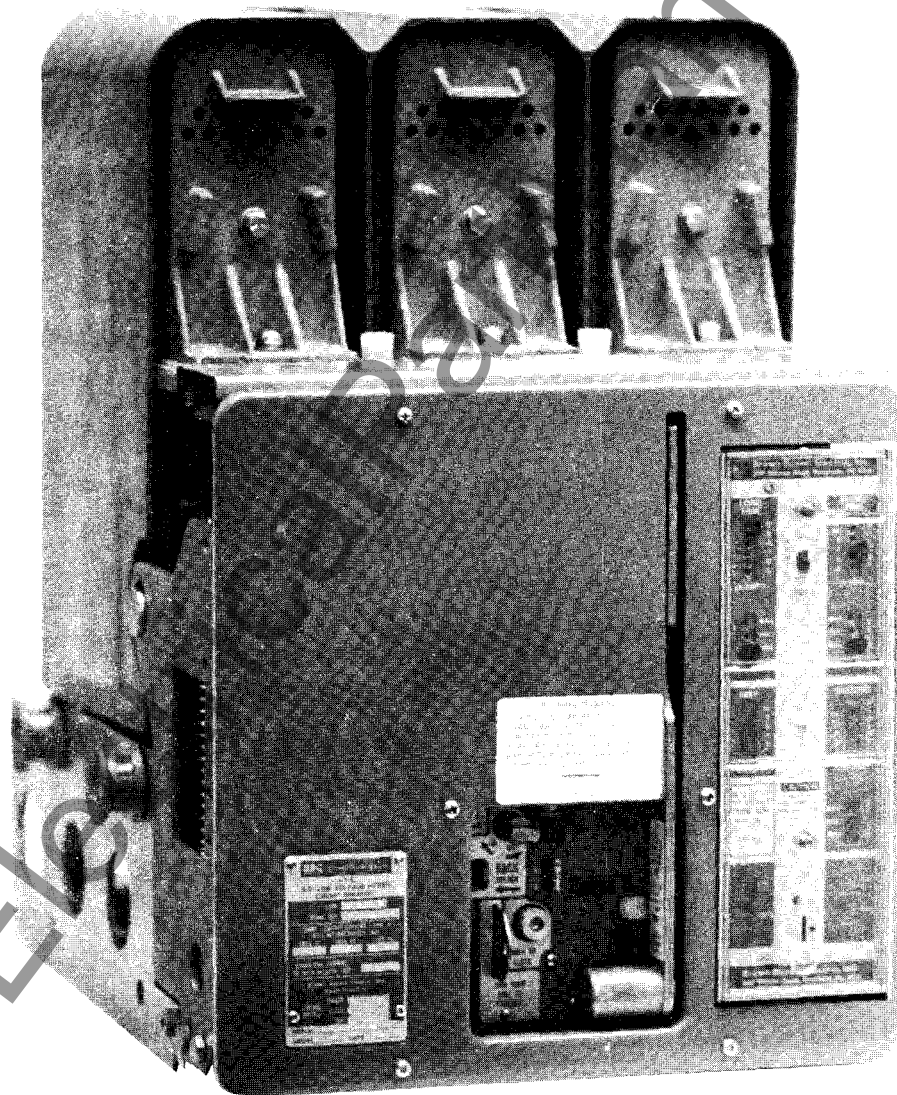


**Renewal Parts**

**I-T-E Low-Voltage  
Power Circuit Breakers**

Type LK and LKE 800 thru 4200 Amperes  
Type LKD 800 and 1600 Amperes  
600 Volts



**Brown Boveri Electric**

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The photographs reproduced in this bulletin are furnished only to serve as a guide in the identification of assemblies and parts, and do not purport to cover all details or variations in equipment.

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## INTRODUCTION

These renewal parts apply to types LK and LKE Circuit Breakers with AC continuous ratings of 800, 1600, 2500, 3200, and 4200 amperes and type LKD with AC continuous ratings of 800, and 1600 amperes.

