components on tape.

Machine Part Identification

The CF-9's principal machine and die elements are identified and illustrated in this section. Information for elements not defined elsewhere is also included here.

Principal Parts

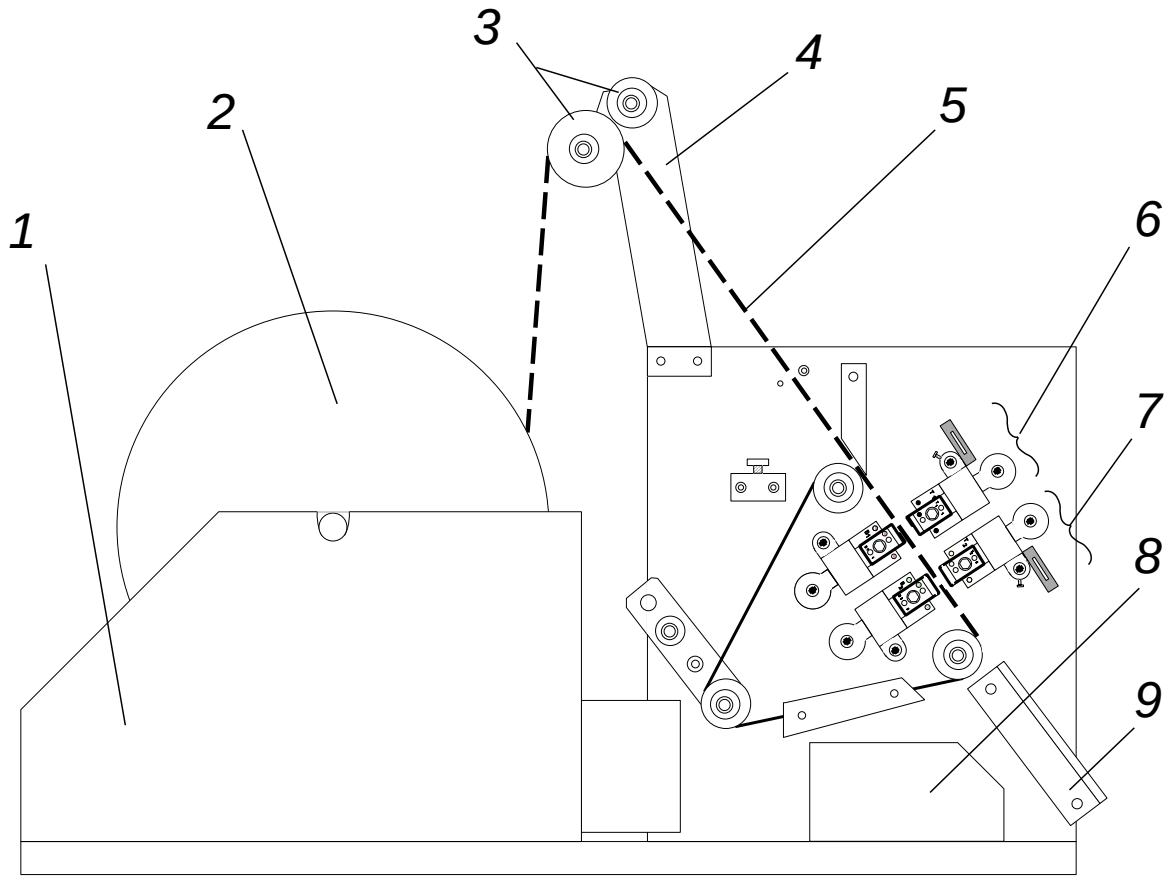

Figure 1 Principal Parts

Item 1	Reel Holder	Item 6	Die Block Assembly, Station 1
Item 2	Component Reel / Ammo Pack	Item 7	Die Block Assembly, Station 2
Item 3	Tape Roller Guide	Item 8	Component Bin
Item 4	Tape Guide Arm	Item 9	Tape Exit Chute
Item 5	Taped Components		

Die Stations

Station 1 is adjustable and normally used as a forming station. Station 2, also adjustable, is normally used as a cutting station. More complicated forms may require Station 2 to complete the forming function prior to cutting the component from the tape, or special flattening blocks can be inserted if additional dimple alignment is required.

Adjustment Parts

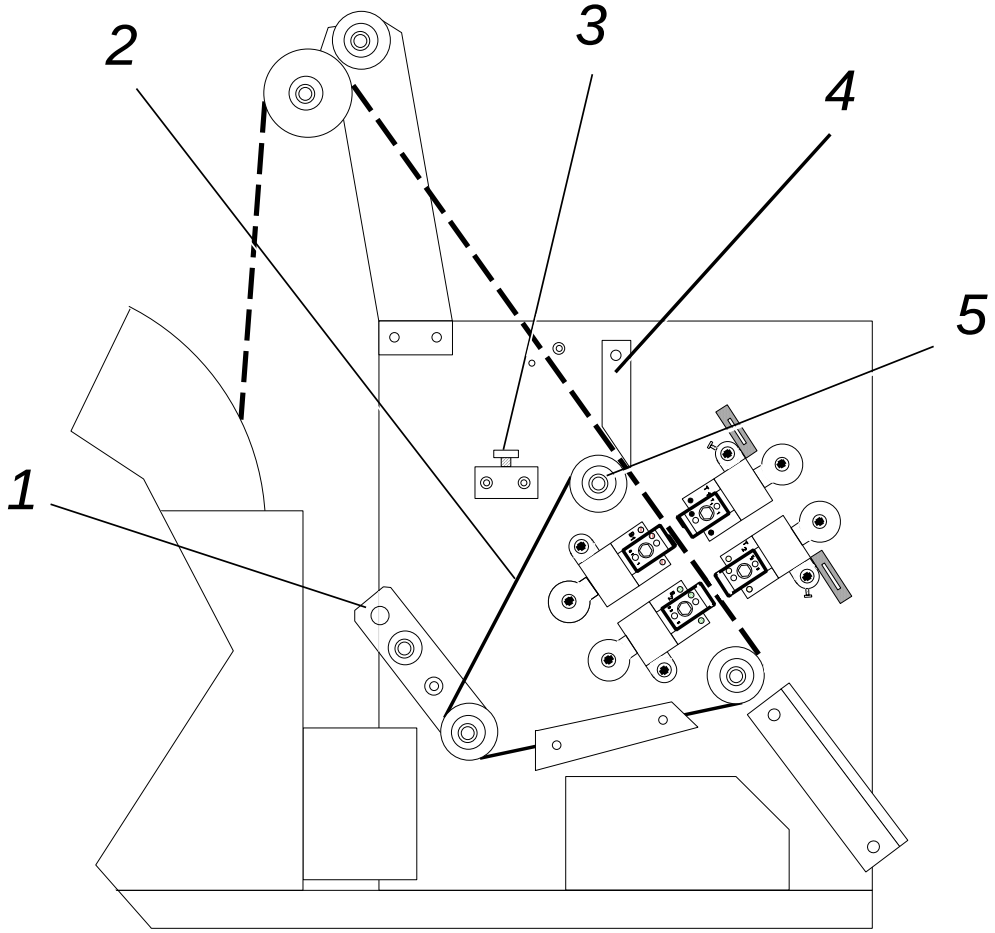

Figure 2 Adjustment Parts

Item 1	Belt Tension Release Bar	Item 4	Component Tape Pressure Plate Lever
Item 2	Transfer Belt		
Item 3	Safety Shield Lock	Item 5	Drive Pulley (adjusts Transfer Belt timing)

Hand Crank

Not shown. The hand crank port is located in the lower left corner of machine's back panel. By inserting the supplied Allen Key in this port, the operator can slowly operate the CF-9 manually, moving all mechanisms during setup, adjustment, testing, or troubleshooting to assure proper die and component positioning. The hand crank can be used to move mechanisms in reverse only during setup and only when no components are loaded.

Safety Shield

Not shown. The safety shield must be in place during machine operations. Machine operations cease whenever the shield is opened.

Control Panel

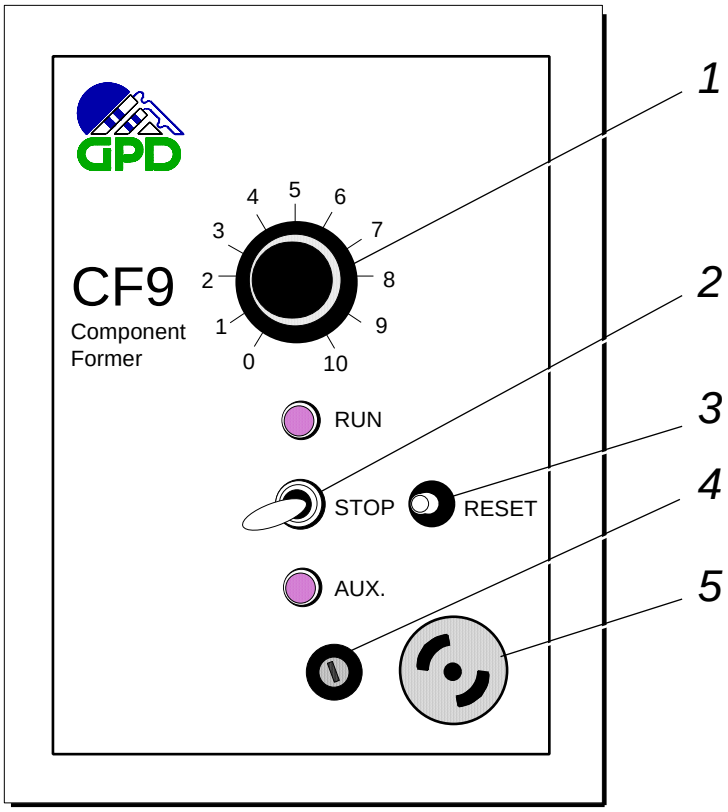

Figure 3 Control Panel

Item 1	Speed Control	Item 4	Fuse
Item 2	Power Switch (RUN, STOP, AUX)	Item 5	Accessory Outlet
Item 3	Reset Button		

Speed Control

The speed control regulates both the variable speed motor and power supply and enables the machine to operate in a range from 0 to 25,000 cycles per hour. The operator has full freedom to select whatever speed is appropriate to the work being performed.

Reset Button

As a safety feature, power is not automatically restored by closing the safety shield. To restore power, it is necessary to close the shield and then push the reset button. Normal operation can then be resumed.

Die Block Assembly

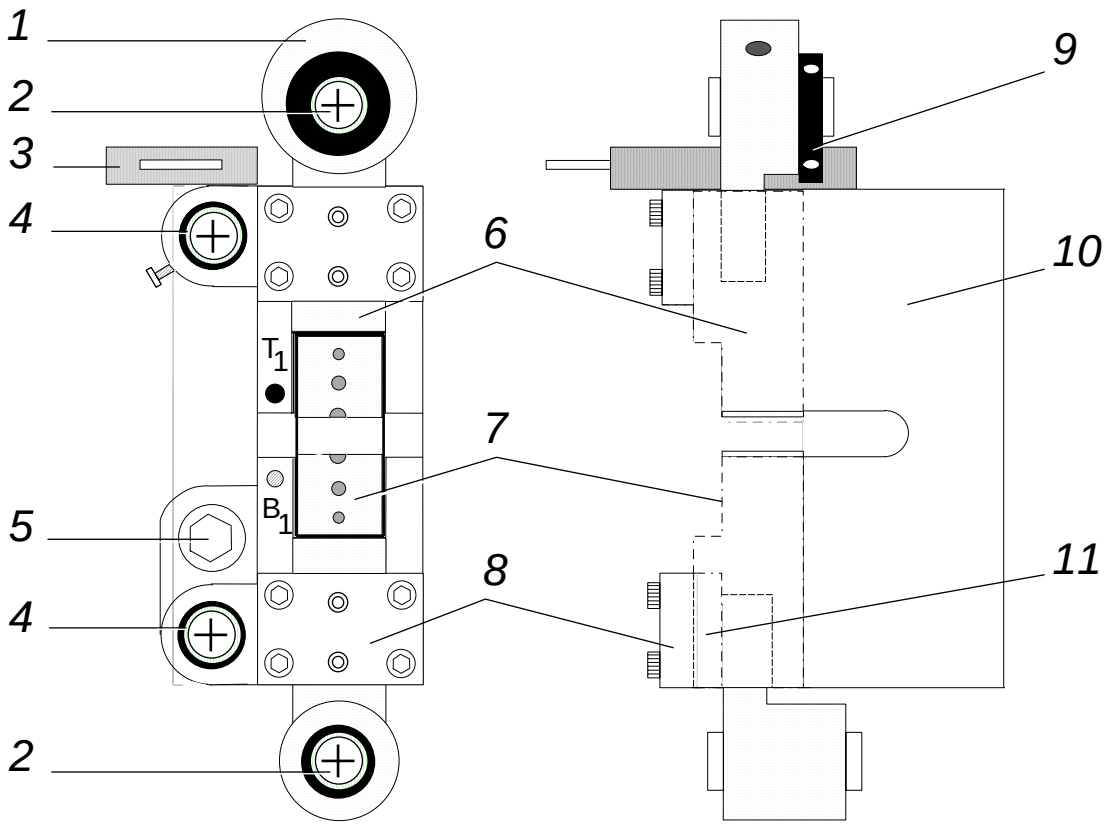

Figure 4 Die Block Assembly, Station 1

Item 1	Eccentric Crank	Item 7	Die Mounting Area
Item 2	Crank Shaft	Item 8	Cover Plate
Item 3	Micrometer Scale Indicator	Item 9	Crank Adjuster
Item 4	Die Station Guide Shaft	Item 10	Die Block
Item 5	Die Block Adjusting Bolt	Item 11	Wear Plate
Item 6	Die Block Slide		

Micrometer Scale Indicator

The micrometer scale indicator mounted on each die station makes the lead cut length adjustment operation quick, easy, and highly accurate to .0005" (0.0127 mm).

Die Markings

Dies and knives are paired and stamp marked with the following symbols so each can be readily identified and installed in the correct station position:

- Forming Style Series Number
- Installation Marking
- Installation Color Dot

Forming Style Series

The forming style series is stamped on its right hand side of each die and knife (Figure 5). Refer to the *Die Information* appendix for specifics.

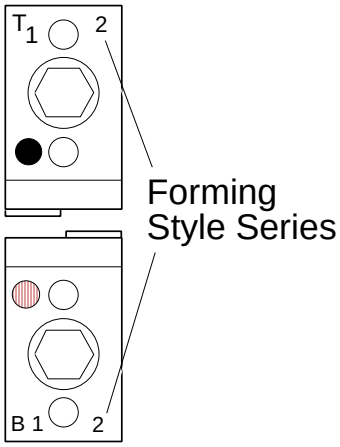

Figure 5 Die Forming Style Series

Installation Marking
Installation Color Dot

Characters are stamped on the left hand side of each die half (Figure 6, Item 1) to indicate proper die position in the forming and cutting stations. Corresponding markings are stamped on each station's stationary plate (Item 2). A color dot (Item 3) associated with installation location is also stamped on each die half and stationary plate.

Marking	Color Dot	Location
T1	Black	Top die, Station 1
B1	Red	Bottom die, Station 1
T2	Yellow	Top die, Station 2
B2	Green	Bottom die, Station 2

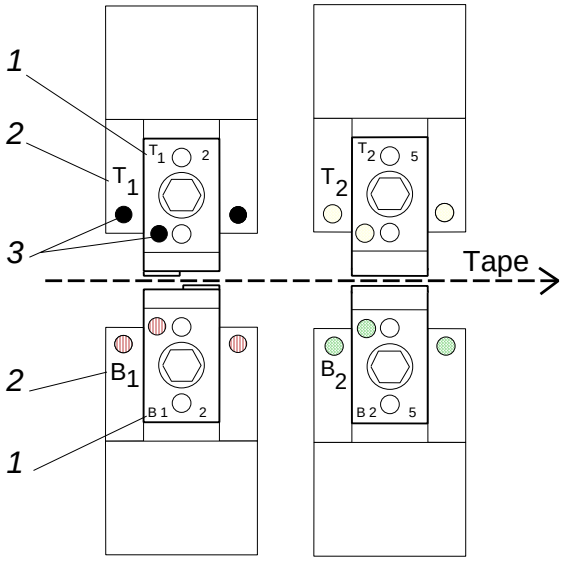

Figure 6 Die & Station Markings

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Installation

1. Carefully unpack and check your CF-9 for possible shipping damage. If any obvious damage is observed, contact GPD's service department prior to operating the machine.

2. Standard equipment included with the CF-9:

1	Standard Die Set	1	Reel / Ammo Pack Holder
1	Standard Knife Set	1	Operating Manual
1	Anti-static Shield and Bin Package	1	Set of Wrenches
1	LCD Micrometer Adjustment Package		

3. Position the CF-9 on a level, stable working surface. If using the optional Lazy Susan or Work Station, install CF-9 on these at this time.

4. Assemble reel holder and tape guide arm. Refer to Figure 7, Items 1 & 2 for proper placement on the machine. The screws (1/4-20x1/2") for securing the reel holder and tape guide arm are located in the appropriate holes in the CF-9's main frame.

C A U T I O N

Never pull, push or lift machine by reel holder or tape guide arm - this could bend them out of alignment and seriously affect machine performance.

5. Assemble safety shield with hinges and 10-32x3/8" screws attached to shield.

6. Position component bin (Item 3).

7. Install any accessory equipment to be used during processing. Refer to *CF-9 Accessories* appendix.

8. Set speed control to zero (0) position.

9. Hook up electrical power per your local electrical code and machine specifications. Refer to *Specifications*.

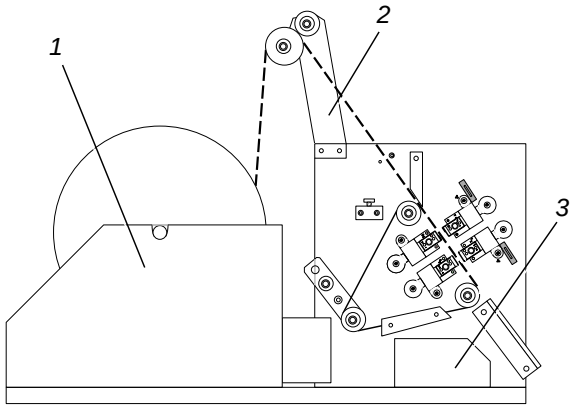

Figure 7 CF-9 Installation

W A R N I N G

Make sure the power supplied is of proper voltage and is fused at the proper amperage. This information is recorded in *Specifications* and on the serial number plate located on the power cord side of the machine.

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Operating Instructions

I M P O R T A N T

Read this manual before turning the power on. Failure to follow the instructions in this manual could result in damage to the machine and/or dies. Uneven forming of the component leads and/or machine failure could result.

Requirements

- The component reel tape must be sturdy enough to maintain adequate component pitch to prevent improper component feeding. If tape integrity is acceptable, the component body will be supported and stress will not be placed on leads during lead forming.
- Taped component leads must be straight to prevent misfeeding and unacceptable lead forms. GPD's Component Detection System identifies bent components and stops machine operations to prevent die breakage. Refer to the *CF-9 Accessories* appendix.

Suggestions

- Use quality components on quality tape.
- Planning prior to lead forming operations is suggested as this enables users to quickly produce the maximum number of components for a given system configuration.

W A R N I N G

For operator and machine safety, keep fingers, clothing, and foreign objects away from the machine's moving mechanisms while in operation. Failure to do so may result in bodily injury or damage to the machine.

Setup

1. Turn power switch to OFF.
2. Plug machine into appropriate power supply. Refer to *Specifications*.
3. Select appropriate dies and knives. Refer to *CF-9 Component Forming Die Catalog*.
4. Install proper dies and knives according to the following die installation instructions.
5. Use hand crank to check for proper die setup.

Die Installation

To properly position dies in Stations 1 and 2 and insure efficient machine use, follow the die installation steps below. Be sure to test all adjustments with the manual hand crank to verify that component body will not be damaged by forming dies or knives and that the component is centered between the die station tooling.

1. Select dies. Refer to *CF-9 Component Forming Die Catalog*.
2. Clean dies and die slide locating surfaces per *Preventive Maintenance* "Daily" instructions.

3. Install dies:
   a. Refer to *Die Markings* (page 9) for proper locations.
   b. Carefully place each die on proper die mounting surface (Figure 8, Item 1) and bolt in place with a 5/8" (15.75 mm) screw. Then manually turn machine's hand crank (page 6) until die block slides (Item 2) are in their fully closed position.

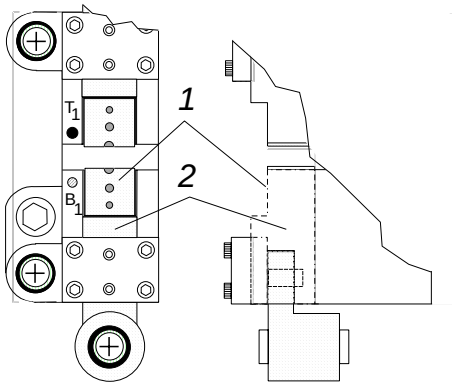

Figure 8 Die Mounting Surface & Die Block Slide

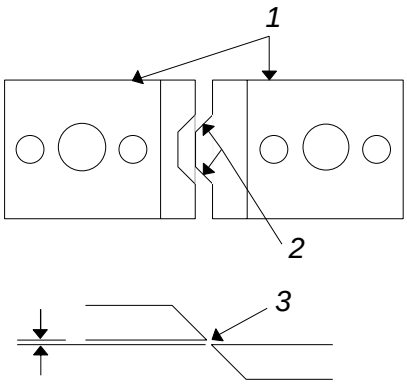

Figure 9 Die Alignment & Knife Clearance

   c. Visually inspect alignment of die forming area to insure equal spacing on both sides (Figure 9, Item 2).
   d. Properly align die edges (Item 1) in relation to each other, centering each die and knife in its station.
   e. Adjust air gap clearance between dies (Item 3) to an even distance.

4. Check die alignment with hand crank prior to powering on machine.

I M P O R T A N T

The hand crank can be used to move mechanisms in reverse only during setup and only when no components are loaded in machine.

5. Adjust die stations as necessary to obtain desired form and cut by aligning components with dies and adjusting each station's height per the following *Station Adjustment* and *Component Alignment* instructions.

6. Install and adjust ejector brackets if required. Required usage is indicated for each die, when appropriate, in the *CF-9 Component Forming Die Catalog*. Certain complicated lead forms require ejector bracket installation to insure that component does not remain in die. If ejector bracket installation and adjustment is not required, skip to *Station Adjustment* on page 16.

Suggestion: Remove the small ejector brackets when not required to simplify die installation.

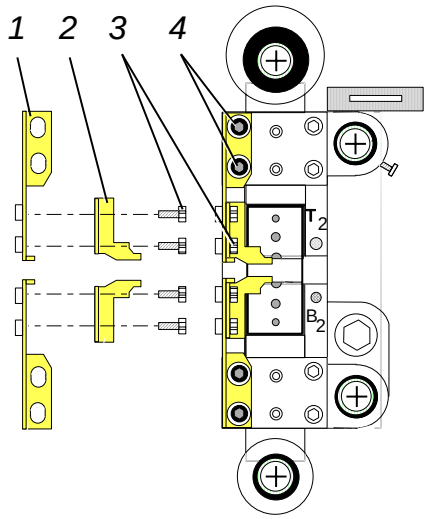

Figure 10 Ejector Brackets

Two sets of ejector brackets are factory mounted on die Station 2 (Figure 10). Each large ejector bracket (Item 1) mounts to the Station 2 die block assembly with two screws (Item 4). Each small ejector bracket (Item 2) mounts to the large ejector bracket with two screws (Item 3).

Adjust for Component Body Thickness:

a. Loosen screws (Figure 10, Item 4).
b. Adjust each large ejector bracket (Item 1) to obtain an air gap of approximately 1/32" (0.794 mm) as illustrated in Figure 11.
c. Tighten screws.

Adjust for Component Body Height:

a. Loosen screws (Figure 10, Item 3).
b. Align center line of component body between small ejector brackets as illustrated in Figure 12.
c. Tighten screws.

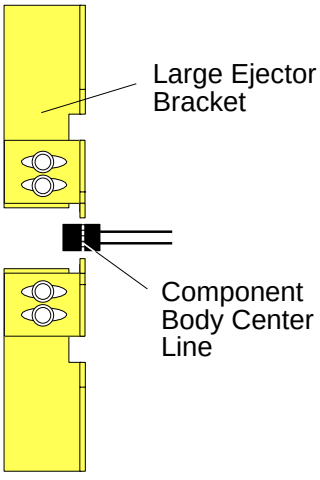

Figure 11 Adjust Large Ejector Bracket

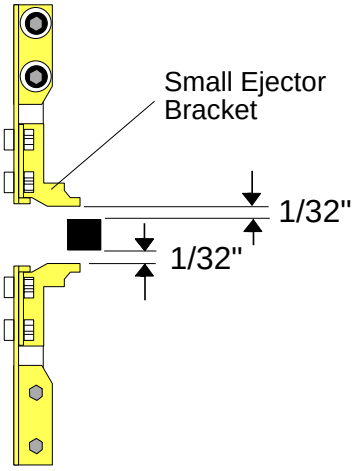

Figure 12 Adjust Small Ejector Bracket

Station Adjustment

The CF-9's die stations are independently adjustable to control forming and cutting locations. The action performed on component leads by each die station can be relocated from a zero (0) position. GPD suggests setting the zero (0) reference point at the machine's upright plate (Figure 13, Item 1). This position also corresponds with the lead wire point of attachment to the tape. Refer to *Taping Specifications* on page 30.

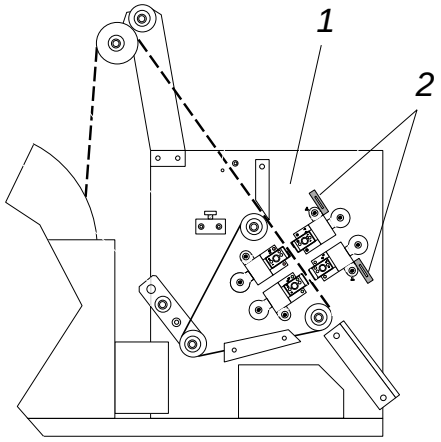

Figure 13 Station Position Adjustment

Backlash is eliminated during station adjustment by three (3) beveled washers located on each station adjusting bolt.

The standard micrometer scale (Item 2) attached to each station, indicates the distance from the component's point of attachment on the tape to the point of station action on the component lead. These scales are accurate to .0005" (0.0127 mm).

Cut Lead Length	Station Position	Station Action Location
Longest	Fully retracted	Zero (0) position - the point at which component attaches to tape.
Shortest	Fully extended	The point as near as possible to the component body. Each extension movement of station position creates a correspondingly shorter lead length.

To adjust station position:

1. Position die block against machine upright plate.
2. Turn on micrometer scale and reset to zero (0).
3. Adjust die station using supplied 1/4" T-handle wrench in station die block adjusting bolt (Figure 14).
   a. To extend station, turn wrench counter-clockwise.
   b. To retract station, turn wrench clockwise.

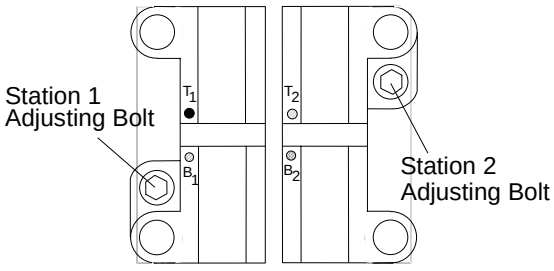

Figure 14 Die Block Assembly Adjusting Bolts

4. Record your micrometer setting. Then machine can be setup quickly the next time you process the same component type.
5. Repeat *Station Adjustment* procedure for remaining die station.

Component Alignment

The CF-9 indexes exactly 1/2" (12.70 mm) every time, however, component position relative to the tape hole may vary from your last run due to variances between vendors or lots because:

- Distance from tape hole to component lead wire may vary (Figure 15, Item 1).
- Tape hole may be located between or under component (Items 2 & 3).

A variance requires readjusting component alignment with die stations — a simple matter of repositioning a pulley (Figure 16, Item 4).

C A U T I O N
Testing component position relative to dies **MUST** be done prior to automatic machine operations.

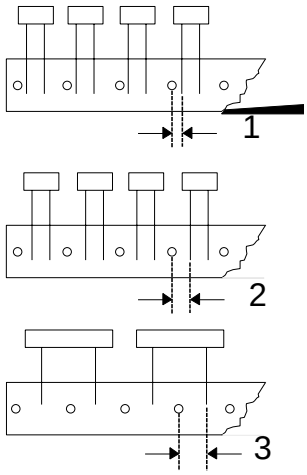

Figure 15 Component Position Relative to Tape Hole

To align components with die stations:

1. Manually index machine with hand crank just until components are centered between dies and just before die touches component wires. Turn hand crank slowly while visually inspecting for the relative position between components and tape holes.

C A U T I O N
Dies should just start coming together - they should NOT be closed or touching component.

C A U T I O N
DO NOT rotate mechanisms in reverse to check timing.

2. Loosen bolt in drive pulley (Figure 16, Item 4) with supplied 3/16" wrench.
3. Manually turn pulley in either direction to centrally position a component between each die station.
4. Lock pulley in its new position by re-tightening the bolt.
5. Repeat step 1 to recheck tape alignment.

Load Components

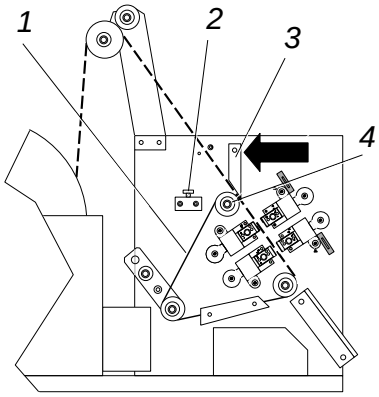

Figure 16 Align & Load Components

1. Press down on component tape pressure plate lever (Figure 16, Item 3) to lift plate and open component tape pathway.
2. Place tape's first hole over a pin on the transfer belt (Item 1).
3. Release component tape pressure plate lever.
4. Using hand crank, manually index first component to center of die Station 1.
5. Test all adjustments with the manual hand crank to verify that component body will not be damaged by forming dies or knives and that the component is centered between the die station tooling.

C A U T I O N

If machine is not properly adjusted, damage to components and dies may result.

6. If further adjustments are necessary, repeat *Setup* procedure on page 13.

Power On

1. Close and lock safety shield in place with safety shield lock (Figure 16, Item 2).

W A R N I N G

For operator's safety, do not operate machine without safety shield in place and do not defeat the safety switch.

2. Set speed control to zero (0). If using optional accessories, such as the footswitch or electronic component counter, set power switch to AUX position. The auxiliary mode indicator will light if the CF-9 is plugged in.
3. Press reset button.

NOTE

As a safety feature, power is not automatically restored when safety shield is closed. Normal operations resume when reset button is pushed.

4. Turn power switch to ON.

Process Components

1. Position component reel or ammo pack of taped components in reel holder.
2. Load components. Refer to *Load Components* on page 18.
3. Close safety shield and press reset button.
4. Run machine very slowly to verify proper adjustment. Make further adjustments if necessary to achieve desired results.

> **C A U T I O N**
> Testing component position relative to dies **MUST** be done prior to automatic machine operations.

5. Increase machine speed rate to desired setting and process components.
6. To process a different component form or type, repeat *Setup* procedure on page 13.

Power Off

1. Set speed control to zero (0).
2. Turn power switch to OFF.
3. Remove all dies and clean with a rust inhibitor and lubricate mechanical moving parts per *Preventive Maintenance*.

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Preventive Maintenance

The preventive maintenance steps in this section are intended primarily for the machine operator, however, only qualified service or maintenance personnel should perform the steps requiring access to the machine's cabinet interior. The CF-9 is constructed so that pulleys, belts, and bearings should not need to be replaced for many years, provided the machine is used according to instructions.

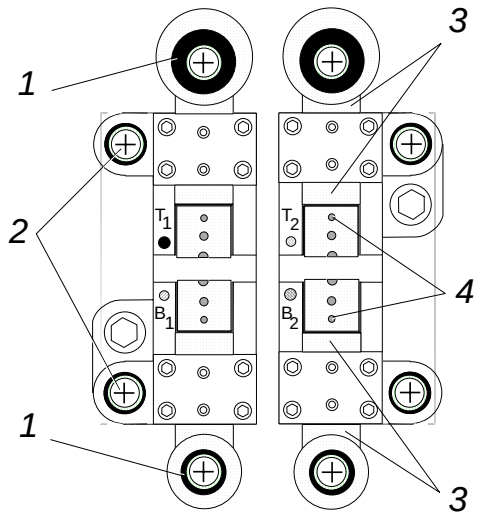

Figure 17 Die Block Assembly Lubrication

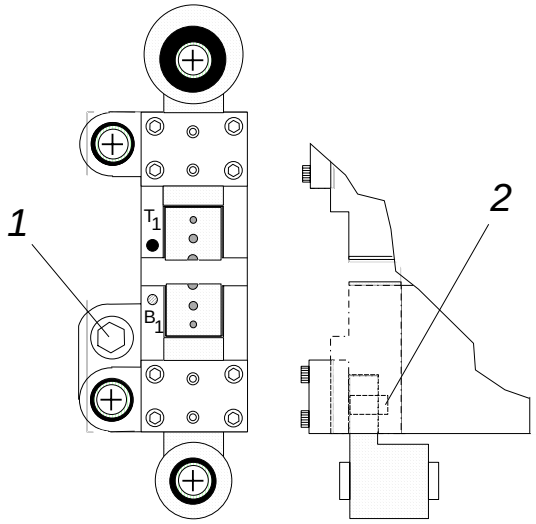

Figure 18 Die Block Assembly Maintenance

Preventive Maintenance Schedule

Interval	Location	Action
Daily (8 hours of operation)	Dies/Knives	Remove all dies/knives, inspect for wear, and clean with rust inhibitor.
		Inspect for foreign matter or dust build-up. Brush clean.
	Die Block Assembly	Inspect and lubricate eccentric shafts and bushings (Figure 17, Item 1) and die block guide shafts (Item 2) with a light machine oil (3-in-1).
		Place a drop of light machine oil (3-in-1) on slide surfaces (Figure 17, Item 3) and in lubrication hole (Item 4).
		Apply oil to each of the four crank pins (Figure 18, Item 2).
	Drive Belt	Inspect belt pins and cogs for wear.

Schedule continues on following page.

Preventive Maintenance Schedule

(continued)

Interval	Location	Action
Monthly	Die Block Assembly	Clean die block adjusting bolt (Figure 18, Item 1) with solvent and apply a small amount of oil to its thread near machine upright plate.
	Inside Cabinet	Inspect component drive belt for proper tension.
		Spray molly grease on gears. Wipe off excess oil.
		Lightly grease cam lobes and cam follower rollers. Wipe off excess grease.
		Check motor brushes and motor drive belt. Replace if they appear worn or frayed. CAUTION: DO NOT attempt to remove or replace a drive belt without first loosening the motor mount screws.
Yearly	Safety Shield	Apply a drop of light machine oil on each safety shield hinge. Wipe off excess oil.

Troubleshooting

The CF-9's hand crank is a useful troubleshooting feature enabling you to manually move all mechanisms. Simply insert the supplied Allen key in the hand crank port and turn. The hand crank can be used to move mechanisms in reverse only during setup and only when no components are loaded in machine.

Adjustment instructions for slide travel and slide clearance follow the guide below.

Troubleshooting Guide

Problem	Possible Cause	Action
Dies, knives, and/or bushings damaged or wearing prematurely.	Incorrect setup.	Verify that proper tooling is being used. Refer to die catalog for correct die/knife and application combination.
		Verify dies/knives are properly matched.
		Verify that tooling is properly adjusted per *Setup*.
	Die/knife striking component.	Inspect and set per *Die Installation*.
	Ejector brackets not installed.	Install ejector brackets per *Die Installation* instructions.
	Foreign matter, dust build up.	Inspect and clean per *Preventive Maintenance*.
	Incorrect slide gap.	Check gap with gauge block per *Slide Travel*.
	Incorrect die alignment.	Inspect and set per *Die Installation*.
	Incorrect slide clearance.	Inspect and set per *Slide Clearance*.
	Incorrect size screw securing die.	Secure die with correct size screw.
Machine performance generally poor.	Foreign matter, dust build up.	Inspect and clean per *Preventive Maintenance*.
	Inadequate lubrication.	Oil per *Preventive Maintenance*.
	Worn parts or dies.	Inspect and replace as necessary.
	Incorrect die alignment.	Inspect and set per *Die Installation*.
	Transfer belt timing.	Set timing with drive pulley (page 6, Item 5).
	Incorrect size screw securing die.	Secure die with correct size screw.
Component tape slipping off belt.	Belt studs missing or loose.	Replace belt.
	Transfer belt tension slack.	Reset belt tension.
	Misaligned reel holder.	Realign or replace reel holder.
	Missing pins on tape guide arm.	Replace pins or tape guide arm.
	Incorrect size screw securing die.	Secure die with correct size screw.

Guide continues on following page.

Troubleshooting Guide

(continued)

Problem	Possible Cause	Action
Machine cutting improperly.	Slide clearance too large.	Reset slide travel per *Slide Clearance.*
	Incorrect slide gap.	Set gap per *Slide Travel*.
	Worn eccentric shaft bushing.	Replace bushing.
	Worn dies.	Replace or repair dies.
	Incorrect size screw securing die.	Secure die with correct size screw.
No machine movement.	Broken drive belt.	Replace drive belt.
	Blown fuse.	Replace fuse. **NOTE:** As a preventive measure, turn speed control to zero (0) before turning machine on.
	Power not restored after closing safety shield.	Press reset button.
	Machine not plugged in.	Plug machine in per *Specifications*.
	Machine not turned on.	Turn machine on per *Operating Instructions*.
	Speed control set to zero (0).	Set speed control to appropriate operating speed.
	Drive pulley set screws loose.	Tighten set screws.
	Incorrect size screw securing die.	Secure die with correct size screw.

Slide Travel

To adjust slide travel:

1. Unplug machine.
2. Insert provided 1.934" gauge block (Figure 19, Item 1) while manually turning machine's hand crank until die block slides (Item 5) are fully closed.
3. Check for gauge block movement. If movement <u>does not</u> occur, proceed to *Slide Clearance*. If movement <u>does</u> occur, adjust the crank adjuster (Item 3):
   a. Loosen crank set screws (Item 2).
   b. Use wrench in crank adjustor holes (Item 4) to rotate crank adjuster until gauge block no longer moves.
   c. Tighten eccentric crank screws.
   d. Replace bushings if movement cannot be eliminated through adjustment.

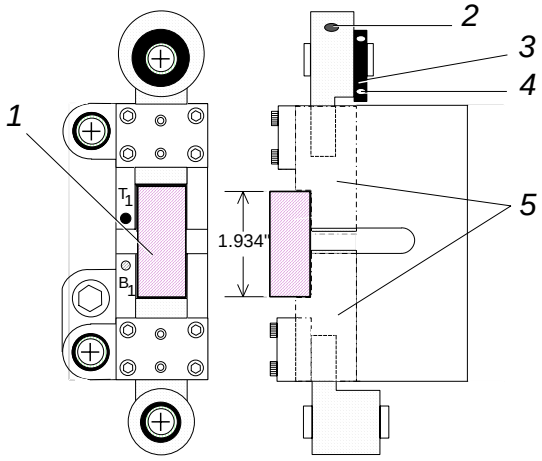

Figure 19 Die Block Assembly Slide Travel

Slide Clearance

To adjust slide clearance:

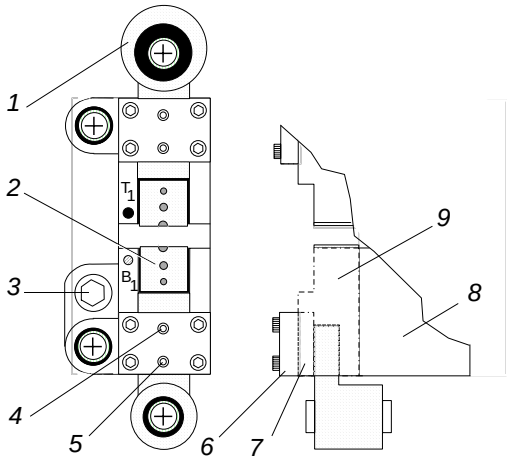

Figure 20 Die Block Assembly Slide Clearance

1. Remove die block assembly. Station 1 die block assembly is illustrated in Figure 20.
   a. Remove from the CF-9:
      - Tape exit chute
      - Component transfer belt
      - Transfer belt guide and component tape pressure plate (located on either side of transfer belt)
   b. Raise die block approximately 1" (25.40 mm) from machine upright plate using machine's die block adjusting bolt (Figure 20, Item 3).
   c. Remove mounting screws from micrometer scale's lower mounting block.
   d. Turn die block adjusting bolt until die block no longer moves and then slide die block straight off machine.

2. Clean parts.
   a. Remove and discard set screws in cover plate (Figure 20, Item 6).
   b. Remove slide (Item 9) from die block.
   c. Use a degreaser (brake cleaner) to remove all oil from slide, die block, and wear plate (Items 9, 8, and 7).

> **C A U T I O N**
> Do not expose micrometer scales to degreaser (brake cleaner) as it clouds the clear face plate.

   d. Measure all surfaces for wear and inspect for scratches and gouges. Replace parts if raised material is visible on working plane.
   e. Lightly stone all surfaces.
   f. Blow dry all parts.

3. Reassemble die block.
   a. Install slides in die block.

> **NOTE**
> Position slide with the eccentric bushing in the eccentric crank (Item 1) in die block's top half (T1 or T2).

   b. Slip wear plate face up between cover plate and slide.
   c. Align wear plate counter sunk holes with cover plate set screws.
   d. Install new set screws and lightly tighten.
   e. With slides in closed position, locate a dial indicator on die mounting surfaces (Item

8) and compare heights. For mated dies to function together properly, replace dies and/or slide blocks if heights are not within .0005" (0.0127 mm) of each other.

4. Set clearance.
   a. Loosen cover plate's inner set screw (Figure 20, Item 4) approximately a quarter turn.
   b. Slowly loosen outer set screw (Item 5) just until slide moves freely.
   c. Tighten inner set screw until a slight drag is felt.
   d. Install die screw in slide to prevent slide from slipping out of die block.
   e. Position slide flush with back side of die block.
   f. Locate a dial indicator on the slide's die mounting surface and set the clearance to .0007 - .001" (.0178 - .0254 mm) by pulling up on die screw. After clearance is set, verify that slide moves freely.

NOTE
If slide does not move freely, loosen outer set screw slightly. Recheck clearance.

   g. Secure screws by applying modest amount of penetrating thread locker (Loctite #290).
   h. Repeat step 4. for remaining slides.

5. Lubricate parts.
   a. Generously apply 5 weight oil (3-in-1) to all sides of slide and crank pin (Figure 21, Item 3), working in thoroughly.

C A U T I O N
DO NOT USE A PENETRATING OIL (WD-40) AS THIS WILL CAUSE DIE BLOCK SEIZURE.

   b. Sparingly apply oil to eccentric crank shafts (Item 1) and die block guide shafts (Item 2).

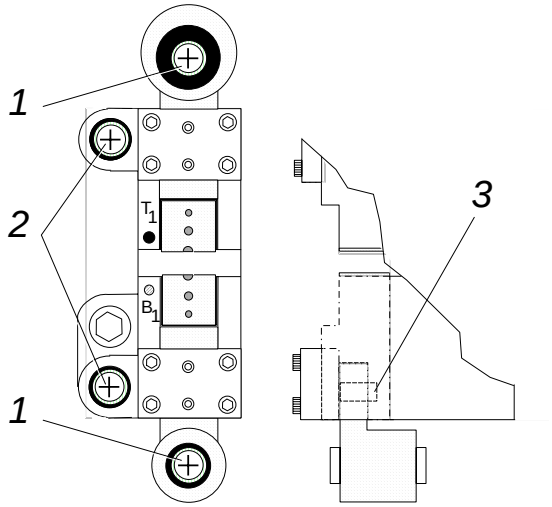

Figure 21 Die Block Assembly Lubrication

6. Reinstall die block assembly.
   a. Slide die block assembly straight onto machine until die block adjusting bolt reaches hole.
   b. Thread die block adjusting bolt into hole.
   c. Replace mounting screws for digital scale's lower mounting block.

d. Position die block assembly approximately 1" (25.40 mm) from machine upright plate using die block adjusting bolt.

e. Lay machine on its back cover with die blocks up and cabinet's back air vent clear. Run machine in this position for approximately one (1) hour to allow oil to distribute evenly. During this time period, slowly increase machine speed and check cover plate and die block for heat.

> **C A U T I O N**
>
> IF EXCESSIVE HEAT IS DETECTED OR A SQUEAK IS HEARD, STOP THE MACHINE. REPEAT COMPLETE *SLIDE CLEARANCE* PROCEDURE.

f. Reassemble the following:
- Digital scale lower mounting block screws
- Belt guide and pressure plate
- Component transfer belt (Adjust so belt is taut.)
- Tape exit chute
- Die screws

g. Reset slide travel adjustment - refer to *Slide Travel* on page 24.

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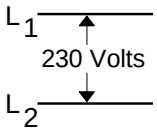
Specifications

Power Requirements

120 Volt Model
120 Volts
Neutral
Safety (Earth) Ground
5 Amps
60 Hz

230 Volt Model



Safety (Earth) Ground
2.5 Amps
50/60 Hz

Dimensions

	Standard CF-9	***CF-9 with Reel Holder***	***CF-9 Work Station***
Height	12.00 inches (304.80 mm)	18.62 inches (472.95 mm)	29.50 inches (749.30 mm)
Length	13.25 inches (336.55 mm)	13.25 inches (336.55 mm)	26.00 inches (660.40 mm)
Width	13.50 inches (342.90 mm)	28.00 inches (711.20 mm)	39.00 inches (990.60 mm)

Weight

Standard CF-9 . . . . . 58 lbs. (26.31 kg)

Capacities

Production Rate

The CF-9 is capable of forming and cutting up to 25,000 components per hour.

Micrometer Scale

Display increments to .0005" (0.0127 mm)
±.002" Repeatability

Taping Specifications

The CF-9 will process components if taped to the E.I.A. standards listed below for taping of radial components AND there is a minimum of .300" (7.62 mm) operating clearance. In some cases, standard tooling may work with less than this minimum operating clearance.

Custom tooling or custom taping may be required in certain instances.

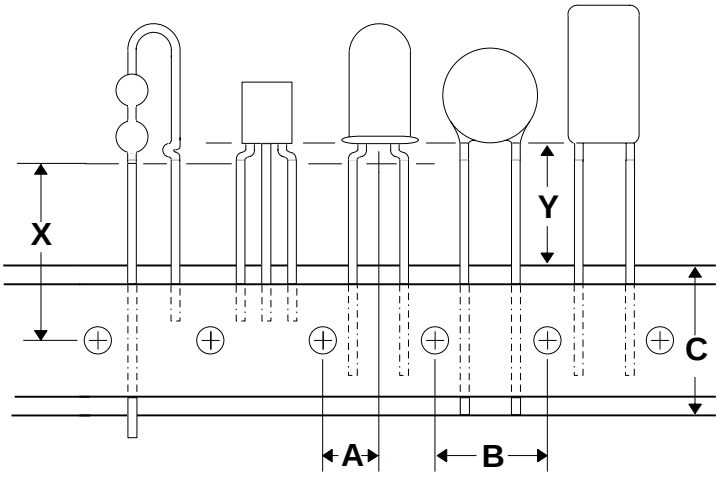


Figure 22 GPD's CF-9 Taping Specifications

GPD CF-9
Taping Specification Limits

Symbol	*Definition*		*Inch*	*MM*
X	Height to seating plane (formed leads)		.300 ± .010	7.62 ± 0.25
Y	Operating Clearance - Seating plane (straight leads)	All dies except style 8A	.300 minimum	7.62 minimum
		8A style die	.350 minimum	8.89 minimum

E.I.A.
Taping Specification Limits

Symbol	*Definition*	*Inch*	*MM*
A	Component centering	.250 ± .012	6.35 ± 0.30
B	Sprocket hole pitch	.500 ± .012	12.70 ± 0.30
C	Carrier tape width	.710 + .039 to — .020	18.00 + 1.00 to — 0.50

Suggested Spare Part Kits

The following suggested spare parts kits for the GPD CF-9 list the items included in each kit and the GPD part number for each item.

GPD Part Number	Part Description	Qty.
925-1-2	***120V 60Hz Spare Parts Kit*** (consists of the following items)	***1***
	BELTS	
901-3-101	Transfer Belt	1
D0001	Motor Belt	1
	INDEX WHEEL ASSEMBLY	
806-1-3	Roller	16
G1007	Retaining Ring	16
	FUSE	
4300-0026	Fuse MDL 5A, Slow Blow	1
925-1-3	***230V 50/60Hz Spare Parts Kit*** (consists of the following items)	***1***
	BELTS	
901-3-101	Transfer Belt	1
D0001	Motor Belt	1
	INDEX WHEEL ASSEMBLY	
806-1-3	Roller	16
G1007	Retaining Ring	16
	FUSE	
4300-0025	Fuse MDL 2.5A, Slow Blow	1

Suggested Spare Parts

The following suggested spare parts listing is for those customers in locations where next day delivery service from the USA in not available.

