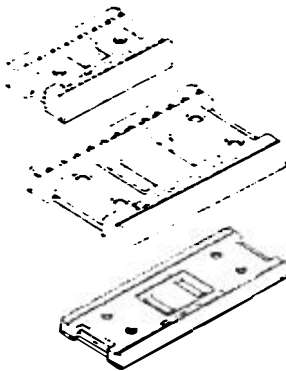


Scotchflex 3303 Breadboard Kit Assembly Instructions

Basic Breadboard Kit Without P.C. Board		
3M Part Number	Description	Quantity
3303-0000	3370-1000 Dual Socket (16 position)	12
	3374-1000 Dual Socket (24 position)	8
	3375-1000 Dual Socket (40 position)	4
	3397-1240 Plug Strip (24 contact)	24
	3397-0240 Solder Strip (24 contact)	16
	3522 Insertion Tool	1
	3527 Universal Breadboard Tool	1
	3369-1000 Break-off Tool	1
	3567 25 ft. of 30 AWG Solid, Insulated Wire	1

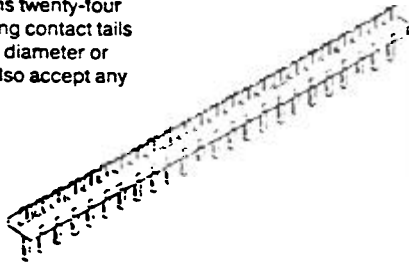
24 Dual Sockets

These contain 16, 24, or 40 contacts, each of which will accept a DIP leg from the top and a plug strip tail from below. The Dual Socket provides interface between a dual in-line I/C and discrete-wiring contacts. (Also available in 8, 14, 18, 20, 22, and 28 positions.)



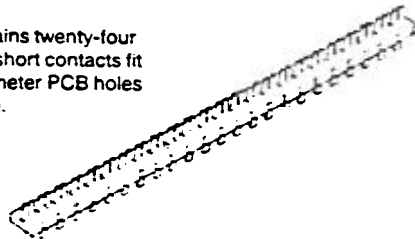
24 Plug Strips

Each of these strips contains twenty-four 2-wire "U" contacts. The long contact tails fit through .035" (0.89 mm) diameter or larger PCB holes and will also accept any of the Dual Sockets for DIP connection.



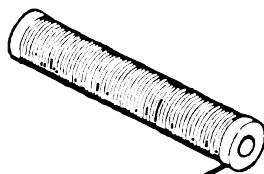
16 Solder Strips

Each of these strips contains twenty-four 2-wire "U" contacts. The short contacts fit into .035" (0.89 mm) diameter PCB holes and are soldered in place.



3567 Wire Spool

25 ft. of 30 AWG Solid Kynar[®], Insulated Wire (random colors) for insertion using the 3522 Insertion Tool. No stripping is required.



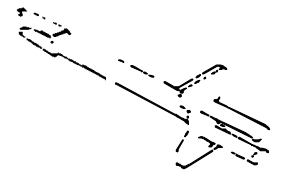
3522 Insertion Tool

One end of this 3522 Insertion Tool is used to insert wire into "U" contacts. The other end simplifies insertion of Plug Strips into PC boards.



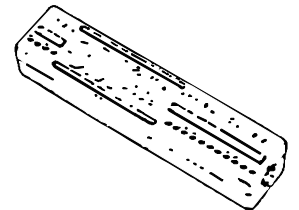
3527 Universal Breadboard Tool

This device lets you extract dual sockets easily and also insert or remove plug strips without depressing or bending contacts.



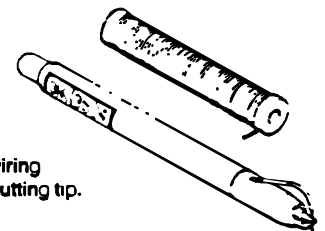
3369-1000 Break-Off Tool

Used to break Solder or Plug Strips to any desired length up to 12 positions.



Optional 3524 Insertion Tool and 3567 Wire Spool

This deluxe tool provides fast interconnection throughout wiring network with self-contained cutting tip. Wire spool is easily replaced.