A supply of renewal parts is recommended to insure proper and timely maintenance for normal operation of the circuit breakers. The minimum quantity of assemblies and items recommended in this bulletin is predicated on infrequent replacement of parts based on accumulated tests and operating experience. Total assemblies are recommended for fast replacement, to return the breaker to service as quickly as possible. For assistance, contact the nearest District Office.

## RECOMMENDED QUANTITIES

1. Minimum Recommended Quantities are based on the following categories of service:

**Domestic** - One (1) complete set for each ten (10) circuit breakers or fraction thereof installed for each type and rating.

**Foreign** - One (1) complete set for each five (5) circuit breakers or fraction thereof installed for each type and rating.

**Note:** Renewal Parts Listing cover all types and ratings of circuit breakers. Use caution in selecting parts to assure they are applicable to the circuit breaker(s) on hand.

2. The parts listed cover an indefinite period of time. With normal duty and maintenance, replacement will be infrequent.
3. Where continuity of service is mandatory, a spare circuit breaker of each type and rating is recommended.

## ORDERING INSTRUCTIONS

When ordering, always specify circuit breaker type(s) and serial number(s) from the nameplate(s), in addition to the quantity, description, and ordering number of each assembly or part, as applicable.

**Example:** To order Lower Terminal and moving Contact assemblies for a type LK 8 Drawout Circuit Breaker, specify the following:

For a type LK 8 Drawout Circuit Breaker Serial No. 54000A — 212-01211

Quantity 3 Number 713907-T7 Lower Terminal and Moving Contact Assembly.

Only those parts that normally require replacement have been shown and listed. If the part(s) required are not listed, completely describe the part(s), using reference in the instruction sections, actual photographs or a sample.

## ADDITIONAL INFORMATION

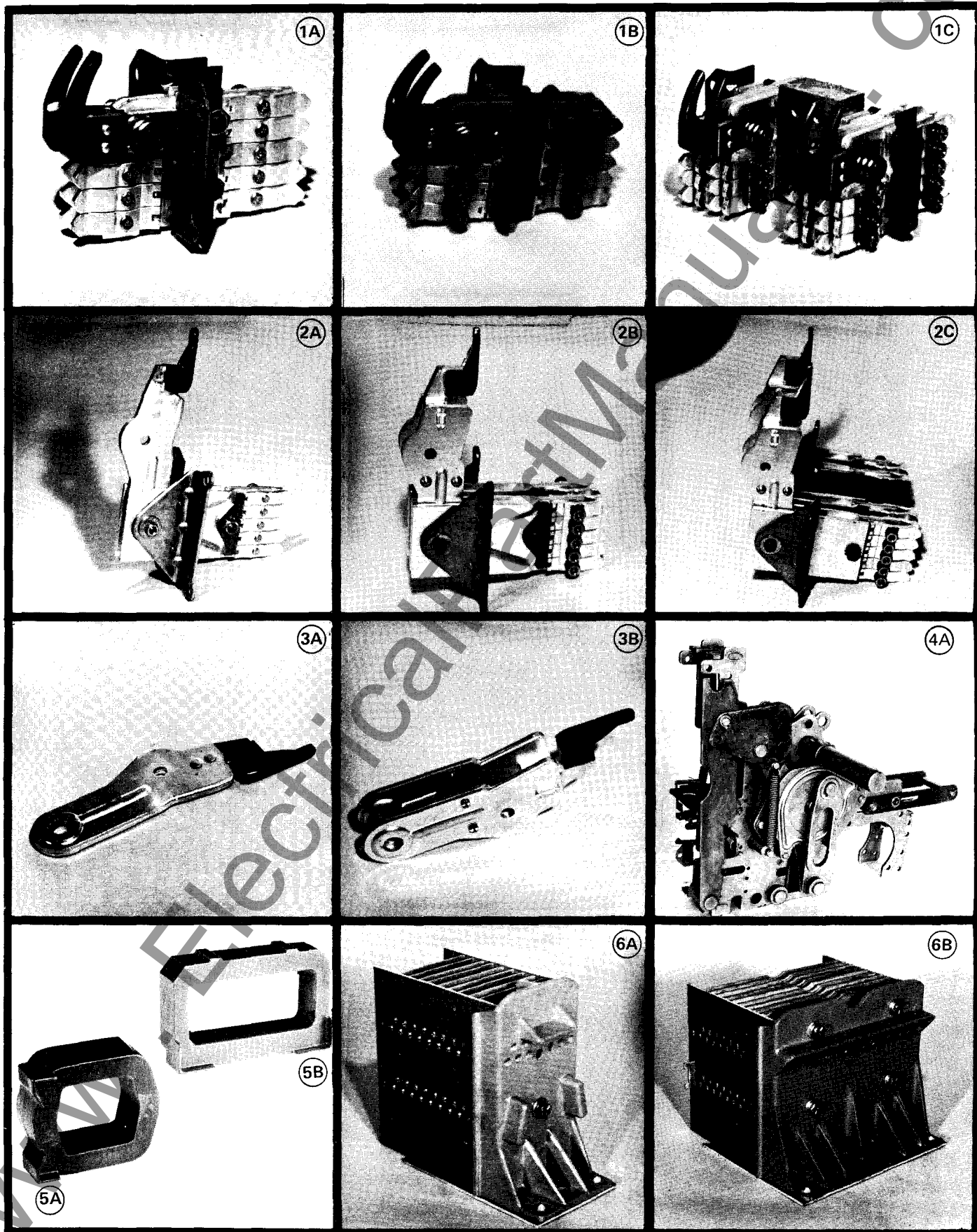
For Installation/Maintenance Instructions for I-T-E Low-Voltage Power Circuit Breakers see IB 6.1.1.7-1.