GPD Part Number	Part Description	Qty.
	120V 60 Hz Spare Parts	
G1003	Circlip	10
L0503	Bushing	2
L0601	Bushing	2
2200-0008	Speed Control, 120V, 60 Hz	1
821-4-12	Circlip Plier	1
901-1-102	Die Station #2	1
925-1-2	Spare Parts Kit, 120V	1
	230V 50/60 Hz Spare Parts	
G1003	Circlip	10
L0503	Bushing	2
L0601	Bushing	2
2200-0014	Speed Control, 230V, 50/60 Hz	1
821-4-12	Circlip Plier	1
901-1-102	Die Station #2	1
925-1-3	Spare Parts Kit, 230V	1

Appendices

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Appendix A - Die Information

Forming Style Series

The forming style series is stamped on the right hand side of each die and knife (Figure 23):

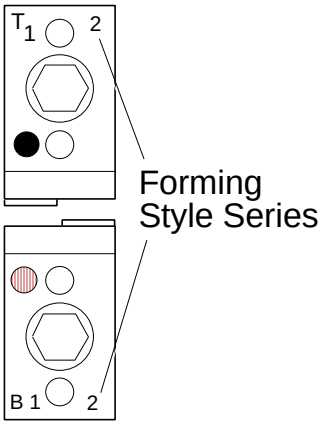

Figure 23 Forming Style Series

Forming Style Series

Number	***Description***
1	Die, 3 Lead Radial (typically TO-92), In-Line
2	Die, 2 Lead Radial, Stand-Off, Opposing Dimple
2C	Die, 2 Lead Radial, Lock-In Stand-Off, Opposing Dimple
3	Die, 2 Lead Radial, Lock-In Stand-Off
4A	Die, 2 Lead Radial, Spreading
4B	Die, 2 Lead Radial, Reducing
5	Knife
7 *	Die, 2 Lead Radial, 90° Bend
8A	Die, 2 Lead Radial, Spreading, Lock-In Stand-Off
8B	Die, 2 Lead Radial, Reducing, Lock-In Stand-Off
10	Die, 2 Lead Radial, Stand-Off Lock-In
11	Die, 2 Lead Radial, Flush Mount Lock-In

* NOTE: GPD has an adjustable 90° bend 7-style die available. Call GPD for details. (970) 245-0408

Die Number

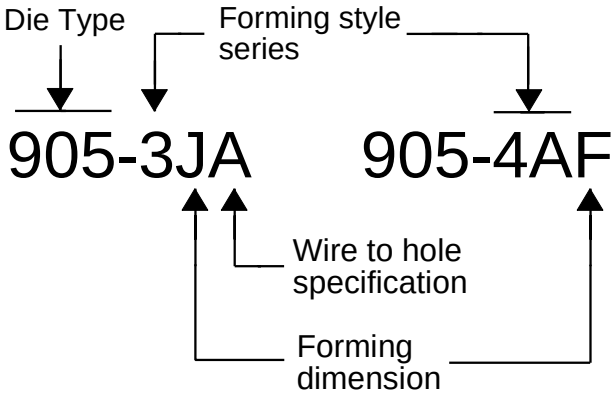

Figure 24 Examples of Die Numbers

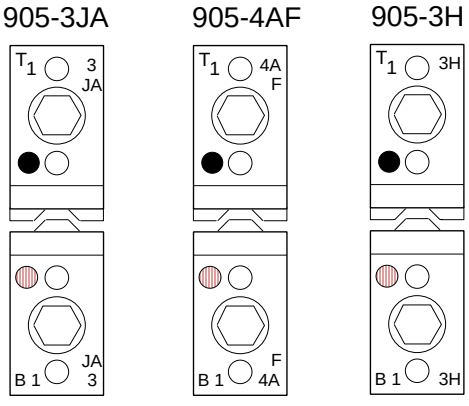

Figure 25 Examples of Die Number Location

For further die specification details, refer to the *CF-9 Component Forming Die Catalog*.

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Appendix B - Common CF-9 Lead Forms

Some examples of the most common component forms produced by the CF-9 are shown below.

Form	*Die Number*	*Form Description*	*Form*	*Die Number*	*Form Description*
	905-1	Middle Lead Offset with Lock-In Form		905-4A	Spread Form
	905-1A	Middle Lead Offset Form		905-4B	Reducing Form
	905-1CA	In-Line Lock-In Stand-Off Form		905-7	90° Angle Bend
	905-1H4 905-1H5 905-1L4	Middle Lead Offset with 3 Lead Lock-In Form		905-8A	Spread Form with Lock-In Stand-Off
	905-2	Stand-Off with Opposing Dimple Form		905-8B	Reducing Form with Lock-In Stand-Off
	905-2C	Lock-In Stand-Off with Opposing Dimple Form		905-10	Low Profile Stand-Off Lock-In Form
	905-3	Lock-In Stand-Off Form		905-11	Flush Mount Lock-In Form

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Appendix C - CF-9 Accessories

The following optional accessories for GPD's CF-9 are specifically designed to help you increase production and profit.

Lead Forming Dies

The CF-9 operates on a system of dies and die blocks. Each combination is designed to form a specific lead configuration. Numerous standard and special CF-9 Lead Forming Die sets are available to provide a variety of component forms and lead configurations such as lock-ins, standoffs, standoff lock-ins, spreading, reducing, and ninety-degree bends. Many different die sets for various transistor hole patterns are also available. Dies are available to form two leaded components with center-to-center dimensions up to .400" (10.16 mm) as well as 3-leaded TO-92 transistors. All CF-9 dies will also work on the GPD CF-10 Loose/Bulk Component Lead Former.

Each die is clearly identified and color coded. This color coding, in combination with the roll pins, insures against installation mistakes. Changing dies is a matter of one screw. Remove the die you wish to change and replace it with a new die.

Standard dies are secured in place with 10-32x5/8" screws - these accompany the CF-9 machine. When a special die requires a longer screw, it is supplied with the die.

Most cutting and forming needs are covered with the standard dies we offer. However, if you have unusual requirements, GPD will be pleased to design custom dies for you. Your GPD representative will be happy to assist you with any custom die orders.

Component Detection System

The CF-9's Component Detection System option helps prevent die breakage by identifying bent components on tape and stopping CF-9 operations prior to a misaligned component entering the first die station.

Electronic Component Counter

The electronic counter is an automatic component counter that unerringly detects even the smallest component on the CF-9. Installation is simple and fast so that one counter can easily be moved from one CF-9 to another as counting requirements change.

The counter has two operation modes, pre-determining and totalizing. You can preset the total number of components you wish to run, and the counter's predetermining mode automatically shuts off the machine when the preset count is reached. The counter's totalizing mode gives you a cumulative count of all the components the machine has processed.

Counter Installation:

1. Remove cap screw (Figure 26, Item 2).
2. Slide counter bracket onto dowel pin (Item 1). Replace and tighten cap screw to secure counter mounting.
3. Place counter on top of CF-9 cabinet.
4. Plug counter bracket wiring harness into counter's back panel.
5. Plug counter power cord with twist lock plug into accessory outlet on CF-9's control panel.
6. Plug counter's regular power cord into a power source per *Specifications*.

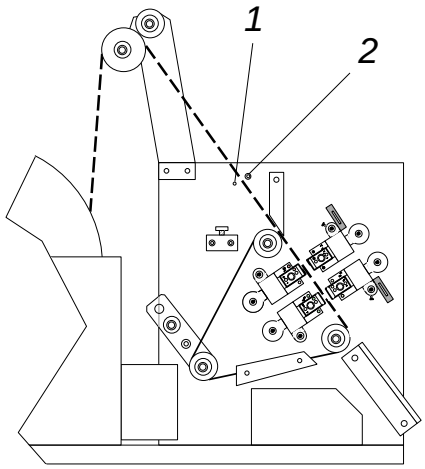

Figure 26 Electronic Component Counter Installation

Footswitch

The optional footswitch is a real operator convenience. After easily installing the footswitch, the operator need only position the CF-9 power switch to the AUX position and depress the footswitch to operate the machine.

Footswitch Installation:

1. Turn power switch to off.
2. Set speed control to zero (0).
3. Insert footswitch plug into accessory outlet on CF-9's control panel and turn clockwise to lock in place.
4. Set power switch to AUX position. The auxiliary mode indicator lights.
5. Set speed control to desired operating speed.

To remove footswitch, turn plug counterclockwise.

Lazy Susan (Rotating Machine Platform)

This rotating, circular platform allows the operator to easily rotate the entire machine to gain better access for setup, die changes, and normal maintenance. The Lazy Susan has been specifically constructed to operate smoothly under the CF-9's weight. Covered in ridged, anti-static material, this turntable holds the machine securely in any position with its unique graphite, anti-drift system.

Loose/Bulk Component Feeder

Process both taped and loose radial components on one machine by using the Loose/Bulk Component Feeder. This accessory provides the perfect solution when you need to form a relatively small number of components and they are not available or are too expensive on tape. Load up to ten (10) components in a magazine, place magazine in staging fixture, and then lightly press each component down to the top of staging fixture. Remove the magazine and your components are perfectly aligned, ready to feed directly into the CF-9 in exactly the same manner as you would feed a strip of taped components. There are four magazine sizes based on center-to-center requirements with a 1" (25.40 mm) minimum lead length requirement.

Taped Component Re-Reeler

Now you can form and re-reel radial components for automatic insertion in one operation. With this accessory, the CF-9 feeds taped components into the first die station, forms them, skips the normal trim operation and sends components straight to the Re-Reeler. Special flattening blocks can be inserted in the trimming station if additional dimple alignment is required. The re-reeler automatically reloads the taped components back on a reel after the forming process is complete.

The optional CF-9 Taped Component Re-Reeler has been specially modified with a slip clutch assembly on the drive motor shaft to allow the operator to adjust drive shaft tension. Increasing shaft tension causes taped components to wind tighter. Decreasing the tension results in more loosely wound components.

Work Station

The CF-9, dies, and various operational tools can all be mounted on this specially constructed work station which provides vibration free operations and optimum storage space. The CF-9 Work Station's heavy duty construction includes a 3/8" (9.53 mm) thick aluminum top, a 1" (25.40 mm) tubular steel frame, and inlaid steel panels.

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Appendix D - Electrical Schematic & Assembly Drawing

Drawing Title	***Drawing Number***
CF-9 Electrical Schematic	0098001A
CF-9 Electrical Assembly Drawing	0098002A

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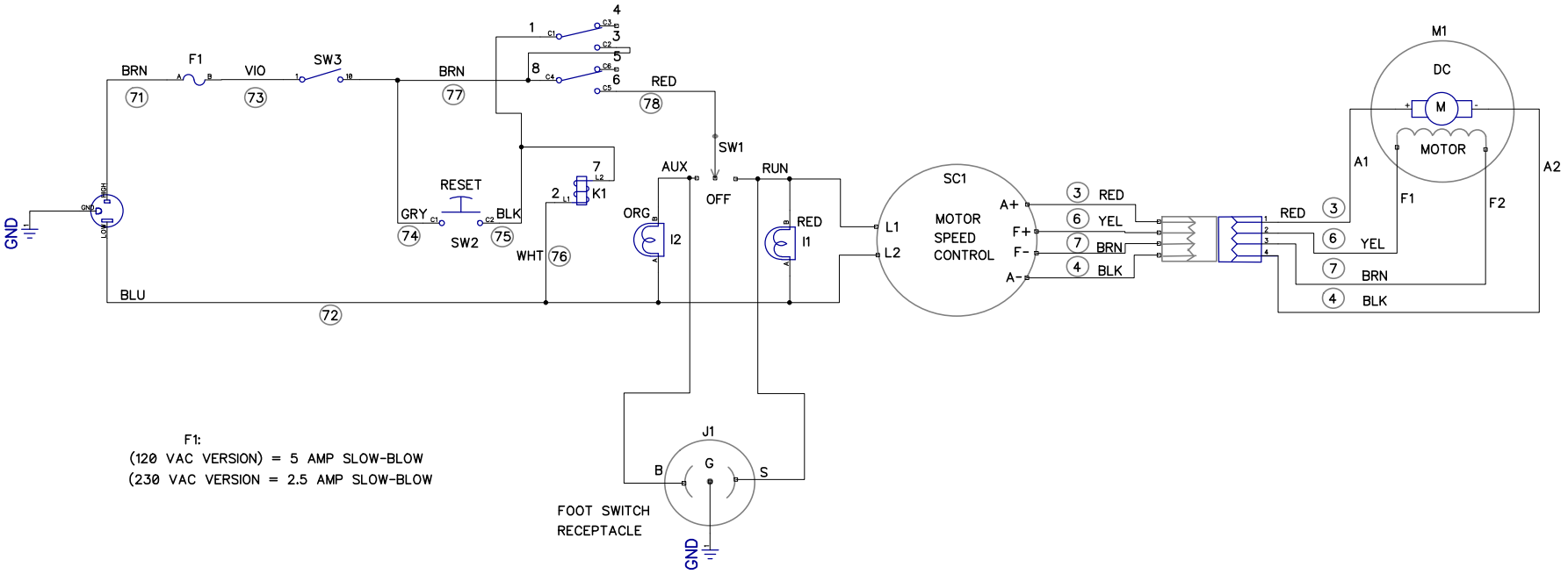
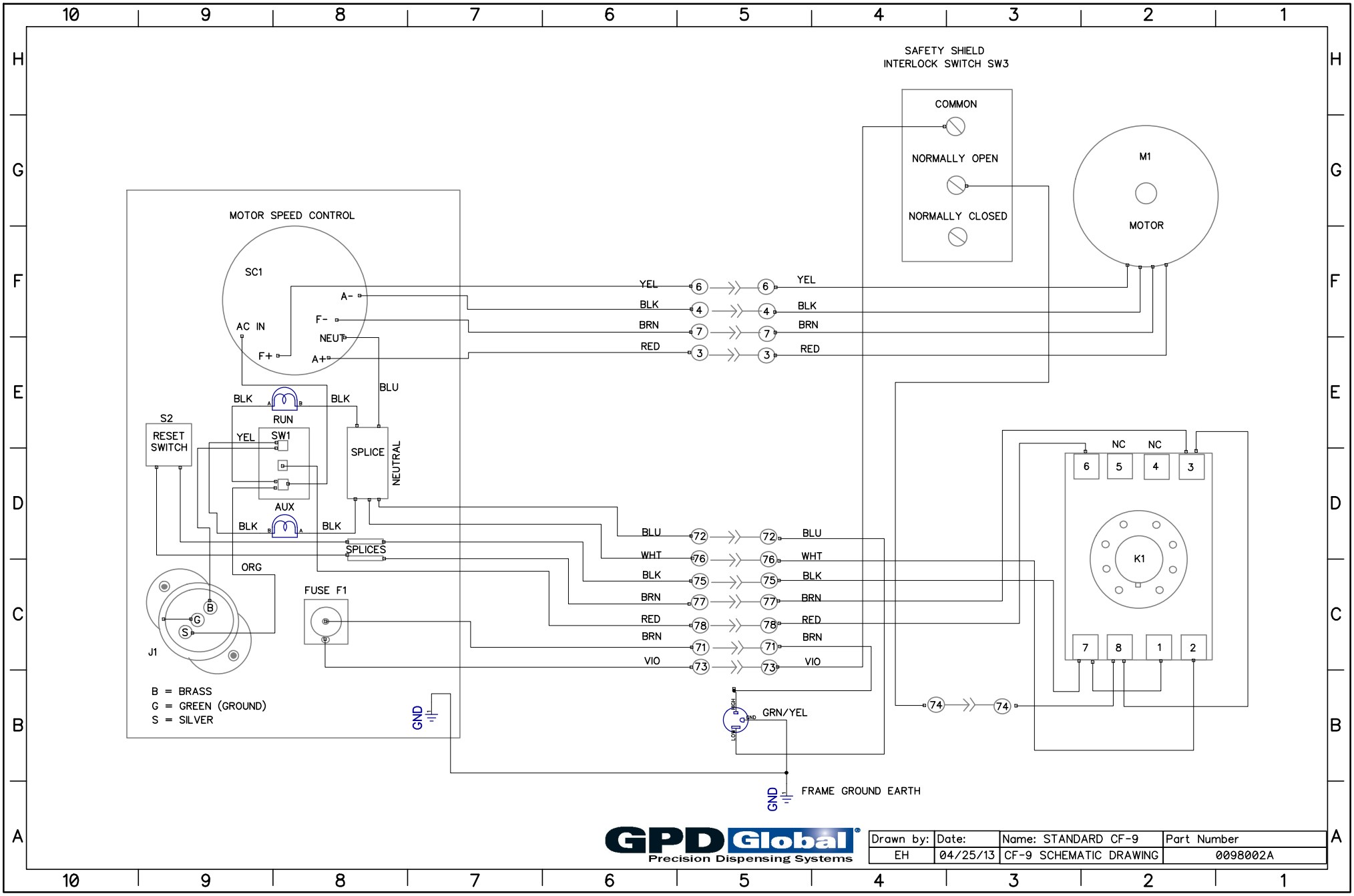


GPD Global
Precision Dispensing Systems

Drawn by:	Date:	Name: STANDARD CF-9	Part Number
EH	04/25/13	CF-9 ELECTRICAL SCHEMATIC	0098001A


SAFETY SHIELD
INTERLOCK SWITCH SW3
COMMON
NORMALLY OPEN
NORMALLY CLOSED
M1
MOTOR
MOTOR SPEED CONTROL
SC1
A-
F-
NEUT
A+
AC IN
F+
YEL
BLK
BRN
RED
BLU
WHT
VIO
GRN/YEL
BLK
RUN
AUX
S2
RESET SWITCH
SW1
SPLICE
NEUTRAL
SPLICES
ORG
FUSE F1
J1
B
G
S
B = BRASS
G = GREEN (GROUND)
S = SILVER
GND
FRAME GROUND EARTH
NC
K1
HOT
GND
LOT
Drawn by: EH
Date: 04/25/13
Name: STANDARD CF-9
CF-9 SCHEMATIC DRAWING
Part Number
0098002A
GPD Global
Precision Dispensing Systems

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Z

CF-9

Radial Lead Forming Machine

Bills of Material
&
Exploded Views

Version 2.2
June 3, 2014

Prepared by
GPD Documentation Department

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611 Hollingsworth Street
Grand Junction, CO 81505
(970) 245-0408 FAX (970) 245-9674

CF-9 Bills of Material & Exploded Views
Part No. 901-1-02

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10-30-92

Bill of Material for Assembly CF9.GENERAL
CF9 GENERAL PARTS

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	901-2-6A	SHAFT ECCENTRIC	1	EA
2	901-2-6B	SHAFT ECCENTRIC	2	EA
3	901-2-7	GEAR	2	EA
4	901-2-8	IDLER GEAR	2	EA
5	901-2-9	IDLER SHAFT	2	EA
6	901-2-10	CAM	1	EA
7	901-2-11	SHAFT ECCENTRIC	1	EA
8	901-2-13	GEAR	2	EA
9	901-2-19	SLIDE ROD	4	EA
10	901-3-4	PULLEY, CAM FOLLOW	1	EA
11	901-3-5	PULLEY, MOTOR	1	EA
12	902-1-2	TIE BAR	4	EA
13	902-1-7	SHAFT	1	EA
14	902-1-8	GEAR	1	EA
15	902-1-13	WASHER STEEL	4	EA
16	902-1-18	PULLEY NYLATRON	2	EA
17	902-1-12	SHAFT	1	EA
18	902-1-14	PULLEY	1	EA
19	902-1-15	SHAFT	1	EA
20	902-1-16	GEAR	1	EA
21	902-1-17A	BRASS WASHER	4	EA
22	902-2-1	UPRIGHT	1	EA
23	902-3-3	REAR SUPPORT PLATE	1	EA
24	902-4-9	BASE	1	EA
25	903-1-4	BELT GUIDE	1	EA
26	903-1-5	SUPPORT PIN	2	EA
27	903-1-8	PRESSURE PLATE	1	EA
28	903-1-12	WASHER NYLATRON	4	EA
29	903-1-13	PIN	1	EA
30	904-1-1	CABINET	1	EA
31	904-2-2	TAPE EXIT CHUTE	1	EA
32	904-2-3	COMPONENT EXIT CHUTE	1	EA
33	904-2-4	SPACER	2	EA
34	904-2-5	SHIELD LOCKING BLOCK	1	EA
35	904-2-6	BELT GUARD	1	EA
36	904-3-7	SHIELD.SAFETY GUARD	1	EA
37	SACAN2520037	SCREW,ALLEN,CAP	AR	EA
38	SACAN2520062	SCREW,ALLEN,CAP	AR	EA
39	SACAN2520125	SCREW,ALLEN,CAP	AR	EA
40	SACAN2520050	SCREW,ALLEN,CAP	AR	EA
41	SABAN1032037	SCREW,ALLEN,BUTTON	AR	EA
42	SACAN1032087	SCREW,ALLEN,CAP	AR	EA
43	**N.S.**			
44	NSNA1032	NUT	AR	EA
45	NK-250	KNOB NEURAL	1	EA
46	HG-210	HINGE, SAFETY GUARD	2	EA
47	F4959	SHOULDER BOLT	1	EA
48	G1007	RETAINING RING 5100-25	AR	EA
49	G1003	RETAINING RING 5100-18	AR	EA
50	903-1-OE	SPRING MUSIC WIRE	1	EA
51	B0001	RADIAL BALL BRG,	12	EA
52	D0001	MOTOR BELT	1	EA

N.S. - Not Shown **N.S.S. - Not Sold Separately**

10-30-92 Bill of Material for Assembly CF9.GENERAL
CF9 GENERAL PARTS

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
53	L0202	BUSHING 03DU04	4	EA
54	L0301	BUSHING 04DU04	3	EA
55	L0302	BUSHING 04DU06	1	EA
56	L0705	BUSHING 08DU12	2	EA
57	2800-0017	RUBBER GROMMET 5/8" ID	1	EA
58	902-4-9B	MOTOR RISER	2	EA
59	SABAN0832025	SCREW,ALLEN,BUTTON	AR	EA
60	SAFAN2520125	SCREW,ALLEN,FLATHEAD	AR	EA
61	4500-0008	RELAY SOCKET	1	EA
62	907-GROMMET	GROMMET	1	EA
63	904-4-1	REEL HOLDER	1	EA
64	SACAN2520087	SCREW,ALLEN,CAP	AR	EA
65	SABAN2520062	SCREW,ALLEN,BUTTON	AR	EA
	903-1-104	LEVER ASSEMBLY (TOP)	1	EA
	903-1-105	LEVER ASSEMBLY (BOTTOM)	1	EA
	920-109	REEL SPINDLE ASSEMBLY	1	EA
N.S.	SABAN0632025	SCREW,ALLEN,BUTTON	AR	EA
N.S.	G3013	WOODRUFF KEY 605	AR	EA
N.S.	G3009	WOODRUFF KEY 404	AR	EA
N.S.	F3551	FLAT WASHER #8	AR	EA
N.S.	SABAN0832025	SCREW,ALLEN,BUTTON	AR	EA
N.S.	SACAN2520175	SCREW,ALLEN,CAP	AR	EA
N.S.	NACAN2520050	SET.A.CU.STL.	AR	EA
N.S.	TACAN0832018	SET.A.CU.STL.	AR	EA
N.S.	TACAN1032050	SET.A.CU.STL.	AR	EA
N.S.	SACAN1032062	SCREW,ALLEN,CAP	AR	EA
N.S.	SPRSN0632025	SCR.P.RD.SST.	1	EA
N.S.	NSIA3118	NUT,NYLON INSERT	AR	EA
N.S.	SHHAN3716075	SCR.H.HX.STL.	AR	EA
N.S.	F5953	HELICOIL	2	EA
N.S.	6000-20-HU-BRN	WIRE, 20AWG HOOKUP/BROWN	AR	IN
N.S.	6000-20-HU-RED	WIRE, 20AWG HOOKUP/RED	AR	IN
N.S.	6000-20-HU-BLU	WIRE, 20AWG HOOKUP/BLU	AR	IN
N.S.	6000-20-HU-WHT	WIRE, 20AWG HOOKUP/WHITE	AR	IN
N.S.	6000-20-HU-BLK	WIRE, 20AWG HOOKUP/BLACK	AR	IN
N.S.	2100-0123	CONNECTOR,TERMINAL	AR	EA
N.S.	2800-0029	STICK DOWN PADS 1/2"	3	EA
N.S.	TAPAN0832037	SET.A.PT.STL.	AR	EA
N.S.	810-4-3	MICROSWITCH BRACKET	1	EA
N.S.	NSNA0632	NUT	AR	EA
N.S.	F3102	LOCK WASHER INTERNAL #6	AR	EA
N.S.	SACAN0632100	SCREW,ALLEN,CAP	AR	EA
N.S.	SACAN0632037	SCREW,ALLEN,CAP	AR	EA
N.S.	920-SPC-2	SPACER .075	6	EA
N.S.	920-SPC	SPACER .050	6	EA

N.S. - Not Shown N.S.S. - Not Sold Separately

10-30-92

Bill of Material for Assembly CF9.GENERAL
CF9 GENERAL PARTS

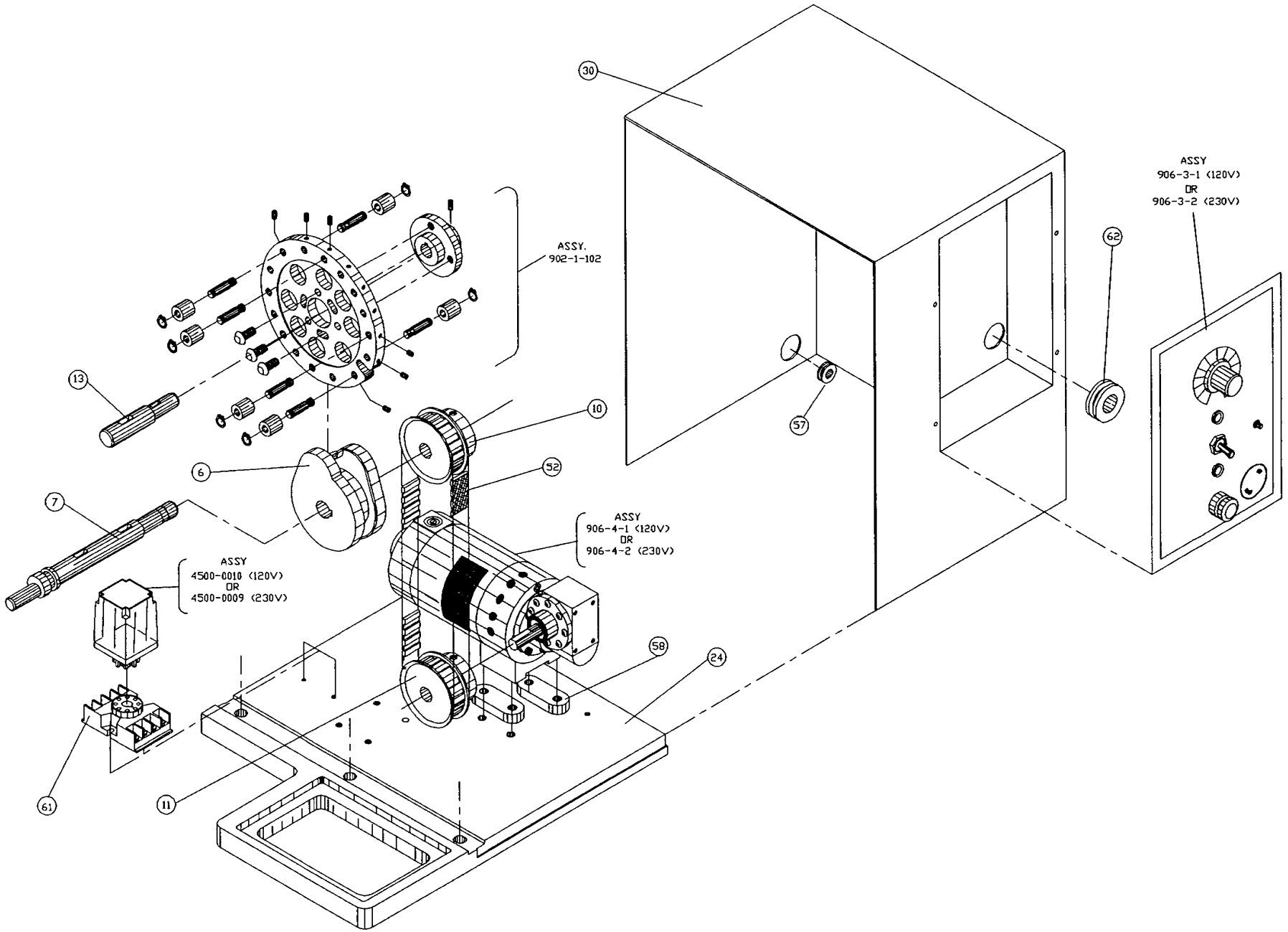
Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
N.S.	SAFAN2520125	SCREW,ALLEN,FLATHEAD	AR	EA
N.S.	SABAN1032050	SCREW,ALLEN,BUTTON	AR	EA
N.S.	F2051	WASHER FLAT #4	AR	EA
N.S.	SACAN0440025	SCREW,ALLEN,CAP	AR	EA
N.S.	F3051	FLAT WASHER	AR	EA
N.S.	2100-0143	CONNECTOR,TERMINAL	AR	EA
N.S.	2800-0028	WIRE TIES	6	EA
N.S.	5100-0028	SWITCH,LIMIT	1	EA
N.S.	F5451	SHOULDER SCREW	1	EA
N.S.	901-1-01	MANUAL,CF9,OPERATING	1	EA
N.S.	701-EA	COMPONENT BIN ANTISTATIC	1	EA
N.S.	2400-0012	DATA PLATE, ELECTRICAL	1	EA

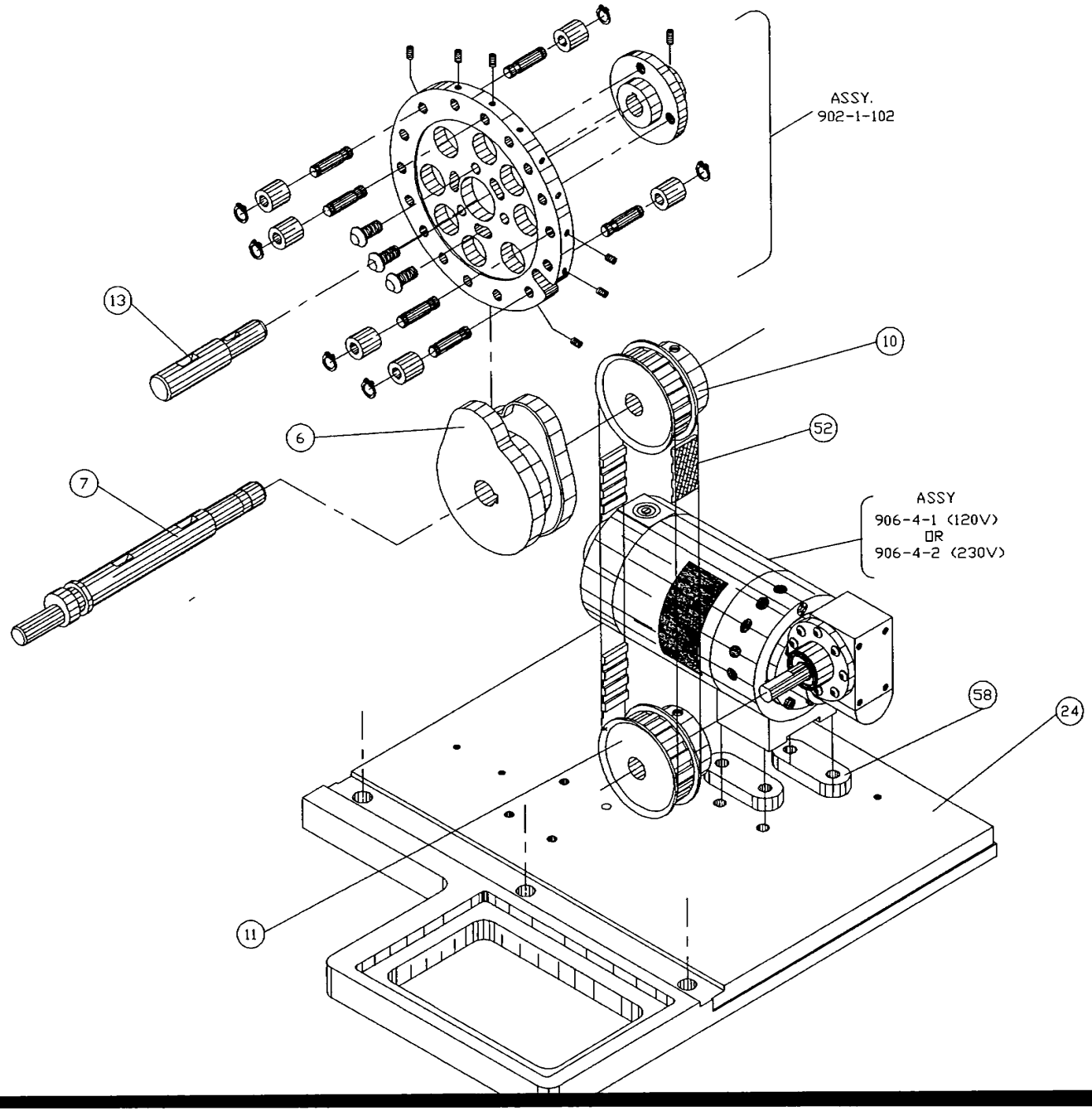
TOOL KIT

N.S.	709-7	WRENCH 5/32 "T"	1	EA
N.S.	709-5	WRENCH 3/16 "T"	1	EA
N.S.	709-10	WRENCH 3/32 ALLEN	1	EA
N.S.	709-9	WRENCH 7/64 ALLEN	2	EA
N.S.	950-001	SLIDE GAP	1	EA
N.S.	10/0236	SPACER, CF-9 REEL	1	EA
N.S.	905-00	CATALOG,DIE,CF-9	1	EA

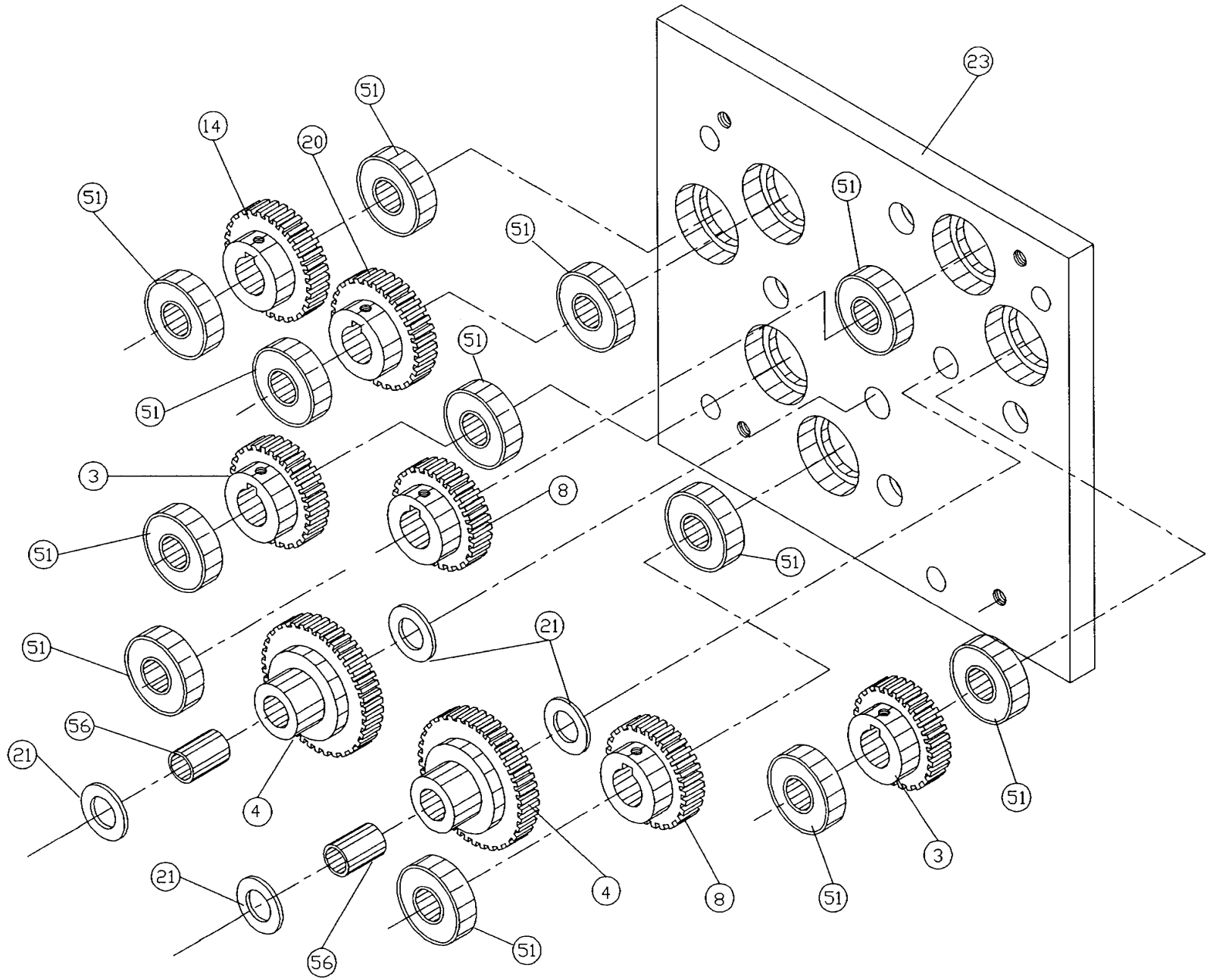
N.S. - Not Shown N.S.S. - Not Sold Separately



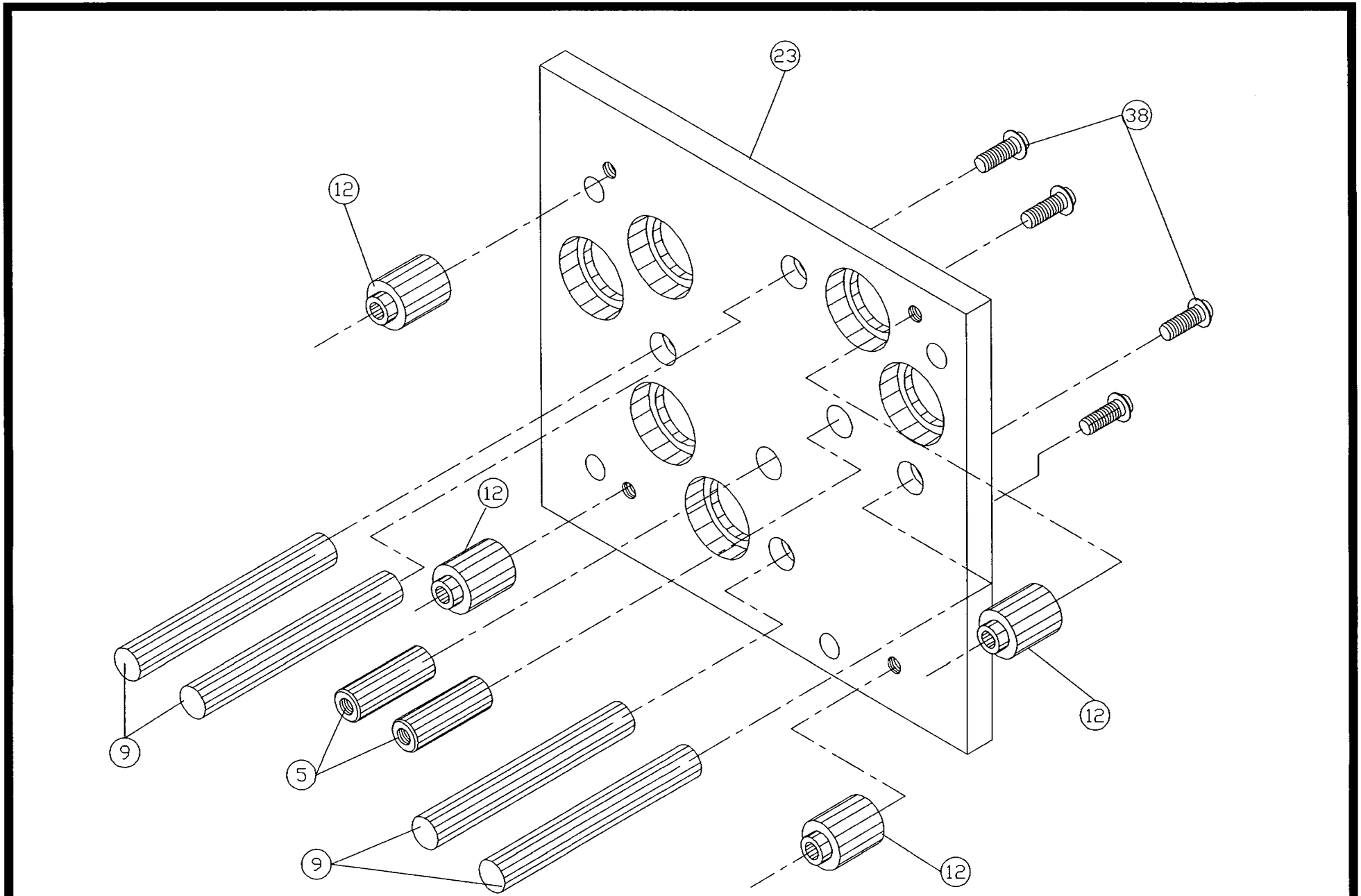
CF-9 General Assembly (1 of 7)



CF-9 General Assembly (2 of 7)



CF-9 General Assembly (3 of 7)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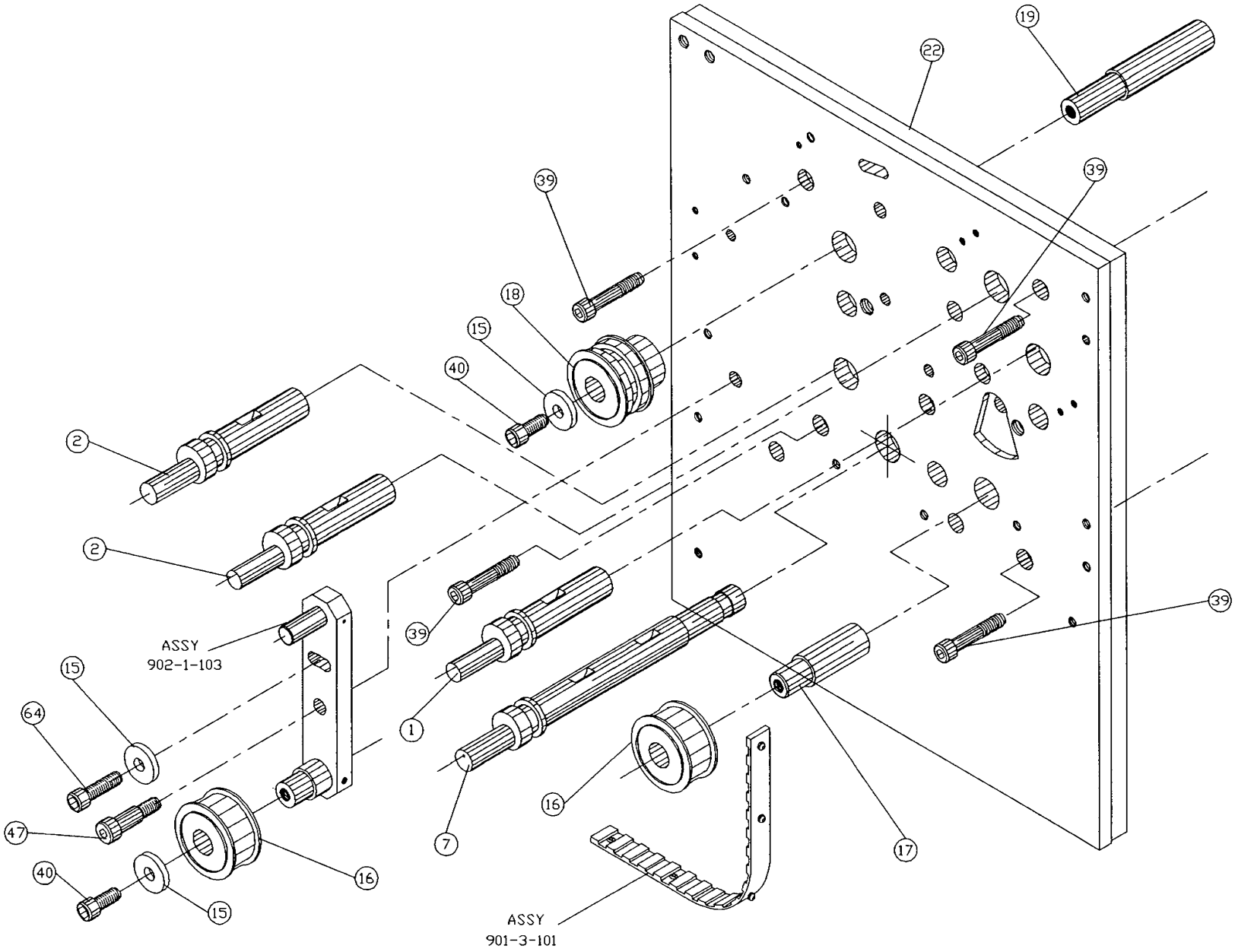
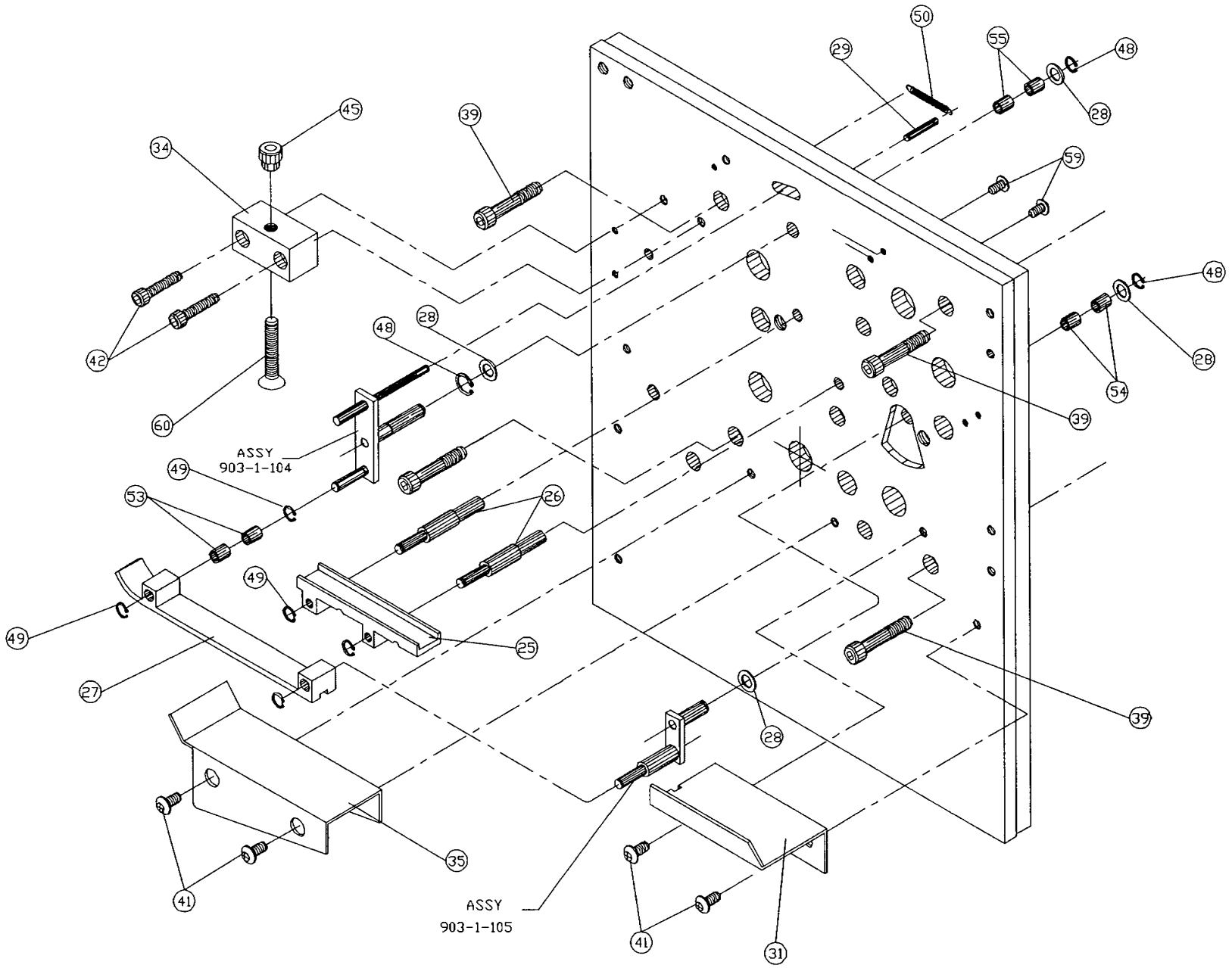
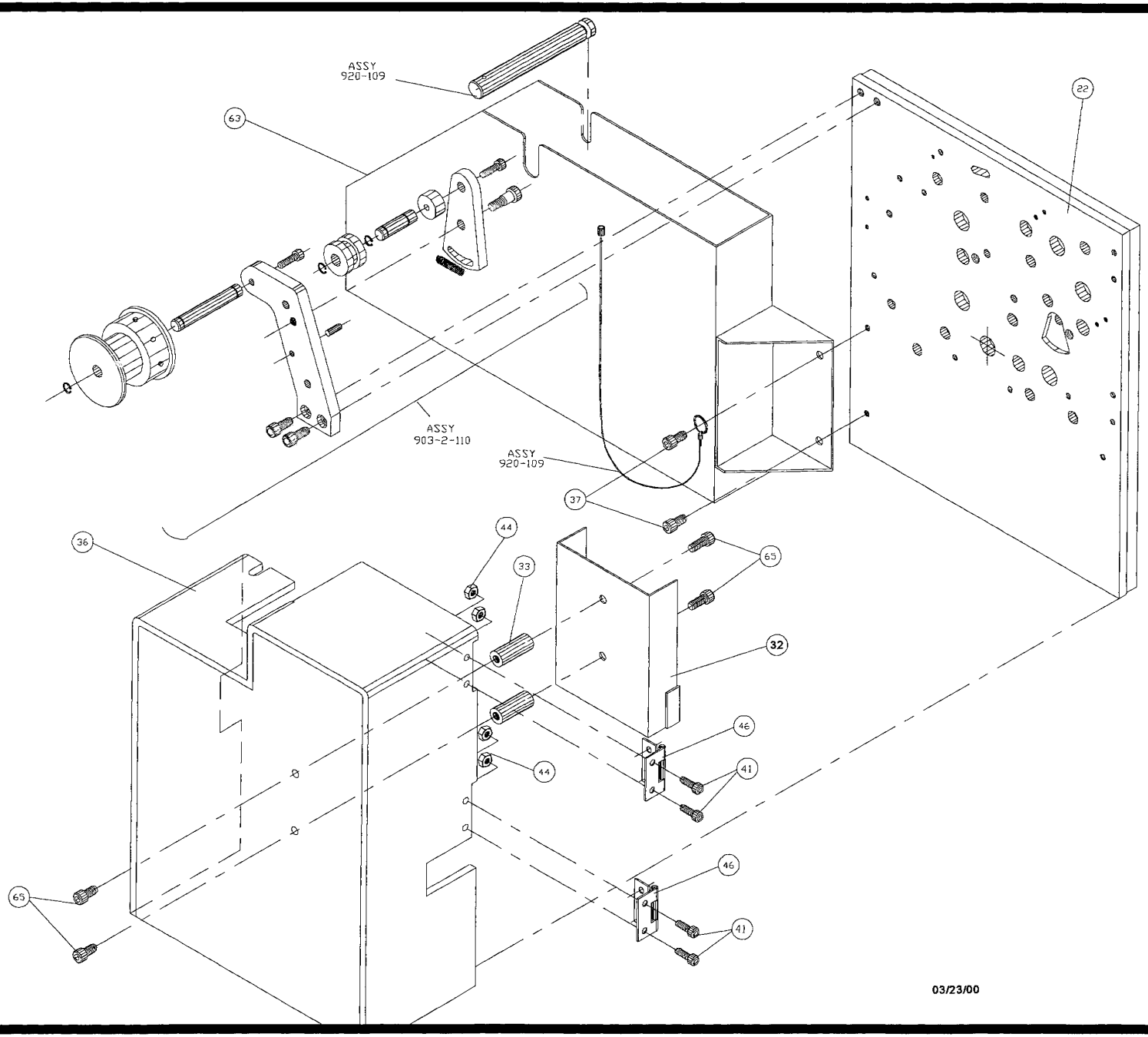


