



Mercedes-Benz

**star bulletin**



**Service**

Date: November 2001

Order No.: P-B-58.20/118

Supersedes:

Group: 58

**SUBJECT: MODELS 124, 129, 140, 170, 202, 203, 208, 210, 215, 220  
WIRING HARNESS REPAIR KIT**

DaimlerChrysler AG authorized specific methods of repairing wiring harnesses on the above listed models with the introduction of the wiring harness repair kit (Figures 1 and 2) — tool number: 220 589 01 99 00. Instructions on approved general and specified methods of wiring harness repairs can be found in WIS under document numbers: AR00.19-P-0100A, "Wiring harness general repair methods" and AR00.19-P-0001A, "Repairing wiring harness according to specified repair method." Wiring harness repairs properly performed on the above-indicated models, in accordance with the approved repair methods, approved tools, equipment and materials, are authorized repairs that will not adversely affect the new vehicle warranty coverage.

Note: Warranty returns must include a warranty parts return slip with a detailed description<sup>1)</sup> of the cause of failure and the **area of damage clearly marked on the wiring harness**.

<sup>1)</sup>e.g. Line from engine electronics (ME) control module N3/10, connector E, pin 45 to hot film air flow sensor B2/5, pin 1 interruption of circuit.



**Figure 1**

P58.20-2002-11

This bulletin has been created and maintained in accordance with MBNA-SLP 5.1, Document and Data Control, and MBNA-SLP 16.1, Control of Quality Records.

Approved wiring harness repair methods include:

1. Crimping
2. Soldering connections (Raychem)
3. Soldering coaxial connections (Raychem)
4. Raychem with cable splice
5. Self-cutting connector technique

Note: Each case must be individually analyzed to determine which repair method (i.e. wires, contacts and plugged connections) should be used.



Figure 2

P58.20-2003-05

The following repair components are included in the wiring harness repair kit (Figure 3):

1. Crimp contact
2. Raychem / cable splice repair method
3. Self-cutting connector technique (cable connector)

#### **Crimp contact**

All currently approved contacts for the crimping repair method are included in the kit.

#### **Raychem / cable splice repair method**

The kit contains both soldered coaxial connectors and connectors for line repairs with a single wire cross-sectional area of up to 6 mm<sup>2</sup>.

#### **Self-cutting connector technique ( cable connector)**

The kit contains 2-, 4-, and 6-way cable connectors and 10-way potential distributors.

Note: Cable splices (repair wires with crimped-on contacts) are not included in the kit and must be ordered separately.

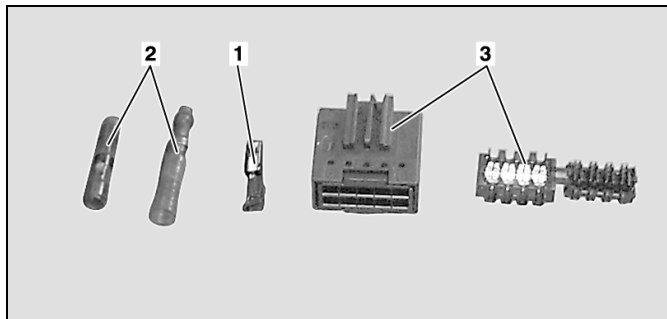


Figure 3

P58.20-2004-10

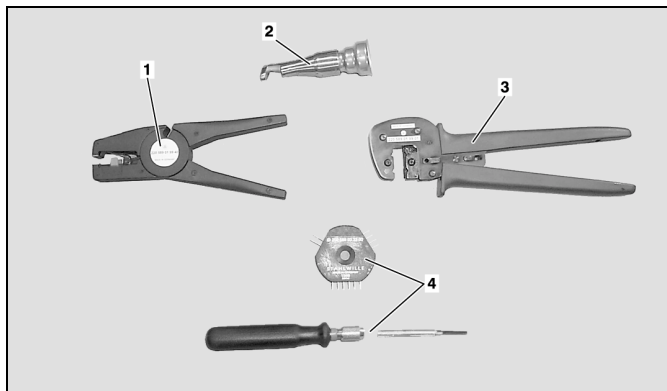


Figure 4

P58.20-2005-05

A special hot air gun is necessary to maintain a constant temperature of approximately 400°C<sup>1)</sup> during the end solder cup heating process. Heat guns without a temperature control and preset function are unsuitable to perform the aforementioned. The soldering reflector with adapter included in the kit is designed for use with the heat gun: HL 2005 E or HL 1802 E.

<sup>1)</sup>The HL 2005 E reaches a heating temperature of 400°C by sliding the red temperature selector to the center marking. The HL 1802 E reaches a heating temperature of 400°C at the recommended dial setting of 13-14. Note that exact settings must be determined by dealer technicians using a thermocouple to verify the temperature has been reached.

The following repair tools are included in the wiring harness repair kit (Figure 4):

1. Wire stripper
2. Hot air blower mount and adapter
3. Crimper and crimping plates
4. Release tools

**Wire stripper**

For wire insulation removal.

**Hot air gun mount and adapter**

For Raychem repair use.

Note: The kit does not include the welding bead trap and hot air blower. Refer to *MBUSA Standard Service Equipment Program* for information on ordering the hot air gun (refer to Kit Contents starting on page 7).