For Installation/Maintenance Instructions for I-T-E Low-Voltage AC Metal Enclosed Power Switchgear see IB 3.1.1.7-1.

FOR PRICES AND TECHNICAL INFORMATION,  
CONTACT OUR NEAREST DISTRICT OFFICE.

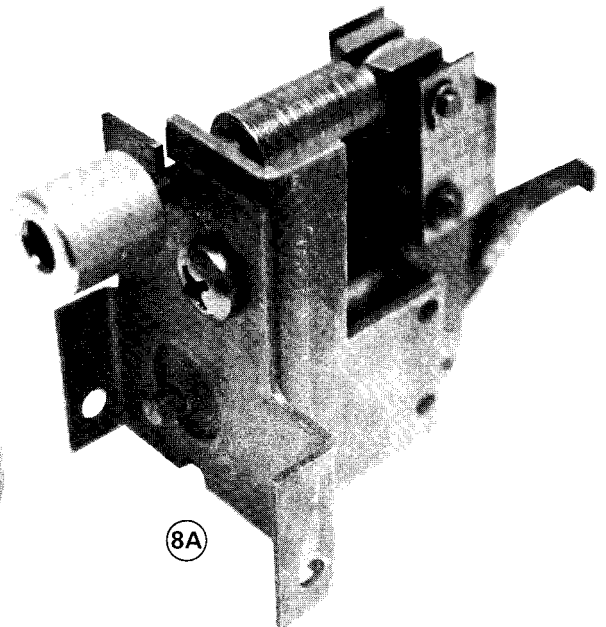
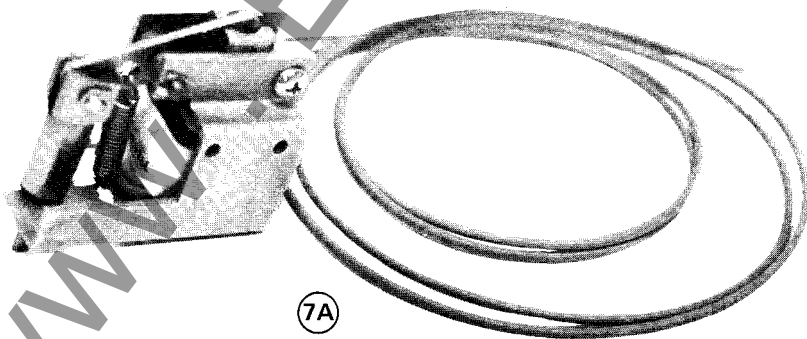
CIRCUIT BREAKER COMPONENTS