Breadboard Kit With P.C. Board	
3M Part Number	Description
3303-1000	P.C. Board compatible with the Intel SBC-8010* plus all items of the basic kit listed above.
3303-2000	P.C. Board compatible with the Motorola M-6800 Exorciser* plus all items of the basic kit listed above.
3303-3000	P.C. Board compatible with the S-100 plus all items of the basic kit listed above.
3303-4000	P.C. Board compatible with the Zilog Z-80* plus all items of the basic kit listed above.
3303-5000	P.C. Board — single Eurocard format — plus all items of the basic kit listed above.

*SBC-8010 is a trademark of Intel Corp.
M-6800 Exorciser is a trademark of Motorola.
Z-80 is a trademark of Zilog, Inc.
Kynar is a registered trademark of Pennwalt Corp.

Wiring Instruction Using 3522 Wire Insertion Tool

1. Position wire over desired contact slot.
2. Orient 3522 Wire Insertion Tool over conductor and contact (deep slot is at right angles to the wire). (Figure 4)
3. Hold the tool perpendicular to the board and push the tool down. The conductor is seated within the contact slot. It is essential that the conductor and tool are properly aligned with the contact before inserting the wire. Failure to do so could result in knicked or even sheared conductors. Learn to feel, as well as see, when the conductor and tool are properly aligned with the contact.
4. Route wire to next contact. Do not pull wire taut. Leave slack in all wire runs.
5. Repeat the above steps as required.
6. When end of network is reached, trim wire with wire cutter, leave an approximately $\frac{1}{16}$ " tail.
7. A second wire may be installed in a contact by repeating all above steps.

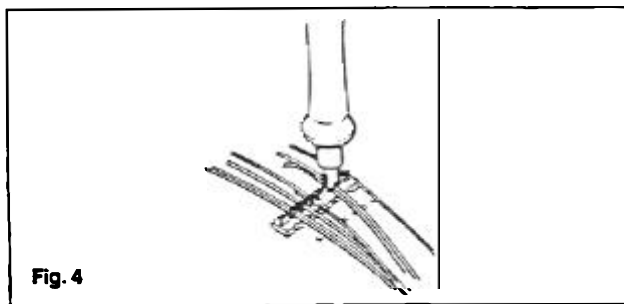


Fig. 4

Note:

Do not route wire over contacts which are not being terminated. Route wire between contacts and contact strips.

Dual Socket Removal

1. For sockets 3356, 3370, 3398, 3392, and 3363 depress tongs of 3527 Tool and insert into body port. (Figure 5)
2. Pull tool straight away from the board.
3. Release tool from socket.
4. For sockets 3374, 3388, and 3375 insert opposite end of 3527 tool into body ports.
5. Depress tongs and pull tool straight away from board.
6. Release tool from socket.
7. For socket 3345 pry body from board.

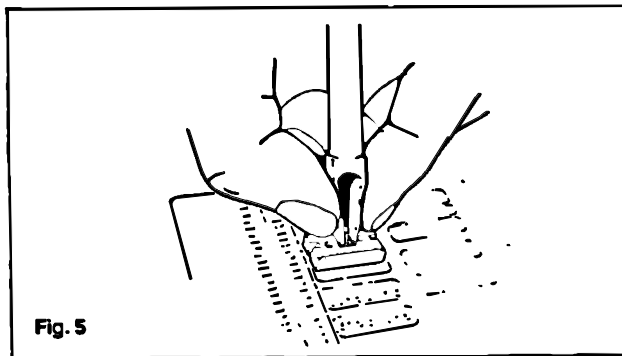


Fig. 5

Plug Strip Removal

1. Place shallow slotted end of 3527 tool over Plug Strip contacts. (Figure 6)
2. Firmly push the tool down, forcing the Plug Strip from the board.

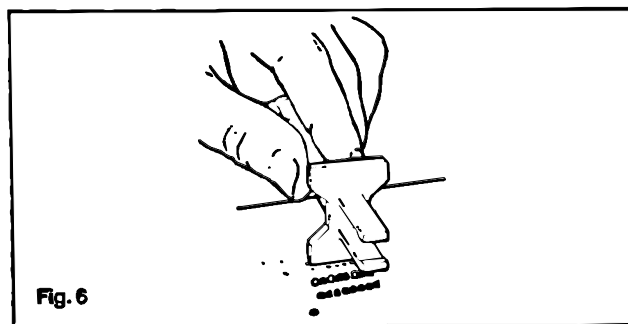


Fig. 6

Wiring Instruction Using Optional 3524 Wire Insertion Tool

The 3524 may be used with the 3567 self-contained spool or in the overhead wire feed mode to implement a large spool of wire. (See instructions below.)