CF-9 General Assembly (5 of 7)



CF-9 General Assembly (6 of 7)



CF-9 General Assembly (7 of 7)

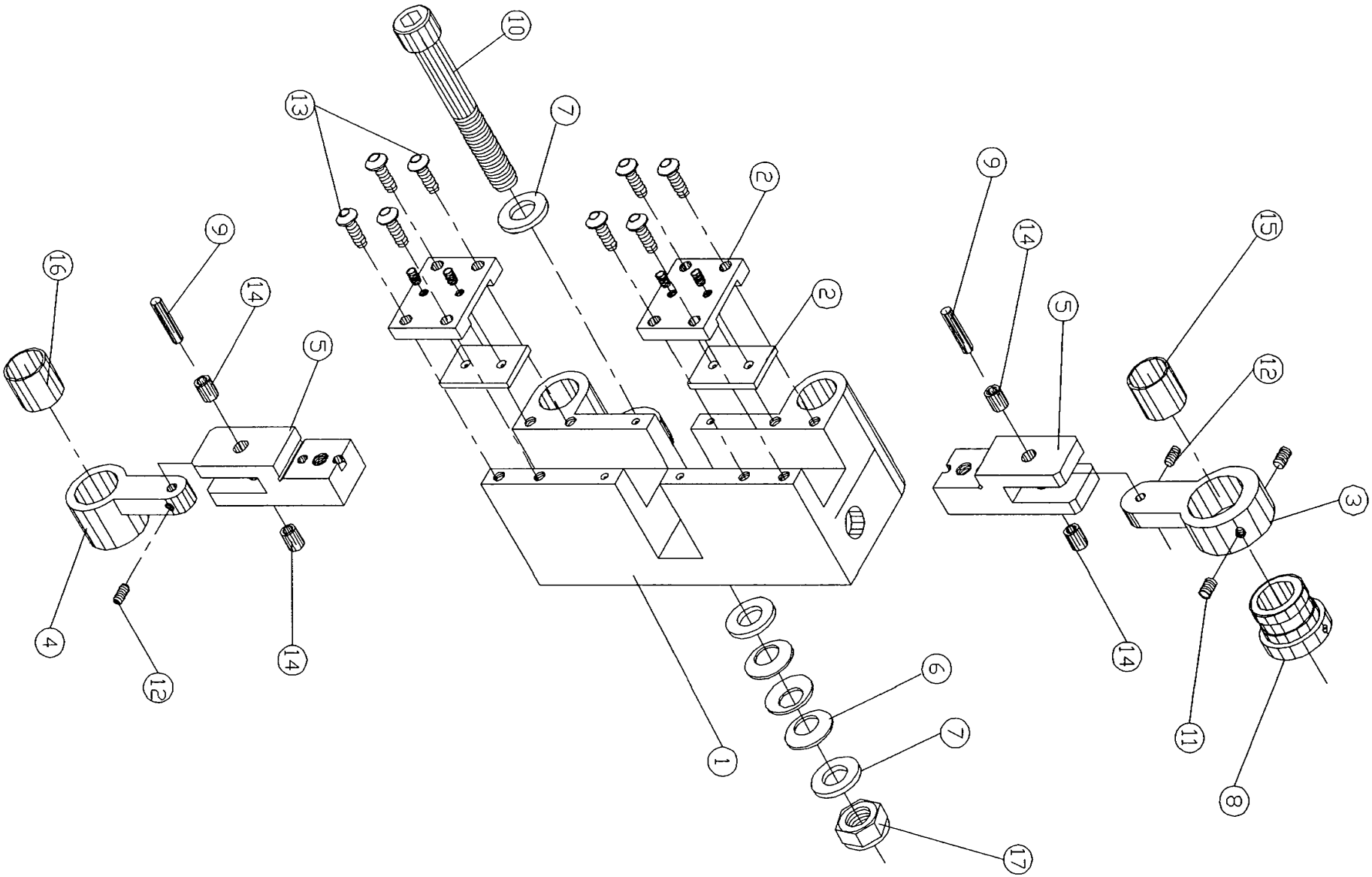
10-30-92

Bill of Material for Assembly 901-1-100
DIE BLOCK STATION #1

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	901-1-1	DIE BLOCK	1	EA
2	901-1-101	COVER PLATE ASSEMBLY	2	EA
3	901-3-1	LARGE CRANK	1	EA
4	901-1-4	SMALL CRANK	1	EA
5	901-2-14	SLIDE	2	EA
6	10/0197	WASHER,BOW,SS	3	EA
7	901-3-7	WASHER STEEL	3	EA
8	901-3-2	ECCENTRIC BUSHING .015	1	EA
9	801-1-12	CRANK PIN	2	EA
10	901-1-5	SCREW,ADJ	1	EA
11	TACAN0832018	SET.A.CU.STL.	AR	EA
12	TACAN0440018	SET.A.CU.STL.	AR	EA
13	SACAN0632037	SCREW,ALLEN,CAP	AR	EA
14	L0001	BUSHING 02DU03	4	EA
15	L0503	BUSHING 06DU10	1	EA
16	L0601	BUSHING 07DU08	1	EA
17	NSIA3118	NUT, NYLON INSERT_5/16-18	1	EA
N.S.	801-1-20	SCR,WASH FACE TH'B	1	EA

N.S. - Not Shown N.S.S. - Not Sold Separately



GPD

Die Block Station #1 No. 901-1-100

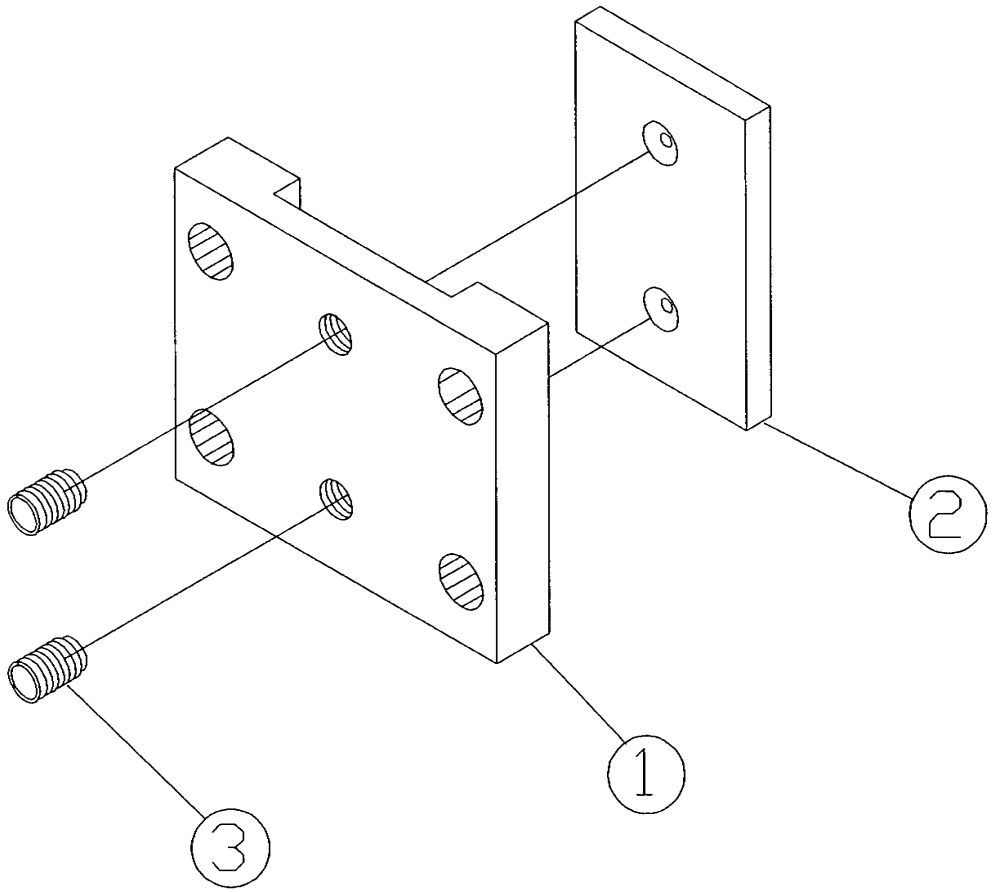
10-30-92

Bill of Material for Assembly 901-1-101
COVER PLATE ASSEMBLY

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	901-1-3	COVER PLATE	1	EA
2	901-1-6	WEAR PLATE	1	EA
3	TACAN0440012	SET.A.CU.STL.	2	EA

N.S. - Not Shown N.S.S. - Not Sold Separately



GPD

Cover Plate Assembly No. 901-1-101

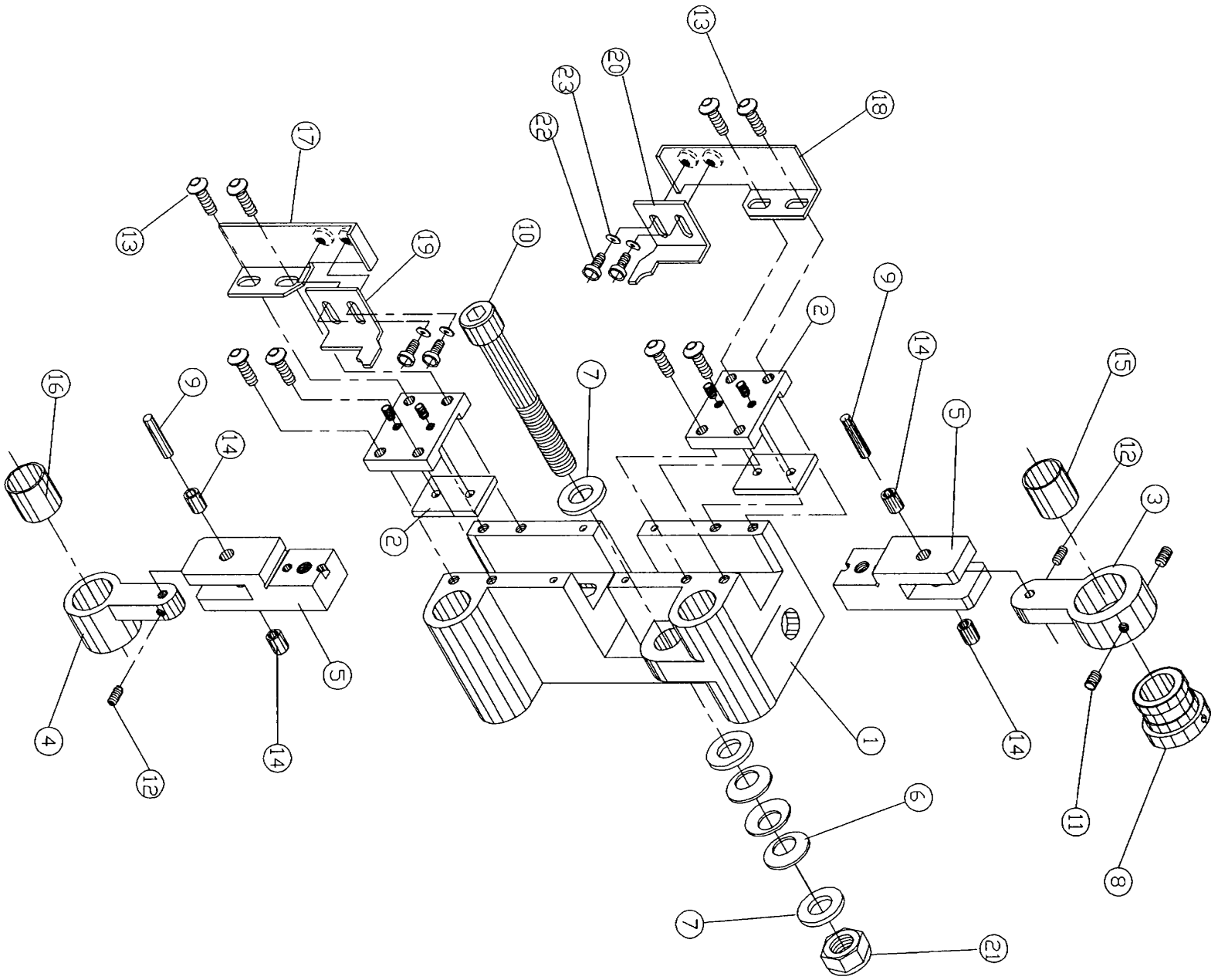
10-30-92

Bill of Material for Assembly 901-1-102
DIE BLOCK STATION #2

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	901-1-1	DIE BLOCK	1	EA
2	901-1-101	COVER PLATE ASSEMBLY	2	EA
3	901-3-1	LARGE CRANK	1	EA
4	901-1-4	SMALL CRANK	1	EA
5	901-2-14	SLIDE	2	EA
6	10/0197	WASHER,BOW,SS	3	EA
7	901-3-7	WASHER STEEL	3	EA
8	901-3-2	ECCENTRIC BUSHING .015	1	EA
9	801-1-12	CRANK PIN	2	EA
10	901-1-5	SCREW,ADJ	1	EA
11	TACAN0832018	SET.A.CU.STL.	AR	EA
12	TACAN0440018	SET.A.CU.STL.	AR	EA
13	SACAN0632050	SCREW,ALLEN,CAP	AR	EA
14	L0001	BUSHING 02DU03	4	EA
15	L0503	BUSHING 06DU10	1	EA
16	L0601	BUSHING 07DU08	1	EA
17	901-3-9L	COMPONENT EJECTOR, LEFT	1	EA
18	901-3-9R	COMPONENT EJECTOR, RIGHT	1	EA
19	901-3-10L	COMPONENT EJECTOR, LEFT	1	EA
20	901-3-10R	COMPONENT EJECTOR, RIGHT	1	EA
21	NSIA3118	NUT, NYLON INSERT_5/16-18	1	EA
22	SACSN0440025	SCREW,ALLEN,CAP	4	EA
23	WFRAA004	WASHER,FLAT,RG.#4	4	EA
N.S.	801-1-20	SCR,WASH FACE TH'B	1	EA

N.S. - Not Shown **N.S.S. - Not Sold Separately**



GPD

Die Block Station #2 No. 901-1-102

10-30-92

Bill of Material for Assembly 901-3-101
TRANSFER BELT ASSEMBLY-LARGE STUD SIZE

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	**N.S.S.**	BELT,TIMING,ANTI-STATIC	1	EA
2	901-3-3	BRASS PIN	14	EA
3	SABAN0256012	SCREW,ALLEN,BUTTON	AR	EA

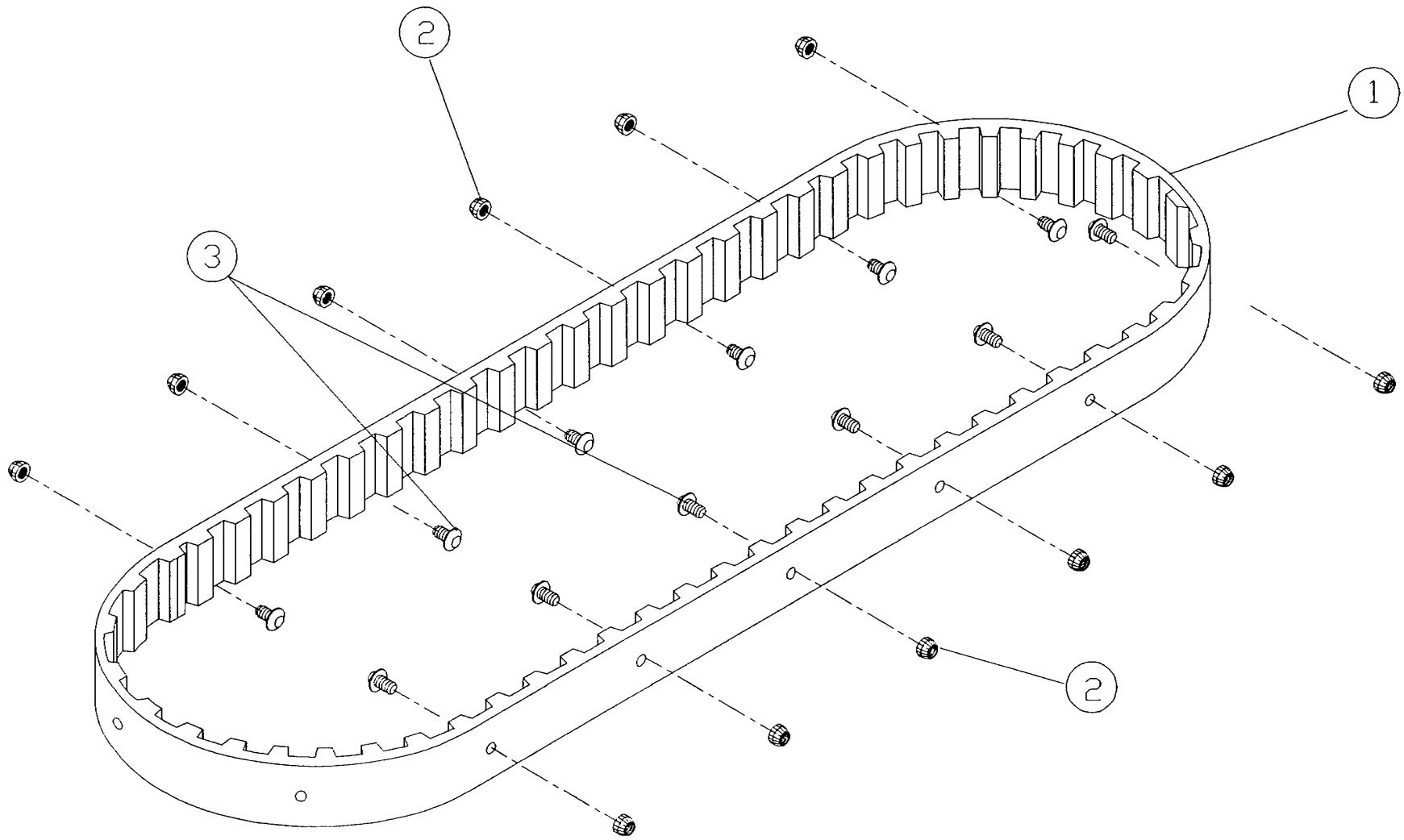
07-15-96

Bill of Material for Assembly 901-3-102
TRANSFER BELT ASSEMBLY-SMALL STUD SIZE

Effective As of: 07-15-96

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	**N.S.S.**	BELT,TIMING,ANTI-STATIC	1	EA
2	901-3-13	BRASS PIN	14	EA
3	SABAN0256012	SCREW,ALLEN,BUTTON	AR	EA

N.S. - Not Shown **N.S.S. - Not Sold Separately**



GPD

Transfer Belt Assembly No. 901-3-101, 901-3-102

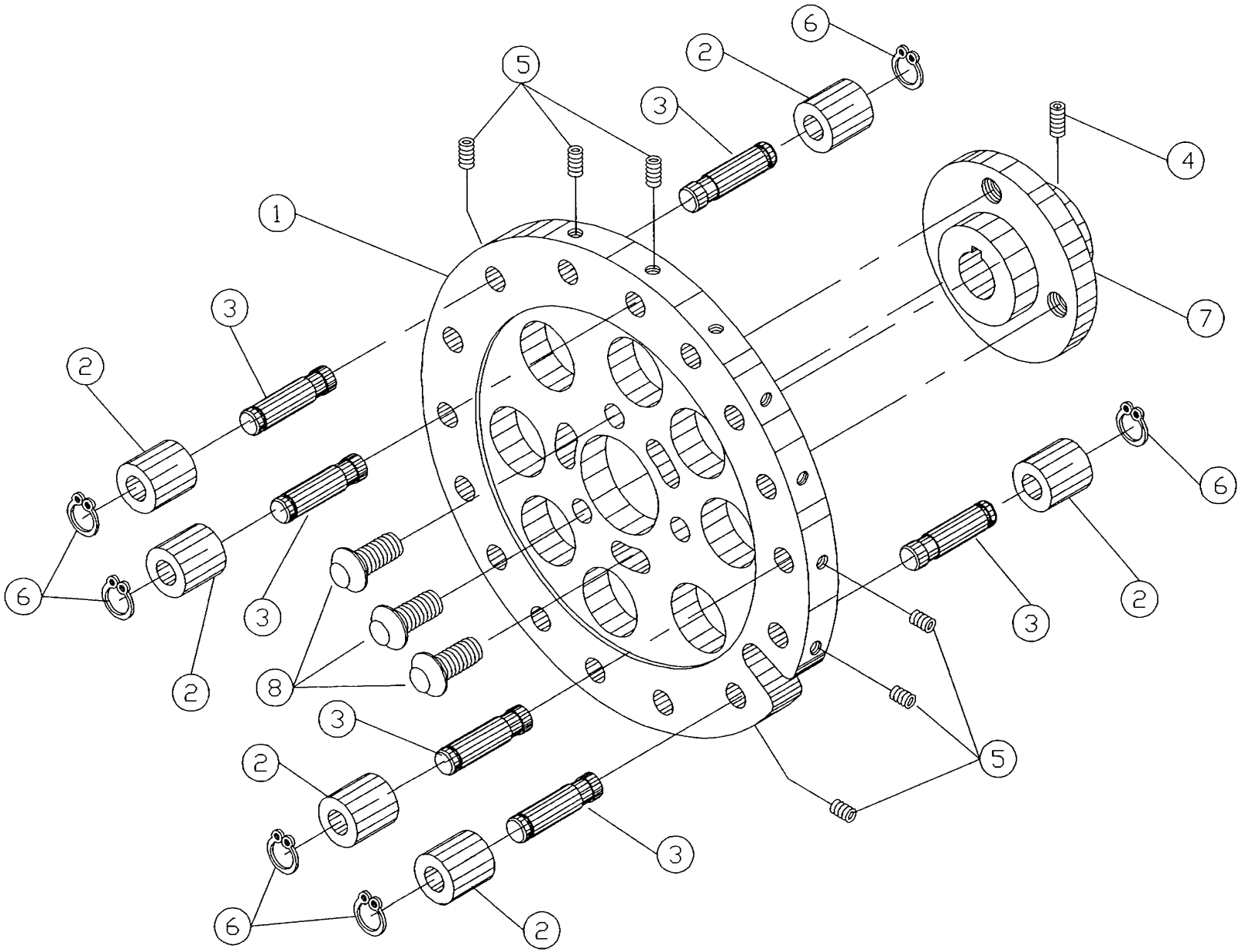
10-30-92

Bill of Material for Assembly 902-1-102
CAM FOLLOWER ASSEMBLY

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	**N.S.S.**	CAM FOLLOWER	1	EA
2	806-1-3	ROLLER (CAM FOLLOWER)	16	EA
3	**N.S.S.**	SPIGOT (CAM FOLLOWER)	16	EA
4	TACAN0632025	SET.A.CU.STL.	AR	EA
5	TACAN0632018	SET.A.CU.STL.	AR	EA
6	G1007	RETAINING RING 5100-25	AR	EA
7	806-1-11	HUB (FOR CAM FOLLOWER)	1	EA
8	SABSN2520062	SCREW, BUTTONHEAD	3	EA

N.S. - Not Shown **N.S.S. - Not Sold Separately**



GPD

Cam Follower Assembly No. 902-1-102

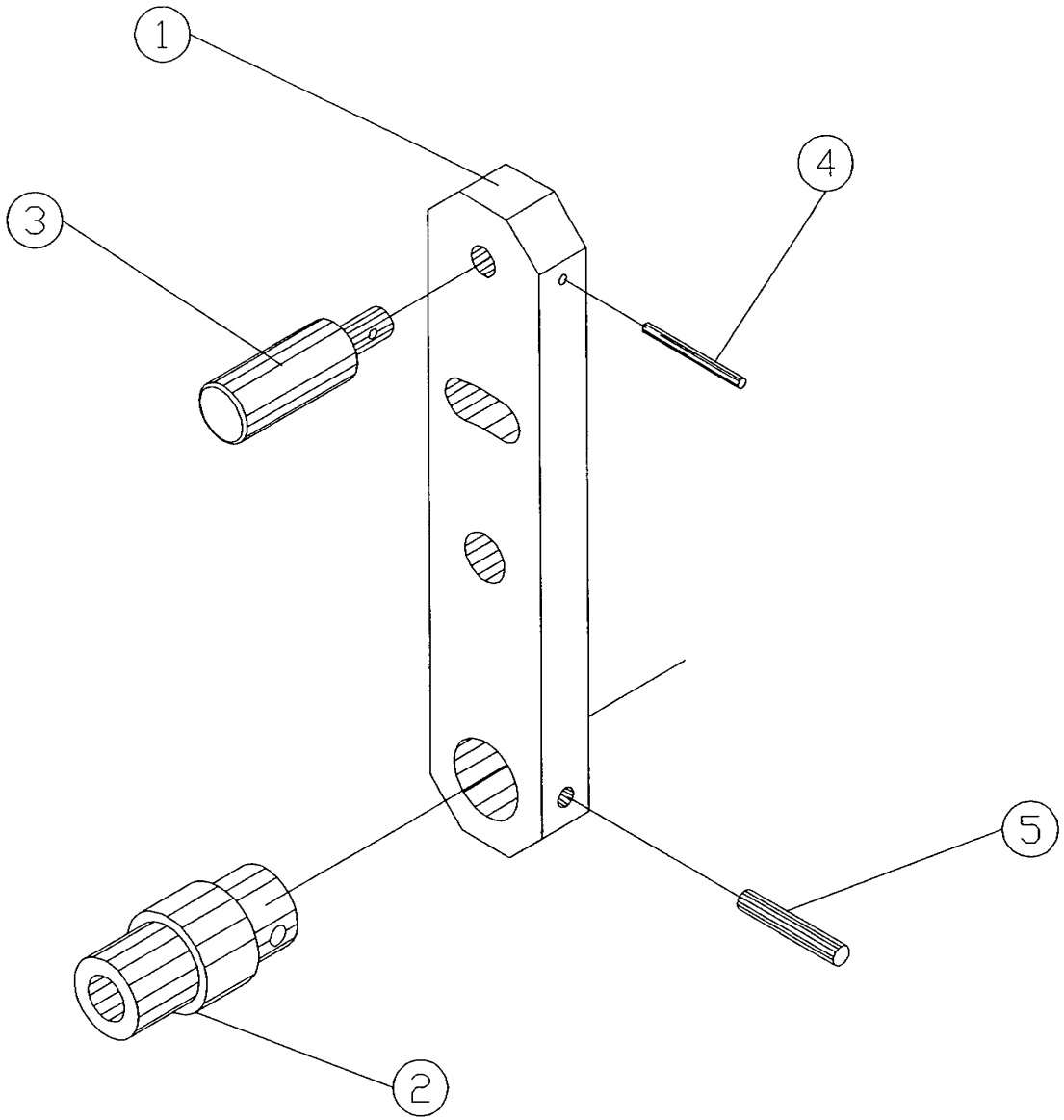
10-30-92

Bill of Material for Assembly 902-1-103
LEVER ASSEMBLY - BELT

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	N.S.S.	LEVER	1	EA
2	N.S.S.	PIN	1	EA
3	N.S.S.	HANDLE	1	EA
4	RPAS06075	PIN, ROLL	AR	EA
5	RPAS12075	PIN, ROLL	AR	EA

N.S. - Not Shown N.S.S. - Not Sold Separately



GPD

Lever Assembly - Belt No. 902-1-103

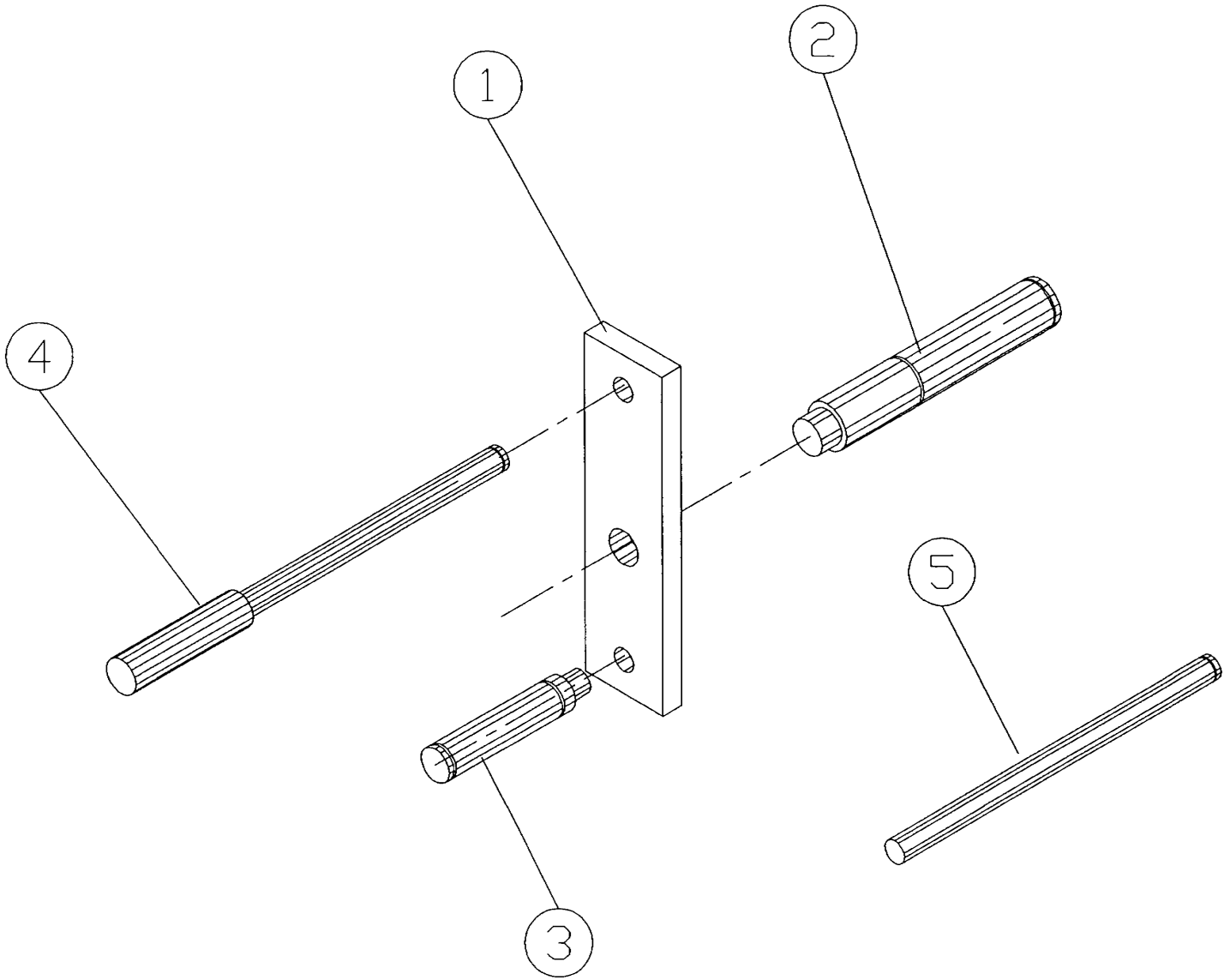
10-30-92

Bill of Material for Assembly 903-1-104
LEVER ASSEMBLY - TOP

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY..... UM
1	N.S.S.	LEVER	1 EA
2	N.S.S.	PIN	1 EA
3	N.S.S.	PIN	1 EA
4	N.S.S.	SPRING PIN	1 EA
5	N.S.S.	PIN	1 EA

N.S. - Not Shown **N.S.S. - Not Sold Separately**



GPD

Lever Assembly - Top No. 903-1-104

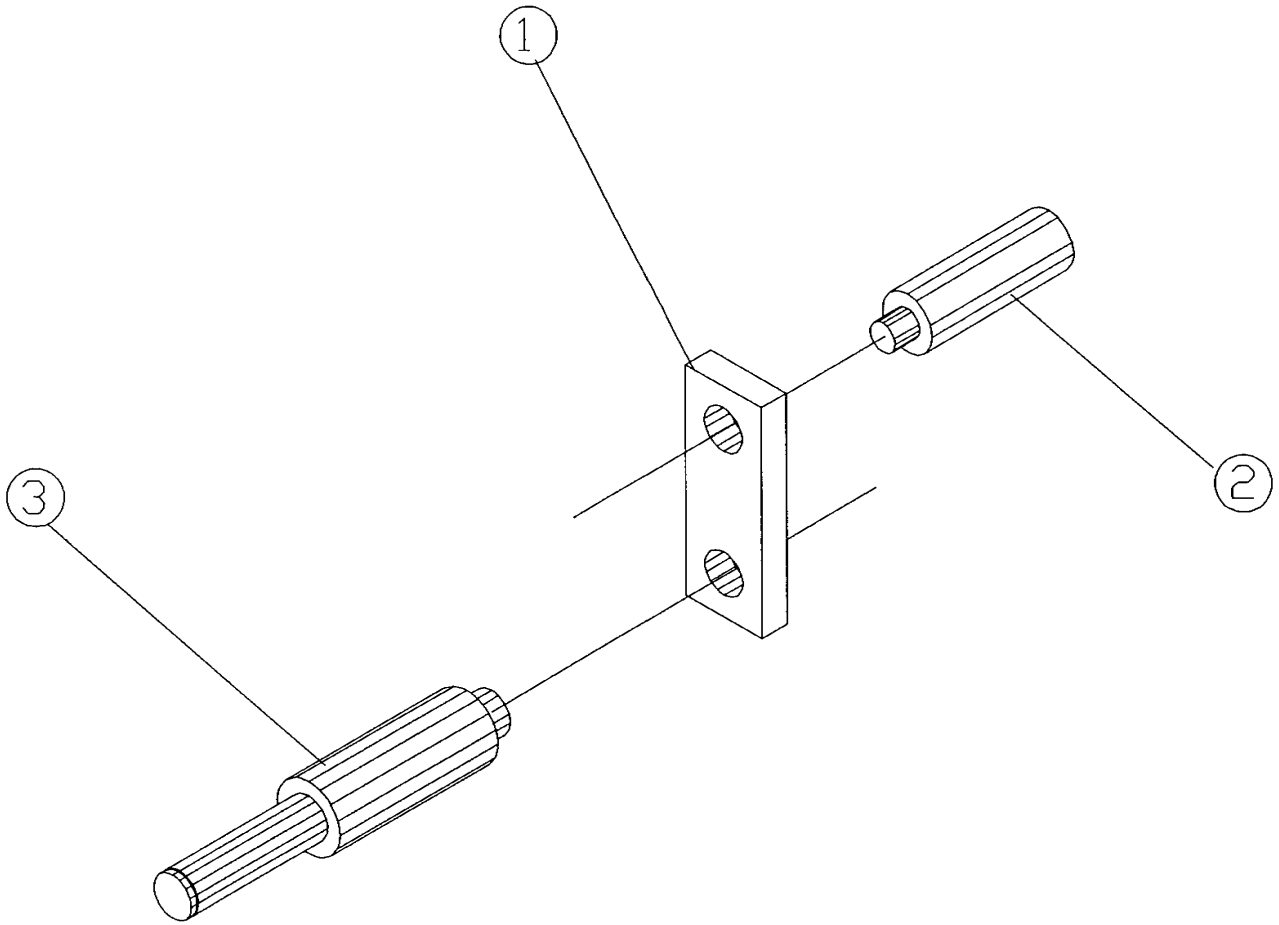
10-30-92

Bill of Material for Assembly 903-1-105
LEVER ASSEMBLY - BOTTOM

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	N.S.S.	LEVER	1	EA
2	N.S.S.	PIN	1	EA
3	N.S.S.	PIN	1	EA

N.S. - Not Shown N.S.S. - Not Sold Separately



GPD

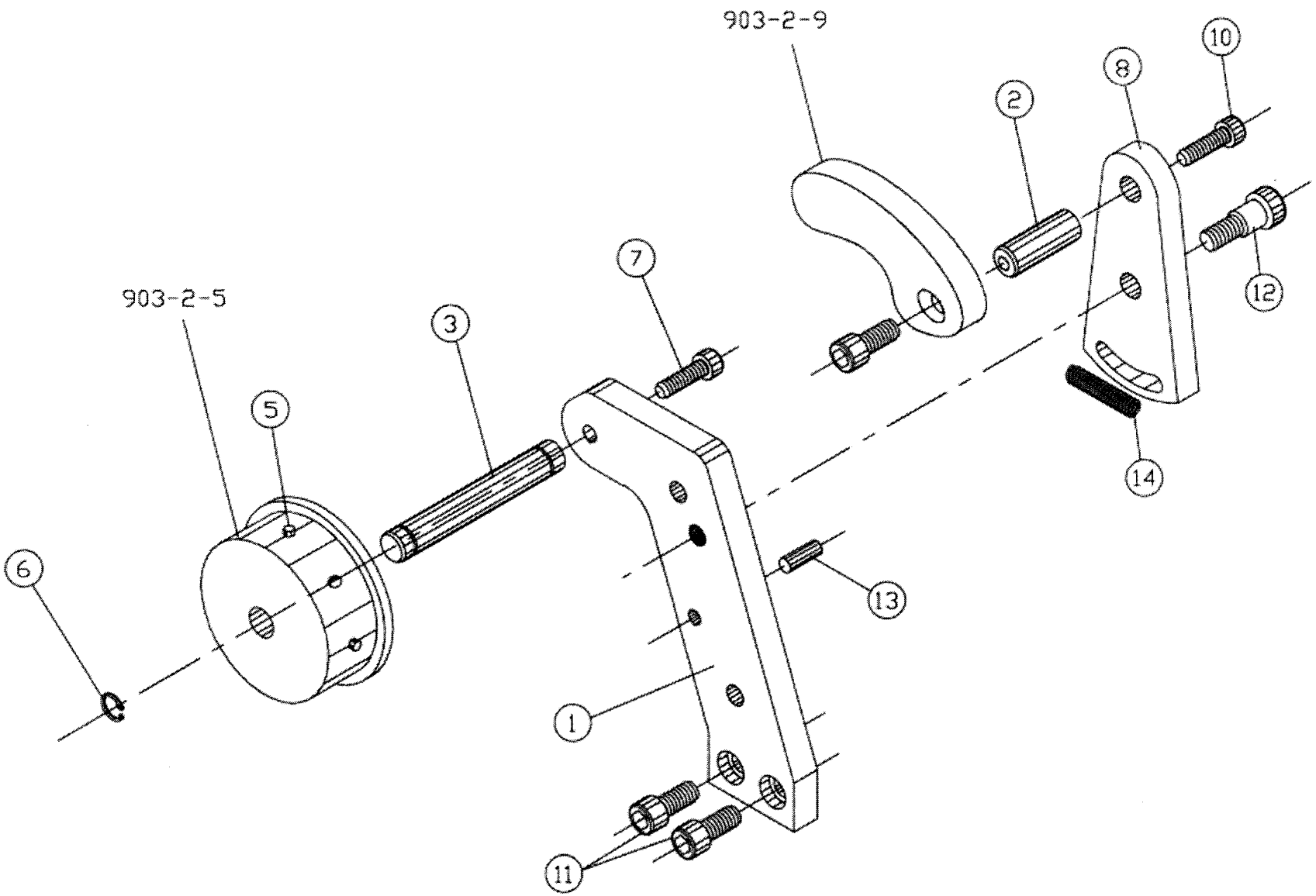
Lever Assembly - Bottom No. 903-1-105

05-22-02 Bill of Material for Assembly 903-2-110
INFEED ARM ASSY WITH SPRING

Effective As of: 05-22-02

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	903-2-1	INFEED ARM - LARGE	1	EA
2	903-2-2	SUPPORT PIN - SM. ROLLER	1	EA
3	N.S.			
4	N.S.			
5	G2509	PIN,DOWEL	AR	EA
6	G1013	RETAINING RING 5100-37	AR	EA
7	SACAN1032062	SCREW,ALLEN,CAP	AR	EA
8	903-2-10	INFEED ARM - SMALL	1	EA
9	N.S.			
10	SACAN1032100	SCREW,ALLEN,CAP	AR	EA
11	SACAN2520050	SCREW,ALLEN,CAP	AR	EA
12	F4959	SHOULDER BOLT	1	EA
13	DA18050	PIN, DOWEL	AR	EA
14	S0020	COMPRESSION SPRING	1	EA
	903-2-101	ROLLER GUIDE ASSY.	1	EA

N.S. - Not Shown N.S.S. - Not Sold Separately



GPD

Infeed Arm Assembly with Spring No. 903-2-110

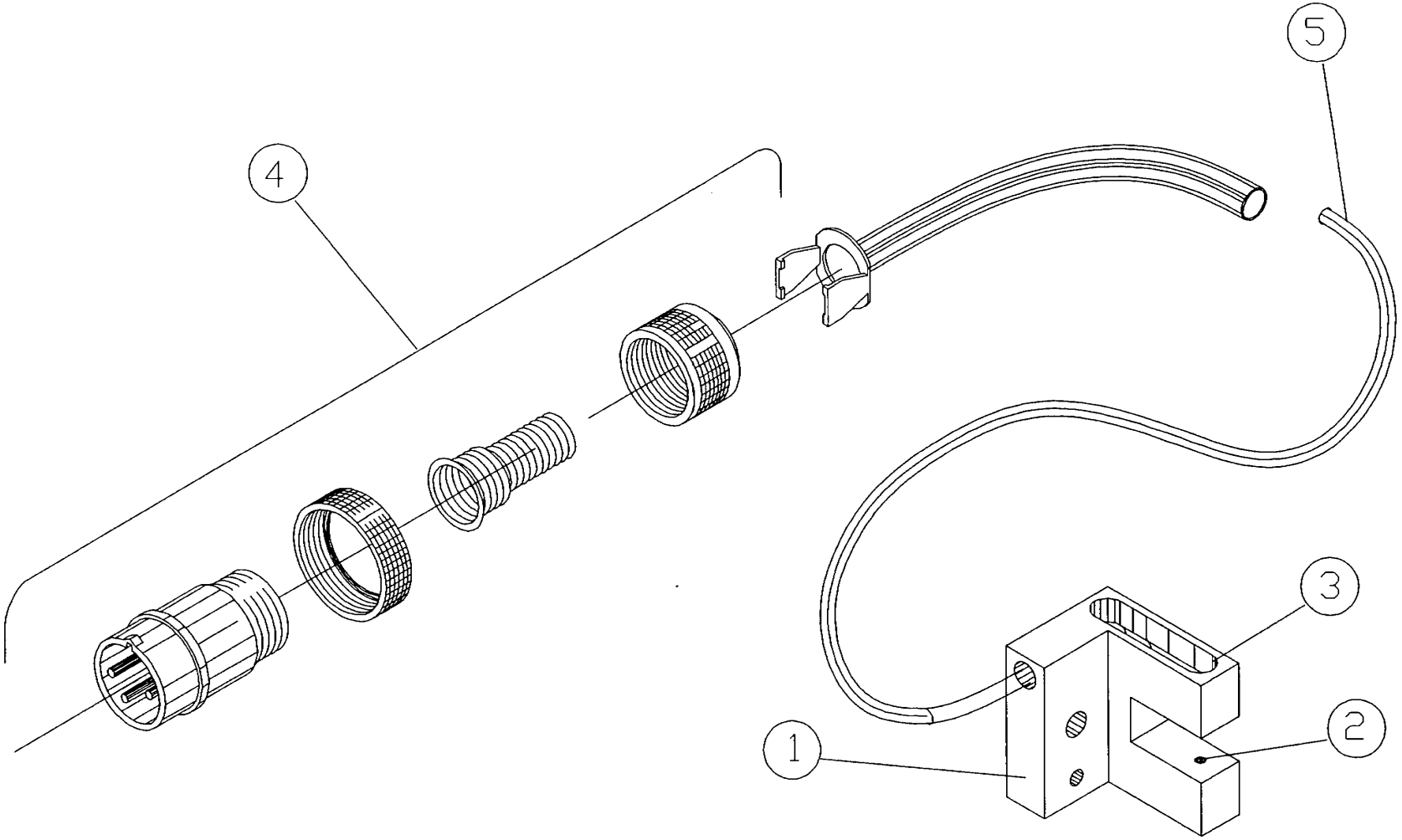
10-30-92

Bill of Material for Assembly 903-108
CF9 COUNTER BRACKET

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	903-2-6	COUNTER BRACKET	1	EA
2	3700-0008	EMITTER IR	1	EA
3	3700-0009	DETECTOR IR	1	EA
4	2100-0053	CONNECTOR,PLUG	1	EA
5	6000-0015	COAXIAL CABLE	60	IN
N.S.	2800-0014	HARDWARE ELECTRICAL	1	EA

N.S. - Not Shown N.S.S. - Not Sold Separately



GPD

Counter Bracket No. 903-108

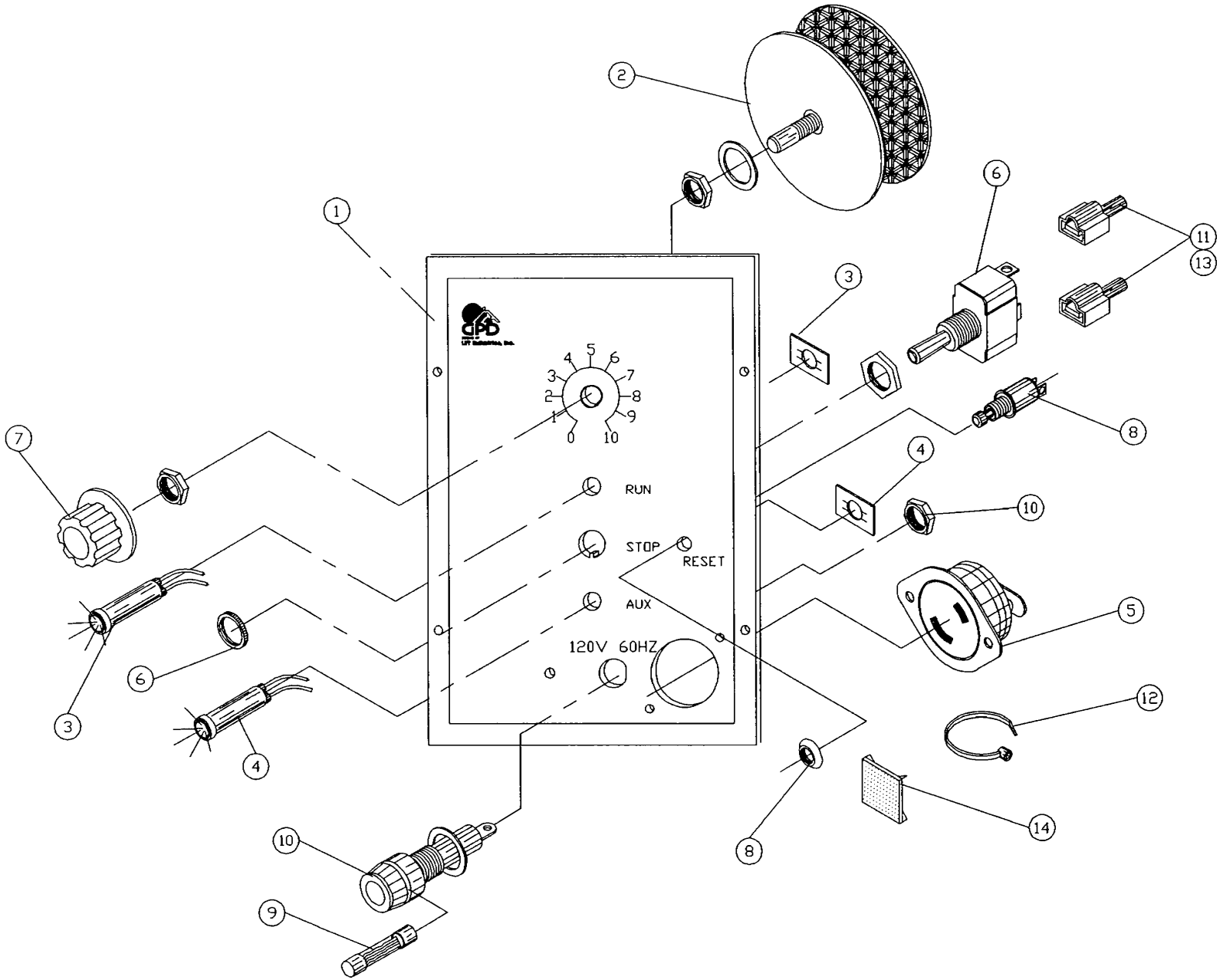
10-30-92

Bill of Material for Assembly 906-3-1
CONTROL UNIT, 120V 60Hz

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	1400-0007	PANEL,FRONT	1	EA
2	2200-0008	SPEED CONTROL 120V 60HZ	1	EA
3	2450-0017	PILOT LIGHT 110V RED	1	EA
4	2450-0015	PILOT LIGHT 110V ORANGE	1	EA
5	2800-0007	CONNECTOR AC	1	EA
6	5100-0037	SWITCH,TOGGLE	1	EA
7	2400-0006	KNOB 1/4" SHAFT	1	EA
8	5100-0024	SWITCH,PUSH BUTTON	1	EA
9	4300-0026	FUSE,SLOW BLOW	1	EA
10	4300-0001	FUSE HOLDER,PANEL MOUNT	1	EA
11	2100-0121	CONNECTOR,TERMINAL	AR	EA
12	2800-0028	WIRE TIES	2	EA
13	2100-0124	CONNECTOR,TERMINAL	9	EA
14	2800-0029	STICK DOWN PADS 1/2"	1	EA
N.S.	6000-20-HU-BRN	WIRE, 20AWG HOOKUP/BROWN	AR	IN
N.S.	6000-20-HU-RED	WIRE, 20AWG HOOKUP/RED	AR	IN
N.S.	6000-20-HU-BLU	WIRE, 20AWG HOOKUP/BLU	AR	IN
N.S.	6000-20-HU-WHT	WIRE, 20AWG HOOKUP/WHITE	AR	IN
N.S.	6000-20-HU-BLK	WIRE, 20AWG HOOKUP/BLACK	AR	IN