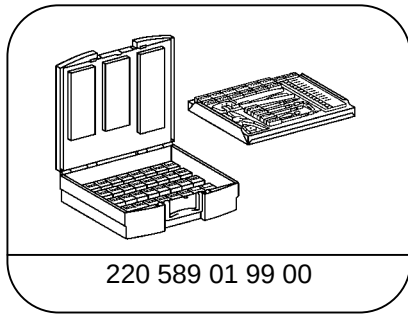
**Crimper and crimping plates**

To make crimp connections—suitable for all approved crimp contacts.

**Release tools**

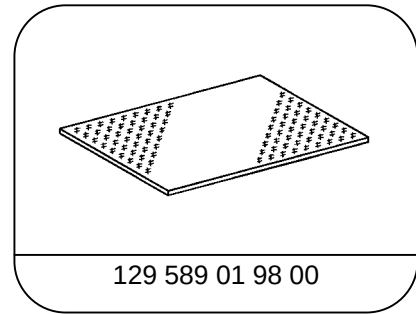
To remove plug and connector housings. Available as an individual or combination tool consisting of the blade holder (handle) and blade.

| Description                             | Part Number      | Dealer Net (\$) |
|-----------------------------------------|------------------|-----------------|
| Wiring harness repair kit               | 220 589 01 99 00 | \$2190.00       |
| Welding bead trap (not included in kit) | 129 589 01 98 00 | \$44.00         |



220 589 01 99 00

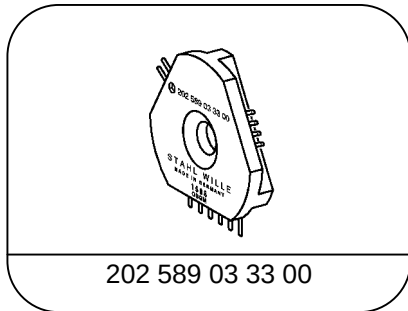
Wiring harness repair kit



129 589 01 98 00

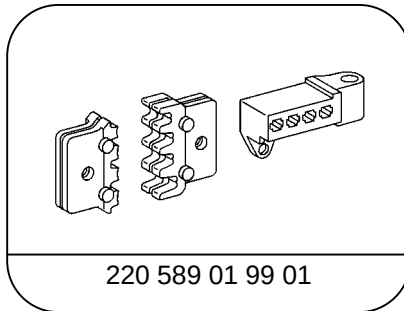
Welding bead trap

### Individual Kit Components



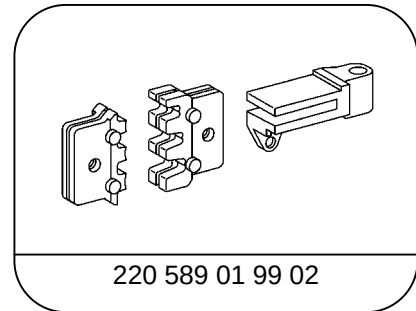
202 589 03 33 00

Contact puller



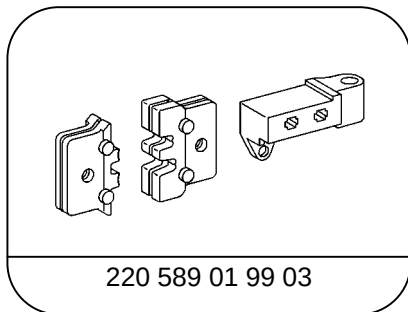
220 589 01 99 01

Crimpset, FL 6.3 / 2.8  
0.5-1.0 mm<sup>2</sup> / 1.5-2.5 mm<sup>2</sup> / 4.0-6.0 mm<sup>2</sup>



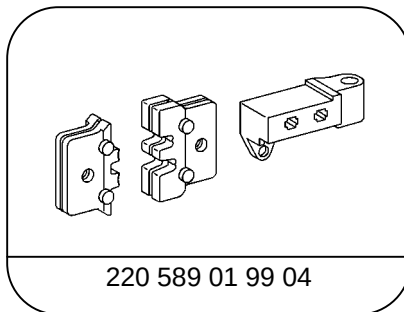
220 589 01 99 02

Crimpset cable clamp  
0.5-1.0 mm<sup>2</sup> / 1.5-2.5 mm<sup>2</sup> / 4.0-6.0 mm<sup>2</sup>