1. Insure wire extends from wire feeder a minimum of $\frac{1}{4}$ " and runs within the insertion tip slot.
2. Insert wire in desired contact slots by following the procedures and precautions outlined in the use of 3522 tool. (Figure 7)

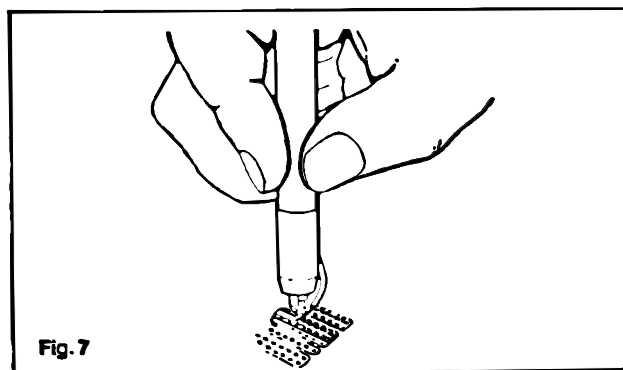


Fig. 7

General

The Scotchflex Breadboard Kit 3303 is a reusable wiring kit for electronic prototyping. Components are designed for efficient handling and installation.

Use only 3M Insertion Tools 3522 and 3524 for wire installation.

Use only 30 AWG solid copper wire, .004" to .005" insulation thickness.

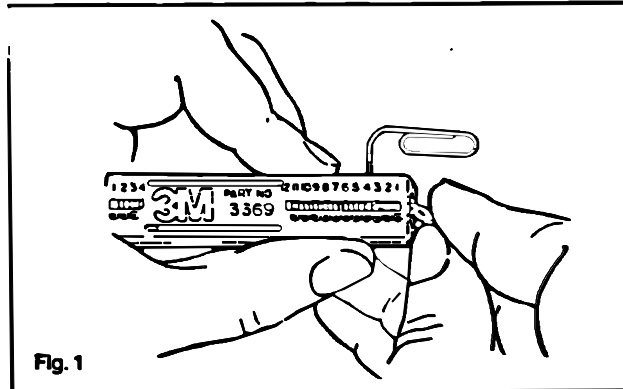
Board layout should be chosen to minimize the following:

- the length of conductor between contact points.
- the number of two-wire terminations.
- the number of conductors requiring complex bends and routing.

These simple instructions are offered as a reference.

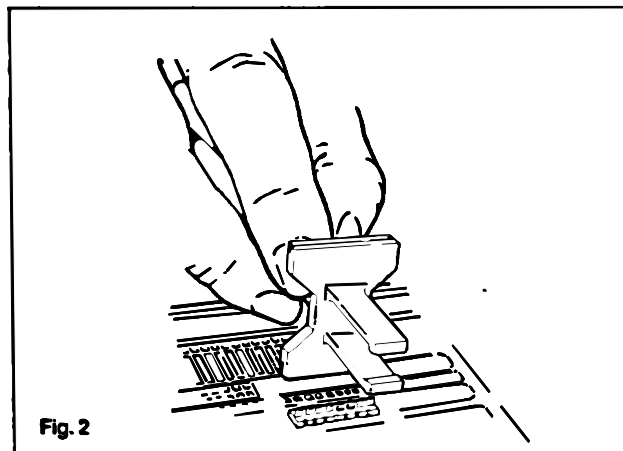
Separation of Plug or Solder Strips

1. Insert Plug or Solder Strip into port of Break-Off Tool 3369-1000 to the number of positions desired. "U" contact side of strip should be closest to numbered side of tool. A small rod (paper clip) may be inserted from the top as a jig. (Figure 1)
2. Snap Plug Strip or Solder Strip at the score.