N.S. - Not Shown **N.S.S. - Not Sold Separately**



Control Unit, 120V 60Hz No. 906-3-1

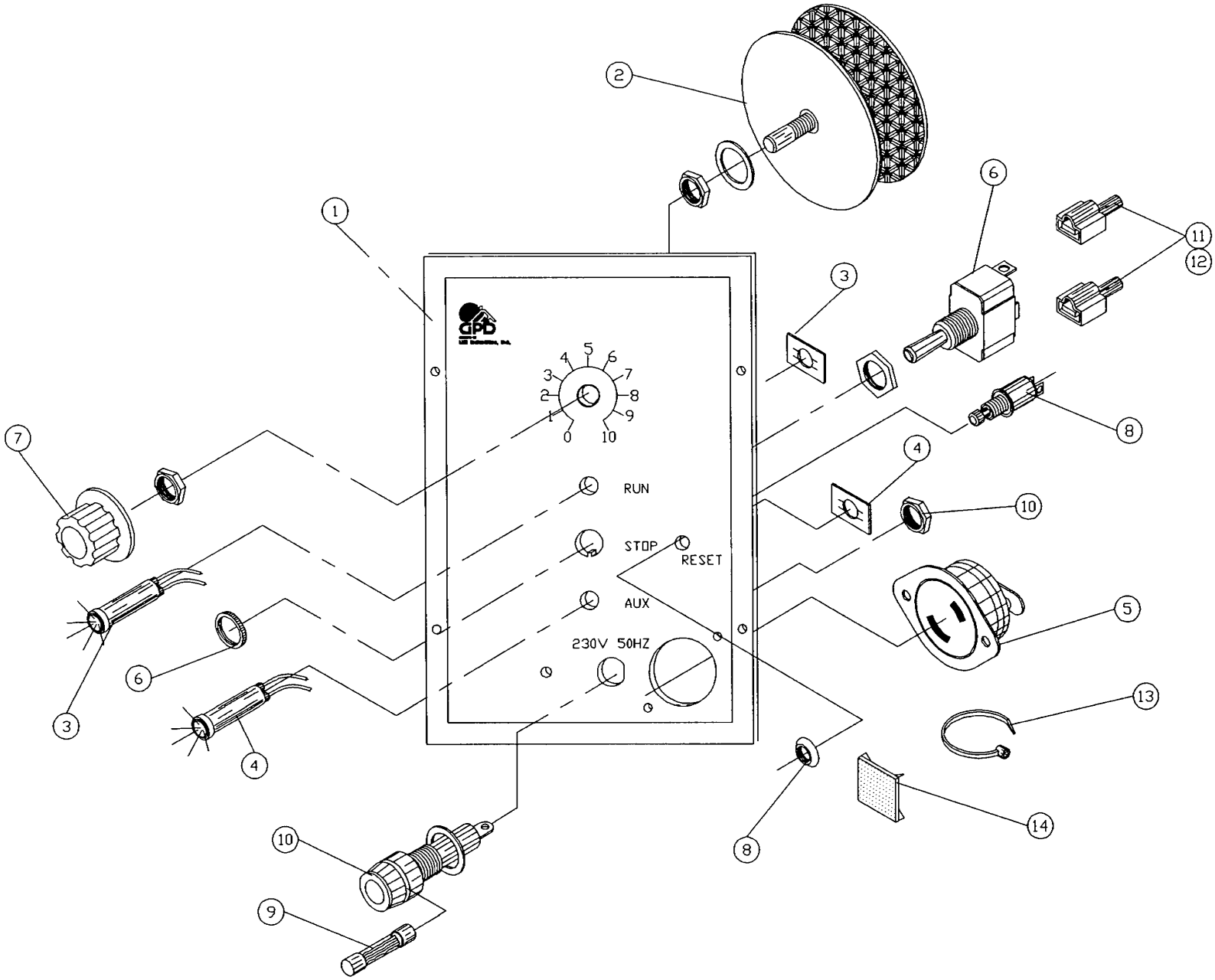
10-30-92

Bill of Material for Assembly 906-3-2
CONTROL UNIT, 230V 50/60Hz

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	1400-0007	PANEL,FRONT	1	EA
2	2200-0014	SPEED CONTROL 230V 50HZ	1	EA
3	2450-0018	RED INDICATOR	1	EA
4	2450-0016	AMBER INDICATOR	1	EA
5	2800-0007	CONNECTOR AC	1	EA
6	5100-0037	SWITCH,TOGGLE	1	EA
7	2400-0006	KNOB 1/4" SHAFT	1	EA
8	5100-0024	SWITCH,PUSH BUTTON	1	EA
9	4300-0025	FUSE,SLOW BLOW	1	EA
10	4300-0001	FUSE HOLDER,PANEL MOUNT	1	EA
11	2100-0121	CONNECTOR,TERMINAL	AR	EA
12	2100-0124	CONNECTOR,TERMINAL	9	EA
13	2800-0028	WIRE TIES	2	EA
14	2800-0029	STICK DOWN PADS 1/2"	1	EA
N.S.	6000-20-HU-BRN	WIRE, 20AWG HOOKUP/BROWN	AR	IN
N.S.	6000-20-HU-RED	WIRE, 20AWG HOOKUP/RED	AR	IN
N.S.	6000-20-HU-BLU	WIRE, 20AWG HOOKUP/BLU	AR	IN
N.S.	6000-20-HU-WHT	WIRE, 20AWG HOOKUP/WHITE	AR	IN
N.S.	6000-20-HU-BLK	WIRE, 20AWG HOOKUP/BLACK	AR	IN

N.S. - Not Shown **N.S.S. - Not Sold Separately**



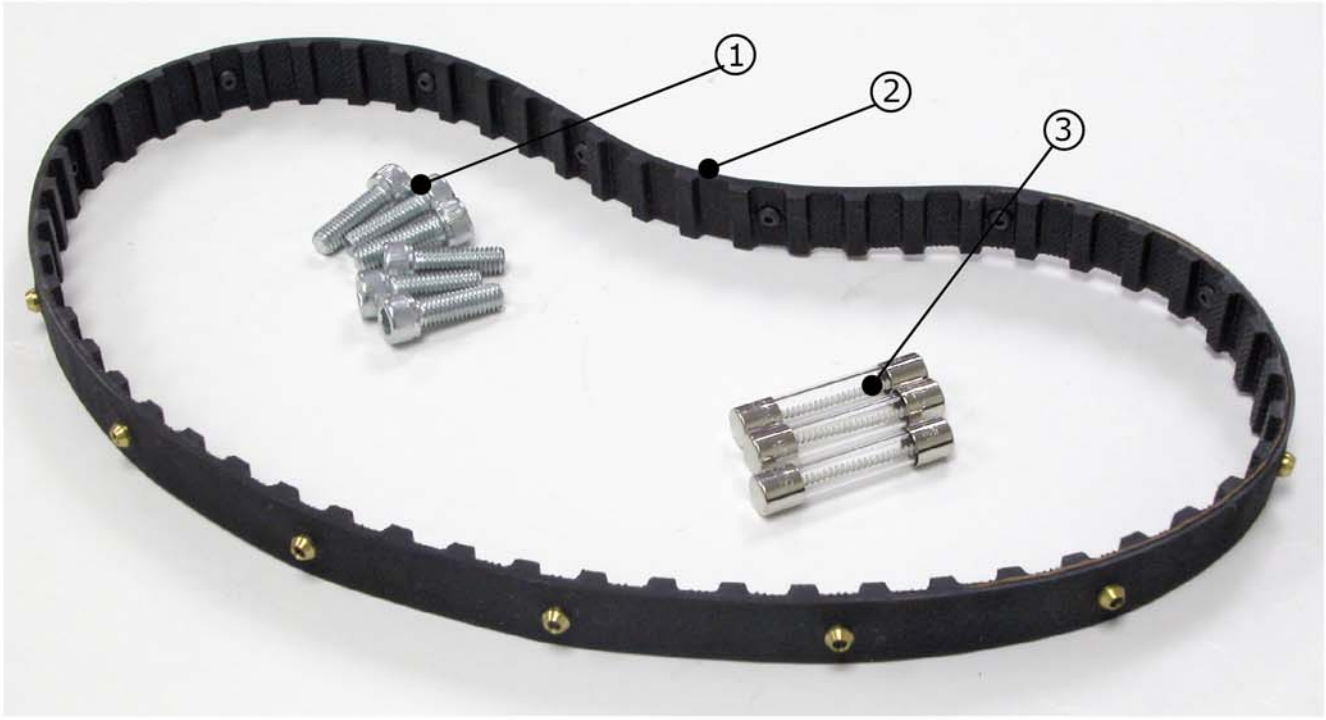
Control Unit, 230V 50/60Hz No. 906-3-2

11-03-11 Bill of Material for Assembly 925-1-2
SPARE PARTS KIT, 120V

Effective As of: 11-03-11

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	SACAN1032062	DIE SCREW	6	EA
2	901-3-10	TRANSFER BELT	1	EA
3	4300-0026	FUSE,SLOW BLOW	3	EA

N.S. - Not Shown **N.S.S. - Not Sold Separately**


1
2
3

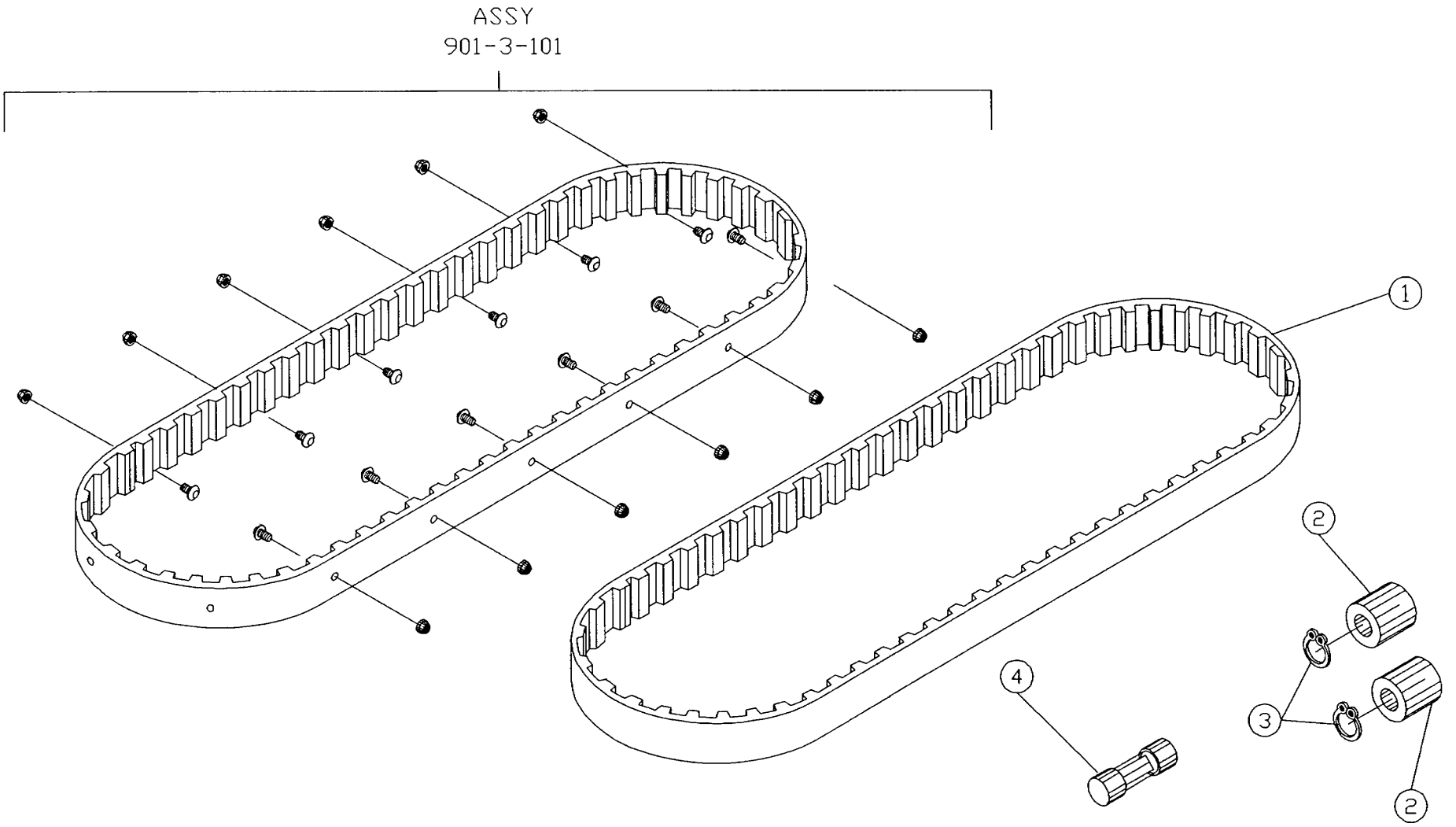
10-30-92

Bill of Material for Assembly 925-1-3
SPARE PARTS KIT, 230V

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	D0001	MOTOR BELT	1	EA
2	806-1-3	ROLLER (CAM FOLLOWER)	16	EA
3	G1007	RETAINING RING 5100-25	16	EA
4	4300-0025	FUSE,SLOW BLOW	1	EA
	901-3-101	BELT ASSEMBLY	1	EA

N.S. - Not Shown N.S.S. - Not Sold Separately


ASSY
901-3-101
1
2
3
4
2

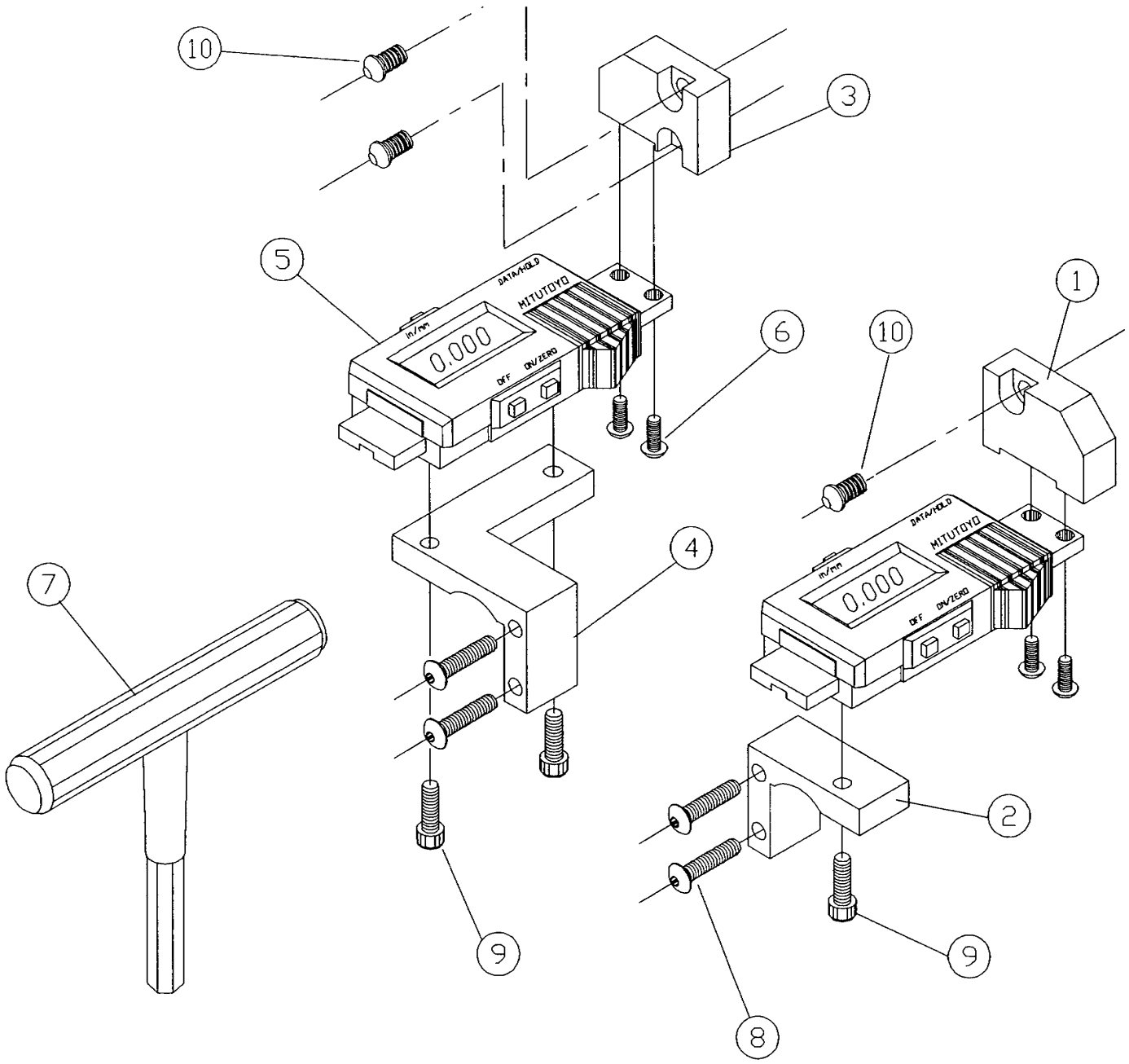
10-30-92

Bill of Material for Assembly 925-111
CF9 MICROMETER ADJUSTMENT PACKAGE

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	925-1-7	SCALE MOUNT	1	EA
2	925-1-8	SCALE MOUNT	1	EA
3	925-1-9	SCALE MOUNT	1	EA
4	925-1-10	SCALE MOUNT	1	EA
5	925-1-4	SCALE MODIFIED WITH LCD	2	EA
6	SABAN0632025	SCREW,ALLEN,BUTTON	2	EA
7	813-1-15	WRENCH 1/4 "T"	1	EA
8	SACAN0632100	SCREW,ALLEN,CAP	4	EA
9	SACAN0440037	SCREW,ALLEN,CAP	1	EA
10	SACAN0632050	SCREW,ALLEN,BUTTON	3	EA

N.S. - Not Shown N.S.S. - Not Sold Separately



Micrometer Adjustment Package No. 925-111

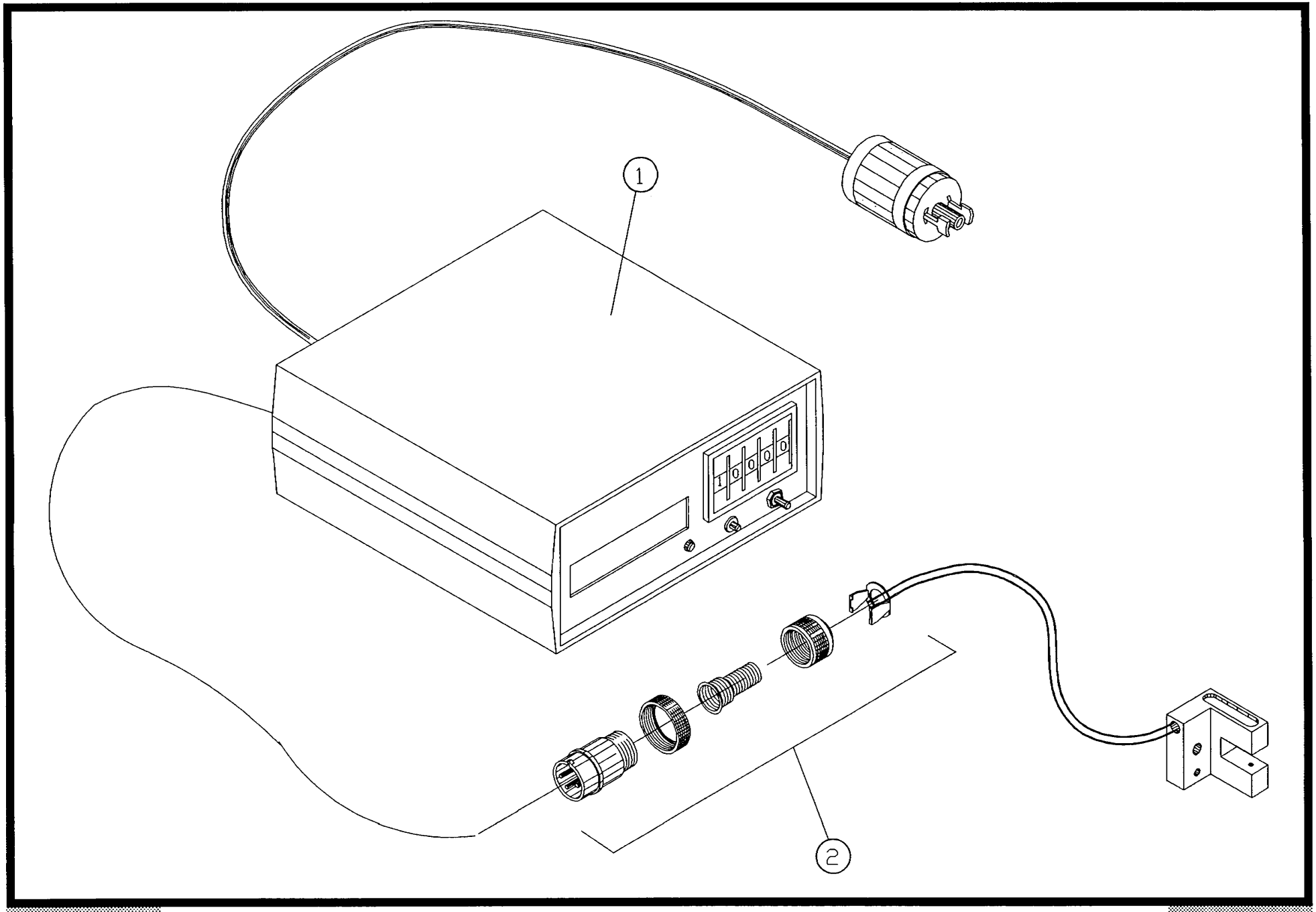
10-30-92

Bill of Material for Assembly 925-112
CF9 COUNTER PACKAGE, 120 VOLT

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	CC789-1	PRESET COUNTER-120V	1	EA
2	903-108	CF9 COUNTER BRACKET	1	EA

N.S. - Not Shown N.S.S. - Not Sold Separately



GPD

Counter Package 120V No. 925-112

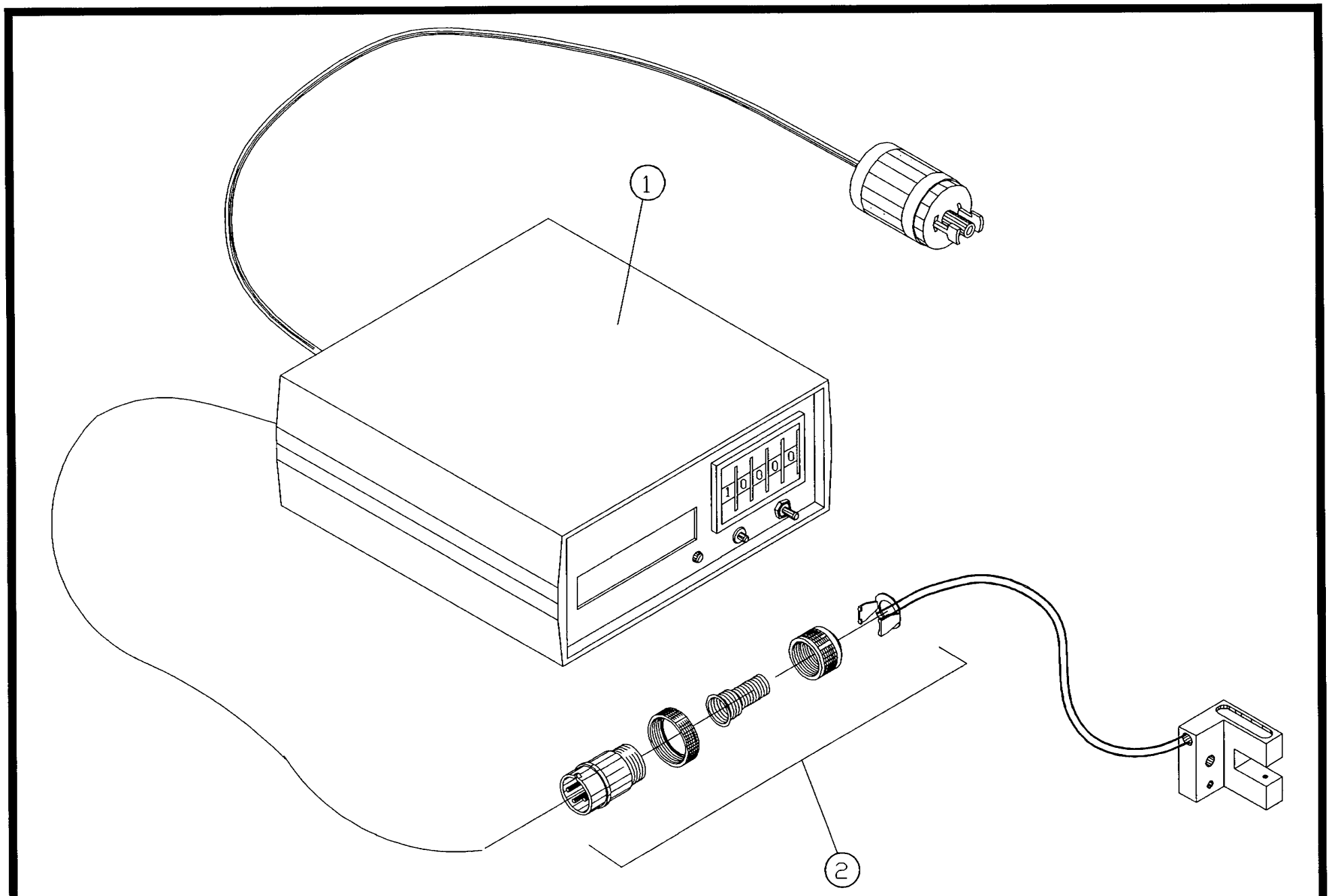
10-30-92

Bill of Material for Assembly 925-113
CF9 COUNTER PACKAGE, 230V

Effective As of: 10-15-92

ITEM*	PART#.....	DESCRIPTION.....	QTY.....	UM
1	CC789-2	PRESET COUNTER-230V	1	EA
2	903-108	CF9 COUNTER BRACKET	1	EA

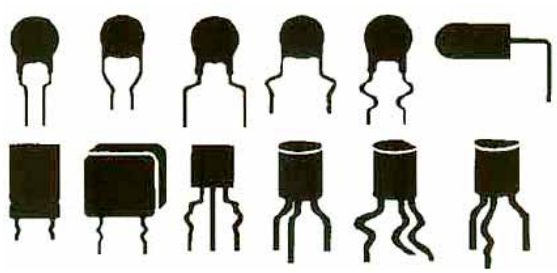
N.S. - Not Shown N.S.S. - Not Sold Separately



GPD

Counter Package 230V No. 925-113

GPD Global
611 Hollingsworth Street
Grand Junction, CO 81505
Tel: (970) 245-0408 Fax: (970) 245-9674
Web: www.gpd-global.com



CF-9

Component Forming Dies

CF-9 Component Forming Dies are precisely manufactured and are available to form Two-Leaded Components with center-to-center dimensions of up to .400", as well as TO-92 Transistors.

CF-9 Component Forming Dies can be ordered to form a wide variety of component shapes. Both common and special configurations can be produced by using CF-9 Component Forming Dies.

CF-9
Component Forming
Die Catalog

June 12, 2007

How to Use this Catalog:

NEW USERS

Decide which die(s)/knife you need by using the *Die Selection Guide* starting on page Guide-1.

EXPERIENCED USERS

Use the numeric listing of dies and the brief description of each die in the Index starting on page 1.

See die functions and capabilities listed and illustrated in the main body of the catalog.

Special Dies*

When ordering special dies or a configuration not shown in the catalog, additional information is required:

- component samples,
- pc board samples, and
- desired lead form configuration (print, sketch, or sample).

* Special dies may be subject to a pre-determined engineering charge. In some cases, we may not be able to accomplish the requested form due to machine and die limitations.

Standard Delivery Times:

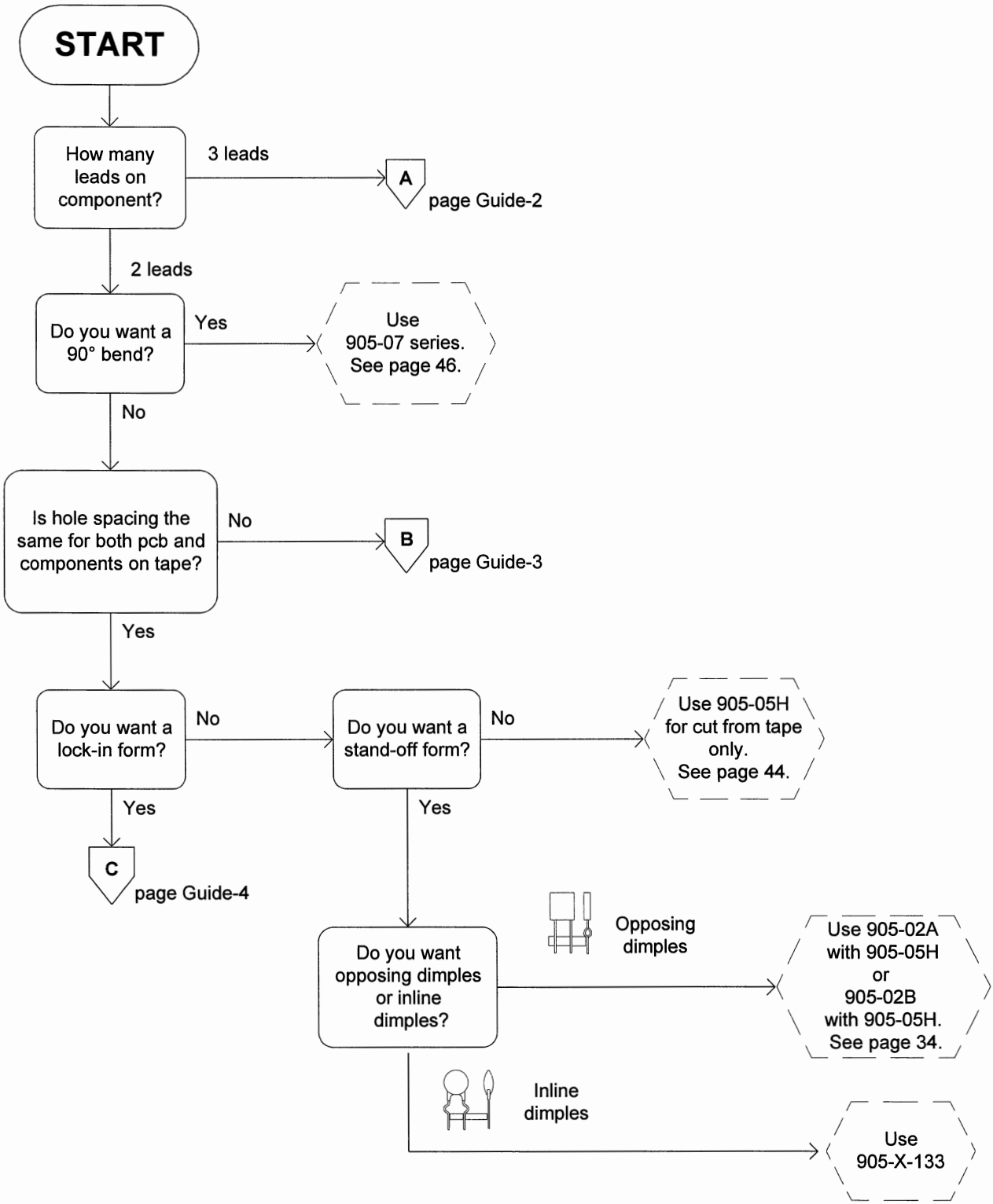
- Standard dies: Stock to 4 weeks
- Modifications or special dies: 6 to 8 weeks

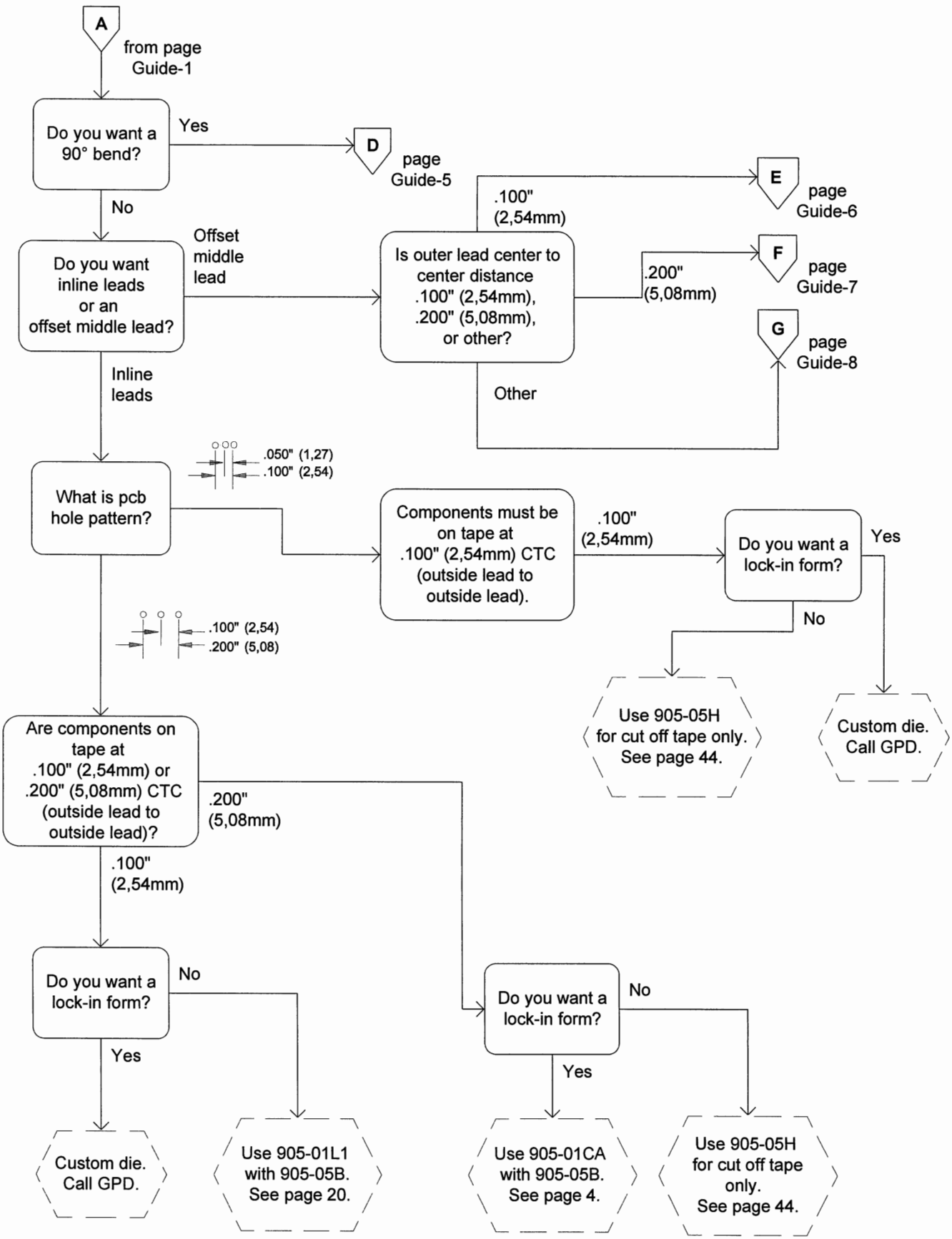
CF-9 Die Catalog
Part No. 905-00
Prepared by GPD Documentation Dept.

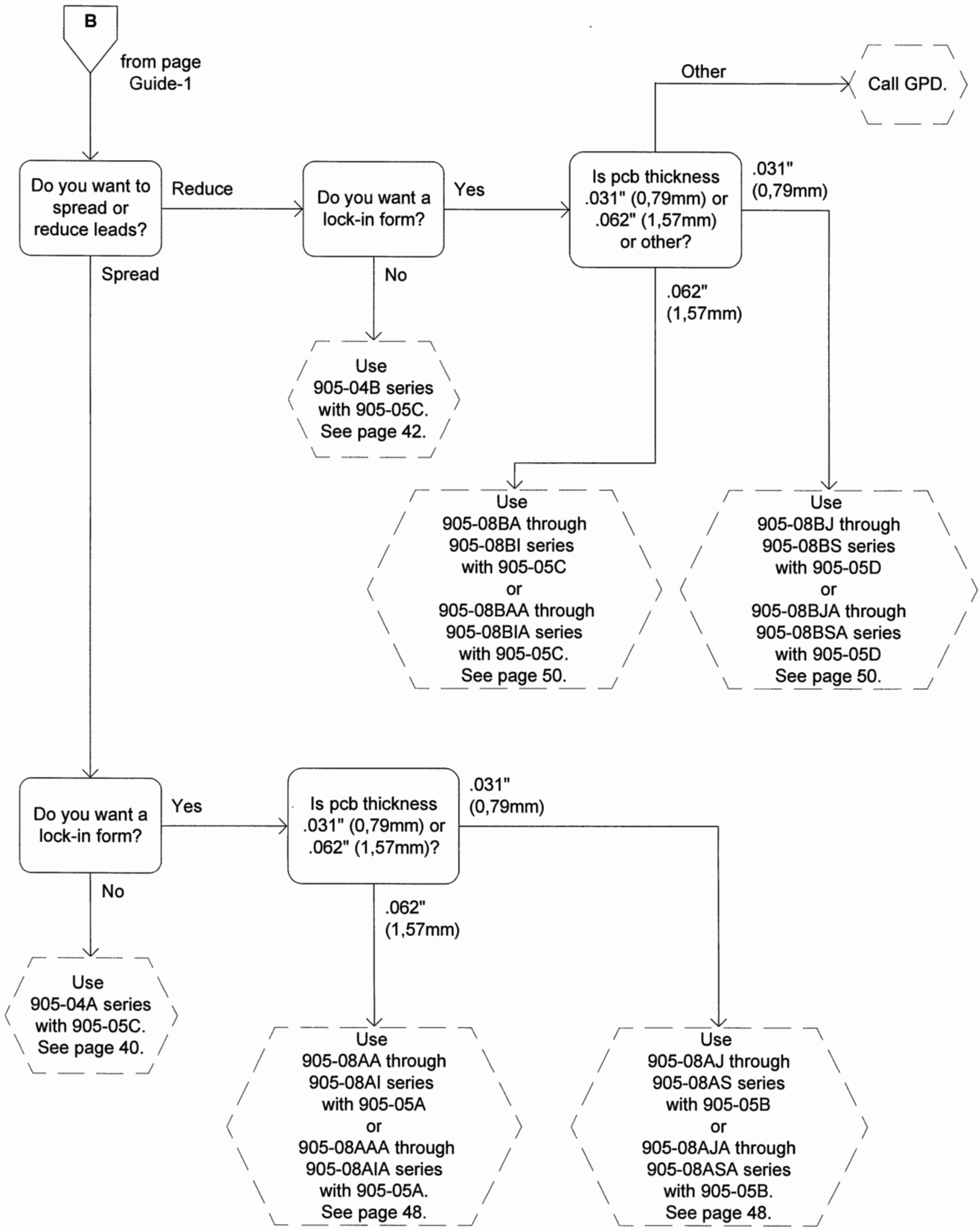
611 Hollingsworth Street
Grand Junction, CO 81505
(970) 245-0408 FAX (970) 245-9674

Die Selection Guide

CF-9 Taped Radial
Component Lead Former




A
from page Guide-1
Do you want a 90° bend?
Yes
D
page Guide-5
No
Do you want inline leads or an offset middle lead?
Offset middle lead
Is outer lead center to center distance .100" (2,54mm), .200" (5,08mm), or other?
.100" (2,54mm)
E
page Guide-6
.200" (5,08mm)
F
page Guide-7
G
page Guide-8
Other
Inline leads
.050" (1,27)
.100" (2,54)
What is pcb hole pattern?
Components must be on tape at .100" (2,54mm) CTC (outside lead to outside lead).
.100" (2,54mm)
Do you want a lock-in form?
Yes
No
Use 905-05H for cut off tape only. See page 44.
Custom die. Call GPD.
.100" (2,54)
.200" (5,08)
Are components on tape at .100" (2,54mm) or .200" (5,08mm) CTC (outside lead to outside lead)?
.200" (5,08mm)
.100" (2,54mm)
Do you want a lock-in form?
No
Yes
Custom die. Call GPD.
Use 905-01L1 with 905-05B. See page 20.
Do you want a lock-in form?
No
Yes
Use 905-01CA with 905-05B. See page 4.
Use 905-05H for cut off tape only. See page 44.


B
from page Guide-1
Do you want to spread or reduce leads?
Reduce
Spread
Do you want a lock-in form?
Yes
No
Other
Call GPD.
Is pcb thickness .031" (0,79mm) or .062" (1,57mm) or other?
.031" (0,79mm)
.062" (1,57mm)
Use 905-04B series with 905-05C. See page 42.
Use 905-08BA through 905-08BI series with 905-05C or 905-08BAA through 905-08BIA series with 905-05C. See page 50.
Use 905-08BJ through 905-08BS series with 905-05D or 905-08BJA through 905-08BSA series with 905-05D See page 50.
Do you want a lock-in form?
Yes
No
Is pcb thickness .031" (0,79mm) or .062" (1,57mm)?
.031" (0,79mm)
.062" (1,57mm)
Use 905-04A series with 905-05C. See page 40.
Use 905-08AA through 905-08AI series with 905-05A or 905-08AAA through 905-08AIA series with 905-05A. See page 48.
Use 905-08AJ through 905-08AS series with 905-05B or 905-08AJA through 905-08ASA series with 905-05B. See page 48.

C

from page Guide-1

Do you want a stand-off lock-in or flush mount lock-in form?

Flush mount lock-in

Use 905-11 series. See page 54.

Stand-off lock-in

Do you want opposing dimples or inline dimples?

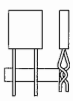
Inline dimples

Do you require a stand-off height less than .120" (3,05mm)?

No

Yes

Use 905-10 series. See page 52.



Opposing dimples

Is pcb thickness .062" (1,57mm) or .031" (0,79mm)?

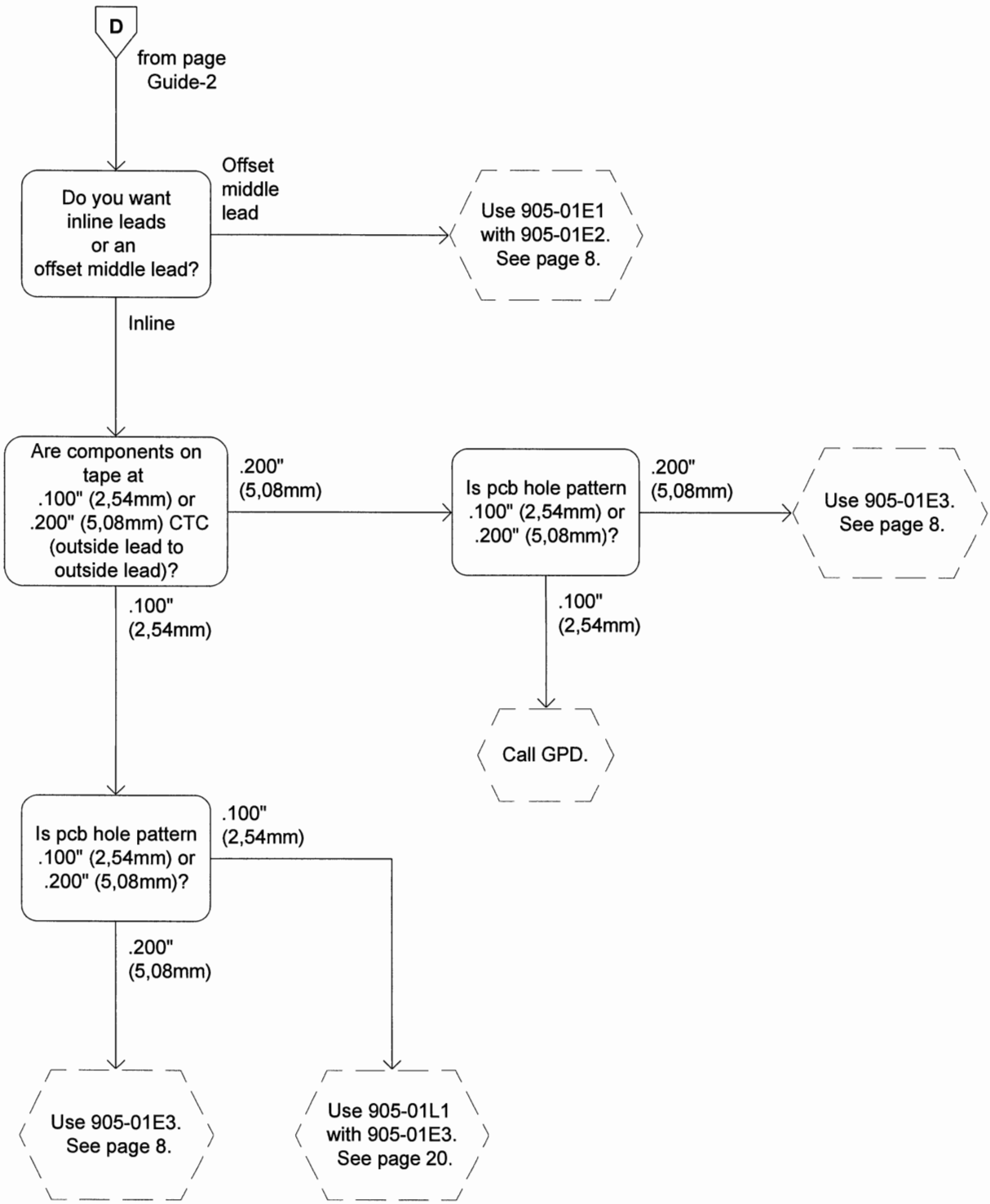
.031" (0,79mm)

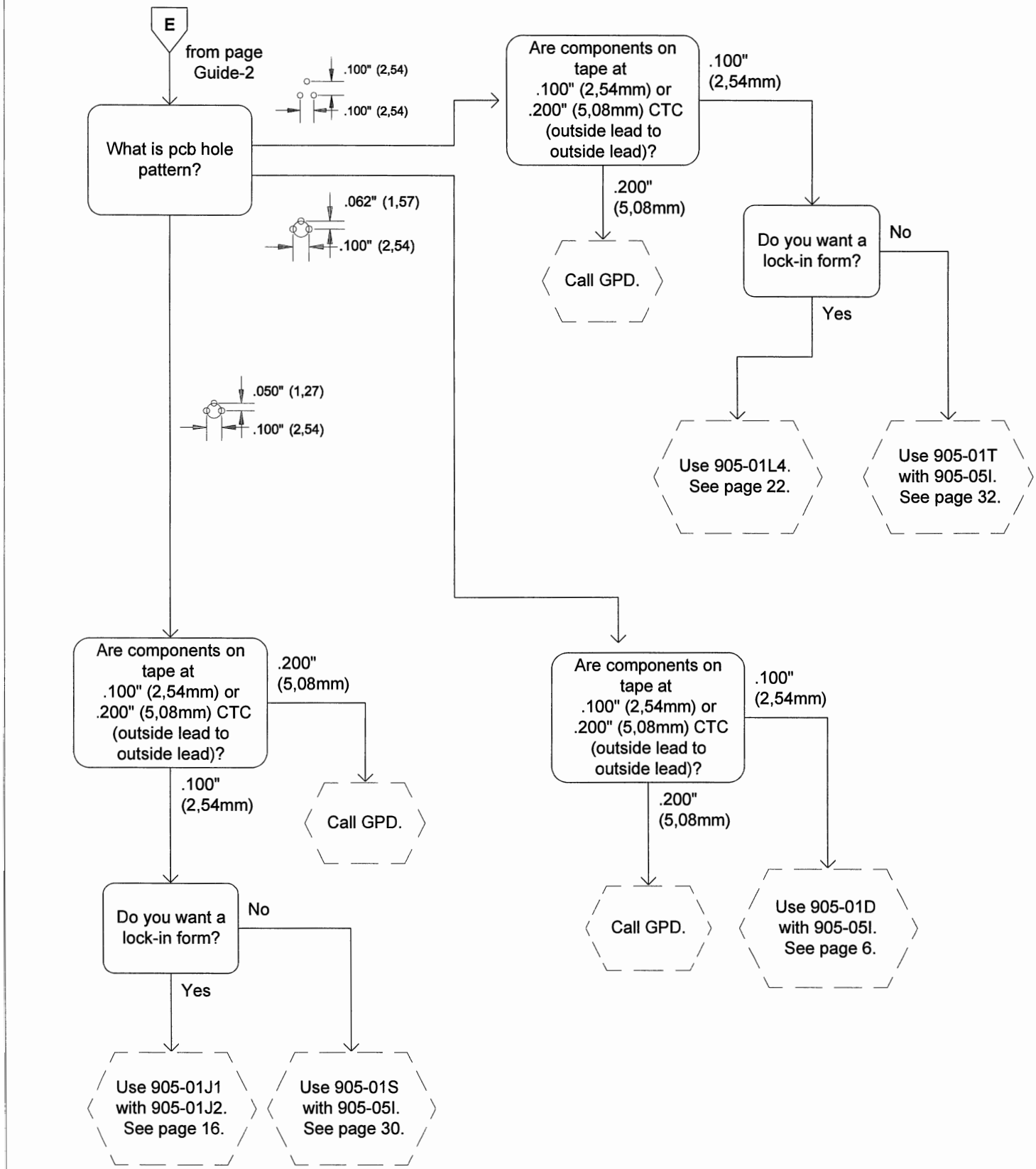
.062" (1,57mm)

Use 905-02C with 905-05H. See page 36.

Use 905-03*n* (where *n* = P through V) with 905-05C See page 38.

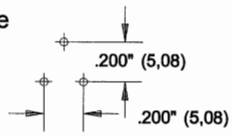
Use 905-03*n* (where *n* = F or FA through L or LA) with 905-05B. See page 38.