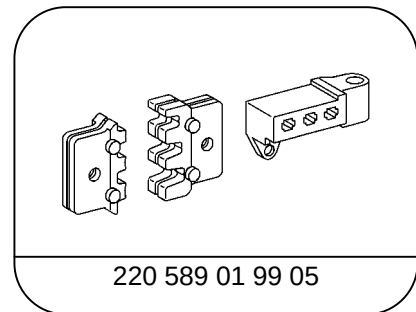
220 589 01 99 03

Crimpset, MCP 2.8  
0.35 mm<sup>2</sup> / 0.5-1.0 mm<sup>2</sup>



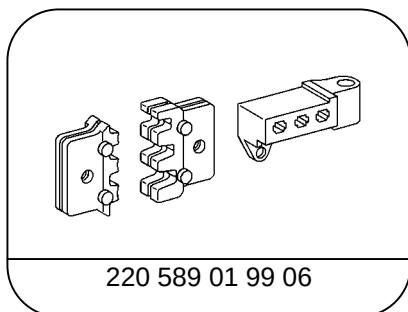
220 589 01 99 04

Crimpset, MCP 2.8  
1.5-2.5 mm<sup>2</sup> / 4.0 mm<sup>2</sup>



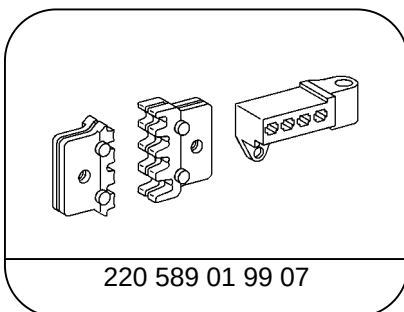
220 589 01 99 05

Crimpset, JPT  
0.35 mm<sup>2</sup> / 0.5-1.0 mm<sup>2</sup> / 1.5-2.5 mm<sup>2</sup>



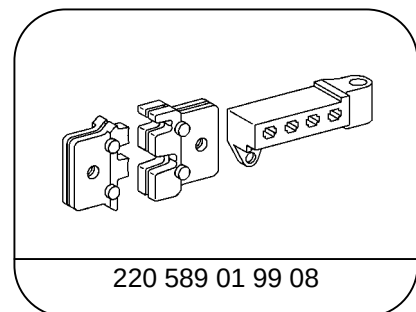
220 589 01 99 06

Crimpset, RK 2.5  
0.35 mm<sup>2</sup> / 0.5-1.0 mm<sup>2</sup> / 1.5-2.5 mm<sup>2</sup>



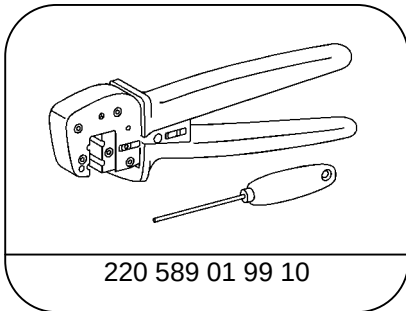
220 589 01 99 07

Crimpset, SLK 2.8  
0.25-0.5 mm<sup>2</sup> / 0.75-1.0 mm<sup>2</sup> / 1.5 mm<sup>2</sup> /  
2.5 mm<sup>2</sup>



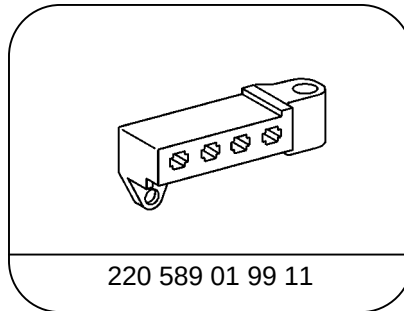
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Crimpset, SLK 2.8  
4.0 mm<sup>2</sup>



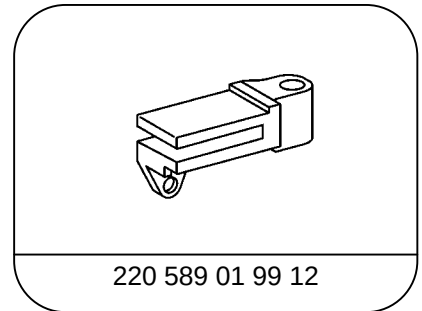
220 589 01 99 10

Crimper with 2.5 mm Allen wrench



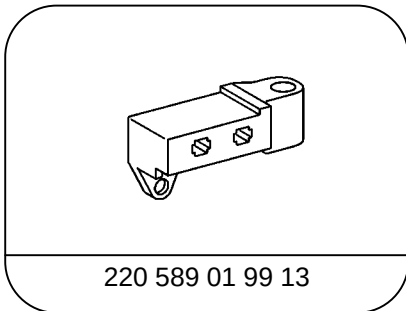
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Guide



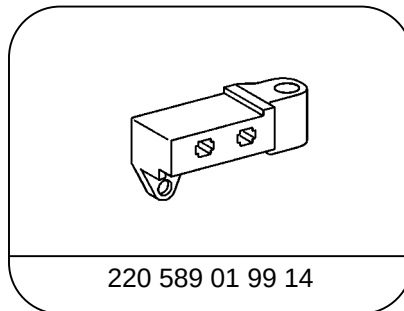
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Guide



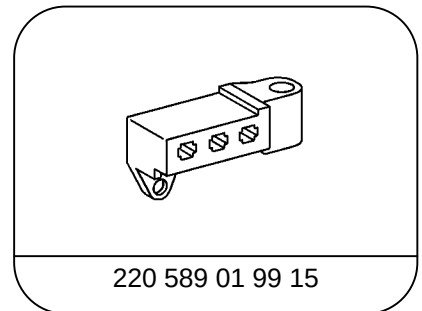
220 589 01 99 13

Guide



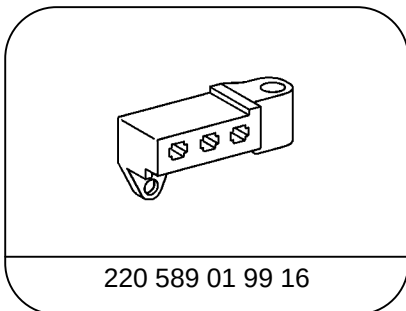
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Guide