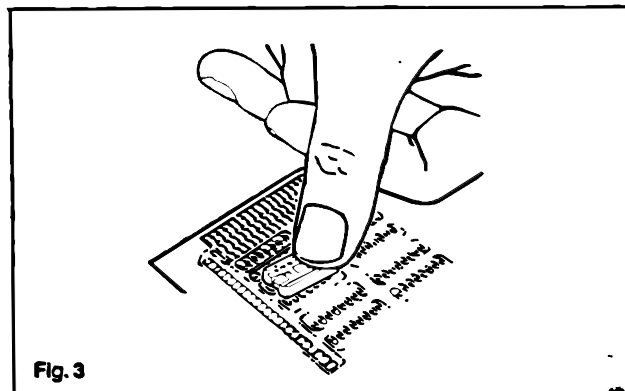
Installation of Plug and Solder Strips

1. Locate Plug Strip or Solder Strip on back side of board.
2. Seat Plug Strip or Solder Strip with deeply slotted end of 3527 Universe Breadboard tool. (Figure 2) (Plug strips do not make a reliable electrical connection to the PCB traces. Use solder strips for this purpose).



Dual Socket Installation

1. Turn board over and place on firm flat surface.
2. Orient Dual Socket over Plug Strip contacts I.C. side up.
3. Push Dual Sockets onto contacts with thumb or finger. (Figure 3)
4. Turn board over and seat Plug Strip into Dual Socket with deeply slotted end of 3527 tool. (Figure 2)



3. Take extra care to leave slack in all wire runs.
4. When end of network is reached, lift tool and position blade over wire.
5. Firmly depress cut-off button, severing conductor between blade and PC board. Take care not to damage other conductors or PC board traces. (Figure 8)
6. A second wire may be installed in a contact by repeating the above steps.

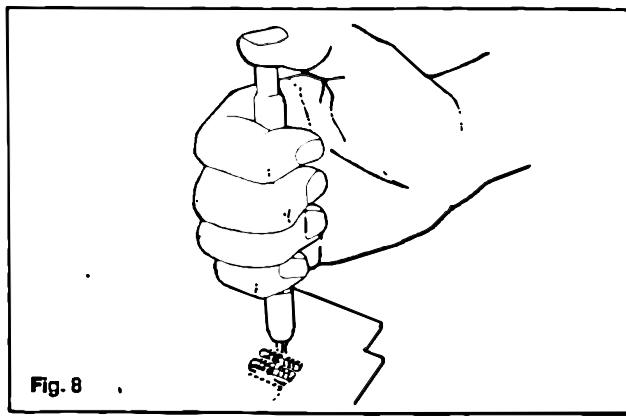


Fig. 8

Instruction 3524 Wire Insertion Tool Spool Replacement (3567 Wire Spool)

1. Unscrew threaded barrel from Insertion Tool Assembly (Figure 9).
2. Unscrew wire cut-off pushbutton.
3. Remove spring, washer and spent Wire Spool.
4. Install a filled 3567 Wire Spool.
5. Insert wire into wire entry port and push through wire feeder.
6. Replace washer and spring.
7. Replace wire cut-off pushbutton.
8. Replace Insertion Tool barrel.

Instruction 3524 Wire Insertion Tool Overhead Wire Feed (Bulk Wire Reel)

1. Unscrew threaded barrel from Insertion Tool Assembly (Figure 9).
2. Feed 30 AWG solid wrap wire through Insertion Tool barrel by running wire through the top entry port in the cut-off pushbutton, through the barrel, and through the wire feeder.

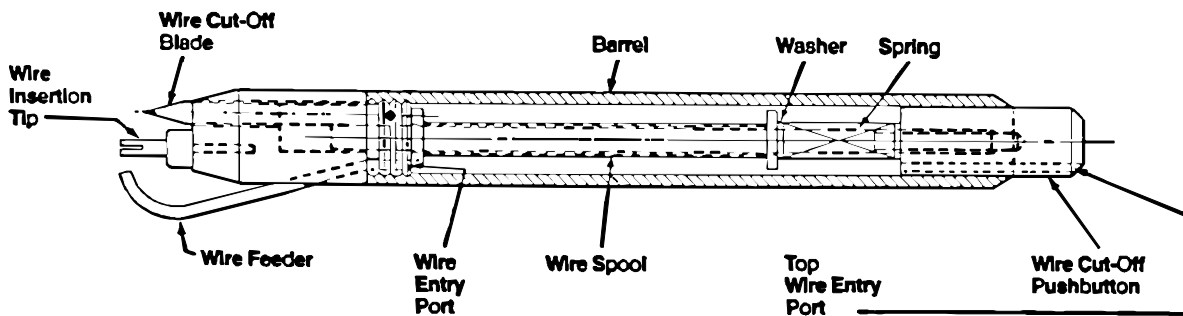


Fig. 9

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