D
from page Guide-2
Do you want inline leads or an offset middle lead?
Offset middle lead
Use 905-01E1 with 905-01E2. See page 8.
Inline
Are components on tape at .100" (2,54mm) or .200" (5,08mm) CTC (outside lead to outside lead)?
.200" (5,08mm)
Is pcb hole pattern .100" (2,54mm) or .200" (5,08mm)?
.200" (5,08mm)
Use 905-01E3. See page 8.
.100" (2,54mm)
.100" (2,54mm)
Call GPD.
Is pcb hole pattern .100" (2,54mm) or .200" (5,08mm)?
.100" (2,54mm)
.200" (5,08mm)
Use 905-01E3. See page 8.
Use 905-01L1 with 905-01E3. See page 20.

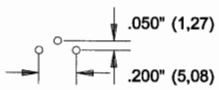

E
from page Guide-2
What is pcb hole pattern?
.100" (2,54)
.100" (2,54)
.062" (1,57)
.100" (2,54)
.050" (1,27)
.100" (2,54)
Are components on tape at .100" (2,54mm) or .200" (5,08mm) CTC (outside lead to outside lead)?
.100" (2,54mm)
.200" (5,08mm)
Call GPD.
Do you want a lock-in form?
No
Yes
Use 905-01L4. See page 22.
Use 905-01T with 905-05I. See page 32.
Are components on tape at .100" (2,54mm) or .200" (5,08mm) CTC (outside lead to outside lead)?
.200" (5,08mm)
.100" (2,54mm)
Call GPD.
Do you want a lock-in form?
No
Yes
Use 905-01J1 with 905-01J2. See page 16.
Use 905-01S with 905-05I. See page 30.
Are components on tape at .100" (2,54mm) or .200" (5,08mm) CTC (outside lead to outside lead)?
.100" (2,54mm)
.200" (5,08mm)
Call GPD.
Use 905-01D with 905-05I. See page 6.

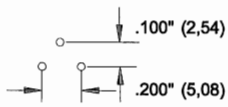
F

from page Guide-2



What is pcb hole pattern?





Are components on tape at .100" (2,54mm) or .200" (5,08mm) CTC (outside lead to outside lead)?

.200" (5,08mm)

Do you want a lock-in form?

No

Use 905-01A with 905-01G. See page 2.

Yes

Use 905-01H4 with 905-01I. See page 12.

.100" (2,54mm)

Call GPD.

Are components on tape at .100" (2,54mm) or .200" (5,08mm) CTC (outside lead to outside lead)?

.200" (5,08mm)

Do you want a lock-in form?

No

Use 905-01A with 905-05. See page 2.

Yes

Do you want to lock-in all leads or middle lead only?

Middle lead only

Use 905-01H4 with 905-05. See page 12.

All leads

Do you require a stand-off height of less than .150" (3,81mm)?

No

Use 905-01H4 with 905-01H5. See page 12.

Yes

Use 905-01L4. See page 22.

.100" (2,54mm)

Do you want a lock-in form?

No

Yes

Use 905-01L1 with 905-01L4. See page 20

Custom die. Call GPD.

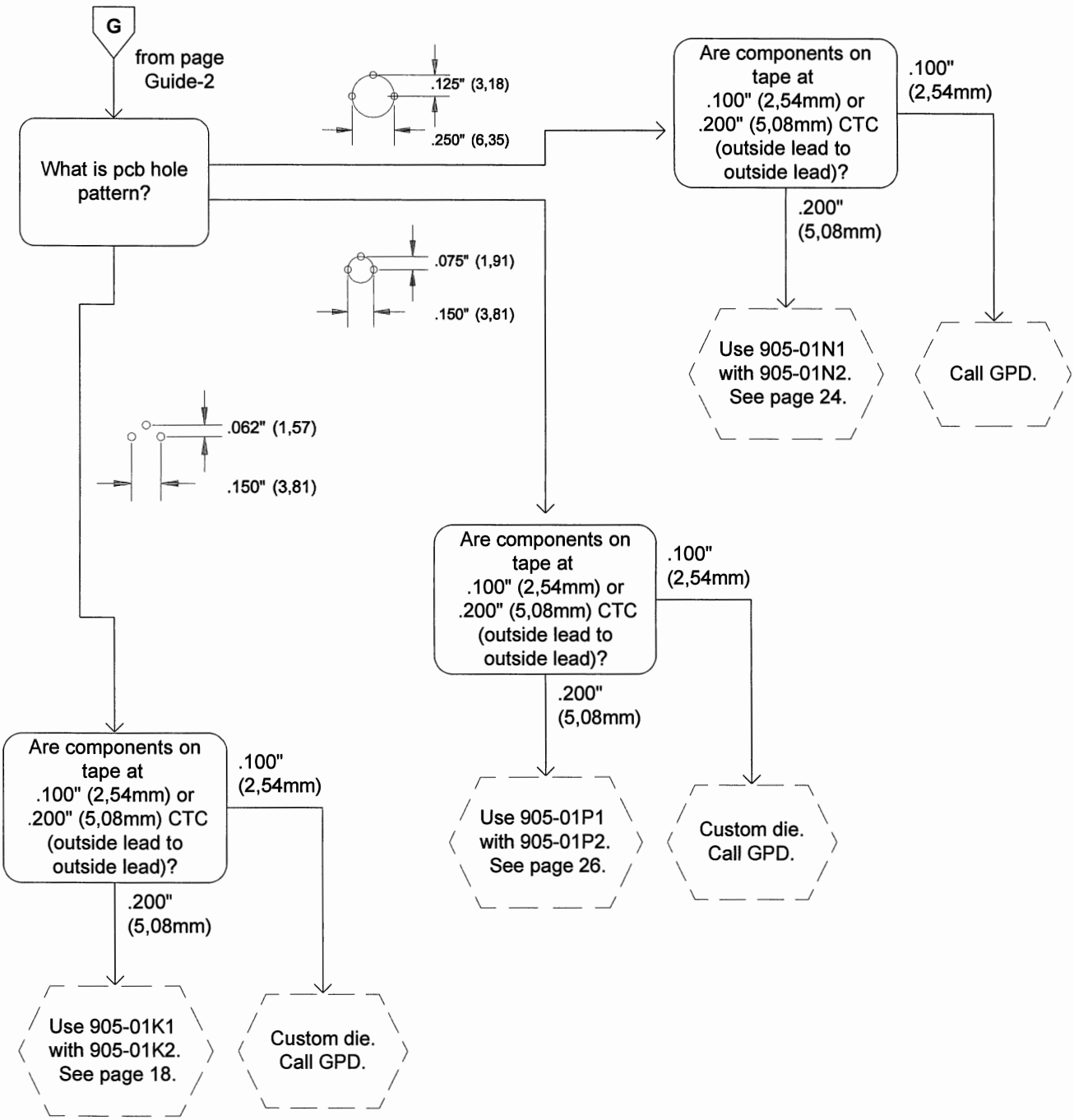
Are components on tape at .100" (2,54mm) or .200" (5,08mm) CTC (outside lead to outside lead)?

.200" (5,08mm)

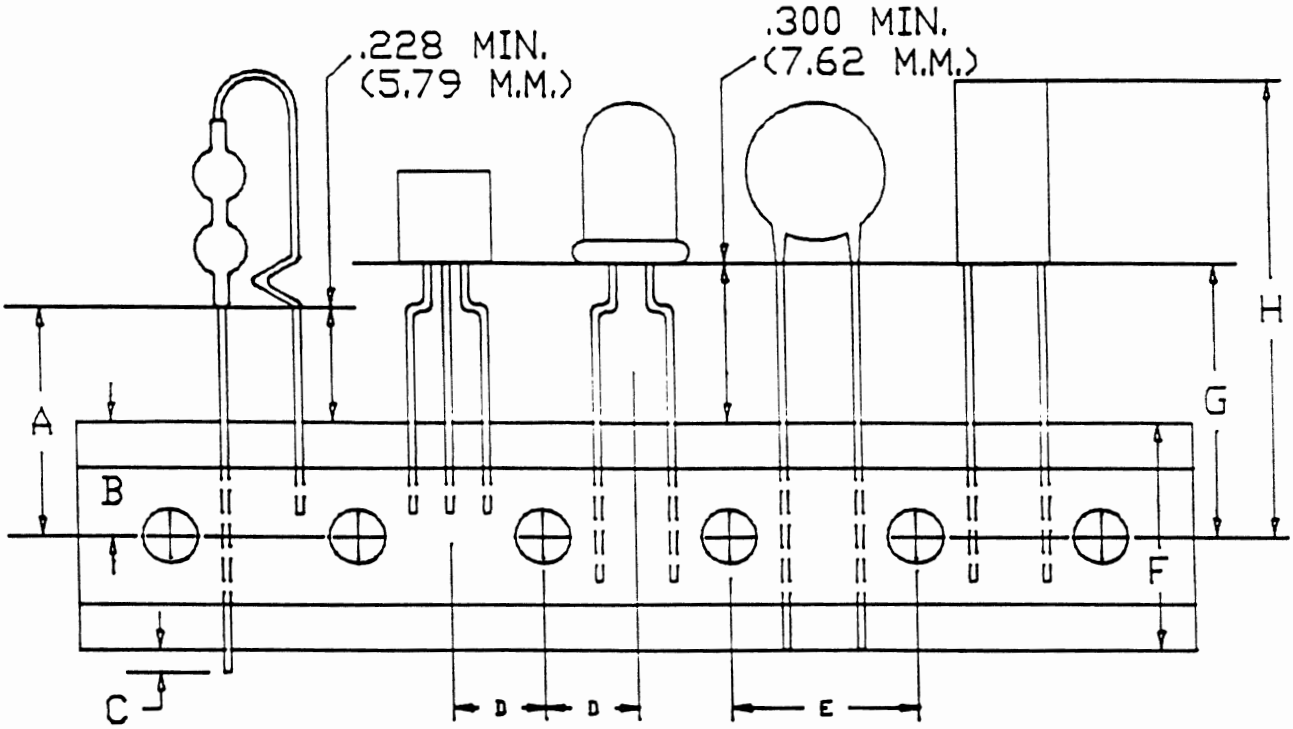
Use 905-01R with 905-05. See page 28.

.100" (2,54mm)

Custom die. Call GPD.


G
from page Guide-2
What is pcb hole pattern?
.125" (3,18)
.250" (6,35)
.075" (1,91)
.150" (3,81)
.062" (1,57)
.150" (3,81)
Are components on tape at .100" (2,54mm) or .200" (5,08mm) CTC (outside lead to outside lead)?
.100" (2,54mm)
.200" (5,08mm)
Use 905-01N1 with 905-01N2. See page 24.
Call GPD.
Are components on tape at .100" (2,54mm) or .200" (5,08mm) CTC (outside lead to outside lead)?
.100" (2,54mm)
.200" (5,08mm)
Use 905-01P1 with 905-01P2. See page 26.
Custom die. Call GPD.
Are components on tape at .100" (2,54mm) or .200" (5,08mm) CTC (outside lead to outside lead)?
.100" (2,54mm)
.200" (5,08mm)
Use 905-01K1 with 905-01K2. See page 18.
Custom die. Call GPD.

THE ILLUSTRATION AND CHART SHOWN BELOW DOCUMENT THE LIMITS OF TAPING SPECIFICATIONS * FOR THE CF-9

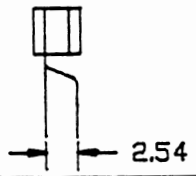
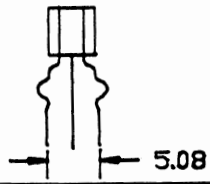
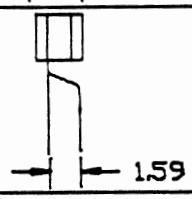
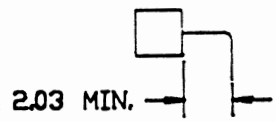
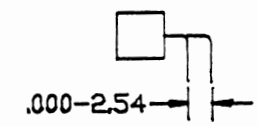
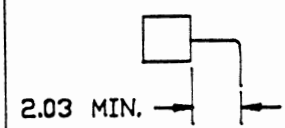
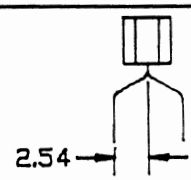
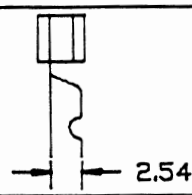


MIN. = MINIMUM

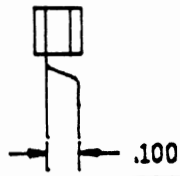
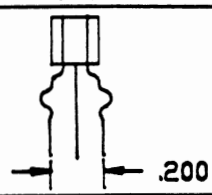
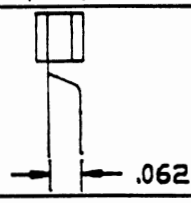
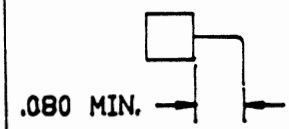
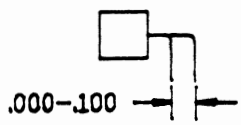
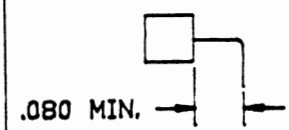
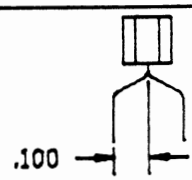
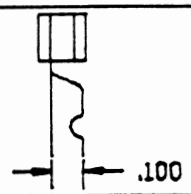
DIM.	INCH	MM
A	.630 $\pm$.019	16.0 $\pm$ 0.5
B	.354 $^{+.029}_{-.019}$	9.0 $^{+\ 0.75}_{-\ 0.5}$
C	.078 $^{+.000}_{-.078}$	2.0 $^{+\ 0.0}_{-\ 2.0}$
D	.250 $\pm$.027	6.35 $\pm$ 0.7
E	.500 $\pm$.012	12.7 $\pm$ 0.3
F	.710 $^{+.039}_{-.019}$	18.0 $^{+\ 1.0}_{-\ 0.5}$
G	.710 $\pm$.027	18.0 $\pm$ 0.7
H	1.26 OR LESS	32.0 OR LESS

* THESE SPECIFICATIONS COMPLY WITH MILITARY AND E.I.A. STANDARDS

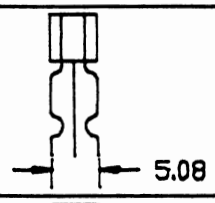
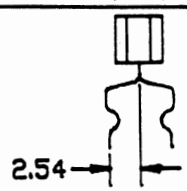
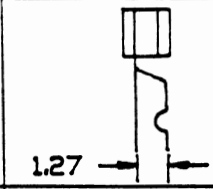
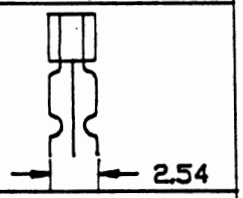
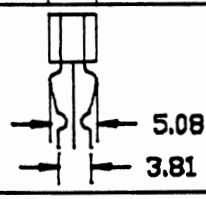
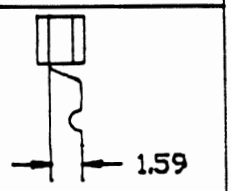
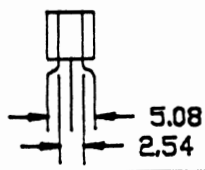
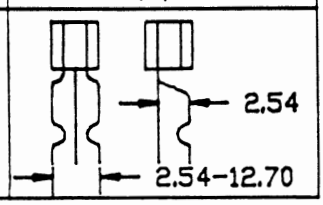
MEASUREMENTS IN MILLIMETERS

DIE NO.	TO-92 FORMING DESCRIPTION	ILLUS.
905-1A PAGE 1	MIDDLE LEAD OFFSET 2.54 NO LOCK IN.	
905-1CA 905-1CB PAGE 3	IN LINE LOCK IN 1&3 LEADS	
905-1D PAGE 5	MIDDLE LEAD OFFSET NO SPREAD, #2 LEAD OFFSET 1.59	
905-1E1 PAGE 7	90° BEND DIE FORMS AND CUTS MIDDLE LEAD.	
905-1E2 PAGE 7	90° BEND DIE FORMS AND CUTS OUTER LEADS.	
905-1E3 PAGE 7	90° BEND DIE FORMS AND CUTS ALL LEADS.	
905-1G PAGE 9	MIDDLE LEAD OFFSET 2.54 LEADS 1&3 OFFSET 2.54 OPPOSITE DIRECTION. USE WITH 905-1A.	
905-1H4 PAGE 11	MIDDLE LEAD OFFSET 2.54 LOCKS AND CUTS MIDDLE LEAD.	

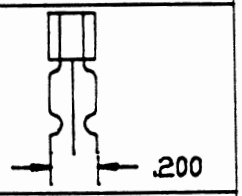
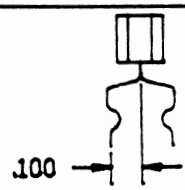
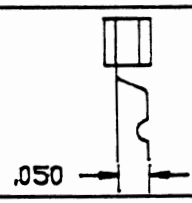
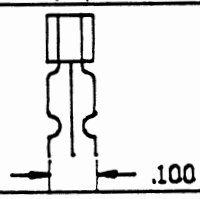
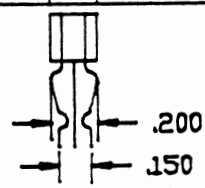
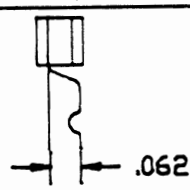
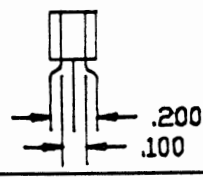
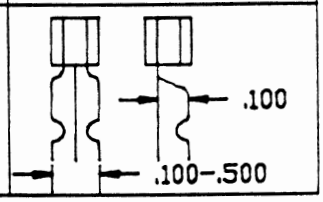
MEASUREMENTS IN INCHES

DIE NO.	TO-92 FORMING DESCRIPTION	ILLUS.
905-1A PAGE: 2	MIDDLE LEAD OFFSET .100 NO LOCK IN.	
905-1CA 905-1CB PAGE: 4	IN LINE LOCK IN 1&3 LEADS	
905-1D PAGE: 6	MIDDLE LEAD OFFSET NO SPREAD, #2 LEAD OFFSET .062	
905-1E1 PAGE: 8	90° BEND DIE FORMS AND CUTS MIDDLE LEAD.	
905-1E2 PAGE: 8	90° BEND DIE FORMS AND CUTS OUTER LEADS.	
905-1E3 PAGE: 8	90° BEND DIE FORMS AND CUTS ALL LEADS.	
905-1G PAGE: 10	MIDDLE LEAD OFFSET .100 LEADS 1&3 OFFSET .100 OPPOSITE DIRECTION. USE WITH 905-1A.	
905-1H4 PAGE: 12	MIDDLE LEAD OFFSET .100 LOCKS AND CUTS MIDDLE LEAD.	

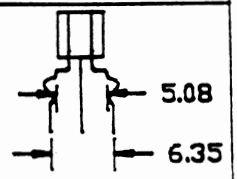
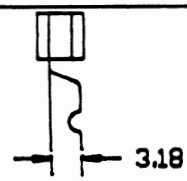
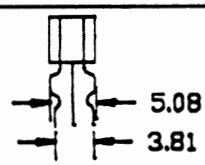
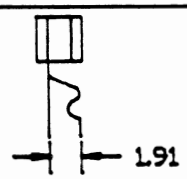
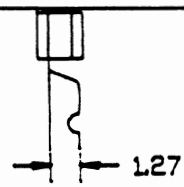
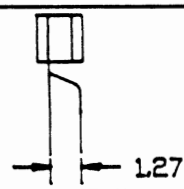
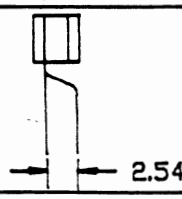
MEASUREMENTS IN MILLIMETERS

DIE NO.	TO-92 FORMING DESCRIPTION	ILLUS.
905-1H5 PAGE: 11	LOCKS AND CUTS LEADS 1&3	
905-1I PAGE: 13	TO BE USED WITH 905-1N LOCKS, CUTS AND OFFSETS LEADS 1&3 2.54 OPPOSITE	
905-1J1 PAGE: 15	OFFSETS MIDDLE LEAD 1.27 LOCKS AND CUTS MIDDLE LEAD	
905-1J2 PAGE: 15	LOCKS AND CUTS LEADS 1&3	
905-1K1 PAGE: 17	REDUCES 5.08-3.81, AND LOCKS LEADS 1&3	
905-1K2 PAGE: 17	LOCKS AND OFFSETS MIDDLE LEAD 1.59 CUTS ALL LEADS	
905-1L1 PAGE: 19	SPREADS 2.54-5.08	
905-1L4 PAGE: 21	OFFSETS MIDDLE LEAD 2.54 LOCKS AND CUTS 1,2&3 LEADS.	

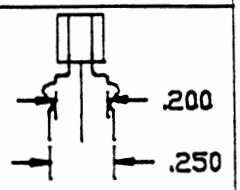
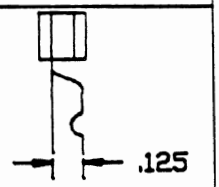
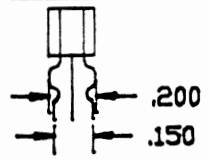
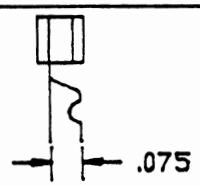
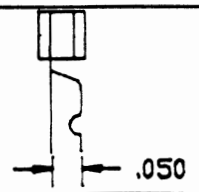
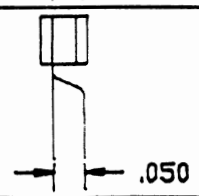
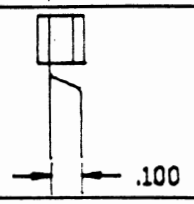
MEASUREMENTS IN INCHES

DIE NO.	TO-92 FORMING DESCRIPTION	ILLUS.
905-1H5 PAGE 12	LOCKS AND CUTS LEADS 1&3	
905-1I PAGE 14	TO BE USED WITH 905-1N LOCKS, CUTS AND OFFSETS LEADS 1&3 .100 OPPOSITE	
905-1J1 PAGE 16	OFFSETS MIDDLE LEAD .050 LOCKS AND CUTS MIDDLE LEAD	
905-1J2 PAGE 16	LOCKS AND CUTS LEADS 1&3	
905-1K1 PAGE 18	REDUCES .200-.150, AND LOCKS LEADS 1&3	
905-1K2 PAGE 18	LOCKS AND OFFSETS MIDDLE LEAD .062 CUTS ALL LEADS	
905-1L1 PAGE 20	SPREADS .100-.200	
905-1L4 PAGE 22	OFFSETS MIDDLE LEAD .100 LOCKS AND CUTS 1,2&3 LEADS.	

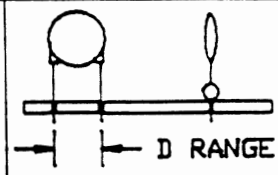
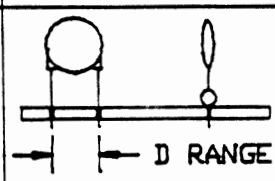
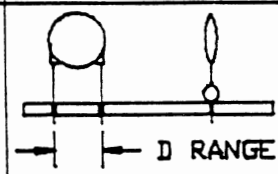
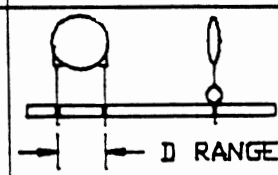
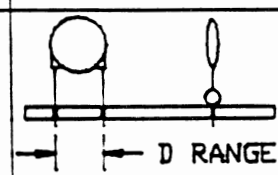
MEASUREMENTS IN MILLIMETERS

DIE NO.	TO-92 FORMING DESCRIPTION	ILLUS.
905-1N1 PAGE: 23	SPREADS 5.08-6.35 AND LOCKS LEADS 1&3	
905-1N2 PAGE: 23	OFFSETS MIDDLE LEAD 3.18 CUTS 1,2&3 LEADS.	
905-1P1 PAGE: 25	REDUCES 5.08-3.81 1&3 LEADS. LOCKS 1&3 LEADS.	
905-1P2 PAGE: 25	LOCKS AND OFFSETS MIDDLE LEAD 1.91 CUTS 1,2&3 LEADS.	
905-1R PAGE: 27	OFFSETS MIDDLE LEAD 1.27 LOCKS AND CUTS MIDDLE LEAD	
905-1S PAGE: 29	OFFSETS MIDDLE LEAD 1.27 CUTS MIDDLE LEAD	
905-1T PAGE: 31	OFFSETS MIDDLE LEAD 2.54 CUTS MIDDLE LEAD	

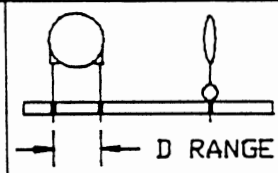
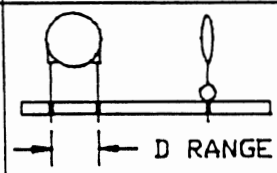
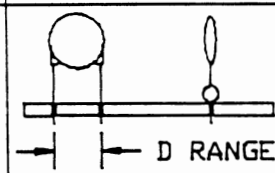
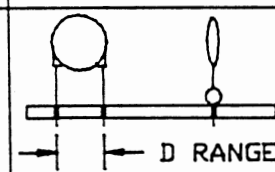
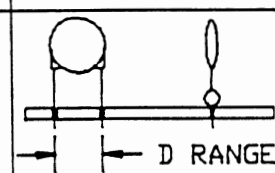
MEASUREMENTS IN INCHES

DIE NO.	TO-92 FORMING DESCRIPTION	ILLUS.
905-1N1 PAGE: 24	SPREADS .200-.250 AND LOCKS LEADS 1&3	
905-1N2 PAGE: 24	OFFSETS MIDDLE LEAD .125 CUTS 1,2&3 LEADS.	
905-1P1 PAGE: 26	REDUCES .200-.150 1&3 LEADS. LOCKS 1&3 LEADS.	
905-1P2 PAGE: 26	LOCKS AND OFFSETS MIDDLE LEAD .075 CUTS 1,2&3 LEADS.	
905-1R PAGE: 28	OFFSETS MIDDLE LEAD .050 LOCKS AND CUTS MIDDLE LEAD	
905-1S PAGE: 30	OFFSETS MIDDLE LEAD .050 CUTS MIDDLE LEAD	
905-1T PAGE: 32	OFFSETS MIDDLE LEAD .100 CUTS MIDDLE LEAD	

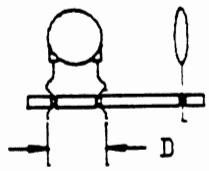
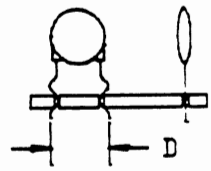
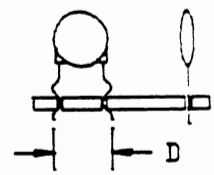
MEASUREMENTS IN MILLIMETERS

DIE NO.	2 LEADS RADIAL COMPONENT FORMING DIES DESCRIPTION	ILLUS.
905-2A PAGE: 33	IN LINE STAND OFF DIE. STAND-OFF HEIGHT: 3.81 D RANGE= 1.52-11.43 C-C	
905-2B PAGE: 33	IN LINE STAND OFF DIE. STAND-OFF HEIGHT: 3.05 D RANGE= 1.52-11.43 C-C	
905-2C PAGE: 35	SNAP IN STAND OFF. STAND-OFF HEIGHT: 3.05 D RANGE= 1.52-11.43 C-C	
905-2CA PAGE: 35	SNAP IN STAND OFF. STAND-OFF HEIGHT: 3.05 D RANGE= 1.52-11.43 C-C	
905-2CB PAGE: 35	SNAP IN STAND OFF. STAND-OFF HEIGHT: 3.05 D RANGE= 1.52-11.43 C-C	

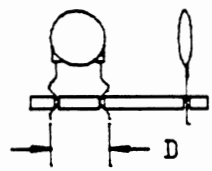
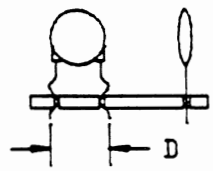
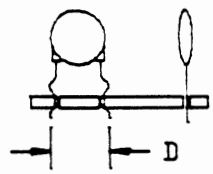
MEASUREMENTS IN INCHES

DIE NO.	2 LEADS RADIAL COMPONENTS FORMING DIES DESCRIPTION	ILLUS.
905-2A PAGE: 34	IN LINE STAND OFF DIE. STAND-OFF HEIGHT: .150 D RANGE= .060-.450 C-C	
905-2B PAGE: 34	IN LINE STAND OFF DIE. STAND-OFF HEIGHT: .120 D RANGE= .060-.450 C-C	
905-2C PAGE: 36	SNAP IN STAND OFF. STAND-OFF HEIGHT: .120 D RANGE= .060-.450 C-C	
905-2CA PAGE: 36	SNAP IN STAND OFF. STAND-OFF HEIGHT: .120 D RANGE= .060-.450 C-C	
905-2CB PAGE: 36	SNAP IN STAND OFF. STAND-OFF HEIGHT: .120 D RANGE= .060-.450 C-C	

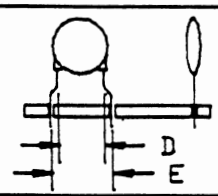
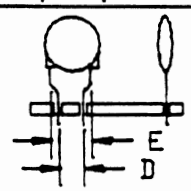
MEASUREMENTS IN MILLIMETERS

DIE NO.	2 LEADS RADIAL COMPONENT FORMING DIES DESCRIPTION	ILLUS.
905-3F THRU-3L PAGE: 37	LOCK IN STAND OFF. D RANGE= 2.54-10.16/1.27 INCREMENTS. HOLE DIA.= 0.76-1.02	
905-3FA THRU-3AL PAGE: 37	LOCK IN STAND OFF. D RANGE= 2.54-10.16/1.27 INCREMENTS. HOLE DIA.= 1.02-1.27	
905-3P THRU-3V PAGE: 37	LOCK IN STAND OFF. D RANGE= 2.54-10.16/1.27 INCREMENTS. HOLE DIA.= 0.76-1.27	
	ALSO SEE 905-10 STYLE FOR LOWER STAND-OFF HEIGHTS	

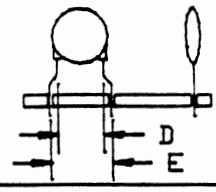
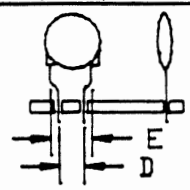
MEASUREMENTS IN INCHES

DIE NO.	2 LEADS RADIAL COMPONENT FORMING DIES DESCRIPTION	ILLUS.
905-3F THRU-3L PAGE 38	LOCK IN STAND OFF. D RANGE= .100-.400/.050 INCREMENTS. HOLE DIA.= .030-.040	
905-3FA THRU-3AL PAGE 38	LOCK IN STAND OFF. D RANGE= .100-.400/.050 INCREMENTS. HOLE DIA.= .040-.050	
905-3P THRU-3V PAGE 38	LOCK IN STAND OFF. D RANGE= .100-.400/.050 INCREMENTS. HOLE DIA.= .030-.050	
	ALSO SEE 905-10 STYLE FOR LOWER STAND-OFF HEIGHTS	

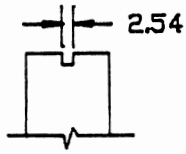
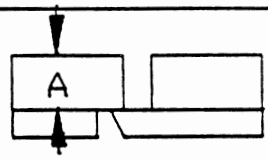
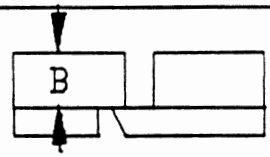
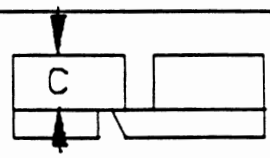
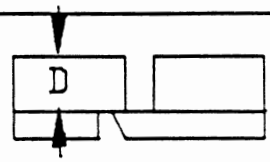
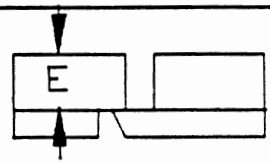
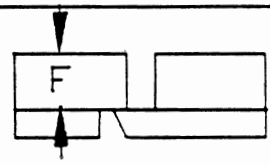
MEASUREMENTS IN MILLIMETERS

DIE NO.	2 LEADS RADIAL COMPONENT FORMING DIES DESCRIPTION	ILLUS.
905-4AA THRU-4AM PAGE:39	SPREADING DIE. D RANGE= 2.54-10.16/1.27 INCREMENTS. E RANGE= 3.81-11.43/1.27 INCREMENTS.	
905-4BA THRU-4BO PAGE:41	REDUCING DIE. E RANGE=3.81-12.70/1.27 INCREMENTS. D RANGE=2.54-11.43/1.27 INCREMENTS.	

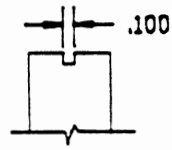
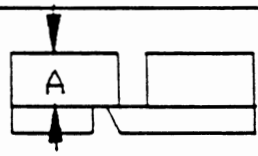
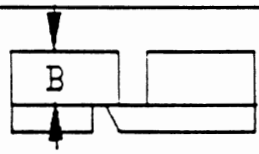
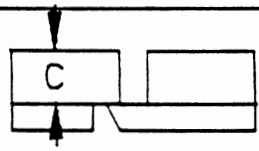
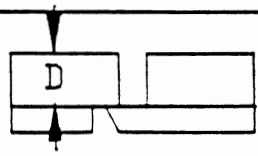
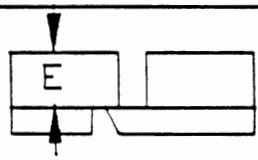
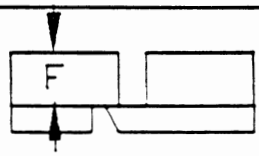
MEASUREMENTS IN INCHES

DIE NO.	2 LEADS RADIAL COMPONENTS FORMING DIES DESCRIPTION	ILLUS.
905-4AA THRU-4AM PAGE:40	SPREADING DIE. D RANGE= .100-.400/.050 INCREMENTS. E RANGE= .150-.450/.050 INCREMENTS.	
905-4BA THRU-4BD PAGE:42	REDUCING DIE. E RANGE=.150-.500/.050 INCREMENTS. D RANGE=.100-.450/.050 INCREMENTS.	

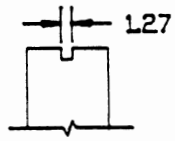
MEASUREMENTS IN MILLIMETERS

DIE NO.	RADIAL COMPONENTS KNIVES DESCRIPTION	ILLUS.
905-5 PAGE 43	KNIFE 2.54 CENTER RELIEF. USED FOR 3 LEADS COMPONENTS	
905-5A PAGE 43	CUTTING AND FIATTENING KNIVES. FLATTENING LENGTH: A=5.72	
905-5B PAGE 43	CUTTING AND FIATTENING KNIVES. FLATTENING LENGTH: B=5.08	
905-5C PAGE 43	CUTTING AND FIATTENING KNIVES. FLATTENING LENGTH: C=4.45	
905-5D PAGE 43	CUTTING AND FIATTENING KNIVES. FLATTENING LENGTH: D=3.81	
905-5E PAGE 43	CUTTING AND FIATTENING KNIVES. FLATTENING LENGTH: E=3.18	
905-5F PAGE 43	CUTTING AND FIATTENING KNIVES. FLATTENING LENGTH: F=2.54	
905-5H PAGE 43	UNIVERSAL KNIFE.	

MEASUREMENTS IN INCHES

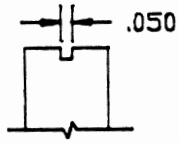
DIE NO.	RADIAL COMPONENT KNIVES DESCRIPTION	ILLUS.
905-5 PAGE 44	KNIFE .100 CENTER RELIEF. USED FOR 3 LEADS COMPONENTS	
905-5A PAGE 44	CUTTING AND FLATTENING KNIVES. FLATTENING LENGTH: A=.225	
905-5B PAGE 44	CUTTING AND FIATTENING KNIVES. FLATTENING LENGTH: B=.200	
905-5C PAGE 44	CUTTING AND FIATTENING KNIVES. FLATTENING LENGTH: C=.175	
905-5D PAGE 44	CUTTING AND FIATTENING KNIVES. FLATTENING LENGTH: D=.150	
905-5E PAGE 44	CUTTING AND FIATTENING KNIVES. FLATTENING LENGTH: E=.125	
905-5F PAGE 44	CUTTING AND FIATTENING KNIVES. FLATTENING LENGTH: F=.100	
905-5H PAGE 44	UNIVERSAL KNIFE.	

MEASUREMENTS IN MILLIMETERS

DIE NO.	RADIAL COMPONENTS KNIVES DESCRIPTION	ILLUS.
905-5I	KNIFE 1.27 CENTER RELIEF. USED FOR 3 LEADS COMPONENTS	

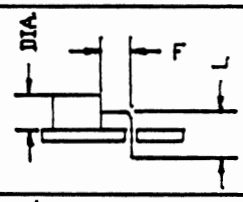
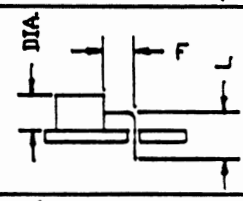
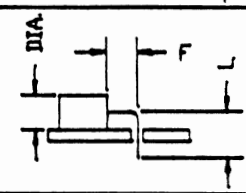
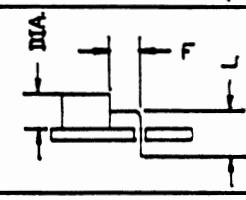
MEASUREMENTS IN INCHES

RADIAL COMPONENTS KNIVES

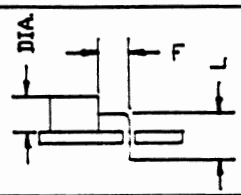
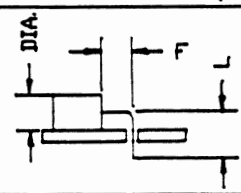
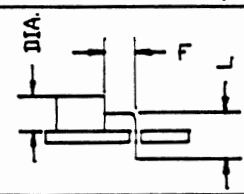
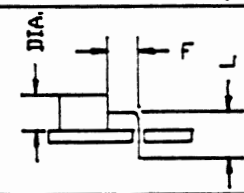
DIE NO.	DESCRIPTION	ILLUS.
905-5I	KNIFE .050 CENTER RELIEF.	

MEASUREMENTS IN MILLIMETERS

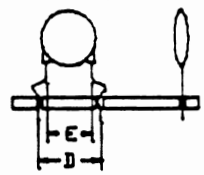
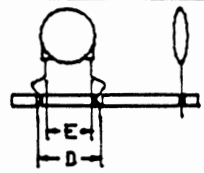
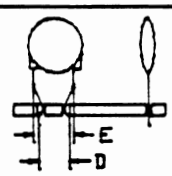
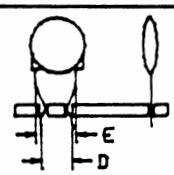
RADIAL LEADS COMPONENT FORMING DIES

DIE NO.	DESCRIPTION	ILLUS.
905-7AA THRU-7AS PAGE145	90° BEND D RANGE=1.27-4.06 L RANGE= 2.54-7.37 F-MIN.=2.03	
905-7BA THRU-7BS PAGE145	90° BEND D RANGE=1.27-4.98 L RANGE=3.30-7.62 F-MIN.=2.54	
905-7CA THRU-7CS PAGE145	90° BEND D RANGE=1.27-5.89 L RANGE=3.81-7.87 F-MIN.=2.92	
905-7DA THRU-7DS PAGE145	90° BEND D RANGE=1.27-.268 L RANGE=4.32-8.13 F-MIN.=3.43	

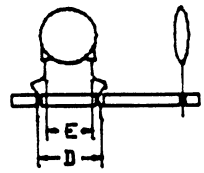
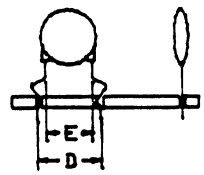
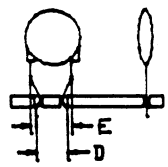
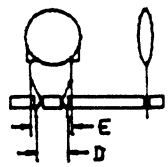
MEASUREMENTS IN INCHES

DIE NO.	RADIAL LEADS COMPONENTS FORMING DIES DESCRIPTION	ILLUS.
905-7AA THRU-7AS PAGE 146	90° BEND D RANGE=.050-.160 L RANGE=.100-.290 F-MIN.=.080	
905-7BA THRU-7BS PAGE 146	90° BEND D RANGE=.050-.196 L RANGE=.130-.300 F-MIN.=.100	
905-7CA THRU-7CS PAGE 146	90° BEND D RANGE=.050-.232 L RANGE=.150-.310 F-MIN.=.115	
905-7DA THRU-7DS PAGE 146	90° BEND D RANGE=.050-.268 L RANGE=.170-.320 F-MIN.=.135	

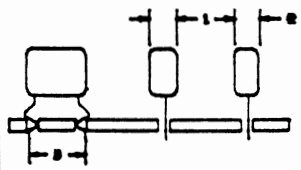
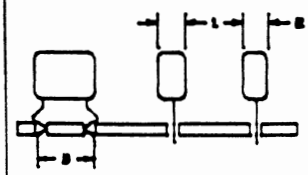
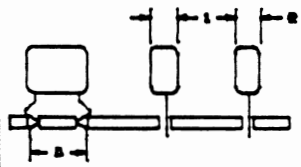
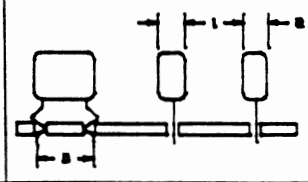
MEASUREMENTS IN MILLIMETERS

DIE NO.	RADIAL LEADS COMPONENT FORMING DIES DESCRIPTION	ILLUS.
905-8AA THRU-8AS PAGE147	SPREAD WITH LOCK. STAND OFF=3.81 D RANGE= 3.81-8.89 E RANGE= 2.54-6.35	
905-8AAA THRU 905-8ASA PAGE147	AS ABOVE EXCLUDING HOLE SIZE. 905-8AA THRU-8AS 0.76-1.02 905-8AAA THRU 905-8ASA 1.04-1.24	
905-8BA THRU-8BS PAGE149	REDUCE WITH LOCK. STAND OFF=3.18 D RANGE= 2.54-6.35 E RANGE= 3.81-8.89	
905-8BAA THRU 905-8BSA PAGE149	AS ABOVE EXCLUDING HOLE SIZE. 905-8BA THRU-8BS 0.76-1.02 905-8BAA THRU 905-8BSA 1.04-1.24	

MEASUREMENTS IN INCHES

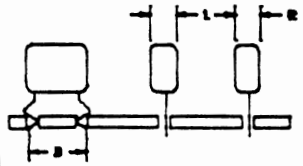
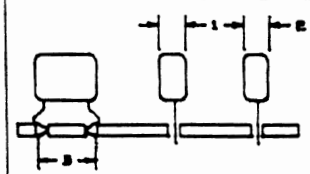
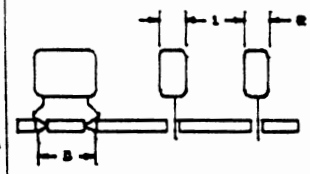
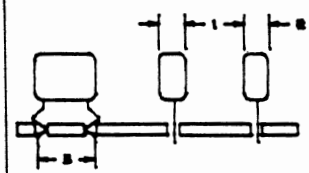
DIE NO.	RADIAL LEADS COMPONENTS FORMING DIES DESCRIPTION	ILLUS.
905-8AA THRU-8AS PAGE 48	SPREAD WITH LOCK. STAND OFF=.150 D RANGE= .150-.350 E RANGE= .100-.250	
905-8AAA THRU 905-8ASA PAGE 48	AS ABOVE EXCLUDING HOLE SIZE. 905-8AA THRU-8AS .030-.040 905-8AAA THRU 905-8ASA .041-.049	
905-8BA THRU-8BS PAGE 50	REDUCE WITH LOCK. STAND OFF=.125 D RANGE= .100-.250 E RANGE= .150-.350	
905-8BAA THRU 905-8BSA PAGE 50	AS ABOVE EXCLUDING HOLE SIZE. 905-8BA THRU-8BS .030-.040 905-8BAA THRU 905-8BSA .041-.049	

MEASUREMENTS IN MILLIMETERS

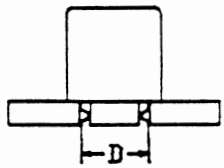
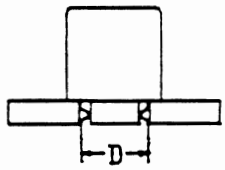
DIE NO.	2 LEADS RADIAL COMPONENT FORMING DIES DESCRIPTION	ILLUS.
905-10A( ) THRU-10G( ) PAGE:51	STAND OFF LOCK IN. D RANGE=2.54-10.16 STD-OFF=2.29 #1=1.27-3.81/#2=2.54-5.08 HEAD THICKNESS.	
905-10AA( ) THRU-10GA( ) PAGE:51	SAME AS ABOVE EXCLUDING HOLE DIA. 905-10A( )THRU-10G( ) 0.76-1.02 DIA. 905-10AA( ) THRU-10GA( ) 1.04-1.24 DIA.	
905-10M( ) THRU-10S( ) PAGE:51	STAND OFF LOCK IN. D RANGE=2.54-10.16 STD-OFF=3.18 #1=1.27-3.81/#2=2.54-5.08 HEAD THICKNESS.	
905-10NA( ) THRU-10SA( ) PAGE:51	SAME AS ABOVE EXCLUDING HOLE DIA. 905-10M( ) THRU-10S( ) 1.02-1.27 DIA. 905-10NA( ) THRU-10SA( ) 1.30-1.50 DIA.	

MEASUREMENTS IN INCHES

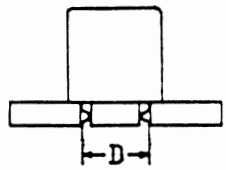
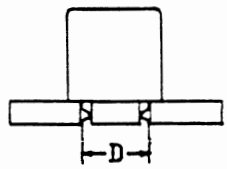
2 LEADS RADIAL COMPONENTS FORMING DIES

DIE NO.	DESCRIPTION	ILLUS.
905-10A( ) THRU-10G( ) PAGE 52	STAND OFF LOCK IN. D RANGE=.100-.400 STAND OFF=.090 #1=.050-.150/#2=.100-.200 HEAD THICKNESS.	
905-10AA( ) THRU-10GA( ) PAGE 52	SAME AS ABOVE EXCLUDING HOLE DIA. 905-10A( )THRU-10G( ) .030-.040 DIA. 905-10AA( ) THRU-10GA( ) .041-.049 DIA.	
905-10M( ) THRU-10S( ) PAGE 52	STAND OFF LOCK IN. D RANGE=.100-.400 STAND OFF=.125 #1=.050-.150/#2=.100-.200 HEAD THICKNESS.	
905-10NA( ) THRU-10SA( ) PAGE 52	SAME AS ABOVE EXCLUDING HOLE DIA. 905-10M( ) THRU-10S( ) .040-.050 DIA. 905-10NA( ) THRU-10SA( ) .051-.059 DIA.	