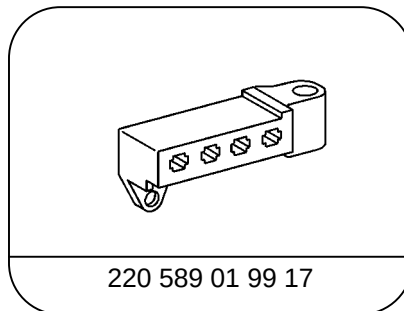
220 589 01 99 15

Guide



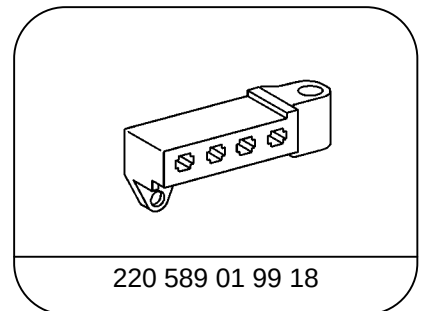
220 589 01 99 16

Guide



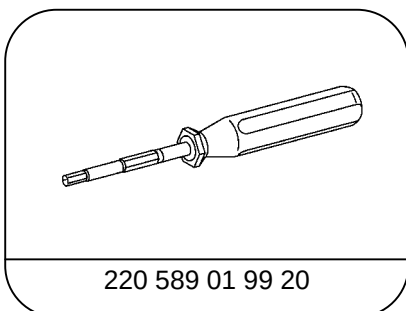
220 589 01 99 17

Guide



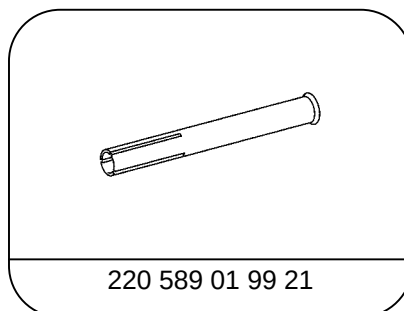
220 589 01 99 18

Guide



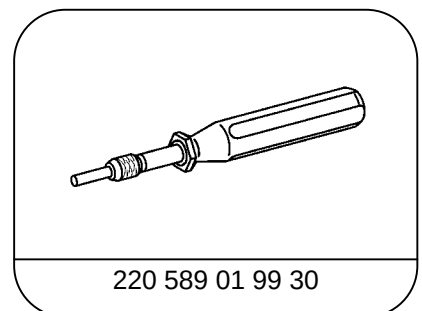
220 589 01 99 20

Release tool, RK 1.5  
(handle & insert)



220 589 01 99 21

Replacement insert, RK 1.5



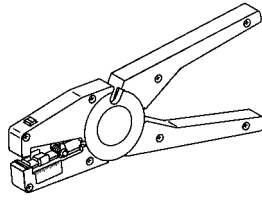
220 589 01 99 30

Release tool, RK 2.5  
(handle & insert)