MEASUREMENTS IN MILLIMETERS

DIE NO.	2 LEADS RADIAL COMPONENT FORMING DIES DESCRIPTION	ILLUS.
905-11()() (10THRU40) (ATHRU D) PAGE:53	FLUSH MOUNTING. D RANGE=2.54-8.89 FOR 0.64 WIRE DIA.	
905-11B()() (10THRU40) (ATHRU D) PAGE:53	SAME AS ABOVE EXCLUDING WIRE DIA. WIRE DIA.=0.64-0.89	

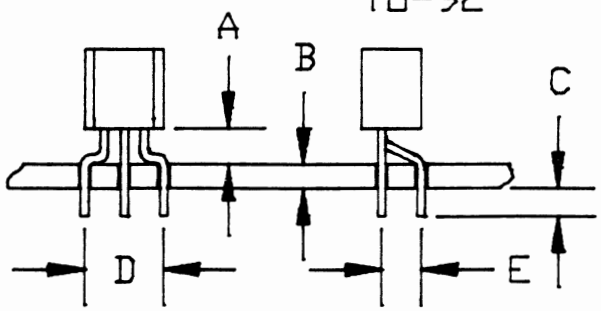
MEASUREMENTS IN INCHES

DIE NO.	2 LEADS RADIAL COMPONENTS FORMING DIES DESCRIPTION	ILLUS.
905-11()() (10THRU40) (ATHRU D) PAGE:54	FLUSH MOUNTING. D RANGE=.100-.350 FOR .025 WIRE DIA.	
905-11B()() (10THRU40) (ATHRU D) PAGE:54	SAME AS ABOVE EXCLUDING WIRE DIA. WIRE DIA.=.025-.035	

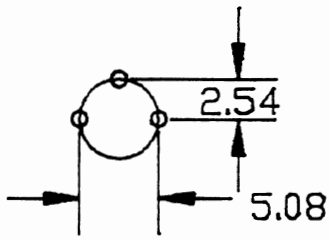
905-1A FORM

OFFSETS MIDDLE LEAD 2.54

TO-92



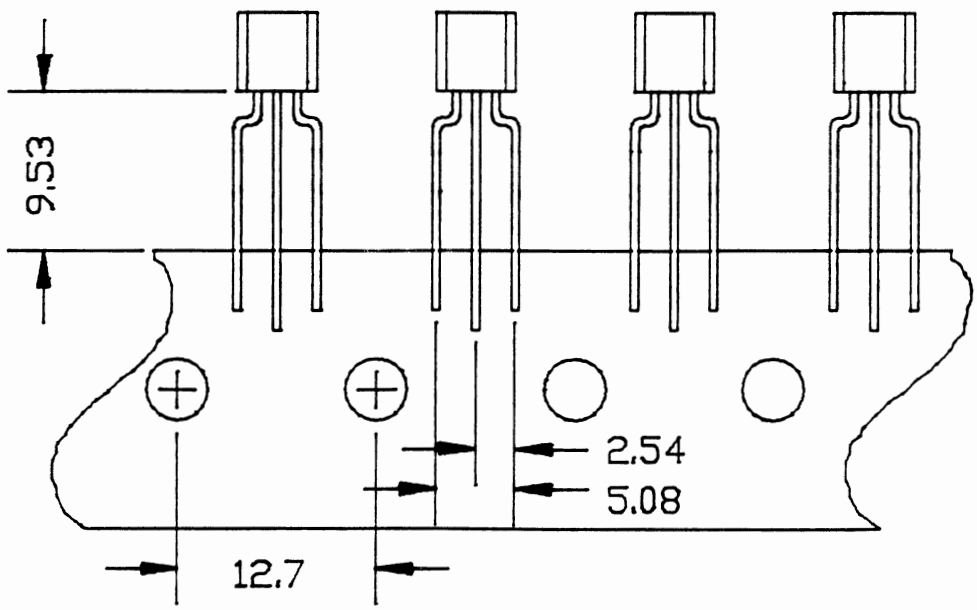
HOLE PATTERN



A	2.29
B	1.59
C	1.59
D	5.08
E	2.54

STATION:

	T1/B1	T2/B2
CF-9	905-1A FORMING	905-5 KNIFE

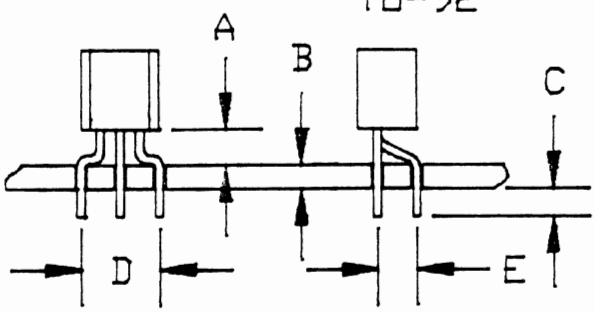


1 MEASUREMENTS IN MILLIMETERS

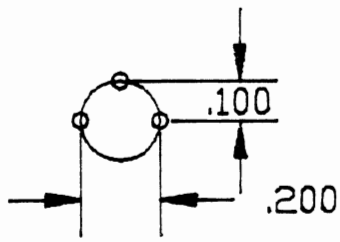
905-1A FORM

OFFSETS MIDDLE LEAD .100

TO-92



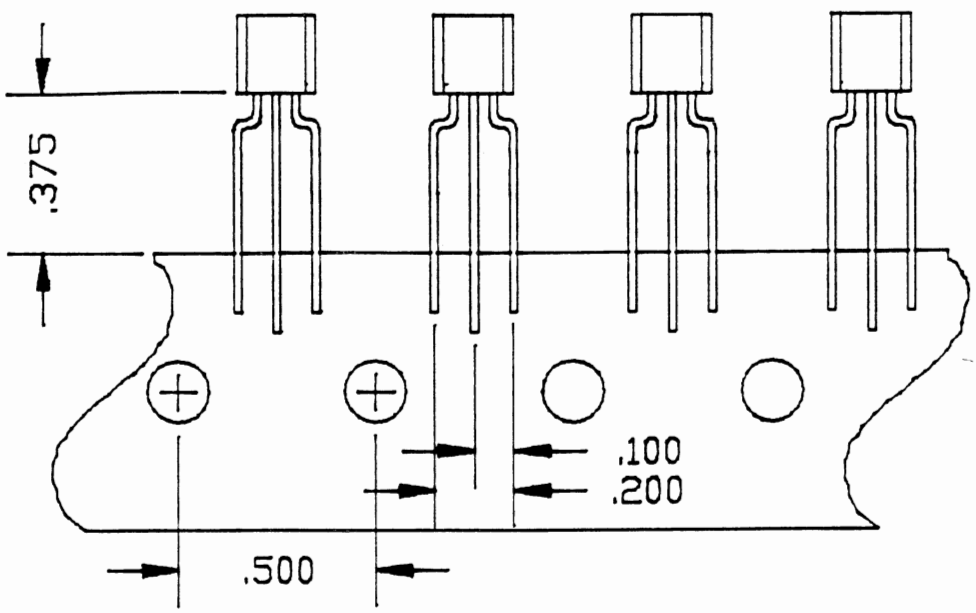
HOLE PATTERN



A	.090
B	.062
C	.062
D	.200
E	.100

STATION:

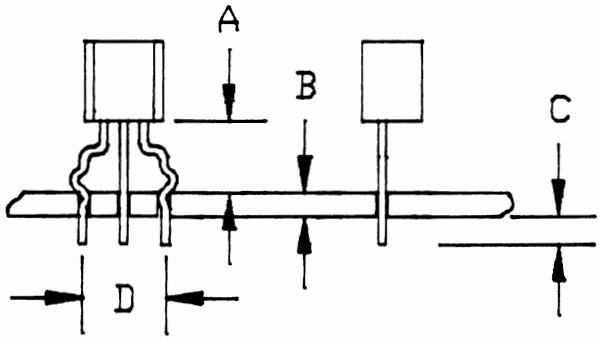
	T1/B1	T2/B2
CF-9	905-1A FORMING	905-5 KNIFE



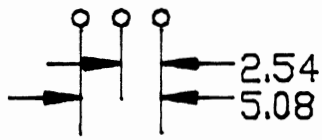
MEASUREMENTS IN INCHES

905-1C FORM

FORMS A LOCK-IN, STAND-OFF CONFIGURATION.



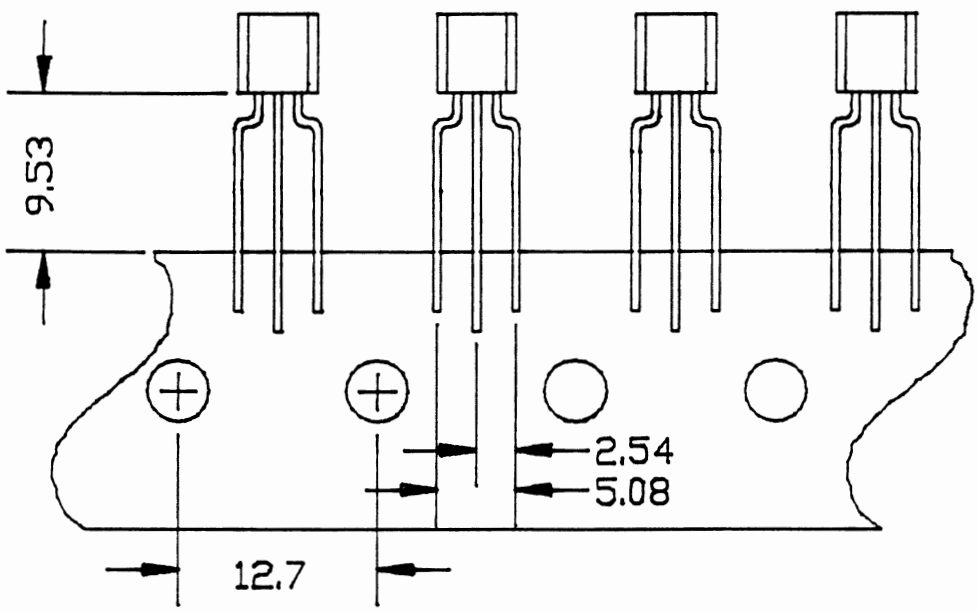
HOLE PATTERN



A	4.57
B	1.59
C	1.59
D	5.08

STATION:

	T1/B1	T2/B2
CF-9	905-1C * (A OR B)	905-5B KNIFE



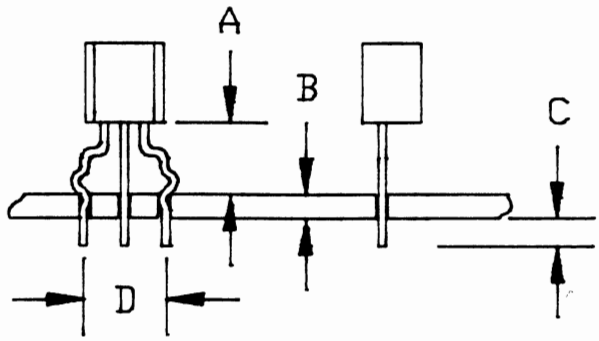
905-1CA TO BE USED WITH 0.76-1.14 P.C. BOARD HOLE DIAMETERS

905-1CB TO BE USED WITH 0.89-1.27 P.C. BOARD HOLE DIAMETERS

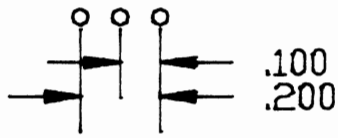
MEASUREMENTS IN MILLIMETERS

905-1C FORM

FORMS A LOCK-IN, STAND-OFF CONFIGURATION.



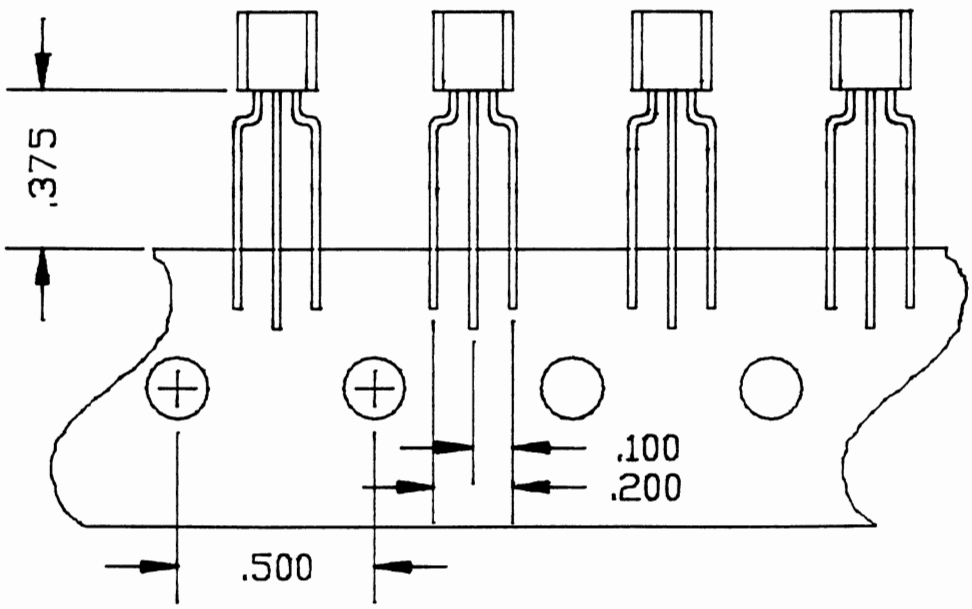
HOLE PATTERN



A	.180
B	.062
C	.062
D	.200

STATION:

	T1/B1	T2/B2
CF-9	905-1C * (A OR B)	905-5B KNIFE



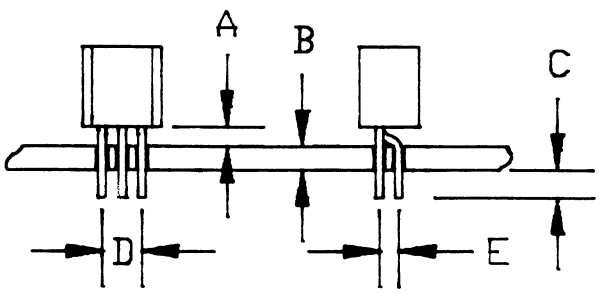
* 905-1CA TO BE USED WITH .030-.045 WIRE DIAMETERS.
* 905-1CB TO BE USED WITH .035-.050 WIRE DIAMETERS.

MEASUREMENTS IN INCHES

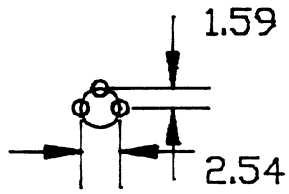
905-1D FORM

OFFSETS MIDDLE LEAD 1.59

TO-92



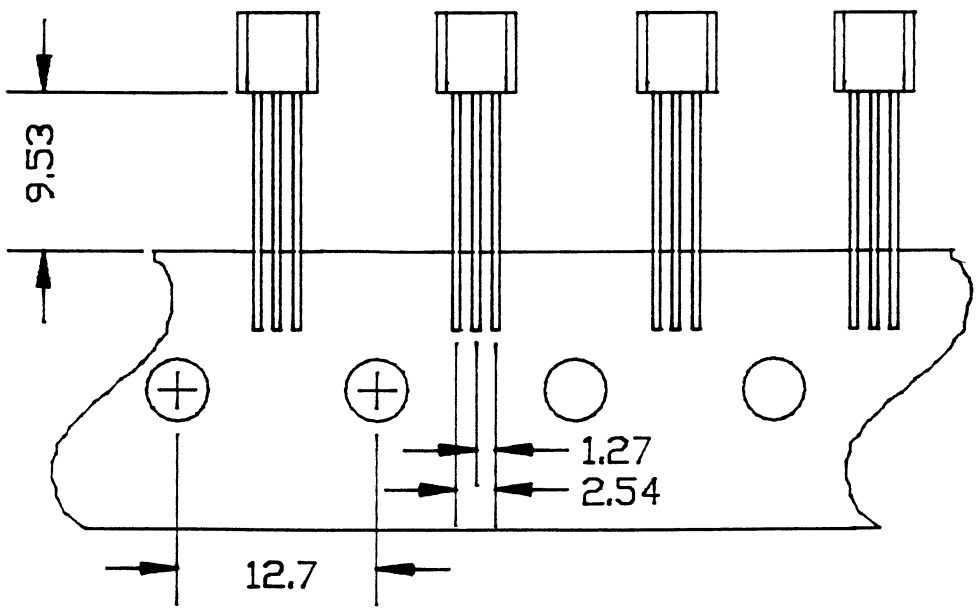
HOLE PATTERN



A	1.27
B	1.59
C	1.59
D	2.54
E	1.59

STATION:

	T1/B1	T2/B2
CF-9	905-1D FORMING	905-5I KNIFE

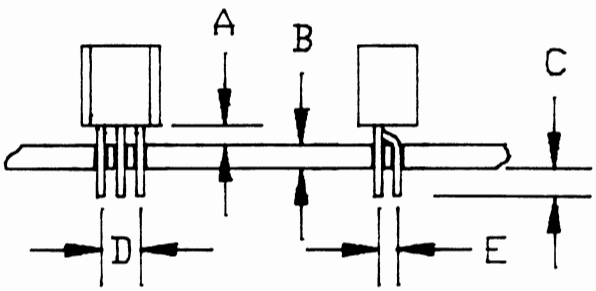


MEASUREMENTS IN MILLIMETERS

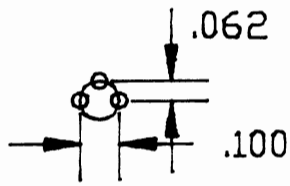
905-1D FORM

OFFSETS MIDDLE LEAD .062

TO-92



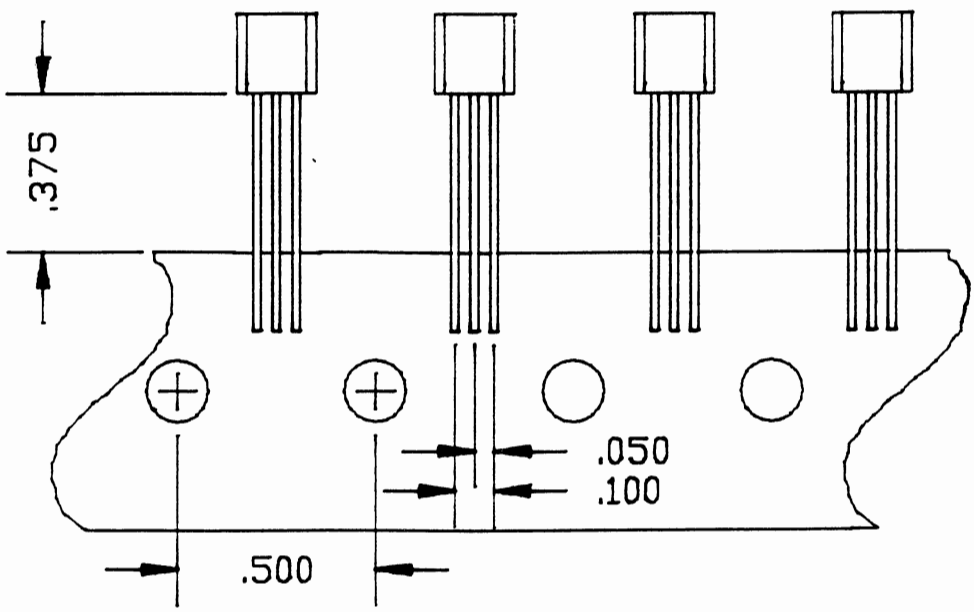
HOLE PATTERN



A	.050
B	.062
C	.062
D	.100
E	.062

STATION:

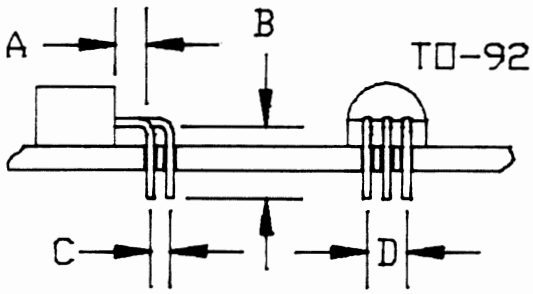
	T1/B1	T2/B2
CF-9	905-1D FORMING	905-5I KNIFE



MEASUREMENTS IN INCHES

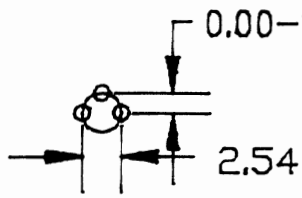
905-1E FORM

FORM 905-1E IS PRODUCED BY DIES 905-1E1 AND 905-1E2
905-1E1 BENDS AND CUTS THE MIDDLE LEAD
905-1E2 BENDS AND CUTS THE TWO OUTSIDE LEADS



TO-92

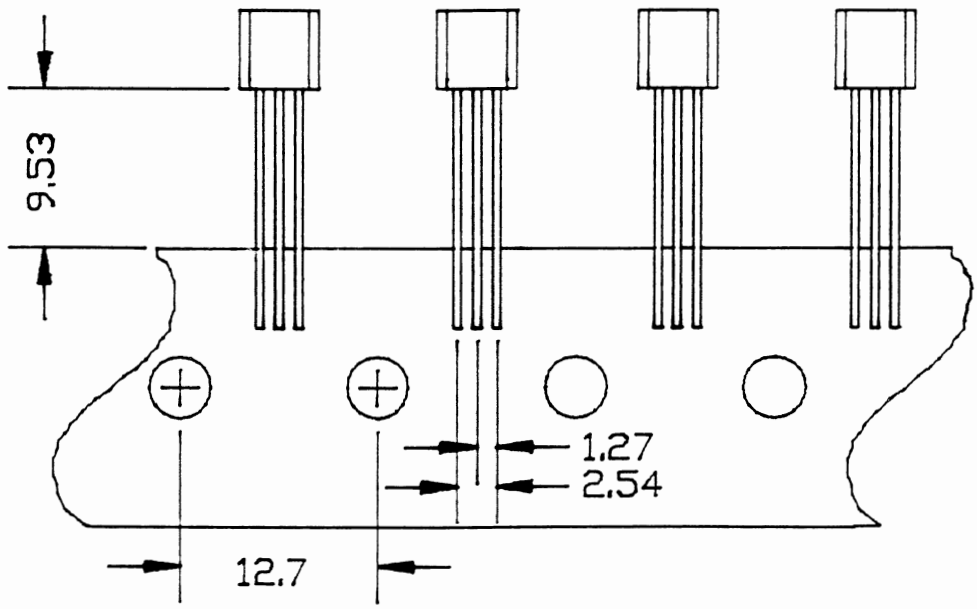
HOLE PATTERN



A	2.03
B	4.57
C	0.00 THRU 2.54
D	2.54

STATION:

	T1/B1	T2/B2
CF-9	905-1E[1]	905-1E[2]*

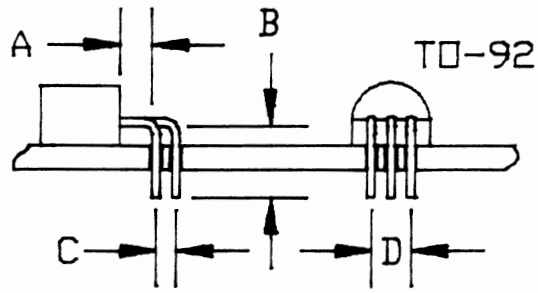


* DIE 905-1E3 IS AVAILABLE FOR FORMING ALL LEADS IN LINE AT 90° WITH A MIN. (A) DIMENSION OF 2.03.

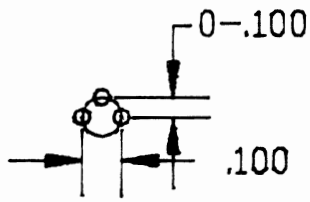
MEASUREMENTS IN MILLIMETERS

905-1E FORM

FORM 905-1E IS PRODUCED BY DIES 905-1E1 & 905-1E2.
905-1E1 BENDS AND CUTS THE MIDDLE LEAD.
905-1E2 BENDS AND CUTS THE TWO OUTSIDE LEADS.



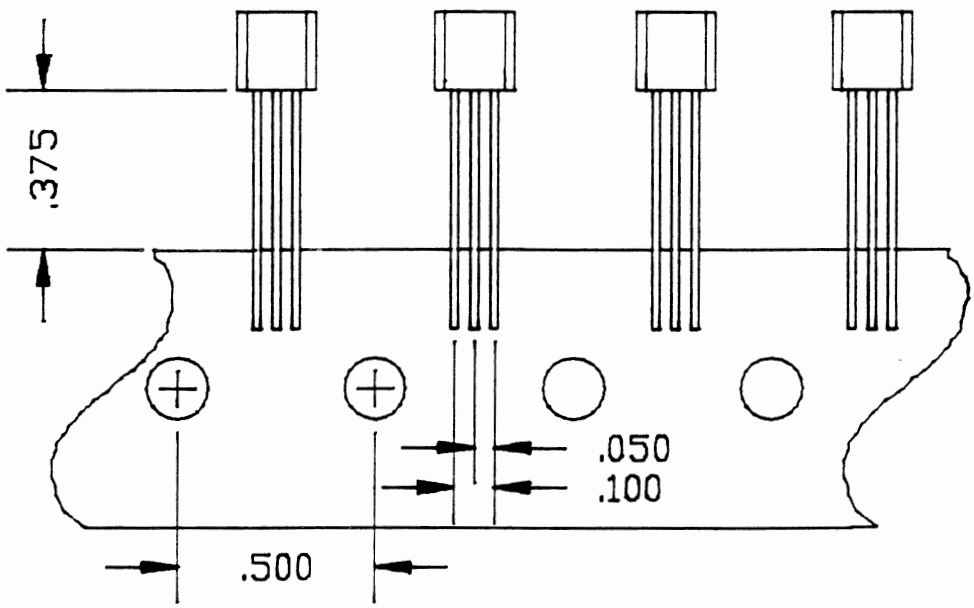
HOLE PATTERN



A	.080
B	.180
C	.000 THRU .100
D	.100

STATION:

	T1/B1	T2/B2
CF-9	905-1E[1]	905-1E[2]*

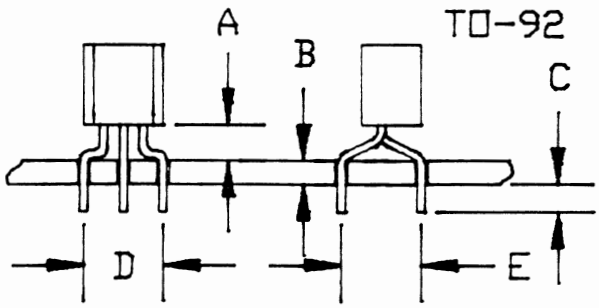


* DIE 905-1E3 IS AVAILABLE FOR FORMING ALL LEADS IN LINE AT 90° WITH A MIN. (A) DIMENSION OF .080.

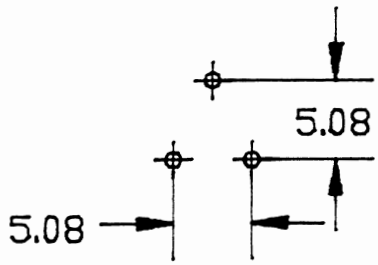
MEASUREMENTS IN INCHES

905-1G FORM

FORM 905-1G IS PRODUCED BY DIES 905-1A AND 905-1G
905-1A CUTS AND OFFSETS THE MIDDLE LEAD 2.54
905-1G CUTS AND OFFSETS THE TWO OUTSIDE LEADS 2.54
IN THE OPPOSITE DIRECTION



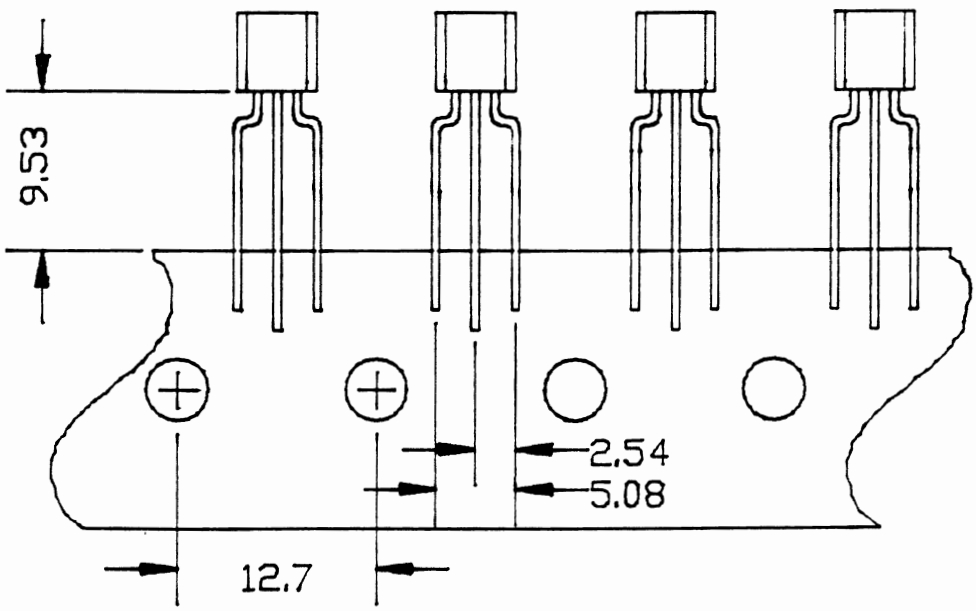
HOLE PATTERN



A	2.29
B	1.59
C	1.59
D	5.08
E	5.08

STATION:

	T1/B1	T2/B2
CF-9	905-1A	905-1G *

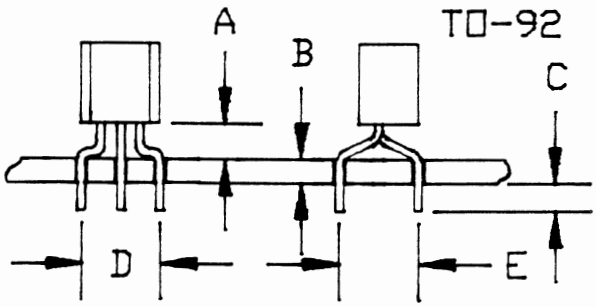


* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

MEASUREMENTS IN MILLIMETERS

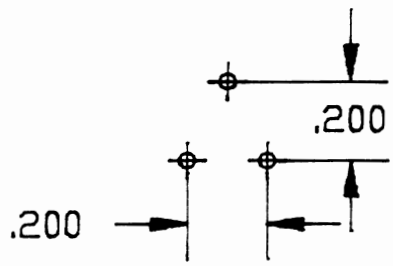
905-1G FORM

FORM 905-1G IS PRODUCED BY DIES 905-1A AND 905-1G.
905-1A OFFSETS THE MIDDLE LEAD .100.
905-1G OFFSETS THE TWO OUTSIDE LEADS .100 IN THE OPPOSITE DIRECTION.



TO-92

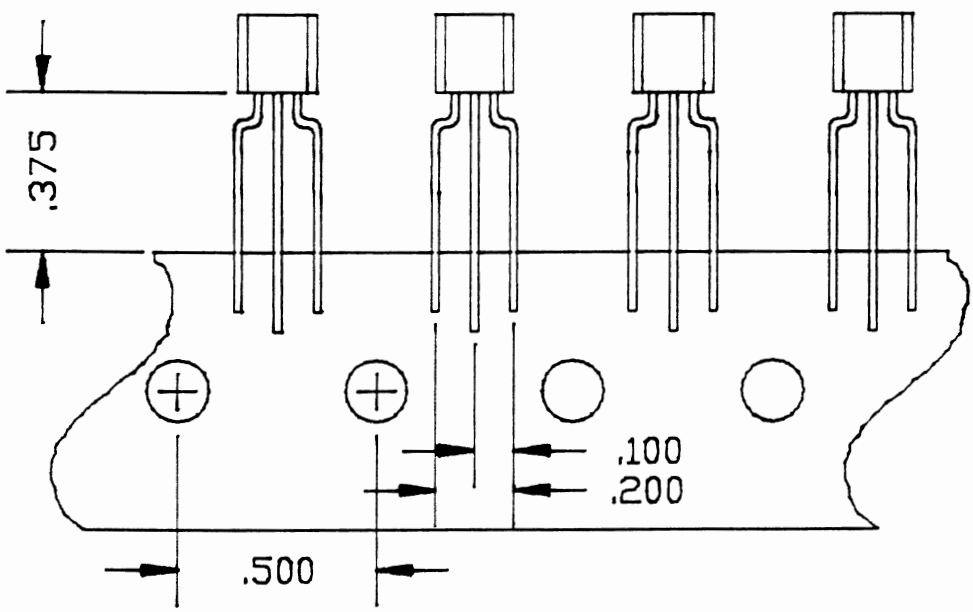
HOLE PATTERN



A	.090
B	.062
C	.062
D	.200
E	.200

STATION:

	T1/B1	T2/B2
CF-9	905-1A	905-1G *



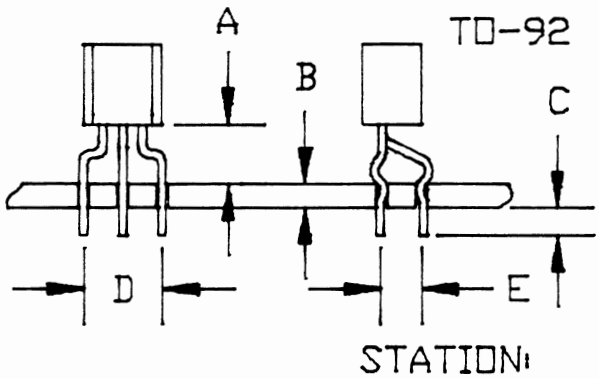
* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

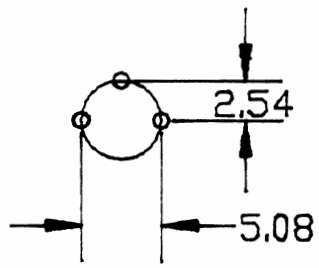
MEASUREMENTS IN INCHES

905-1H FORM

FOR 0.76-1.27 P.C.BOARD HOLE DIAMETERS.

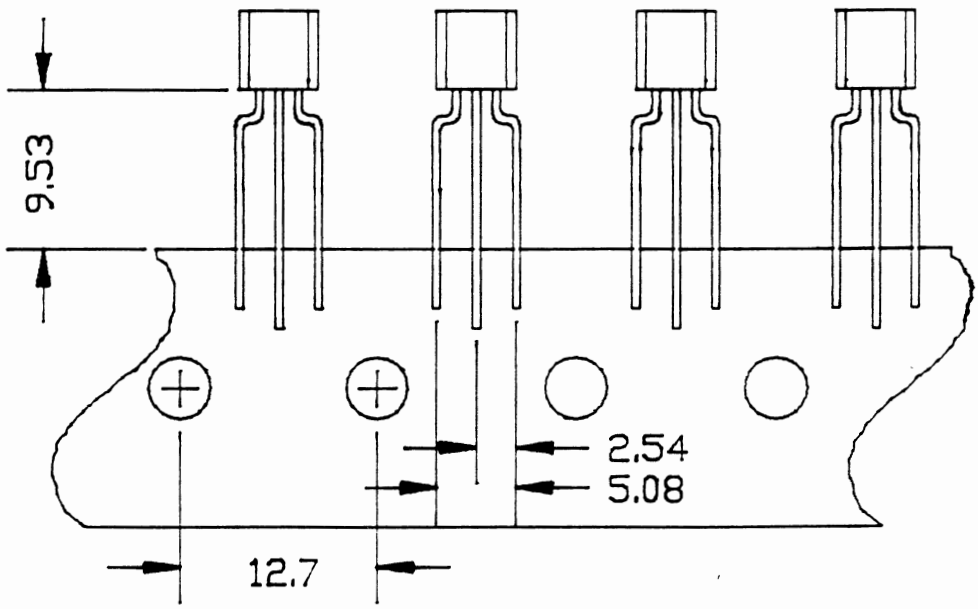
FORM 905-1H IS PRODUCED BY DIES 905-1H4 AND 905-1H5
905-1H4 OFFSETS, LOCKS AND CUTS THE MIDDLE LEAD.
905-1H5 LOCKS AND CUTS THE TWO OUTSIDE LEADS.





A	3.81
B	1.59
C	1.59
D	5.08
E	2.54

	T1/B1	T2/B2
CF-9	905-1H[4]	905-1H[5]*



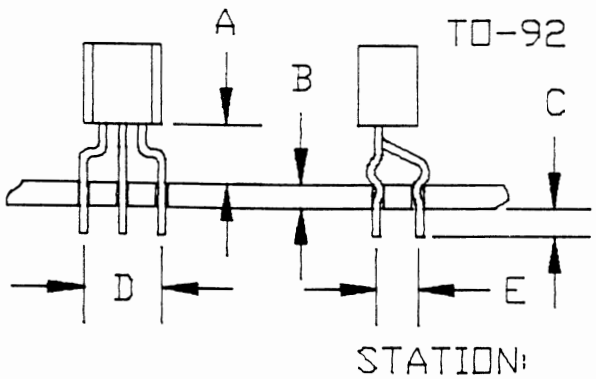
* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

MEASUREMENTS IN MILLIMETERS

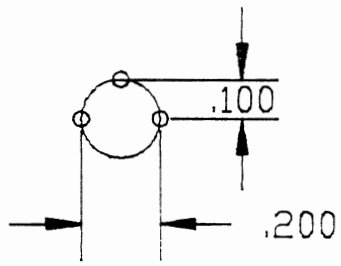
905-1H FORM

FOR .030-.050 P.C.BOARD HOLE DIAMETERS.

FORM 905-1H IS PRODUCED BY DIES 905-1H4 AND 905-1H5.
905-1H4 OFFSETS, LOCKS AND CUTS THE MIDDLE LEAD.
905-1H5 LOCKS AND CUTS THE TWO OUTSIDE LEADS.

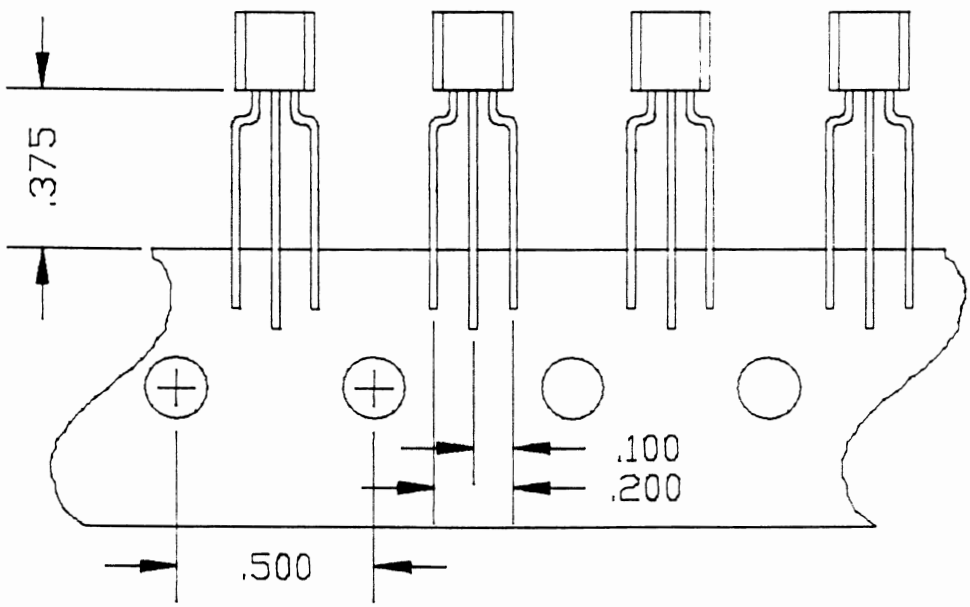


HOLE PATTERN



A	.150
B	.062
C	.062
D	.200
E	.100

	T1/B1	T2/B2
CF-9	905-1H[4]	905-1H[5]*



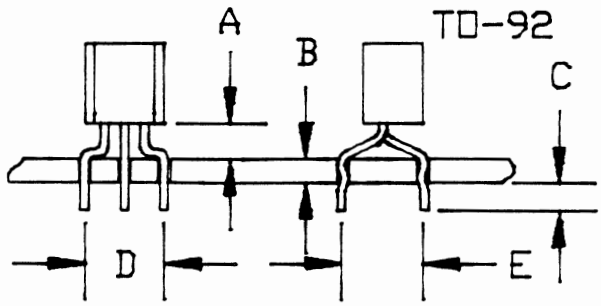
* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

MEASUREMENTS IN INCHES

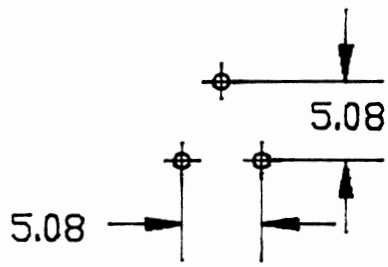
905-1I FORM

FOR 0.64-1.02 P.C.BOARD HOLE DIAMETERS

FORM 905-1I IS PRODUCED BY DIES 905-1 AND 905-1I
905-1 OFFSETS, LOCKS AND CUTS THE MIDDLE LEAD.
905-1I OFFSETS, LOCKS AND CUTS THE TWO OUTSIDE
LEADS IN THE OPPOSITE DIRECTION.



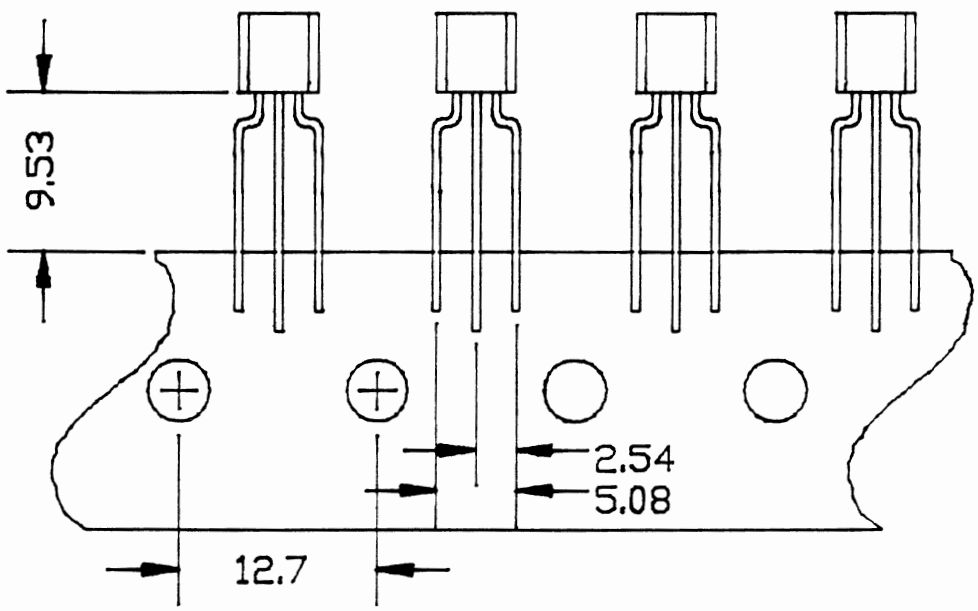
HOLE PATTERN



A	2.29
B	1.59
C	1.59
D	5.08
E	5.08

STATION:

	T1/B1	T2/B2
CF-9	905-1	905-1I *



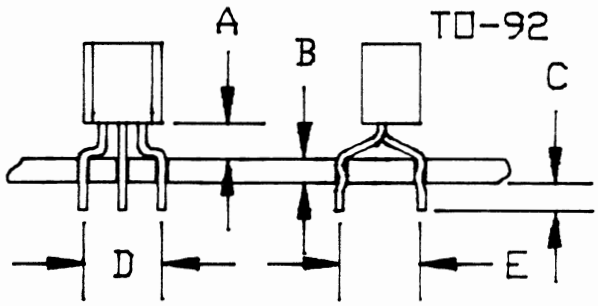
* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

MEASUREMENTS IN MILLIMETERS

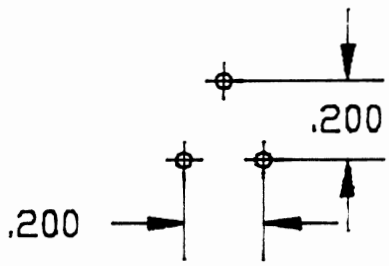
905-1I FORM

FOR .025-.040 P.C.BOARD HOLE DIAMETERS

FORM 905-1I IS PRODUCED BY DIES 905-1 AND 905-1I
905-1 OFFSETS, LOCKS AND CUTS THE MIDDLE LEAD.
905-1I OFFSETS, LOCKS AND CUTS THE TWO OUTSIDE
LEADS IN THE OPPOSITE DIRECTION.



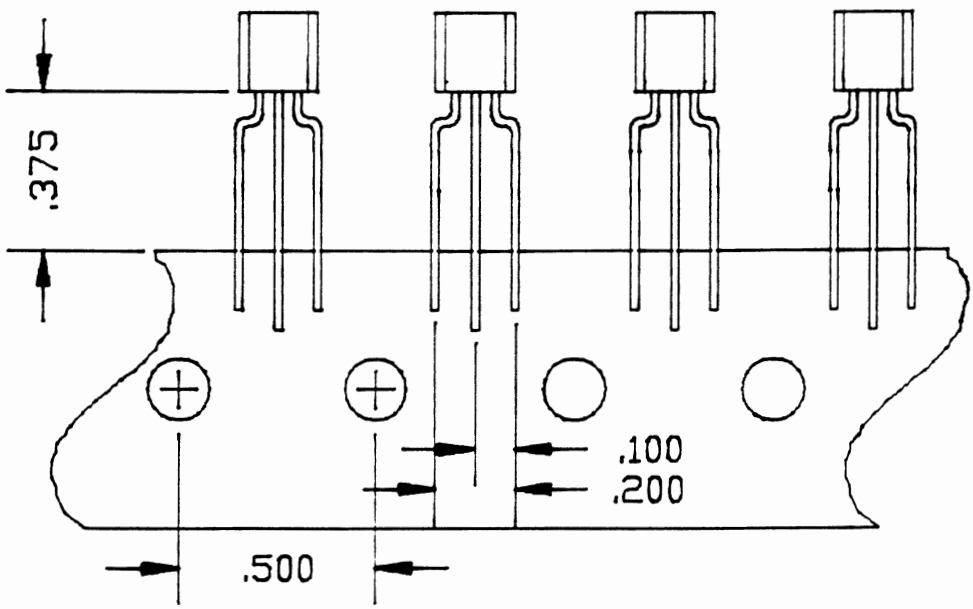
HOLE PATTERN



A	.090
B	.062
C	.062
D	.200
E	.200

STATION:

	T1/B1	T2/B2
CF-9	905-1	905-1I *

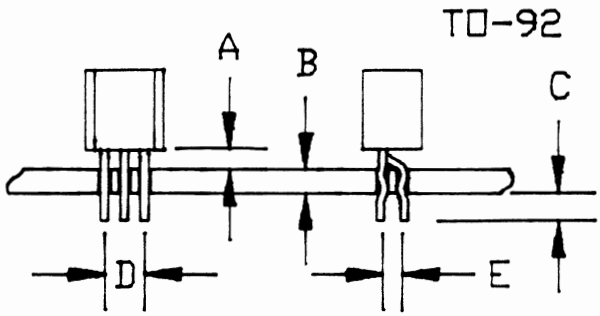


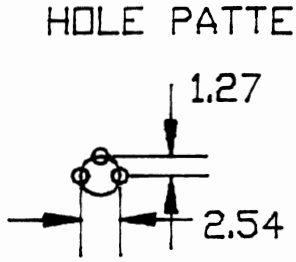
* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

MEASUREMENTS IN INCHES

905-1J FORM

FORM 905-1J IS PRODUCED BY DIES 905-1J1 AND 905-1J2
905-1J1 OFFSETS, LOCK AND CUTS THE MIDDLE LEAD
905-1J2 LOCKS AND CUTS THE TWO OUTSIDE LEADS.

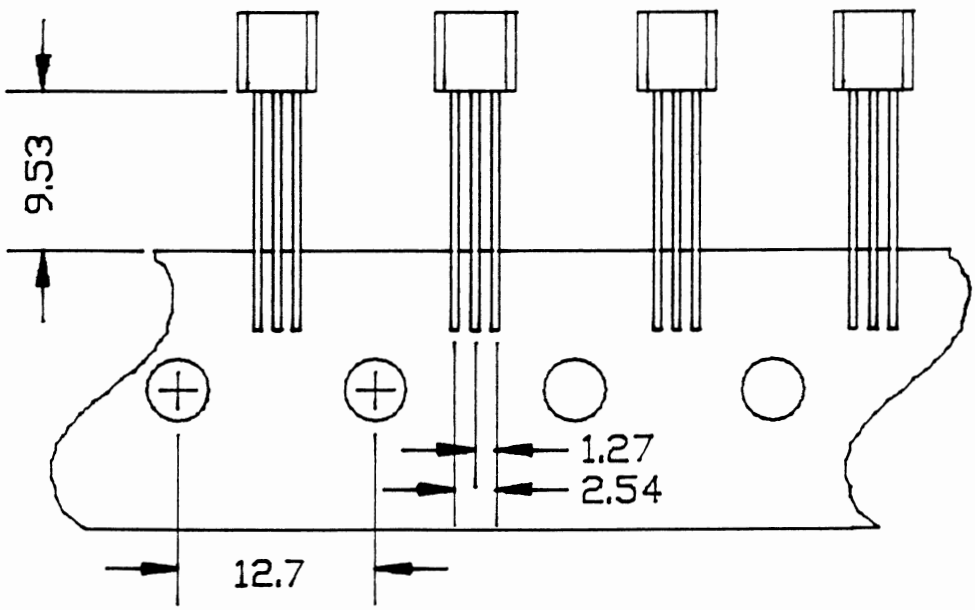




A	1.27
B	1.59
C	1.59
D	2.54
E	1.27

STATION:

	T1/B1	T2/B2
CF-9	905-1J[1]	905-1J[2]*

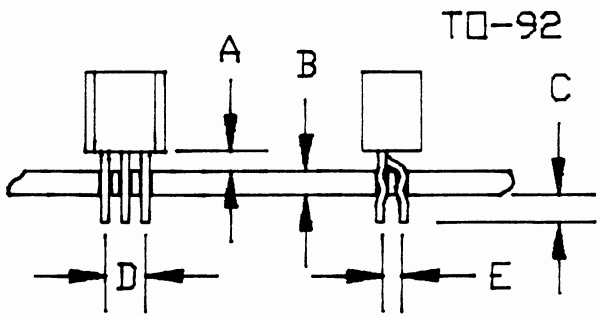


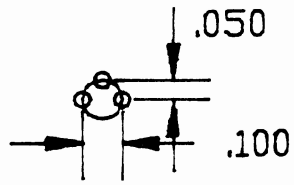
*EJECTOR BRACKETS MAY BE REQUIRED WITH THIS FORM.

MEASUREMENTS IN MILLIMETERS

905-1J FORM

FORM 905-1J IS PRODUCED BY DIES 905-1J1 AND 905-1J2.
905-1J1 OFFSETS, LOCKS AND CUTS THE MIDDLE LEAD.
905-1J2 LOCKS AND CUTS THE TWO OUTSIDE LEADS.

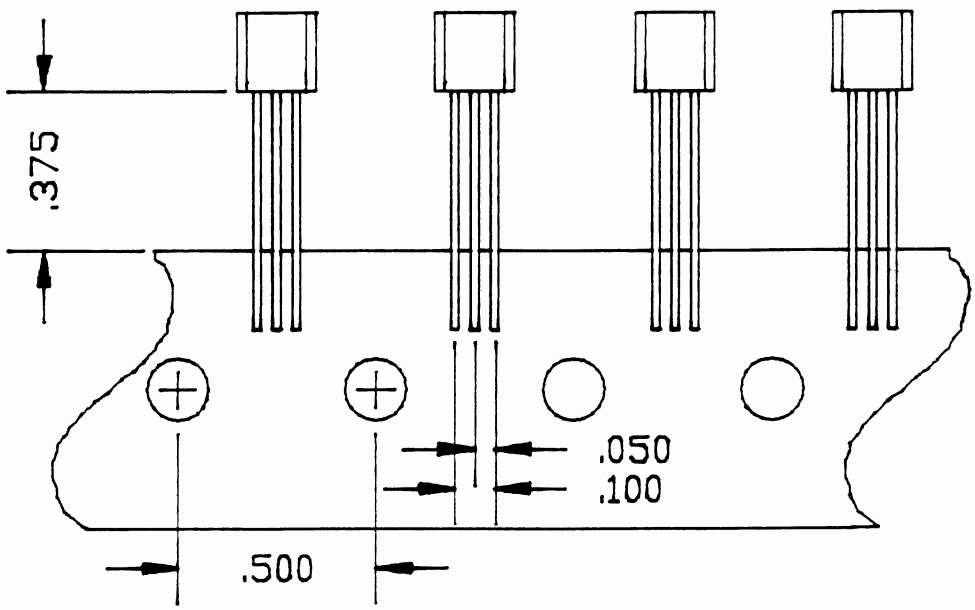




A	.050
B	.062
C	.062
D	.100
E	.050

STATION:

	T1/B1	T2/B2
CF-9	905-1J[1]	905-1J[2]*

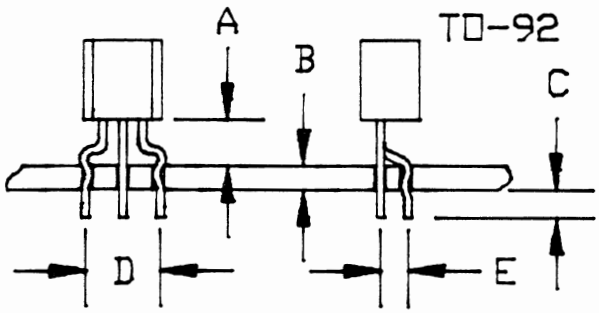


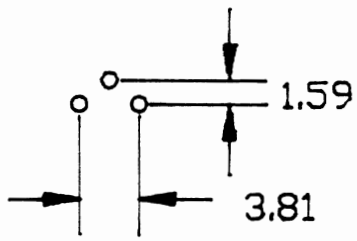
*EJECTOR BRACKETS MAY BE REQUIRED WITH THIS FORM.

MEASUREMENTS IN INCHES

905-1K FORM

FORM 905-1K IS PRODUCED BY DIES 905-1K1 AND 905-1K2
905-1K1 REDRUCES AND LOCKS THE TWO OUTSIDE LEADS.
905-1K2 OFFSETS AND LOCKS THE MIDDLE LEAD AND CUTS
ALL THREE LEADS.

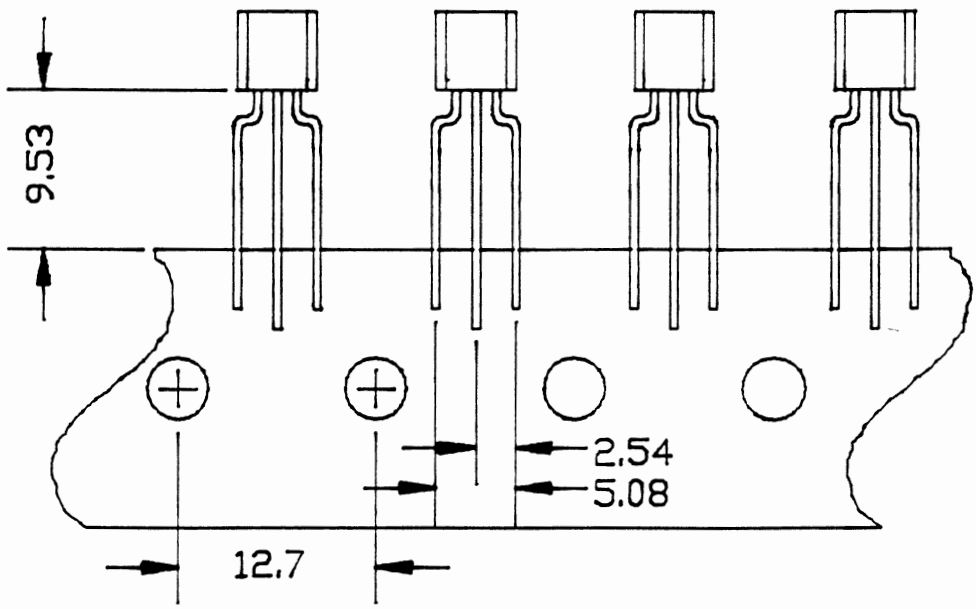




A	3.05
B	1.59
C	1.59
D	3.81
E	1.59

STATION:

	T1/B1	T2/B2
CF-9	905-1K[1]	905-1K[2]*

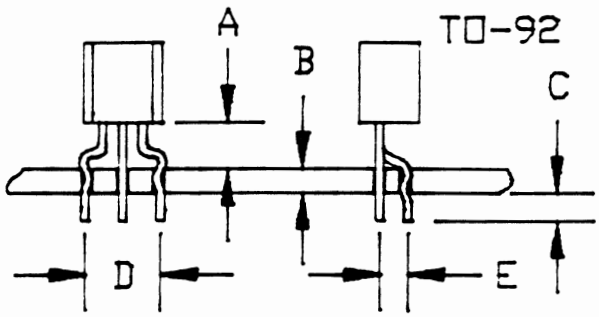


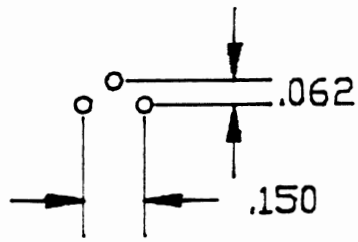
* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

MEASUREMENTS IN MILLIMETERS

905-1K FORM

FORM 905-1K IS PRODUCED BY DIES 905-1K1 AND 905-1K2. 905-1K1 REDUCES AND LOCKS THE TWO OUTSIDE LEADS. 905-1K2 OFFSETS AND LOCKS THE MIDDLE LEAD AND CUTS ALL THREE LEADS.

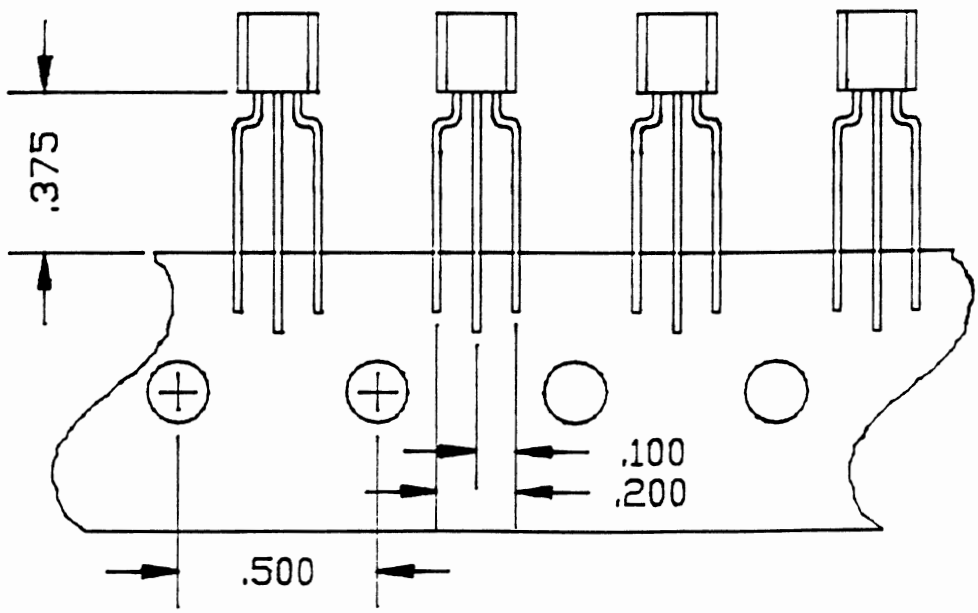




A	.120
B	.062
C	.062
D	.150
E	.062

STATION:

	T1/B1	T2/B2
CF-9	905-1K[1]	905-1K[2]*

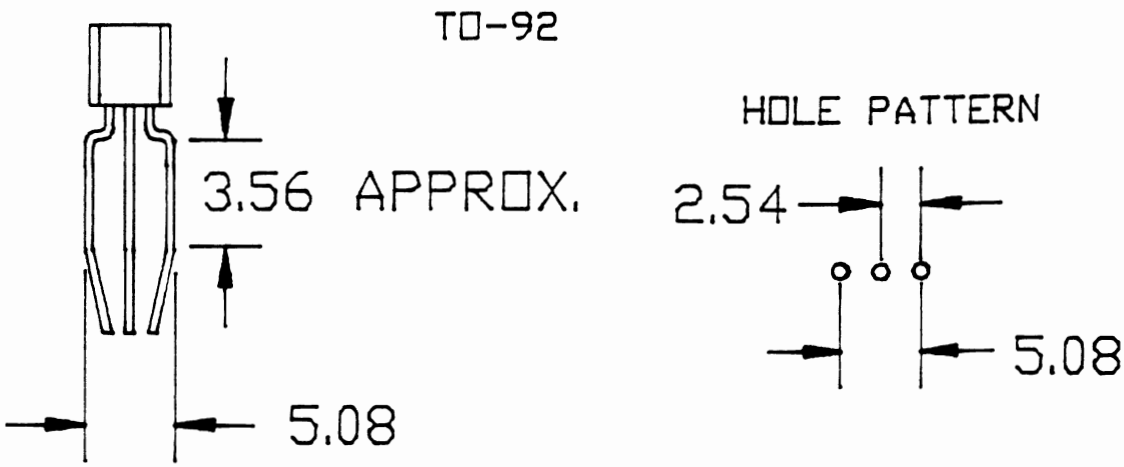


* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

MEASUREMENTS IN INCHES

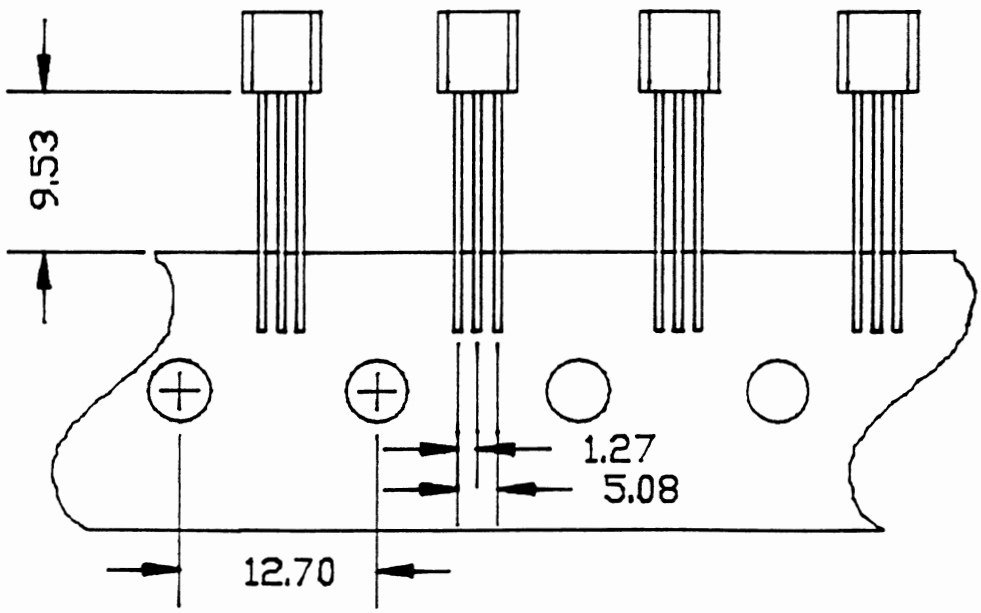
905 - 1L1 FORM

905-1L1 WILL SPREAD 2.54 TO 5.08



STATION:

	T1/B1	T2/B2
CF-9	905-1L1	------

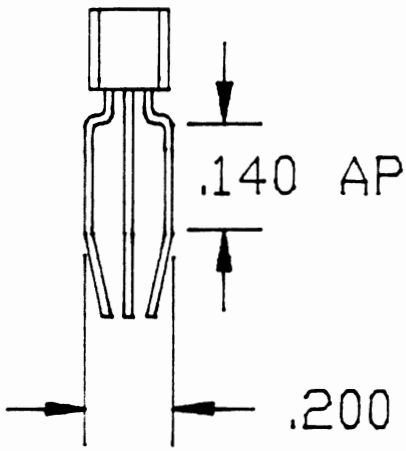


MEASUREMENTS IN MILLIMETERS

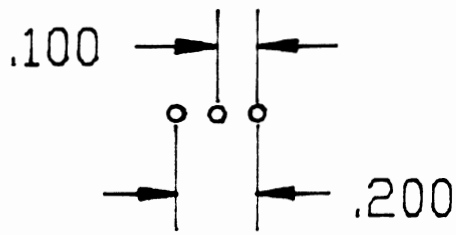
905 - 1L1 FORM

905-1L1 WILL SPREAD .100 TO .200

TO-92

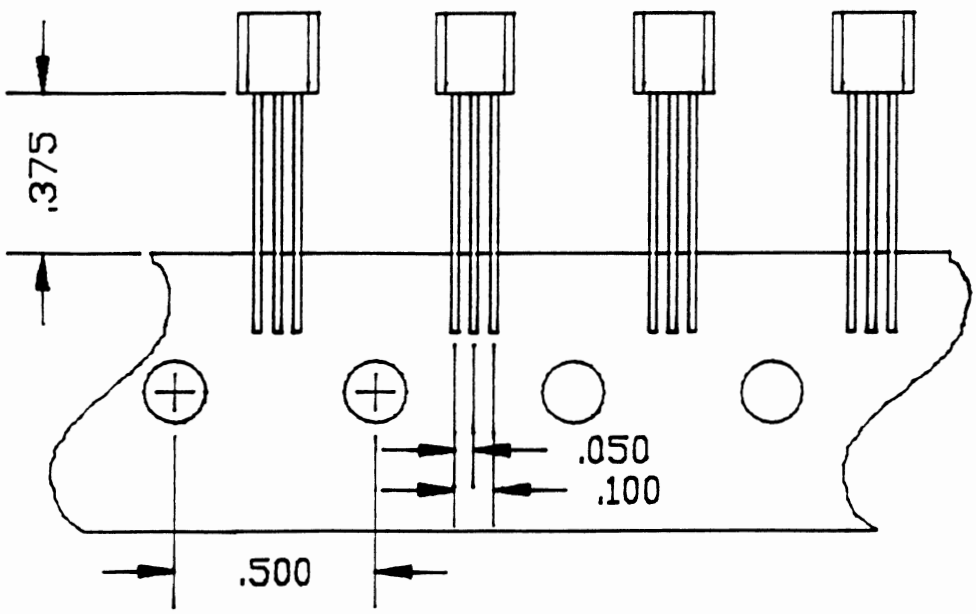


HOLE PATTERN



STATION:

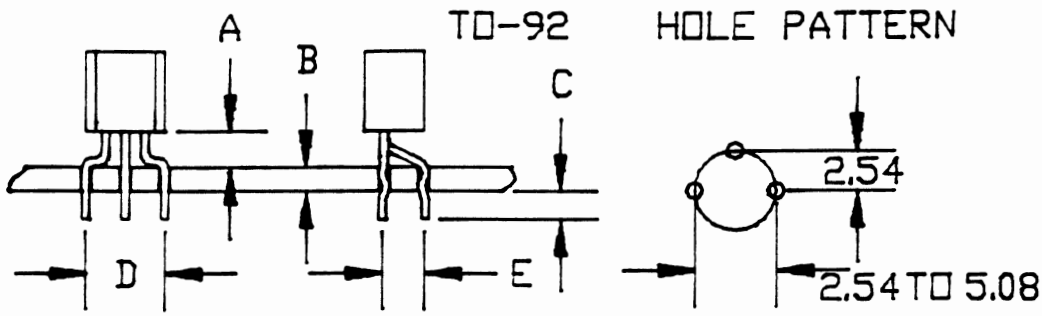
	T1/B1	T2/B2
CF-9	905-1L1	------



MEASUREMENTS IN INCHES

905 - 1L4 FORM

LOCKS-IN TO A 0.76-1.27 DIAMETER P.C.BOARD HOLE
DIE 905-1L4 WILL PRODUCE A MIDDLE LEAD OFFSET AND
WILL CUT AND LOCK ALL THREE LEADS.

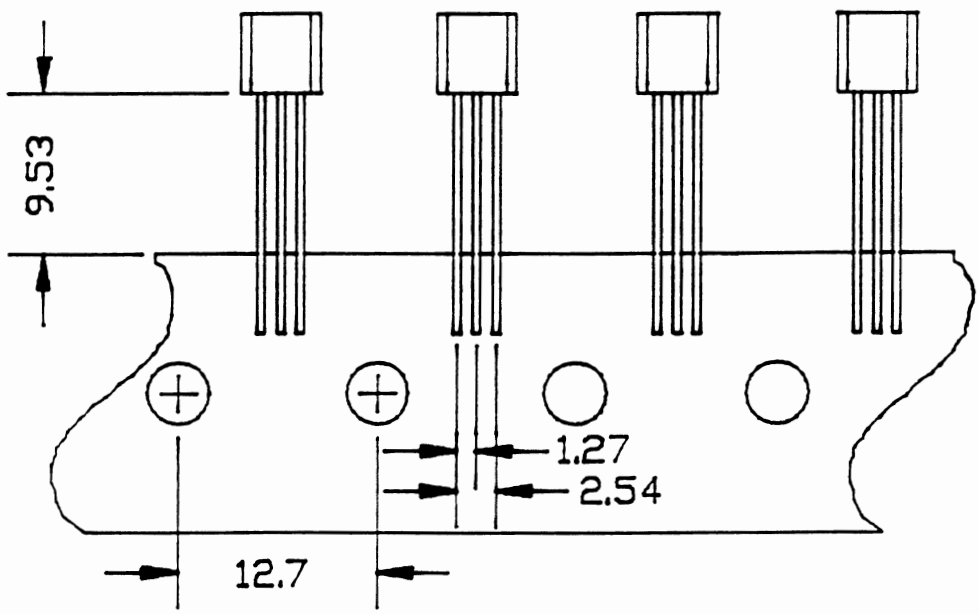


A	2.29
B	1.59
C	1.27
D	2.54 TO 5.08
E	2.54

STATION:

	T1/B1	T2/B2
CF-9	-----	905-1L4 *

905-1L1 SPREAD DIE ONLY 2.54 TO 5.08

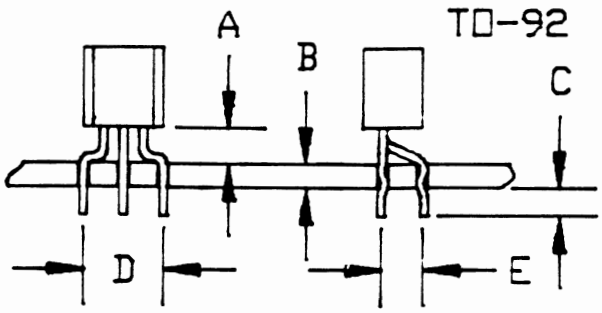


* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

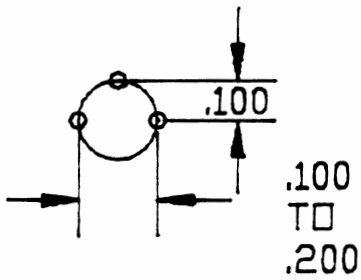
MEASUREMENTS IN MILLIMETERS

905 - 1L4 FORM

LOCKS-IN TO A .030-.050 DIAMETER P.C.BOARD HOLE
DIE 905-1L4 WILL PRODUCE A MIDDLE LEAD OFFSET AND
WILL CUT AND LOCK ALL THREE LEADS.



TO-92



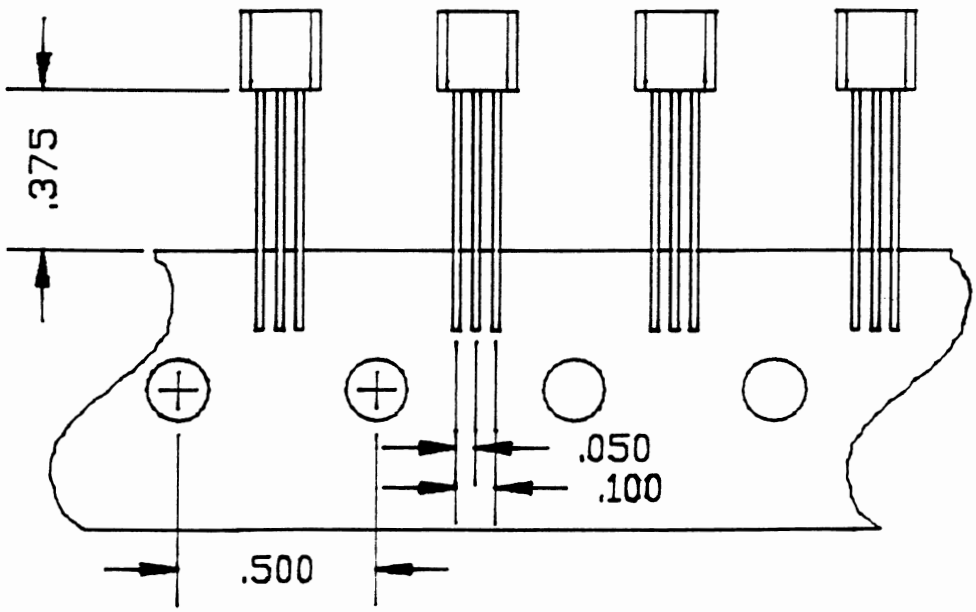
HOLE PATTERN

A	.090
B	.062
C	.062
D	.100 TO .200
E	.100

STATION:

	T1/B1	T2/B2
CF-9	------	905-1L4*

905-1L1 SPREAD DIE ONLY .100 TO .200

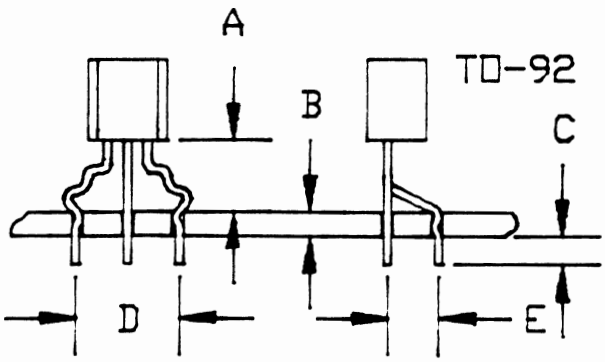


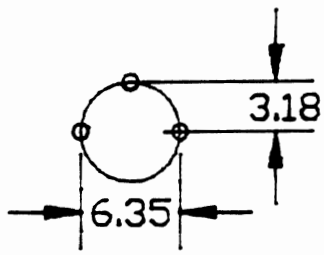
* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

MEASUREMENTS IN INCHES

905-1N FORM

FORM 905-1N IS PRODUCED BY DIES 905-1N1 AND 905-1N2
905-1N1 SPREADS AND LOCKS THE TWO OUTSIDE LEADS.
905-1N2 OFFSETS AND LOCKS THE MIDDLE DLEAD
AND CUTS ALL THREE LEADS.

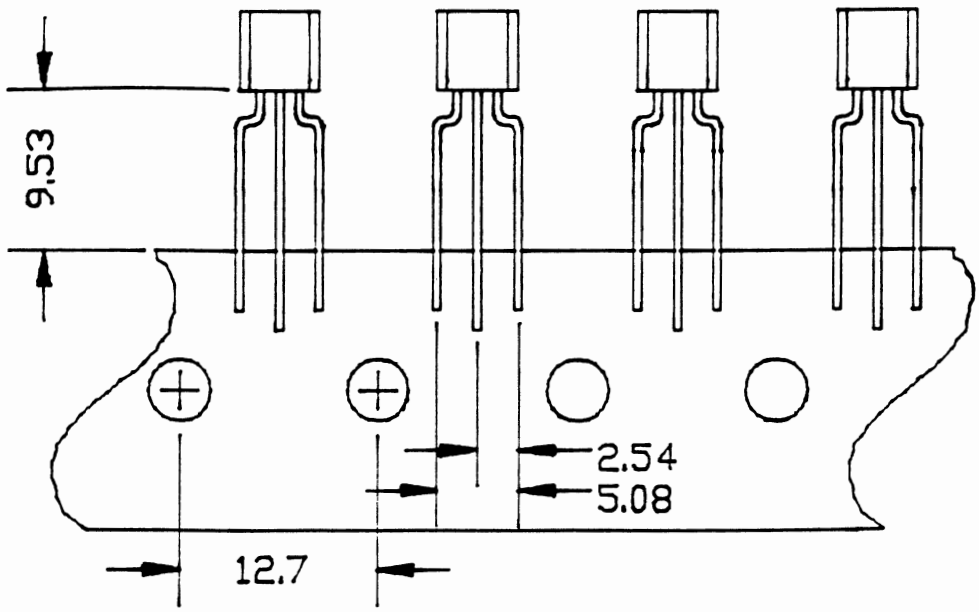




A	4.57
B	1.59
C	1.59
D	6.35
E	3.18

STATION:

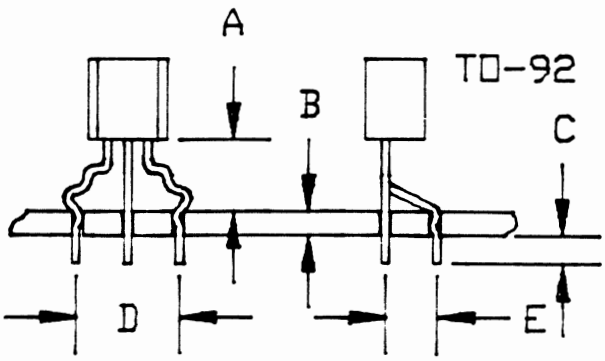
	T1/B1	T2/B2
CF-9	905-1N[1]	905-1N[2]

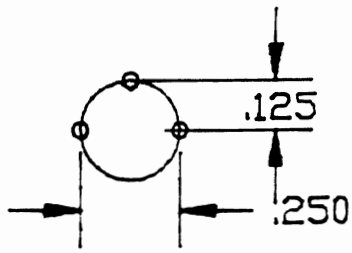


MEASUREMENTS IN MILLIMETERS

905-1N FORM

FORM 905-1N IS PRODUCED BY DIES 905-1N1 AND 905-1N2.
905-1N1 SPREADS AND LOCKS THE TWO OUTSIDE LEADS.
905-1N2 OFFSETS AND LOCKS THE MIDDLE LEAD
AND CUTS ALL THREE LEADS.

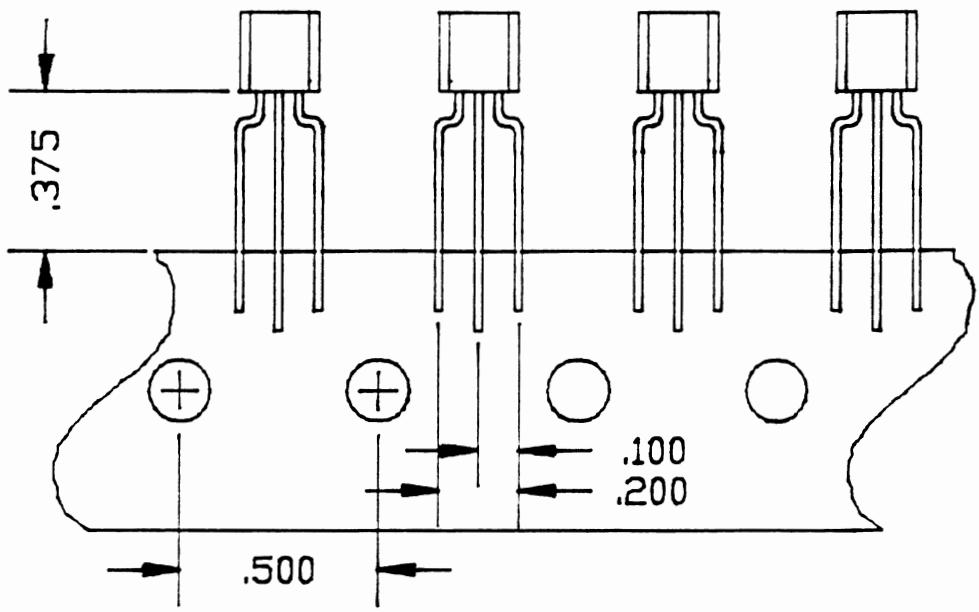




A	.180
B	.062
C	.062
D	.250
E	.125

STATION:

	T1/B1	T2/B2
CF-9	905-1N[1]	905-1N[2]

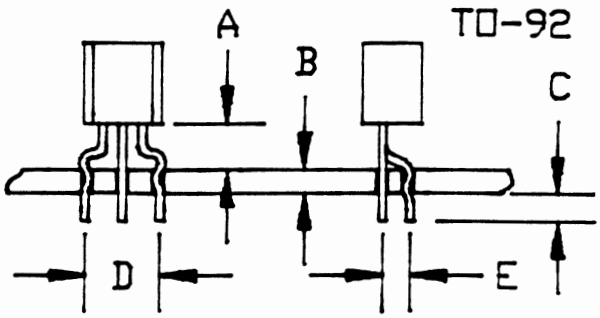


MEASUREMENTS IN INCHES

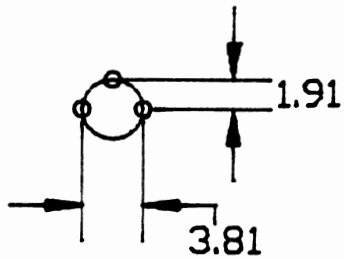
905-1P FORM

LOCKS-IN TO A 0.76-1.02 DIAMETER P.C.BOARD HOLE

FORM 905-1P IS PRODUCED BY DIES 905-1P1 AND 905-1P2. 905-1P1 REDUCES AND LOCKS THE TWO OUTSIDE LEADS. 905-1P2 OFFSETS AND LOCKS MIDDLE LEAD AND CUTS ALL THREE LEADS.



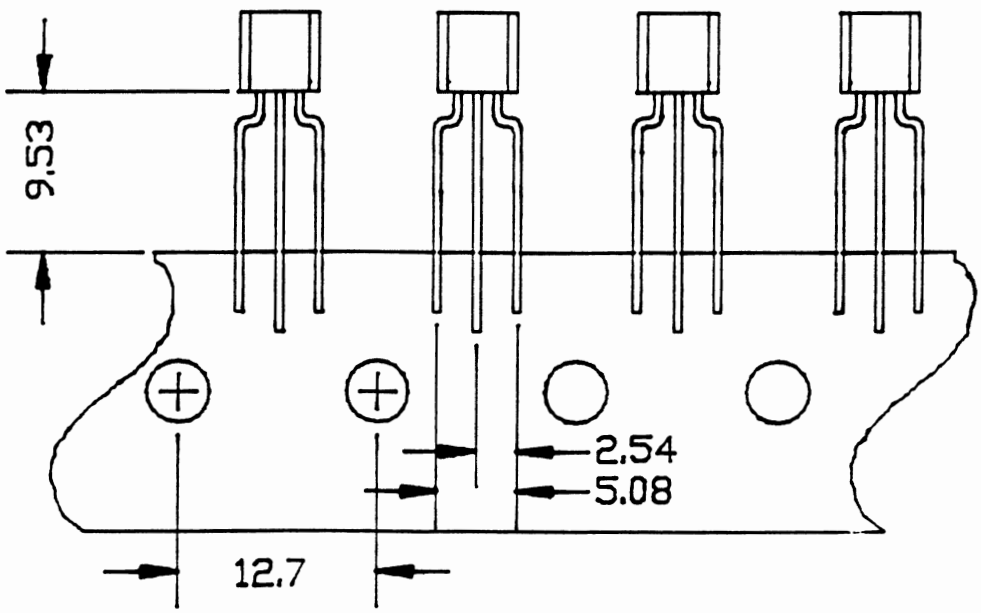
HOLE PATTERN



A	3.05
B	1.59
C	1.59
D	3.81
E	1.91

STATION:

	T1/B1	T2/B2
CF-9	905-1P[1]	905-1P[2] *



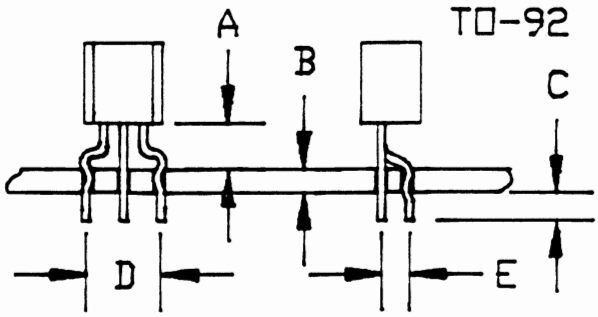
* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

MEASUREMENTS IN MILLIMETERS

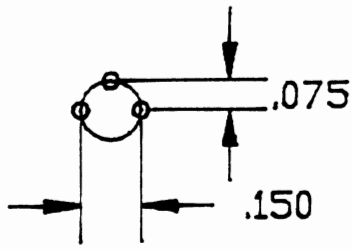
905-1P FORM

LOCKS-IN TO A .030-.040 DIAMETER P.C.BOARD HOLE

FORM 905-1P IS PRODUCED BY DIES 905-1P1 AND 905-1P2. 905-1P1 REDUCES AND LOCKS THE TWO OUTSIDE LEADS. 905-1P2 OFFSETS AND LOCKS MIDDLE LEAD AND CUTS ALL THREE LEADS.



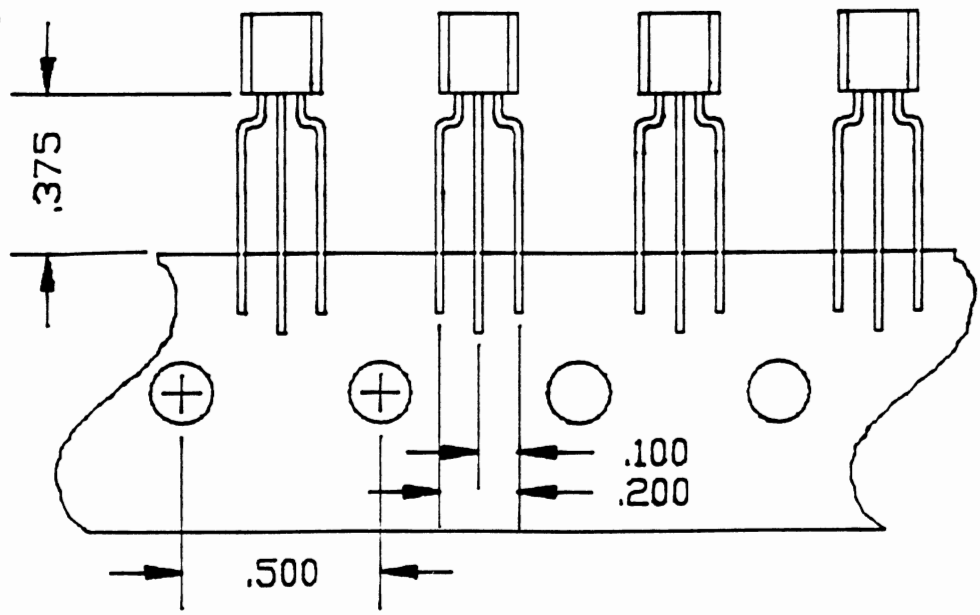
HOLE PATTERN



A	.120
B	.062
C	.062
D	.150
E	.075

STATION:

	T1/B1	T2/B2
CF-9	905-1P[1]	905-1P[2]*

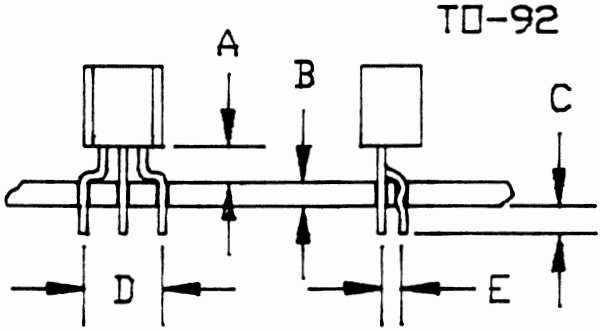


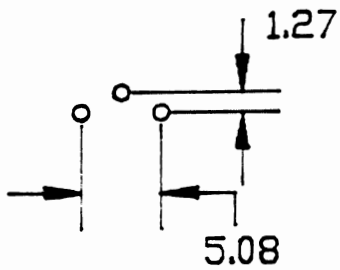
* EJECTOR BRACKETS ARE REQUIRED WITH THIS FORM.

MEASUREMENTS IN INCHES

905-1R FORM

OFFSETS AND LOCKS MIDDLE LEAD.

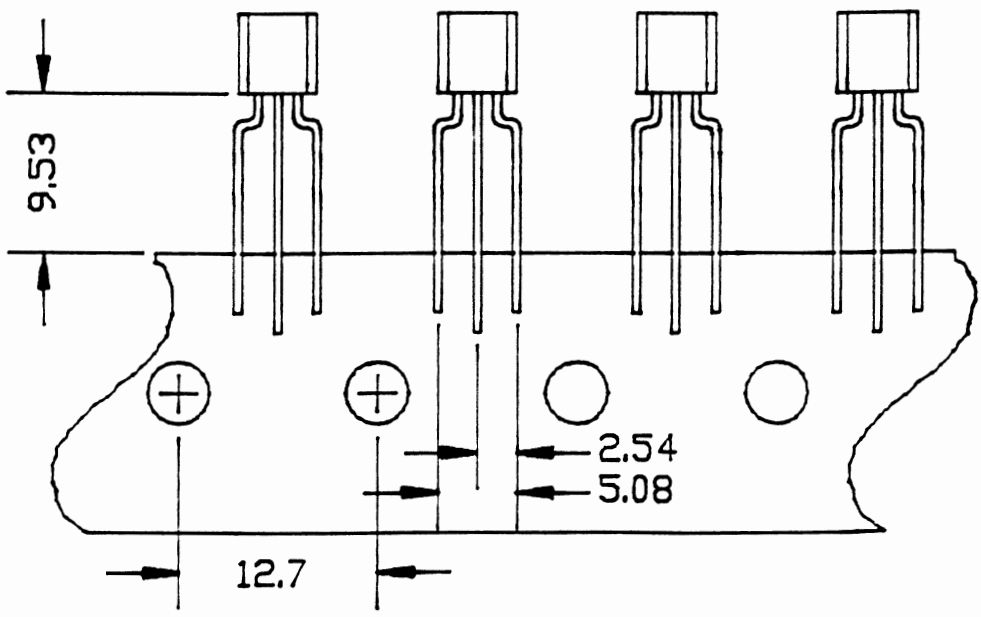




A	2.29
B	1.59
C	1.59
D	5.08
E	1.27

STATION:

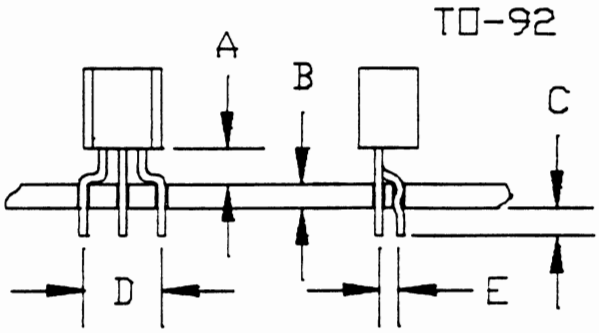
	T1/B1	T2/B2
CF-9	905-1R FORMING	905-5 KNIFE

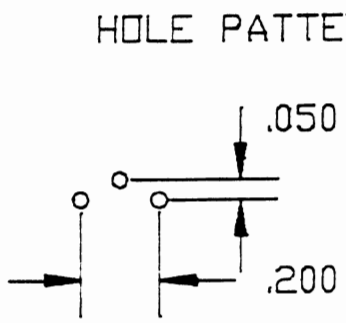


MEASUREMENTS IN MILLIMETERS

905-1R FORM

OFFSETS AND LOCKS MIDDLE LEAD.

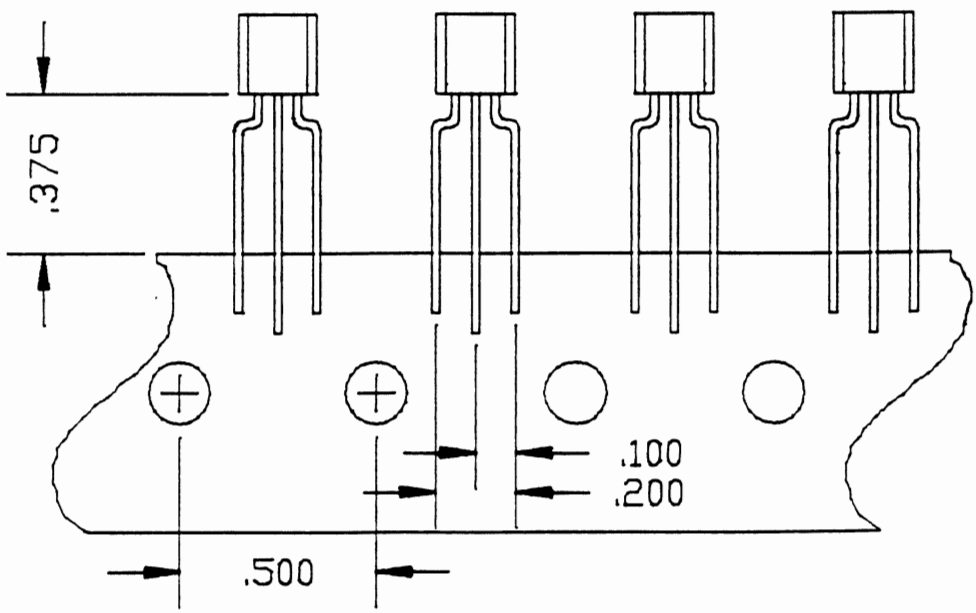




A	.090
B	.062
C	.062
D	.200
E	.050

STATION:

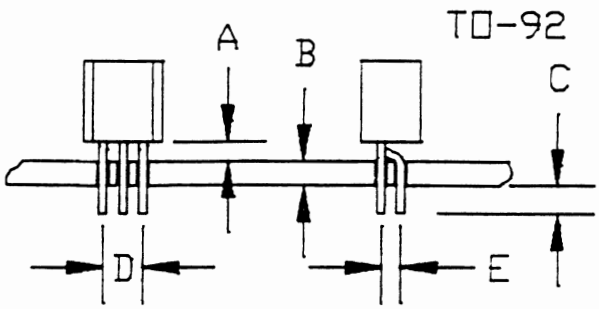
	T1/B1	T2/B2
CF-9	905-1R FORMING	905-5 KNIFE

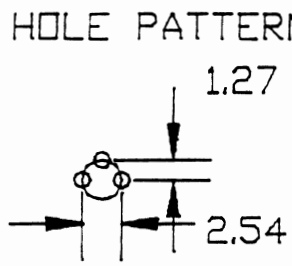


MEASUREMENTS IN INCHES

905-1S FORM

OFFSETS MIDDLE LEAD.

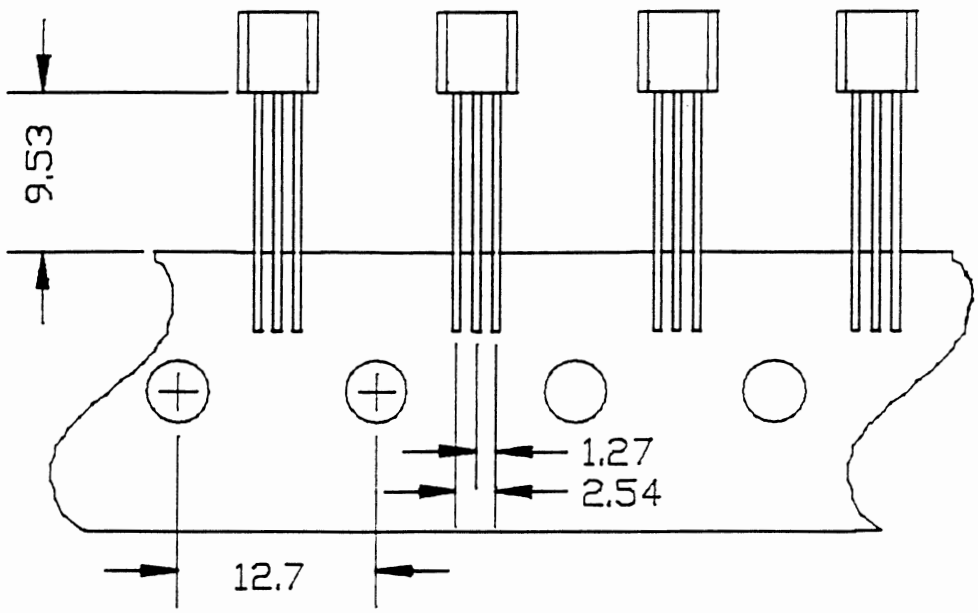




A	1.27
B	1.59
C	1.59
D	2.54
E	1.27

STATION:

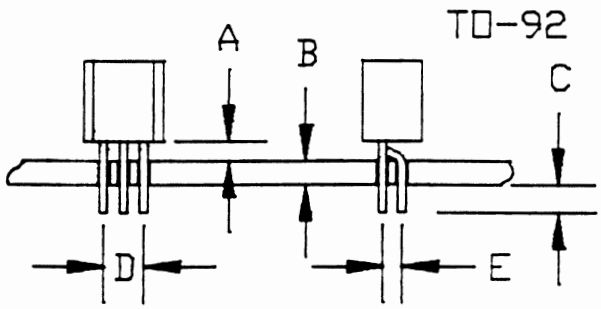
	T1/B1	T2/B2
CF-9	905-1S FORMING	905-5I KNIFE



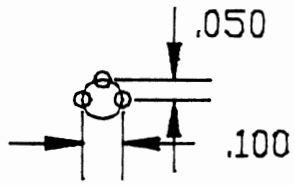
MEASUREMENTS IN MILLIMETERS

905-1S FORM

OFFSETS MIDDLE LEAD.



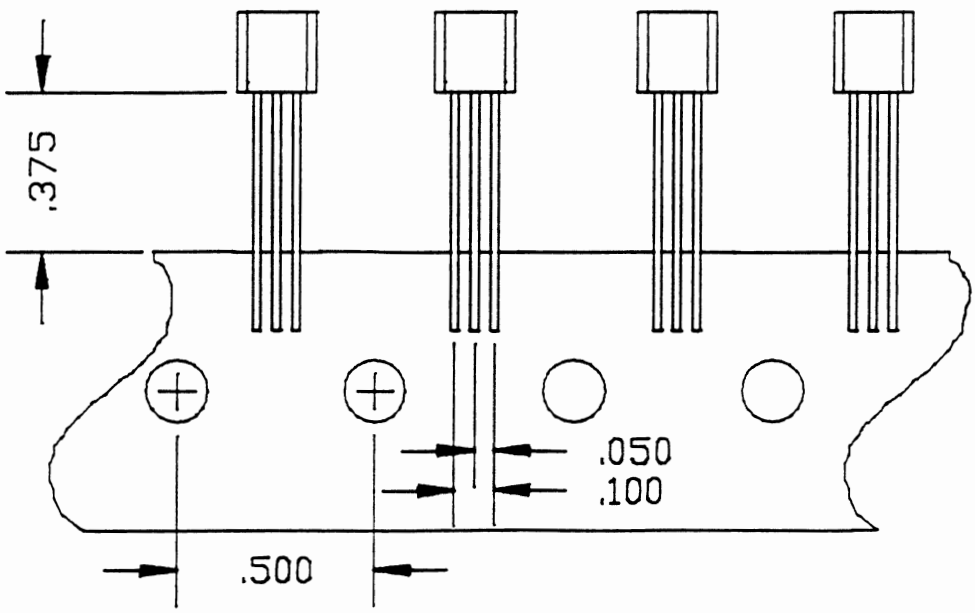
HOLE PATTERN



A	.050
B	.062
C	.062
D	.100
E	.050

STATION:

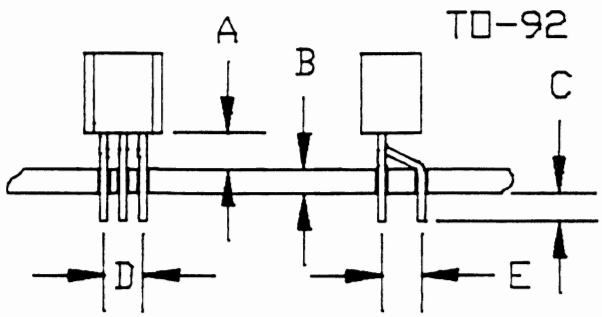
	T1/B1	T2/B2
CF-9	905-1S FORMING	905-5I KNIFE



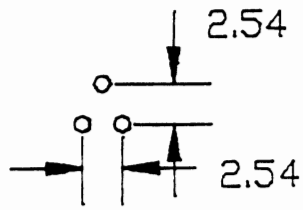
MEASUREMENTS IN INCHES

905-1T FORM

OFFSETS MIDDLE LEAD.



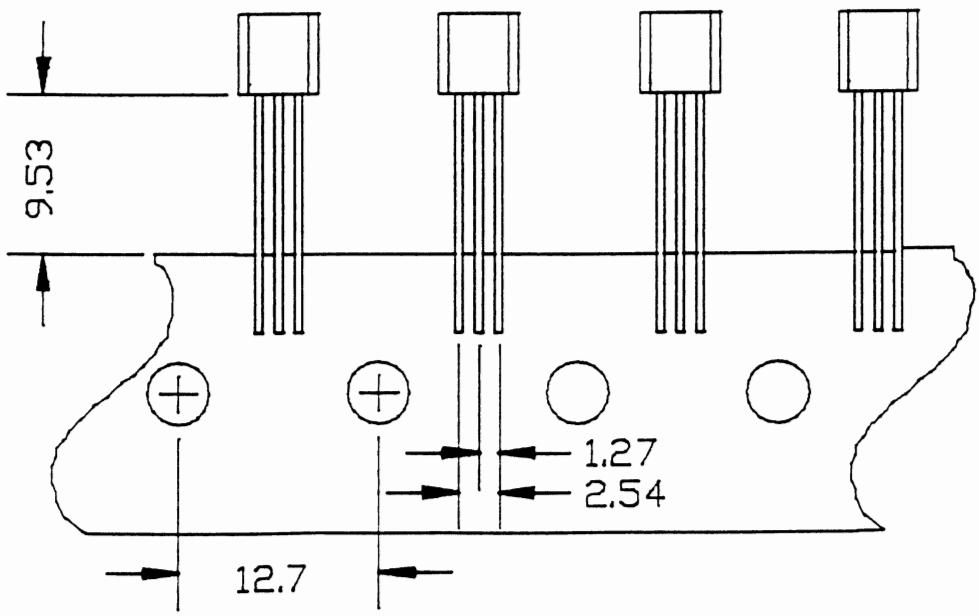
HOLE PATTERN



A	2.29
B	1.59
C	1.59
D	2.54
E	2.54

STATION:

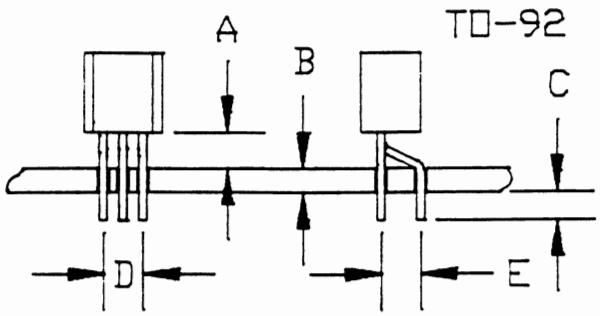
	T1/B1	T2/B2
CF-9	905-1T FORMING	905-5I KNIFE



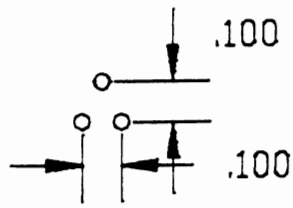
MEASUREMENTS IN MILLIMETERS

905-1T FORM

OFFSETS MIDDLE LEAD.