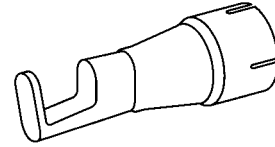
220 589 01 99 31

Replacement insert, RK 2.5



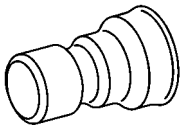
220 589 01 99 40

Wire stripper



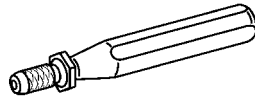
220 589 01 99 41

Hot air gun adapter tip<sup>1)</sup>



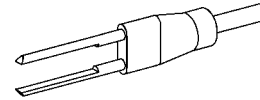
220 589 01 99 42

Hot air gun mount



220 589 01 99 50

Pick tool handle (basic tool)<sup>2)</sup>



220 589 01 99 51

Insert, MPT



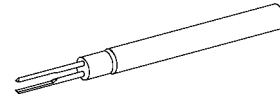
220 589 01 99 52

Insert, RK 4.0



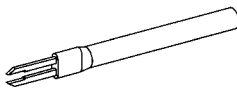
220 589 01 99 53

Insert, RK 2.5



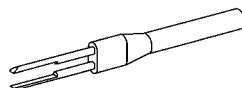
220 589 01 99 54

Insert, MT 3



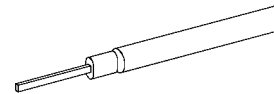
220 589 01 99 55

Insert, E 95



220 589 01 99 56

Insert, LSK 8

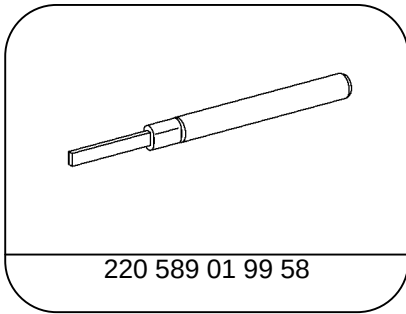


220 589 01 99 57

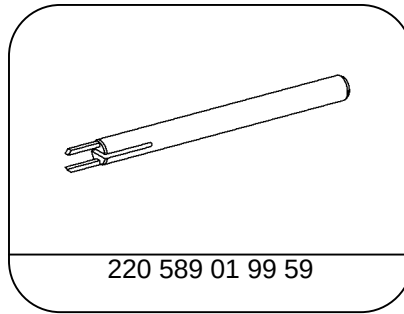
Insert, FL 2.8

<sup>1)</sup>For use with hot air gun described herein

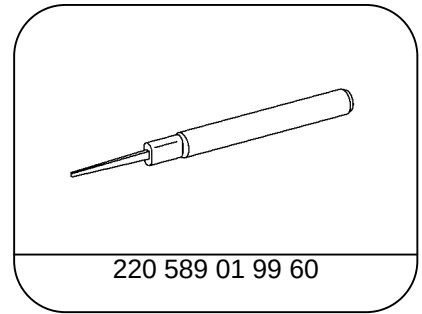
<sup>2)</sup>For use with inserts 220 589 01 99 51 through 220 589 01 99 63



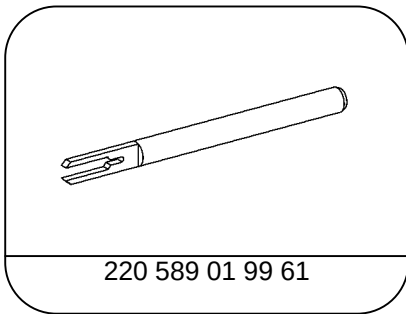
Insert, FL 4.8 / 6.3



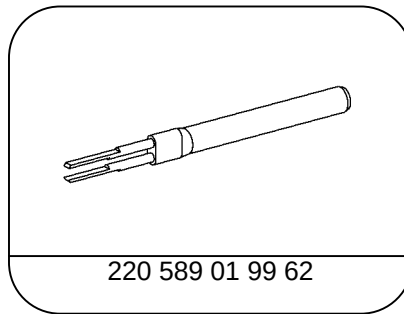
Insert, MCP 2.8 / FL 2.8



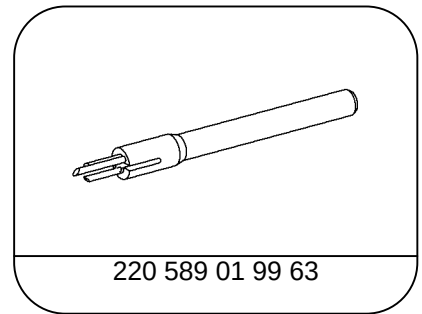
Insert, MQS



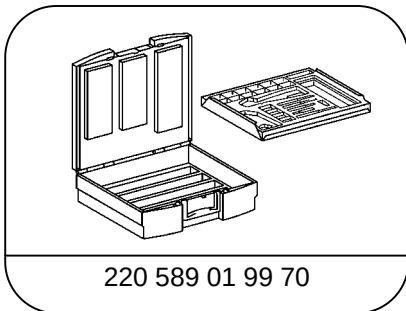
Insert, JPT / SPT



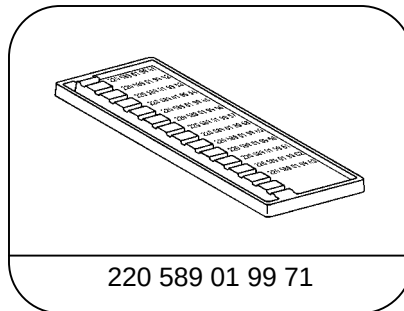
Insert, SLK 2.8



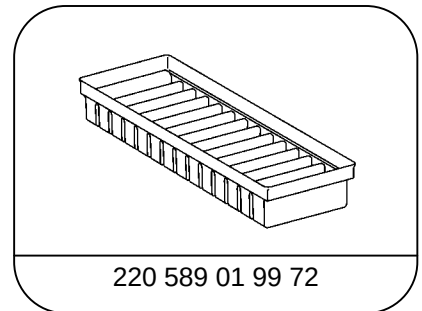
Insert, SLK 2.8-97



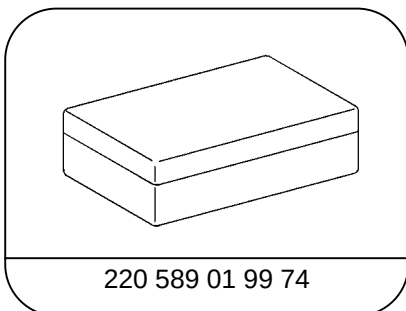
Case—empty



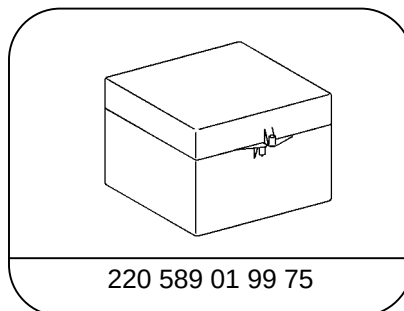
Tray—upper



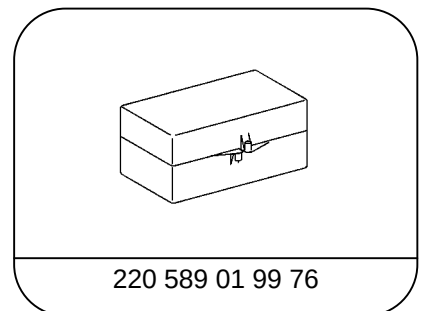
Tray—lower



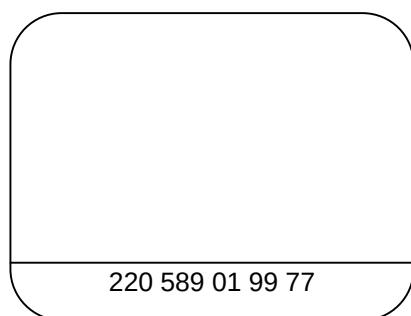
Plastic box, 44 x 99 x 151



Plastic box, 38 x 54 x 61



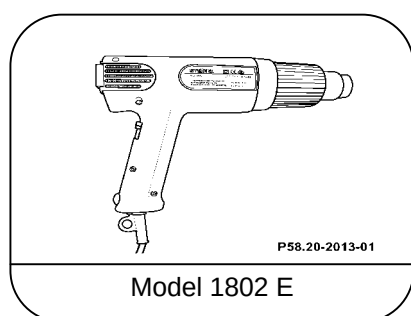
Plastic box, 24 x 37 x 53



Label set

| Equipment                         | Model Number | Dealer Net (\$) |
|-----------------------------------|--------------|-----------------|
| Steinel Hot Air Gun <sup>1)</sup> | 1802 E       | \$136.00        |

<sup>1)</sup>Order via MBUSA Standard Service Equipment Program by calling 1-888-458-4040



Steinel hot air gun

#### Individual Tools

| Qty. | Part Name                                                                                                                                                        | Part Number      |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 3    | Crimp set, 6.3 / 2.8, 0.5-1.0 mm <sup>2</sup> / 1.5-2.5 mm <sup>2</sup> / 4.0-6.0 mm <sup>2</sup><br>(packaged with guide 220 589 01 99 11)                      | 220 589 01 99 01 |
| 3    | Crimp set, connector, 0.5-1.0 mm <sup>2</sup> / 1.5-2.5 mm <sup>2</sup> / 4.0-6.0 mm <sup>2</sup><br>(packaged with guide 220 589 01 99 12)                      | 220 589 01 99 02 |
| 3    | Crimp set, MCP 2.8, 0.35 mm <sup>2</sup> / 0.5-1.0 mm <sup>2</sup> / 4.0-6.0 mm <sup>2</sup> (packaged<br>with guide 220 589 01 99 13)                           | 220 589 01 99 03 |
| 3    | Crimp set, MCP 2.8, 1.5-2.5 mm <sup>2</sup> / 4.0 mm <sup>2</sup> (packaged with guide 220<br>589 01 99 14)                                                      | 220 589 01 99 04 |
| 3    | Crimp set, JPT 2.8, 0.35 mm <sup>2</sup> / 0.5-1.0 mm <sup>2</sup> / 1.5-2.5 mm <sup>2</sup> (packaged<br>with guide 220 589 01 99 15)                           | 220 589 01 99 05 |
| 3    | Crimp set, RK 2.5, 0.35 mm <sup>2</sup> / 0.5-1.0 mm <sup>2</sup> / 1.5-2.5 mm <sup>2</sup> (packaged<br>with guide 220 589 01 99 16)                            | 220 589 01 99 06 |
| 3    | Crimp set, SLK 2.8, 0.25-0.5 mm <sup>2</sup> / 0.75-1.0/1.5/2.5 mm <sup>2</sup> (packaged<br>with guide 220 589 01 99 17)                                        | 220 589 01 99 07 |
| 3    | Crimp set, SLK 2.8, 4.0 mm <sup>2</sup> (packaged with guide 220 589 01 99 18)                                                                                   | 220 589 01 99 08 |
| 1    | Crimping pliers (used with crimp sets 220 589 01 99 01/ 02/03/04/05/<br>05/06/07/08), includes 2.5 mm hex wrench (AMP 906 – 2.5)                                 | 220 589 01 99 10 |
| 1    | Guide, flat 6.3 / 2.8, 0.5-1.0 mm <sup>2</sup> / 1.5-2.5 mm <sup>2</sup> / 4.0-6.0 mm <sup>2</sup><br>(available packaged with 220 589 01 99 01, not separately) | 220 589 01 99 11 |
| 1    | Guide, connector, 0.5-1.0 mm <sup>2</sup> / 1.5-2.5 mm <sup>2</sup> / 4.0-6.0 mm <sup>2</sup> (available<br>packaged with 220 589 01 99 02, not separately)      | 220 589 01 99 12 |