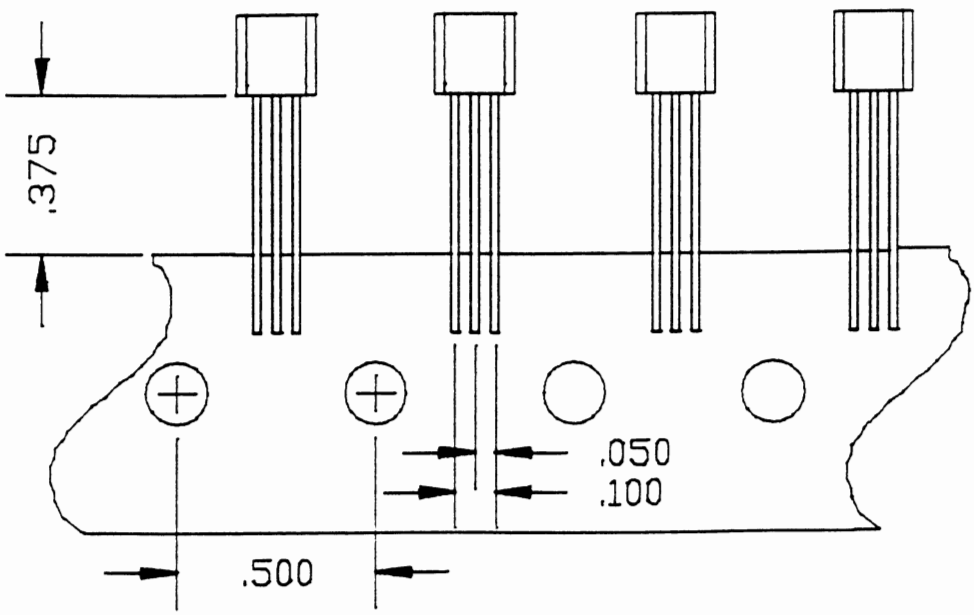
HOLE PATTERN



A	.090
B	.062
C	.062
D	.100
E	.100

STATION:

	T1/B1	T2/B2
CF-9	905-1T FORMING	905-5I KNIFE

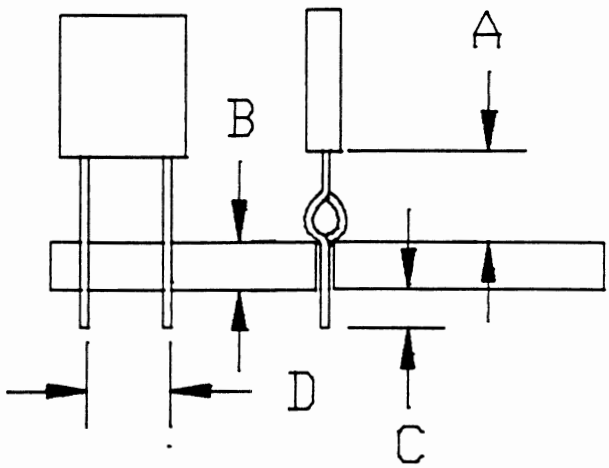


MEASUREMENTS IN INCHES

905-2 A-B FORM

FORM 905-2 A-B PRODUCE A STAND-OFF CONFIGURATION.

905-2 A-B



2 LEADS COMPONENT

DIE:	KNIFE:	A	B	C	D	P.C.BOARD HOLE DIA.
905-2A	905-5H	3.81	1.59	1.59	1.52-11.43	0.51-1.02
905-2B	905-5H	3.05	1.59	1.59	1.52-11.43	0.64-1.02

STATION:

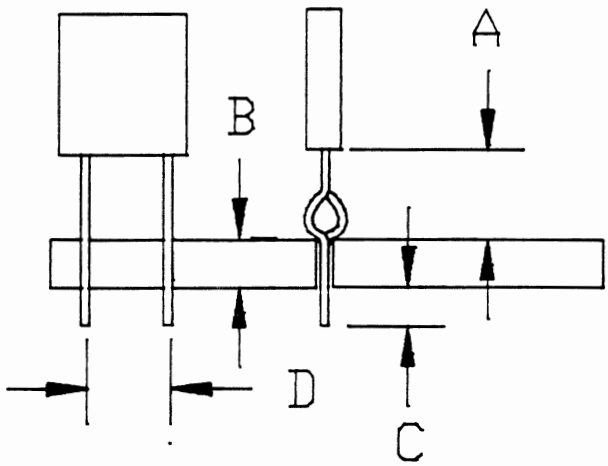
	T1/B1	T2/B2
CF-9	905-2 FORMING	905-5H KNIFE

MEASUREMENTS IN MILLIMETERS

905-2 A-B FORM

FORM 905-2 A-B PRODUCES A STAND-OFF CONFIGURATION.

905-2 A-B



2 LEADS COMPONENT

DIE:	KNIFE:	A	B	C	D	P.C.BOARD HOLE DIA.
905-2A	905-5H	.150	.062	.062	.060-.450	.020-.040
905-2B	905-5H	.120	.062	.062	.060-.450	.025-.040

STATION:

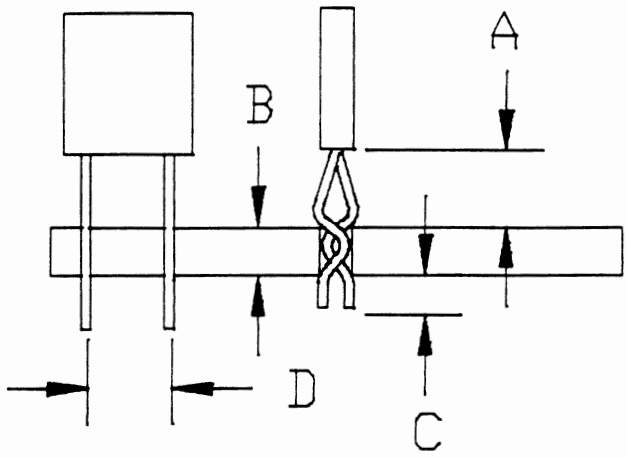
	T1/B1	T2/B2
CF-9	905-2 FORMING	905-5H KNIFE

MEASUREMENTS IN INCHES

905-2 C FORM

FORM 905-2 C PRODUCES A LOCK-IN STAND-OFF

905-2 C



2 LEADS COMPONENT

DIE:	KNIFE:	A	B	C	D	P.C.BOARD HOLE DIA.
905-2C	905-5H	3.05	1.59	1.59	1.52-11.43	0.76-0.89
905-2CA	905-5H	3.05	1.59	1.59	1.52-11.43	0.89-1.02
905-2CB	905-5H	3.05	1.59	1.59	1.52-11.43	1.02-1.14

FOR LOWER STAND-OFF HEIGHT SEE 905-10 STYLE

STATION:

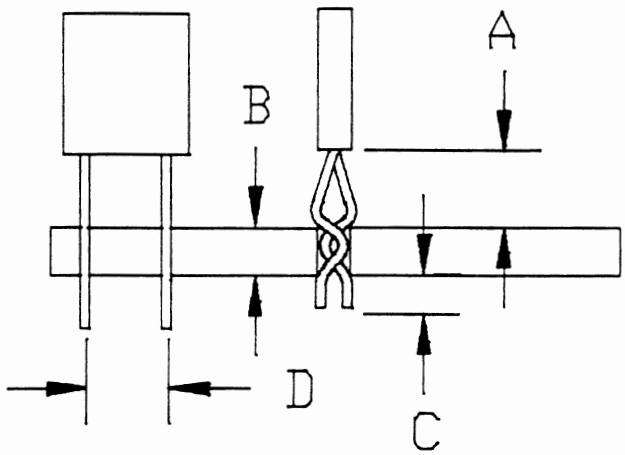
	T1/B1	T2/B2
CF-9	905-2 FORMING	905-5H KNIFE

MEASUREMENTS IN MILLIMETERS

905-2 C FORM

FORM 905-2 C PRODUCES A LOCK-IN STAND-OFF

905-2 C



2 LEADS COMPONENT

DIE:	KNIFE:	A	B	C	D	P.C.BOARD HOLE DIA.
905-2C	905-5H	.120	.062	.062	.060-.450	.030-.035
905-2CA	905-5H	.120	.062	.062	.060-.450	.035-.040
905-2CB	905-5H	.120	.062	.062	.060-.450	.040-.045

FOR LOWER STAND-OFF HEIGHT SEE 905-10 STYLE

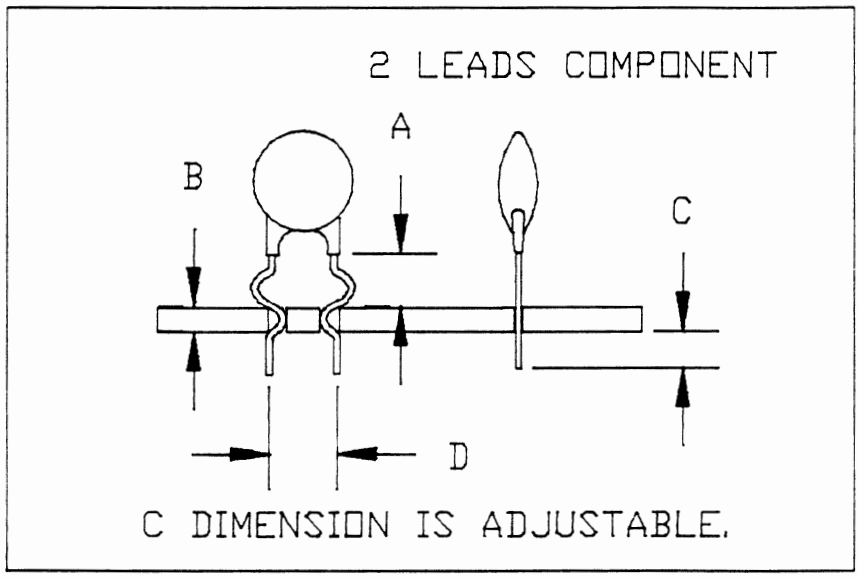
STATION:

	T1/B1	T2/B2
CF-9	905-2 FORMING	905-5H KNIFE

MEASUREMENTS IN INCHES

905-3 FORM

FORM 905-3 PRODUCES A LOCK-IN STAND-OFF CONFIGURATION.



0.76-1.02 P.C.BOARD HOLE DIA.			
DIE:	A	B	D
905-3F	3.05	1.59	2.54
905-3G	3.05	1.59	3.81
905-3H	3.05	1.59	5.08
905-3I	3.05	1.59	6.35
905-3J	3.05	1.59	7.62
905-3K	3.05	1.59	8.89
905-3L	3.05	1.59	10.16
905-5B KNIFE			

1.02-1.27 P.C.BOARD HOLE DIA.			
DIE:	A	B	D
905-3FA	3.05	1.59	2.54
905-3GA	3.05	1.59	3.81
905-3HA	3.05	1.59	5.08
905-3IA	3.05	1.59	6.35
905-3JA	3.05	1.59	7.62
905-3KA	3.05	1.59	8.89
905-3LA	3.05	1.59	10.16
905-5B KNIFE			

0.76-1.27 P.C.BOARD HOLE DIA.			
DIE:	A	B	D
905-3P	3.05	0.79	2.54
905-3Q	3.05	0.79	3.81
905-3R	3.05	0.79	5.08
905-3S	3.05	0.79	6.35
905-3T	3.05	0.79	7.62
905-3U	3.05	0.79	8.89
905-3V	3.05	0.79	10.16
905-5C KNIFE			

FOR LOWER STAND-OFF HEIGHT SEE 905-10 STYLE

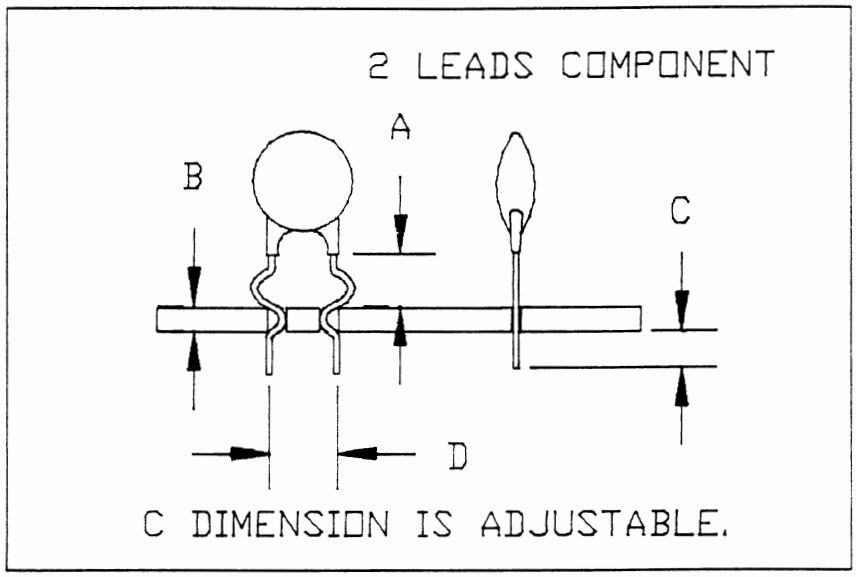
STATION:

	T1/B1	T2/B2
CF-9	905-3 FORMING	905-5(B/C) KNIFE

MEASUREMENTS IN MILLIMETERS

905-3 FORM

FORM 905-3 PRODUCES A LOCK-IN STAND-OFF CONFIGURATION.



.030-.040 P.C.BOARD HOLE DIA.			
DIE:	A	B	D
905-3F	.120	.062	.100
905-3G	.120	.062	.150
905-3H	.120	.062	.200
905-3I	.120	.062	.250
905-3J	.120	.062	.300
905-3K	.120	.062	.350
905-3L	.120	.062	.400
905-5B KNIFE			

.040-.050 P.C.BOARD HOLE DIA.			
DIE:	A	B	D
905-3FA	.120	.062	.100
905-3GA	.120	.062	.150
905-3HA	.120	.062	.200
905-3IA	.120	.062	.250
905-3JA	.120	.062	.300
905-3KA	.120	.062	.350
905-3LA	.120	.062	.400
905-5B KNIFE			

.030-.050 P.C.BOARD HOLE DIA.			
DIE:	A	B	D
905-3P	.120	.031	.100
905-3Q	.120	.031	.150
905-3R	.120	.031	.200
905-3S	.120	.031	.250
905-3T	.120	.031	.300
905-3U	.120	.031	.350
905-3V	.120	.031	.400
905-5C KNIFE			

FOR LOWER STAND-OFF HEIGHT SEE 905-10 STYLE

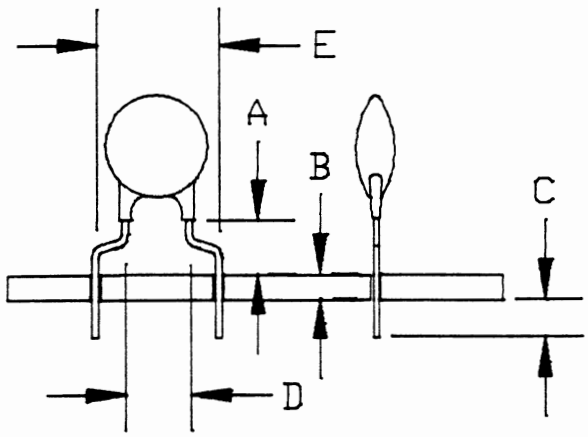
STATION:

	T1/B1	T2/B2
CF-9	905-3 FORMING	905-5(B/C) KNIFE

MEASUREMENTS IN INCHES

905-4A SPREAD FORM

FOR 0.38 - 0.64 WIRE DIAMETERS.



2 LEADS COMPONENT

A	2.29
B	1.59
C	1.59
D	2.54-10.16
E	3.81-11.43

SPREAD RANGE:

DIE#	D E	DIE#	D E	DIE#	D E
905-4AA	2.54-3.81	905-4AF	5.08-7.62	905-4AK	8.89-10.16
905-4AB	2.54-5.08	905-4AG	6.35-7.62	905-4AL	8.89-11.43
905-4AC	3.81-5.08	905-4AH	6.35-8.89	905-4AM	10.16-11.43
905-4AD	3.81-6.35	905-4AI	7.62-8.89		
905-4AE	5.08-6.35	905-4AJ	8.89-10.16		

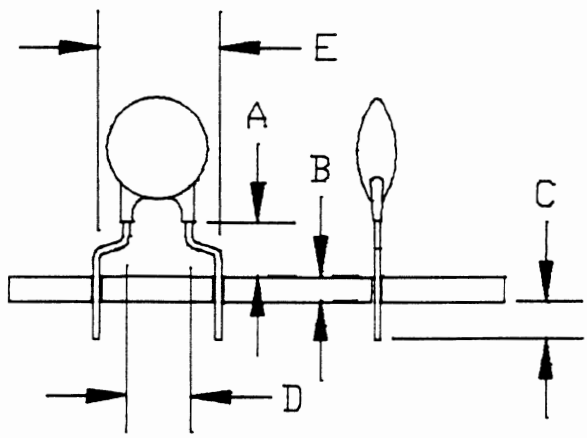
STATION:

	T1/B1	T2/B2
CF-9	905-4 FORMING	905-5C KNIFE

MEASUREMENTS IN MILLIMETERS

905-4A SPREAD FORM

FOR .015 - .025 WIRE DIAMETERS.



2 LEADS COMPONENT

A	.090
B	.062
C	.062
D	.100-.400
E	.150-.450

SPREAD RANGE:

DIE#	D E	DIE#	D E	DIE#	D E
905-4AA	.100-.150	905-4AF	.200-.300	905-4AK	.350-.400
905-4AB	.100-.200	905-4AG	.250-.300	905-4AL	.350-.450
905-4AC	.150-.200	905-4AH	.250-.350	905-4AM	.400-.450
905-4AD	.150-.250	905-4AI	.300-.350		
905-4AE	.200-.250	905-4AJ	.300-.400		

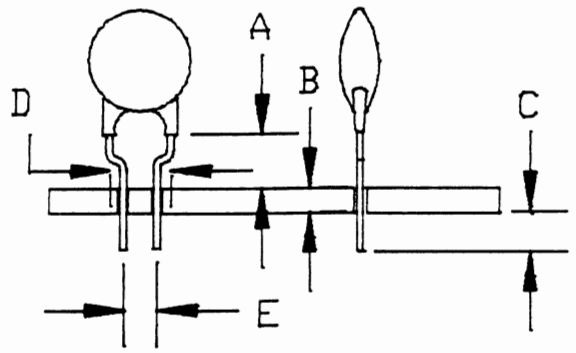
STATION:

	T1/B1	T2/B2
CF-9	905-4 FORMING	905-5C KNIFE

MEASUREMENTS IN INCHES

905-4B REDUCING FORM

FOR 0.15 - 0.64 WIRE DIAMETERS.



2 LEADS COMPONENT

A	2.29
B	1.59
C	1.59
D	3.81-12.70
E	2.54-11.43

REDUCING RANGE:

DIE#	D E	DIE#	D E	DIE#	D E
905-4BA	3.81-2.54	905-4BF	7.62-5.08	905-4BK	10.16-8.89
905- BB	5.08-2.54	905-4BG	7.62-6.35	905-4BL	11.43-8.89
905-4BC	5.08-3.81	905-4BH	8.89-6.35	905-4BM	11.43-10.16
905-4BD	6.35-3.81	905-4BI	8.89-7.62	905-4BN	12.70-10.16
905-4BE	6.35-5.08	905-4BJ	10.16-7.62	905-4BO	12.70-11.43

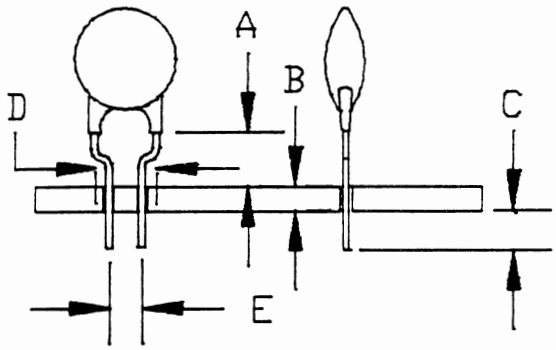
STATION:

	T1/B1	T2/B2
CF-9	905-4( ) FORMING	905-5C KNIFE

MEASUREMENTS IN MILLIMETERS

905-4B REDUCING FORM

FOR .015 - .025 WIRE DIAMETERS.



2 LEADS COMPONENT

A	.090
B	.062
C	.062
D	.100-.450
E	.150-.500

REDUCING RANGE:

DIE#	D E	DIE#	D E	DIE#	D E
905-4BA	.150-.100	905-4BF	.300-.200	905-4BK	.400-.350
905-4BB	.200-.100	905-4BG	.300-.250	905-4BL	.450-.350
905-4BC	.200-.150	905-4BH	.350-.250	905-4BM	.450-.400
905-4BD	.250-.150	905-4BI	.350-.300	905-4BN	.500-.400
905-4BE	.250-.200	905-4BJ	.400-.300	905-4B□	.500-.450

STATION:

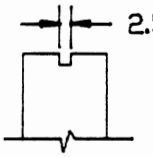
	T1/B1	T2/B2
CF-9	905-4( ) FORMING	905-5C KNIFE

MEASUREMENTS IN INCHES

KNIVES

FOR COMPONENTS WITH CENTER TO CENTER DIMENSIONS UP TO 10.16

KNIFE 905-5

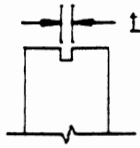


2.54 CENTER RELIEF.

KNIFE 905-5H

UNIVERSAL KNIFE.
ZERO CENTER RELIEF.

KNIFE 905-5I

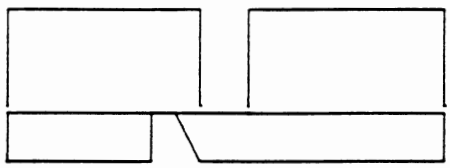


1.27 CENTER RELIEF.

905-5(A THRU FKK) FLATTENING KNIFE

SEE CHART BELOW

FLATTENING LENGTH (L)



SEE CHART FOR L DIMENSION

DIES FOR 0.64 WIRE DIA.	
DIE#	L
905-5A	5.72
905-5B	5.08
905-5C	4.45
905-5D	3.81
905-5E	3.18
905-5F	2.54

DIES FOR 0.76 WIRE DIA.	
DIE#	L
905-5AK	5.72
905-5BK	5.08
905-5CK	4.45
905-5DK	3.81
905-5EK	3.18
905-5FK	2.54

DIES FOR 0.89 WIRE DIA.	
DIE#	L
905-5AKK	5.72
905-5BKK	5.08
905-5CKK	4.45
905-5DKK	3.81
905-5EKK	3.18
905-5FKK	2.54

STATION:

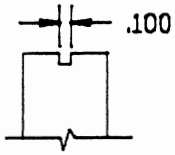
	T1/B1	T2/B2
CF-9	FORMING	KNIFE

MEASUREMENTS IN MILLIMETERS

KNIVES

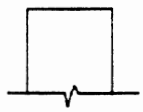
FOR COMPONENTS WITH CENTER TO CENTER DIMENSIONS UP TO .400

KNIFE 905-5



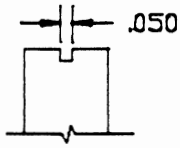
.100 CENTER RELIEF.

KNIFE 905-5H



UNIVERSAL KNIFE.
ZERO CENTER RELIEF.

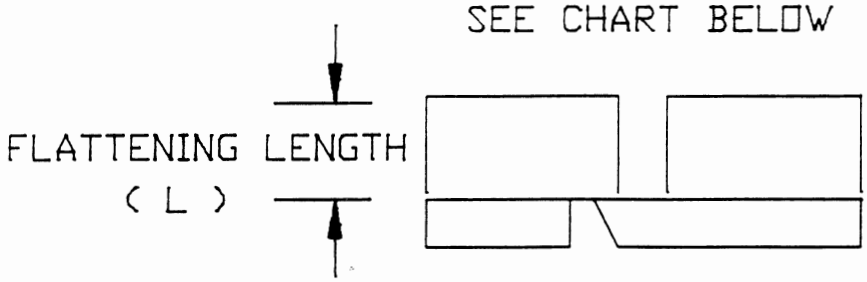
KNIFE 905-5I



.050 CENTER RELIEF.

905-5(A THRU FKK) FLATTENING KNIFE

SEE CHART BELOW



SEE CHART FOR L DIMENSION

DIES FOR .025 WIRE DIA.	
DIE#	L
905-5A	.225
905-5B	.200
905-5C	.175
905-5D	.150
905-5E	.125
905-5F	.100

DIES FOR .030 WIRE DIA.	
DIE#	L
905-5AK	.225
905-5BK	.200
905-5CK	.175
905-5DK	.150
905-5EK	.125
905-5FK	.100

DIES FOR .035 WIRE DIA.	
DIE#	L
905-5AKK	.225
905-5BKK	.200
905-5CKK	.175
905-5DKK	.150
905-5EKK	.125
905-5FKK	.100

STATION:

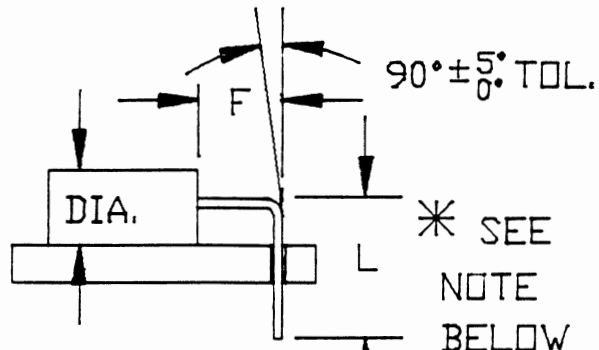
	T1/B1	T2/B2
CF-9	FORMING	KNIFE

MEASUREMENTS IN INCHES

905-7 FORM

FORM 905-7 PRODUCES A 90° ANGLE BEND CONFIGURATION.

TYPE	DIA. RANGE	L RANGE	F (MIN.)
A	1.27-4.06	SEE	2.03
B	1.27-4.98	BELOW	2.54
C	1.27-5.89	FOR	2.92
D	1.27-6.81	L RANGE	3.43



(L)	DIE #A	DIE #B	DIE #C	DIE #D
2.79	905-7AL			
3.05	905-7AM			
3.30	905-7AN	905-7BM		
3.56	905-7AO	905-7BN		
3.81	905-7AP	905-7BO	905-7CM	
4.06	905-7AQ	905-7BP	905-7CN	
4.32	905-7AR	905-7BQ	905-7CO	905-7DN
4.57	905-7AS	905-7BR	905-7CP	905-7DO
4.83	905-7AA	905-7BS	905-7CQ	905-7DP
5.08	905-7AB	905-7BA	905-7CR	905-7DQ
5.33	905-7AC	905-7BB	905-7CS	905-7DR
5.59	905-7AD	905-7BC	905-7CA	905-7DS
5.84	905-7AE	905-7BD	905-7CB	905-7DA
6.10	905-7AF	905-7BE	905-7CC	905-7DB
6.35	905-7AG	905-7BF	905-7CD	905-7DC
6.60	905-7AH	905-7BG	905-7CE	905-7DD
6.86	905-7AI	905-7BH	905-7CF	905-7DE
7.11	905-7AJ	905-7BI	905-7CG	905-7DF
7.37	905-7AK	905-7BJ	905-7CH	905-7DG
7.62		905-7BK	905-7CI	905-7DH
7.87			905-7CJ	905-7DI
8.13				905-7DJ

* DIES BELOW LINE REQUIRE LONGER TAPING SPECIFICATIONS.

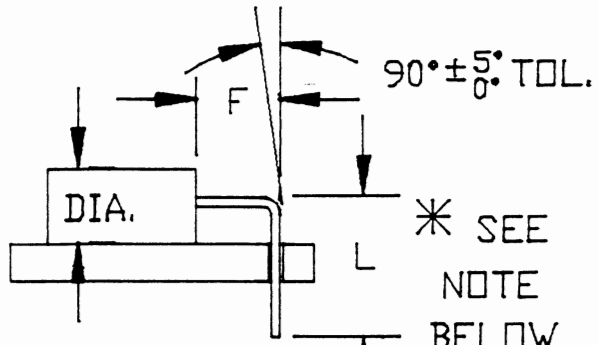
PLACE IN STATIONS T2 AND B2 ON CF-9

MEASUREMENTS IN MILLIMETERS

905-7 FORM

FORM 905-7 PRODUCES A 90° ANGLE BEND CONFIGURATION.

TYPE	DIA. RANGE	L RANGE	F (MIN.)
A	.050-.160	SEE	.080
B	.050-.196	BELOW	.100
C	.050-.232	FOR	.115
D	.050-.268	L RANGE	.135



(L)	DIE #A	DIE #B	DIE #C	DIE #D
.110	905-7AL			
.120	905-7AM			
.130	905-7AN	905-7BM		
.140	905-7AO	905-7BN		
.150	905-7AP	905-7BO	905-7CM	
.160	905-7AQ	905-7BP	905-7CN	
.170	905-7AR	905-7BQ	905-7CO	905-7DN
.180	905-7AS	905-7BR	905-7CP	905-7DO
.190	905-7AA	905-7BS	905-7CQ	905-7DP
.200	905-7AB	905-7BA	905-7CR	905-7DQ
.210	905-7AC	905-7BB	905-7CS	905-7DR
.220	905-7AD	905-7BC	905-7CA	905-7DS
.230	905-7AE	905-7BD	905-7CB	905-7DA
.240	905-7AF	905-7BE	905-7CC	905-7DB
.250	905-7AG	905-7BF	905-7CD	905-7DC
.260	905-7AH	905-7BG	905-7CE	905-7DD
.270	905-7AI	905-7BH	905-7CF	905-7DE
.280	905-7AJ	905-7BI	905-7CG	905-7DF
.290	905-7AK	905-7BJ	905-7CH	905-7DG
.300		905-7BK	905-7CI	905-7DH
.310			905-7CJ	905-7DI
.320				905-7DJ

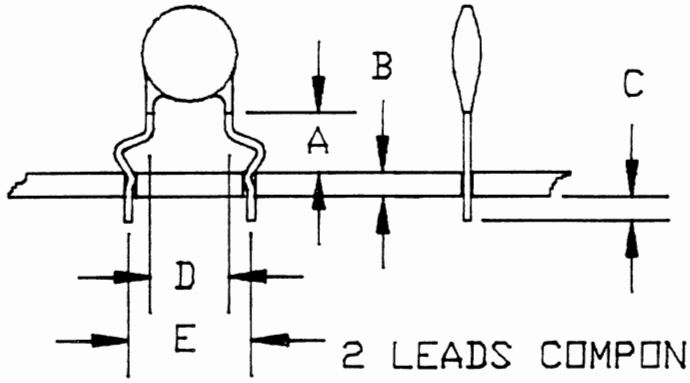
* DIES BELOW LINE REQUIRE LONGER TAPING SPECIFICATIONS.

PLACE IN STATIONS T2 AND B2 ON CF-9

MEASUREMENTS IN INCHES

905-8A SPREAD FORM

(WITH LOCK-IN STAND-OFF)
FOR 0.38-0.64 WIRE DIA.



A	3.81
B	1.59 (A-I)
B	0.76 (J-S)
C	3.81

FOR 1.59 P.C.BOARD

P.C.BOARD HOLE DIAMETER			
0.76-1.02	1.02-1.27	D	E
905-8A A	905-8A AA	2.54	3.81
905-8A B	905-8A BA	3.81	5.08
905-8A C	905-8A CA	5.08	6.35
905-8A D	905-8A DA	6.35	7.62
905-8A E	905-8A EA	7.62	8.89
905-8A F	905-8A FA	2.54	5.08
905-8A G	905-8A GA	3.81	6.35
905-8A H	905-8A HA	5.08	7.62
905-8A I	905-8A IA	6.35	8.89

KNIFE 905-5A

FOR 0.79 P.C.BOARD

P.C.BOARD HOLE DIAMETER			
0.76-1.02	1.02-1.27	D	E
905-8A J	905-8A JA	2.54	3.81
905-8A K	905-8A KA	3.81	5.08
905-8A L	905-8A LA	5.08	6.35
905-8A M	905-8A MA	6.35	7.62
905-8A N	905-8A NA	7.62	8.89
905-8A P	905-8A PA	2.54	5.08
905-8A Q	905-8A QA	3.81	6.35
905-8A R	905-8A RA	5.08	7.62
905-8A S	905-8A SA	6.35	8.89

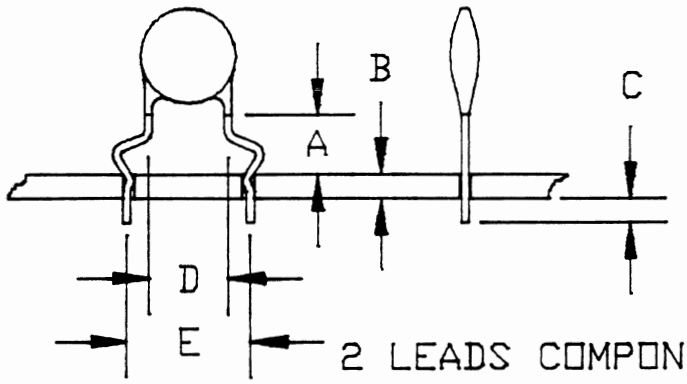
KNIFE 905-5B

MEASUREMENTS IN MILLIMETERS

PLACE IN STATIONS T1 AND B1 ON CF-9

905-8A SPREAD FORM

(WITH LOCK-IN STAND-OFF)
FOR .015-.025 WIRE DIA.



A	.150
B	.062 (A-I)
B	.031 (J-S)
C	.062

PLACE IN STATIONS T1 AND B1 ON CF-9

MEASUREMENTS IN INCHES

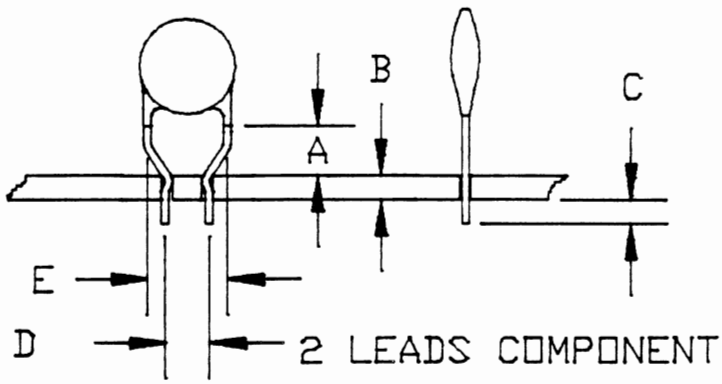
FOR .062 P.C.BOARD	P.C.BOARD HOLE DIAMETER				KNIFE 905-5A
	.030-.040	.040-.050	D	E	
	905-8A A	905-8A AA	.100	.150	
	905-8A B	905-8A BA	.150	.200	
	905-8A C	905-8A CA	.200	.250	
	905-8A D	905-8A DA	.250	.300	
	905-8A E	905-8A EA	.300	.350	
	905-8A F	905-8A FA	.100	.200	
	905-8A G	905-8A GA	.150	.250	
	905-8A H	905-8A HA	.200	.300	
	905-8A I	905-8A IA	.250	.350	

FOR .031 P.C.BOARD	P.C.BOARD HOLE DIAMETER				KNIFE 905-5B
	.030-.040	.040-.050	D	E	
	905-8A J	905-8A JA	.100	.150	
	905-8A K	905-8A KA	.150	.200	
	905-8A L	905-8A LA	.200	.250	
	905-8A M	905-8A MA	.250	.300	
	905-8A N	905-8A NA	.300	.350	
	905-8A P	905-8A PA	.100	.200	
	905-8A Q	905-8A QA	.150	.250	
	905-8A R	905-8A RA	.200	.300	
	905-8A S	905-8A SA	.250	.350	

905-8B REDUCING FORM

(WITH LOCK-IN STAND-OFF)

FOR 0.38-0.64 WIRE DIA.



A	3.18
B	1.59 (A-I)
B	0.79 (J-S)
C	1.59

MEASUREMENTS IN MILLIMETERS

PLACE IN STATION T1 AND B1 ON CF-9

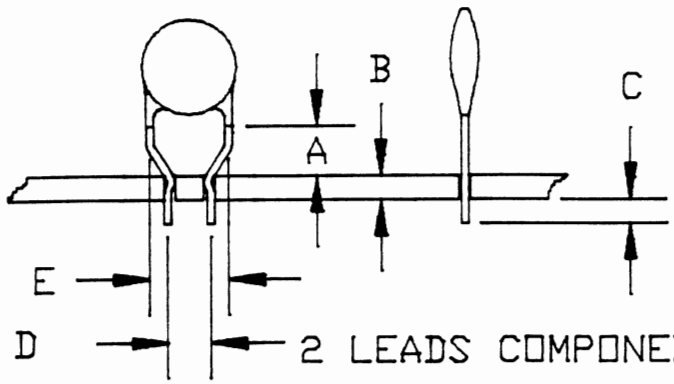
FOR 1.59 P.C.BOARD	P.C.BOARD HOLE DIAMETER			KNIFE 905-5C
	0.76-1.02	1.02-1.27	D E	
	905-8B A	905-8B AA	2.54 - 3.81	
	905-8B B	905-8B BA	3.81 - 5.08	
	905-8B C	905-8B CA	5.08 - 6.35	
	905-8B D	905-8B DA	6.35 - 7.62	
	905-8B E	905-8B EA	7.62 - 8.89	
	905-8B F	905-8B FA	2.54 - 5.08	
	905-8B G	905-8B GA	3.81 - 6.35	
	905-8B H	905-8B HA	5.08 - 7.62	
	905-8B I	905-8B IA	6.35 - 8.89	

FOR 0.79 P.C.BOARD	P.C.BOARD HOLE DIAMETER			KNIFE 905-5D
	0.76-1.02	1.02-1.27	D E	
	905-8B J	905-8B JA	2.54 - 3.81	
	905-8B K	905-8B KA	3.81 - 5.08	
	905-8B L	905-8B LA	5.08 - 6.35	
	905-8B M	905-8B MA	6.35 - 7.62	
	905-8B N	905-8B NA	7.62 - 8.89	
	905-8B P	905-8B PA	2.54 - 5.08	
	905-8B Q	905-8B QA	3.81 - 6.35	
	905-8B R	905-8B RA	5.08 - 7.62	
	905-8B S	905-8B SA	6.35 - 8.89	

905-8B REDUCING FORM

(WITH LOCK-IN STAND-OFF)

FOR .015-.025 WIRE DIA.



A	.125
B	.062 (A-I)
B	.031 (J-S)
C	.062

PLACE IN STATION T1 AND B1 ON CF-9

FOR .062 P.C.BOARD	P.C.BOARD HOLE DIAMETER			KNIFE 905-5C
	.030-.040	.040-.050	D E	
	905-8B A	905-8B AA	.100 - .150	
	905-8B B	905-8B BA	.150 - .200	
	905-8B C	905-8B CA	.200 - .250	
	905-8B D	905-8B DA	.250 - .300	
	905-8B E	905-8B EA	.300 - .350	
	905-8B F	905-8B FA	.100 - .200	
	905-8B G	905-8B GA	.150 - .250	
	905-8B H	905-8B HA	.200 - .300	
	905-8B I	905-8B IA	.250 - .350	

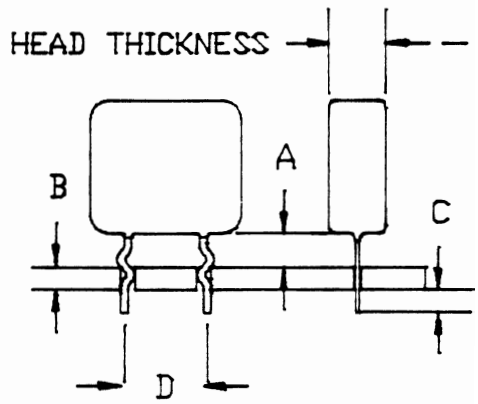
FOR .031 P.C.BOARD	P.C.BOARD HOLE DIAMETER			KNIFE 905-5D
	.030-.040	.040-.050	D E	
	905-8B J	905-8B JA	.100 - .150	
	905-8B K	905-8B KA	.150 - .200	
	905-8B L	905-8B LA	.200 - .250	
	905-8B M	905-8B MA	.250 - .300	
	905-8B N	905-8B NA	.300 - .350	
	905-8B P	905-8B PA	.100 - .200	
	905-8B Q	905-8B QA	.150 - .250	
	905-8B R	905-8B RA	.200 - .300	
	905-8B S	905-8B SA	.250 - .350	

MEASUREMENTS IN INCHES

1: FOR HEAD THICKNESS OF 1.27 -3.81
2: FOR HEAD THICKNESS OF 2.54 -5.08

905-10 FORM

STAND-OFF LOCK-IN



MEASUREMENTS IN MILLIMETERS

WIRE DIAMETERS UP TO 0.64	P.C.BOARD HOLE DIA.		
	0.76-1.02	1.02-1.27	D
	905-10 A - (1 OR 2)	905-10AA- (1 OR 2)	2.54
	905-10 B - (1 OR 2)	905-10BA- (1 OR 2)	3.81
	905-10 C - (1 OR 2)	905-10CA- (1 OR 2)	5.08
	905-10 D - (1 OR 2)	905-10DA- (1 OR 2)	6.35
	905-10 E - (1 OR 2)	905-10EA- (1 OR 2)	7.62
	905-10 F - (1 OR 2)	905-10FA- (1 OR 2)	8.89
	905-10 G - (1 OR 2)	905-10GA- (1 OR 2)	10.16

WIRE DIAMETERS 0.64-0.89	P.C.BOARD HOLE DIA.		
	1.02-1.27	1.27-.060	D
	905-10M - (1 OR 2)	905-10MA- (1 OR 2)	2.54
	905-10N - (1 OR 2)	905-10NA- (1 OR 2)	3.81
	905-10O - (1 OR 2)	905-10OA- (1 OR 2)	5.08
	905-10P - (1 OR 2)	905-10PA- (1 OR 2)	6.35
	905-10Q - (1 OR 2)	905-10QA- (1 OR 2)	7.62
	905-10R - (1 OR 2)	905-10RA- (1 OR 2)	8.89
	905-10S - (1 OR 2)	905-10SA- (1 OR 2)	10.16

DIM.	WIRE DIAMETER 0.64	0.64-0.89
A	2.29	.125
B	1.59	1.59
C	1.59	1.59
D	SEE CHART	SEE CHART

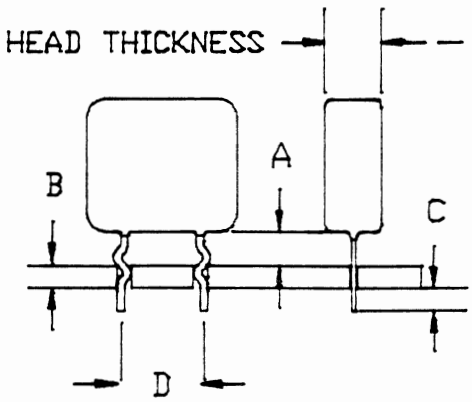
WIRE DIA.	KNIFE
0.64	905-5D
0.76	905-5CK
0.89	905-5CKK

PLACE IN STATIONS
T1 AND B1 ON CF-9

1: FOR HEAD THICKNESS OF .050 -.150
2: FOR HEAD THICKNESS OF .100 -.200

905-10 FORM

STAND-OFF LOCK-IN



MEASUREMENTS IN INCHES

WIRE DIAMETERS UP TO .025

P.C.BOARD HOLE DIA.		
.030-.040	.040-.050	D
905-10 A - (1 OR 2)	905-10AA- (1 OR 2)	.100
905-10 B - (1 OR 2)	905-10BA- (1 OR 2)	.150
905-10 C - (1 OR 2)	905-10CA- (1 OR 2)	.200
905-10 D - (1 OR 2)	905-10DA- (1 OR 2)	.250
905-10 E - (1 OR 2)	905-10EA- (1 OR 2)	.300
905-10 F - (1 OR 2)	905-10FA- (1 OR 2)	.350
905-10 G - (1 OR 2)	905-10GA- (1 OR 2)	.400

WIRE DIAMETERS .025-.035

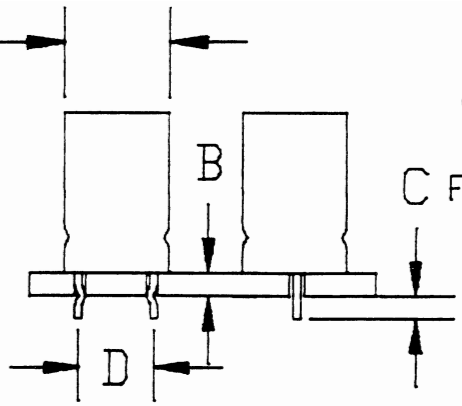
P.C.BOARD HOLE DIA.		
.040-.050	.050-.060	D
905-10M - (1 OR 2)	905-10MA- (1 OR 2)	.100
905-10N - (1 OR 2)	905-10NA- (1 OR 2)	.150
905-10O - (1 OR 2)	905-10OA- (1 OR 2)	.200
905-10P - (1 OR 2)	905-10PA- (1 OR 2)	.250
905-10Q - (1 OR 2)	905-10QA- (1 OR 2)	.300
905-10R - (1 OR 2)	905-10RA- (1 OR 2)	.350
905-10S - (1 OR 2)	905-10SA- (1 OR 2)	.400

DIM.	WIRE DIAMETER .025	.025-.035
A	.090	.125
B	.062	.062
C	.062	.062
D	SEE CHART	SEE CHART

WIRE DIA.	KNIFE
.025	905-5D
.030	905-5CK
.035	905-5CKK

PLACE IN STATIONS
T1 AND B1 ON CF-9

16.51 MAX. DIA.



905-11 FORM
905-11B FORM

C FLUSH MOUNT LOCK-IN

B	1.59
C	1.59
D	SEE CHART

MEASUREMENTS IN MILLIMETERS

WIRE DIAMETERS UP TO 0.64

P.C.BOARD HOLE DIAMETER				
0.51-0.64	0.64-0.89	0.89-1.02	1.02-1.27	D
905-11-10 A	905-11-10 B	905-11-10 C	905-11-10 D	2.54
905-11-15 A	905-11-15 B	905-11-15 C	905-11-15 D	3.81
905-11-20 A	905-11-20 B	905-11-20 C	905-11-20 D	5.08
905-11-25 A	905-11-25 B	905-11-25 C	905-11-25 D	6.35
905-11-30 A	905-11-30 B	905-11-30 C	905-11-30 D	7.62
905-11-35A	905-11-35 B	905-11-35 C	905-11-35 D	8.89
905-11-40 A	905-11-40 B	905-11-40 C	905-11-40 D	10.16

KNIFE 905-5F

COMPONENTS NEED A FLAT BASE FOR FLUSH MOUNTING.

WIRE DIAMETERS 0.64-0.89

P.C.BOARD HOLE DIAMETER				
0.76-0.89	0.89-1.14	1.02-1.27	1.27-1.52	D
905-11B-10 A	905-11B-10 B	905-11B-10 C	905-11B-10 D	2.54
905-11B-15 A	905-11B-15 B	905-11B-15C	905-11B-15 D	3.81
905-11B-20 A	905-11B-20 B	905-11B-20C	905-11B-20 D	5.08
905-11B-25 A	905-11B-25 B	905-11B-25 C	905-11B-25 D	6.35
905-11B-30 A	905-11B-30 B	905-11B-30 C	905-11B-30 D	7.62
905-11B-35A	905-11B-35 B	905-11B-35 C	905-11B-35 D	8.89
905-11B-40 A	905-11B-40 B	905-11B-40 C	905-11B-40 D	10.16

KNIFE 905-5FK / 0.76 WIRE

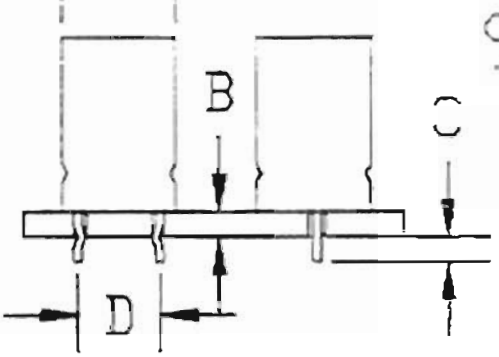
KNIFE 905-5FKK / 0.89 WIRE

PLACE IN STATIONS T1 AND B1 ON CF-9

905-11 FORM
905-11B FORM

FLUSH MOUNT LOCK-IN

.650 MAX. DIA.



B	.062
C	.062
D	SEE CHART

WIRE DIAMETERS UP TO .025

P.C.BOARD HOLE DIAMETER				
.020-.025	.025-.035	.035-.040	.040-.050	D
905-11-10 A	905-11-10 B	905-11-10C	905-11-10 D	.100
905-11-15 A	905-11-15 B	905-11-15C	905-11-15 D	.150
905-11-20 A	905-11-20 B	905-11-20C	905-11-20 D	.200
905-11-25 A	905-11-25 B	905-11-25C	905-11-25 D	.250
905-11-30 A	905-11-30 B	905-11-30C	905-11-30 D	.300
905-11-35A	905-11-35 B	905-11-35C	905-11-35 D	.350
905-11-40 A	905-11-40 B	905-11-40 C	905-11-40 D	.400

KNIFE 905-5F

COMPONENTS NEED A FLAT BASE FOR FLUSH MOUNTING.

WIRE DIAMETERS .030-.035

P.C.BOARD HOLE DIAMETER				
.030-.035	.035-.045	.040-.050	.050-.060	D
905-11B-10 A	905-11B-10 B	905-11B-10 C	905-11B-10 D	.100
905-11B-15 A	905-11B-15 B	905-11B-15C	905-11B-15 D	.150
905-11B-20 A	905-11B-20 B	905-11B-20C	905-11B-20 D	.200
905-11B-25 A	905-11B-25 B	905-11B-25 C	905-11B-25 D	.250
905-11B-30 A	905-11B-30 B	905-11B-30 C	905-11B-30 D	.300
905-11B-35A	905-11B-35 B	905-11B-35C	905-11B-35 D	.350
905-11B-40 A	905-11B-40 B	905-11B-40 C	905-11B-40 D	.400

KNIFE 905-5FK / .030 WIRE

KNIFE 905-5FKK / .035 WIRE

MEASUREMENTS IN INCHES

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PLACE IN STATIONS T1 AND B1 ON CF-9

Revised 06/12/07

CF-9 Setup Sheet

Component Part Number: _____

Part Description: _____

1. Set machine speed to zero (0).
2. Install dies as shown below.
3. Adjust die stations to digital settings shown below.
4. Manually turn machine to check alignment of dies.
5. Install ejector bracket if required.
6. Load parts.
7. Manually turn machine until first part exits machine.
8. Check component for proper form.
9. Fine tune digital settings for proper form as required.
10. Start machine.
11. Adjust machine speed to _____ .