|   |                                                                                                                                                                             |                  |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 1 | Guide, MCP 2.8, 0.35 mm <sup>2</sup> / 0.5-1.0 mm <sup>2</sup> (available packaged with 220 589 01 99 04, not separately)                                                   | 220 589 01 99 13 |
| 1 | Guide, MCP 2.8, 1.5-2.5 mm <sup>2</sup> / 4.0 mm <sup>2</sup> (available packaged with 220 589 01 99 04, not separately)                                                    | 220 589 01 99 14 |
| 1 | Guide, MCP 2.8, 1.5-2.5 mm <sup>2</sup> / 4.0 mm <sup>2</sup> (available packaged with 220 589 01 99 05, not separately)                                                    | 220 589 01 99 15 |
| 1 | Guide, RK 2.5, 0.35 mm <sup>2</sup> / 0.5-1.0 mm <sup>2</sup> / 1.5-2.5 mm <sup>2</sup> (available packaged with 220 589 01 99 06, not separately)                          | 220 589 01 99 16 |
| 1 | Guide, SLK 2.5, 0.25, 0.5 mm <sup>2</sup> / 0.75-1.0 mm <sup>2</sup> / 1.5 mm <sup>2</sup> / 2.5 mm <sup>2</sup> (available packaged with 220 589 01 99 07, not separately) | 220 589 01 99 17 |
| 1 | Guide, SLK 2.8, 4.0 mm <sup>2</sup> (available packaged with 220 589 01 99 08, not separately)                                                                              | 220 589 01 99 18 |
| 1 | Pick tool, RK 1.5 (includes cylindrical insert 220 589 01 99 21)                                                                                                            | 220 589 01 99 20 |
| 5 | Insert, spares, RK 1.5 (spare parts for pick tool 220 589 01 99 20)                                                                                                         | 220 589 01 99 21 |
| 1 | Pick tool, RK 2.5 (includes cylindrical insert 220 589 01 99 31)                                                                                                            | 220 589 01 99 30 |
| 5 | Insert, spares, RK 2.5 (spare parts for pick tool 220 589 01 99 30)                                                                                                         | 220 589 01 99 31 |
| 1 | Wiring stripping pliers (can accommodate wire cross-section from 0.03-6.0 mm <sup>2</sup> [AWG 32-10])                                                                      | 220 589 01 99 40 |
| 1 | Reflector tip, for heat gun, (used with reduction nozzle 220 589 01 99 42 and Steinel hot air gun, Model 1802E)                                                             | 220 589 01 99 41 |
| 1 | Reflection tip, for heat gun, (used with reflector tip 220 589 01 99 41 and Steinel hot air gun, Models 1802E or 2005E)                                                     | 220 589 01 99 42 |
| 1 | Pick tool, basic handle (for 5 mm diameter inserts) (used with thirteen inserts: 220 589 01 99 51/52/53/54/55/56/57/58/59/60/61/62/63)                                      | 220 589 01 99 50 |
| 1 | Insert, MPT (for basic pick tool 220 589 0199 50)                                                                                                                           | 220 589 01 99 51 |
| 1 | Insert, RK 4.0 (for basic pick tool 220 589 0199 50)                                                                                                                        | 220 589 01 99 52 |
| 1 | Insert, RK 2.5 (for basic pick tool 220 589 0199 50)                                                                                                                        | 220 589 01 99 53 |
| 1 | Insert, MT 3 (for basic pick tool 220 589 0199 50)                                                                                                                          | 220 589 01 99 54 |
| 1 | Insert, E 95 (for basic pick tool 220 589 0199 50)                                                                                                                          | 220 589 01 99 55 |
| 1 | Insert, LSK 8 (for basic pick tool 220 589 0199 50)                                                                                                                         | 220 589 01 99 56 |
| 1 | Insert, flat 2.8 (for basic pick tool 220 589 0199 50)                                                                                                                      | 220 589 01 99 57 |
| 1 | Insert, flat 4.8 / 6.3 (for basic pick tool 220 589 0199 50)                                                                                                                | 220 589 01 99 58 |
| 1 | Insert, MCP 2.8 / flat 2.8 (for basic pick tool 220 589 0199 50)                                                                                                            | 220 589 01 99 59 |
| 1 | Insert, MQS (for basic pick tool 220 589 0199 50)                                                                                                                           | 220 589 01 99 60 |
| 1 | Insert, JPT / SPT (for basic pick tool 220 589 0199 50)                                                                                                                     | 220 589 01 99 61 |
| 1 | Insert, SLK 2.8 (for basic pick tool 220 589 0199 50)                                                                                                                       | 220 589 01 99 62 |
| 1 | Insert, SLK 2.8 (for basic pick tool 220 589 0199 50)                                                                                                                       | 220 589 01 99 63 |
| 1 | Case, empty                                                                                                                                                                 | 220 589 01 99 70 |
| 1 | Tray, upper                                                                                                                                                                 | 220 589 01 99 71 |
| 1 | Tray, lower                                                                                                                                                                 | 220 589 01 99 72 |
| 1 | Plastic box, empty, 151 mm x 99 mm x 44 mm (kit includes quantity 1)                                                                                                        | 220 589 01 99 74 |
| 1 | Plastic box, empty, 24 mm x 37 mm x 34 mm (kit includes quantity 4 in tray 1, quantity 5 in tray 2)                                                                         | 220 589 01 99 75 |
| 1 | Adhesive-backed label set (for plastic boxes)                                                                                                                               | 220 589 01 99 77 |
| 1 | Contact puller (Grote & Hartmann contacts)                                                                                                                                  | 202 589 03 33 00 |

## Initial Spare Parts Assortment—Wiring Harness Repair Kit (220 589 01 99 00)<sup>1)</sup>

<sup>1)</sup>Replacements available through Parts Department

| Qty. | Part Name                                                         | Part Number     |
|------|-------------------------------------------------------------------|-----------------|
| 50   | Solder sleeve—Raychem, 2.4 mm <sup>2</sup>                        | A 002 546 13 41 |
| 50   | Solder sleeve—Raychem, 3.15 mm <sup>2</sup>                       | A 002 546 14 41 |
| 40   | Solder sleeve—Raychem, 5.1 mm <sup>2</sup>                        | A 002 546 15 41 |
| 20   | Solder sleeve—Raychem, 5.1 mm <sup>2</sup>                        | A 002 546 16 41 |
| 30   | Solder connection—Raychem, green, 3.3 mm <sup>2</sup>             | A 001 546 99 41 |
| 20   | Solder connection—Raychem, red, 4.5 mm <sup>2</sup>               | A 002 546 00 41 |
| 15   | Solder connection—Raychem, blue, 7.0 mm <sup>2</sup>              | A 002 546 01 41 |
| 10   | Solder connection—Raychem, yellow, 9.0 mm <sup>2</sup>            | A 002 546 11 41 |
| 50   | Crimp contact, female—SLK 2.8, 0.25-0.5 mm <sup>2</sup>           | A 013 545 14 26 |
| 50   | Crimp contact, male—SLK 2.8, 0.25-0.5 mm <sup>2</sup>             | A 037 545 96 28 |
| 50   | Crimp contact, female—SLK 2.8, > 0.5-1.0 mm <sup>2</sup>          | A 013 545 15 26 |
| 50   | Crimp contact, male—SLK 2.8, > 0.5-1.0 mm <sup>2</sup>            | A 035 545 73 28 |
| 50   | Crimp contact, female—SLK 2.8, > 1.0-2.5 mm <sup>2</sup>          | A 013 545 16 26 |
| 50   | Crimp contact, male—SLK 2.8, > 1.0-2.5 mm <sup>2</sup>            | A 035 545 74 28 |
| 50   | Crimp contact, female—SLK 2.8, > 2.5-4.0 mm <sup>2</sup>          | A 011 545 07 26 |
| 50   | Crimp contact, male—SLK 2.8, > 2.5-4.0 mm <sup>2</sup>            | A 035 545 76 28 |
| 50   | Crimp contact, male—MCP 2.8, 0.35 mm <sup>2</sup>                 | A 015 545 04 26 |
| 50   | Crimp contact, male—MCP 2.8, 0.5-1.0 mm <sup>2</sup>              | A 013 545 76 26 |
| 50   | Crimp contact, male—MCP 2.8, 1.5-2.5 mm <sup>2</sup>              | A 013 545 78 26 |
| 50   | Crimp contact, male—MCP 2.8, 4.0 mm <sup>2</sup>                  | A 013 545 80 26 |
| 50   | Crimp contact, female—RK 2.5, 0.5-1.0 mm <sup>2</sup>             | A 009 545 28 26 |
| 50   | Crimp contact, male—RK 2.5, 0.5-1.0 mm <sup>2</sup>               | A 033 545 19 28 |
| 50   | Crimp contact, female—RK 2.5, 1.0-2.5 mm <sup>2</sup>             | A 009 545 29 26 |
| 50   | Crimp contact, male—RK 2.5, 1.0-2.5 mm <sup>2</sup>               | A 033 545 20 28 |
| 50   | Crimp contact, female—JPT, 03.5 mm <sup>2</sup>                   | A 016 545 49 26 |
| 50   | Crimp contact, male—JPT, 03.5 mm <sup>2</sup>                     | A 033 545 25 28 |
| 50   | Crimp contact, female—JPT, 0.5-1.0 mm <sup>2</sup>                | A 011 545 81 26 |
| 50   | Crimp contact, male—JPT, 0.5-1.0 mm <sup>2</sup>                  | A 035 545 24 28 |
| 50   | Crimp contact, female—JPT, 1.5-2.5 mm <sup>2</sup>                | A 011 545 80 26 |
| 50   | Crimp contact, male—JPT, 1.5-2.5 mm <sup>2</sup>                  | A 035 545 25 28 |
| 30   | Connector, ring M6, solder coat, 2.8 mm <sup>2</sup>              | A 003 546 85 40 |
| 30   | Connector, ring M6, brass, 3.4 mm <sup>2</sup>                    | A 000 546 42 40 |
| 50   | Crimp contact, male—FL 6.3, 0.5-2.5 mm <sup>2</sup>               | A 002 545 06 28 |
| 50   | Crimp contact, female—FL 6.3, 0.5-2.5 mm <sup>2</sup>             | A 016 545 67 26 |
| 50   | Crimp contact, female, locking—FL 6.3, 1.5-2.5 mm <sup>2</sup>    | A 016 545 50 26 |
| 15   | Wire connector, self cutting 2-wire, 0.35 mm-0.75 mm <sup>2</sup> | A 002 546 74 40 |
| 10   | Wire connector, self cutting 4-wire, 0.35 mm-0.75 mm <sup>2</sup> | A 003 546 51 40 |
| 8    | Wire connector, self cutting 6-wire, 0.35 mm-0.75 mm <sup>2</sup> | A 003 546 52 40 |
| 3    | Wire distributor, 10-wire, SLK 2.8                                | A 003 546 20 40 |