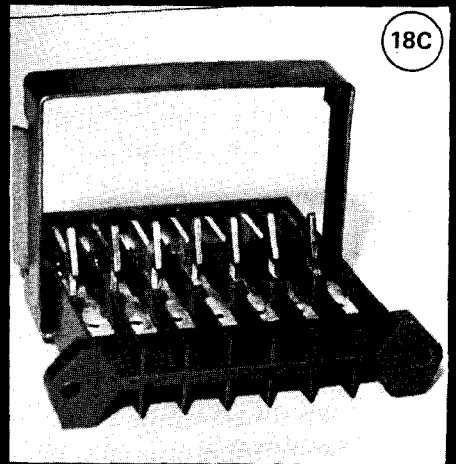
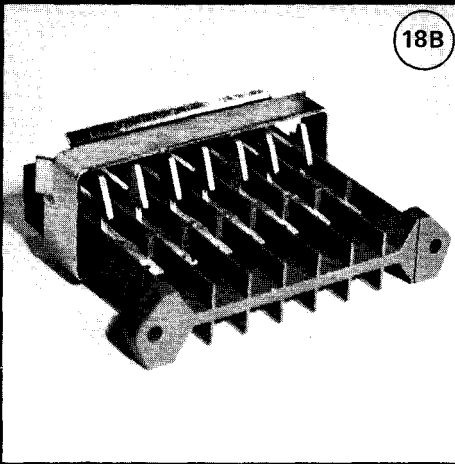
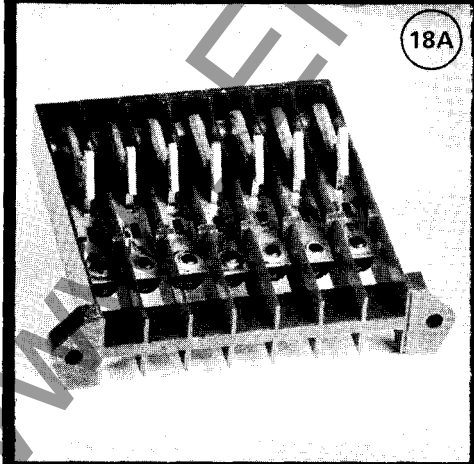
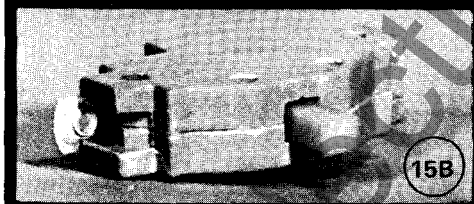
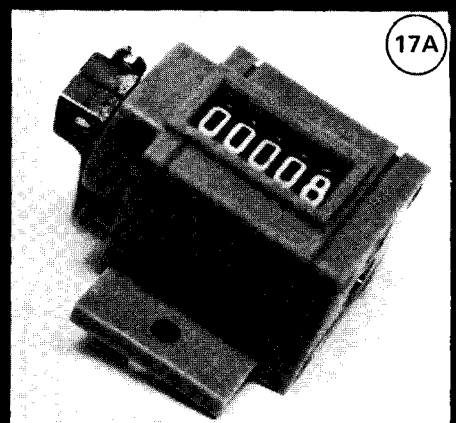
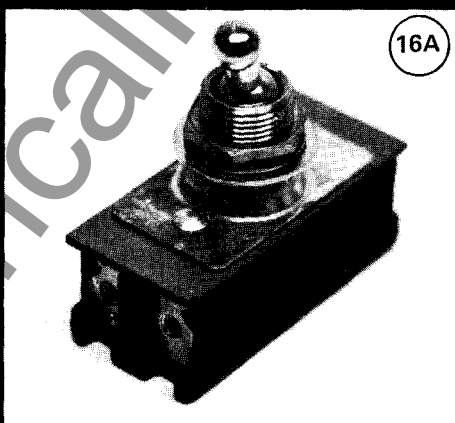
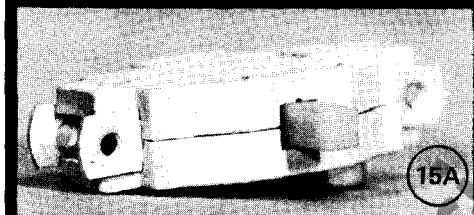
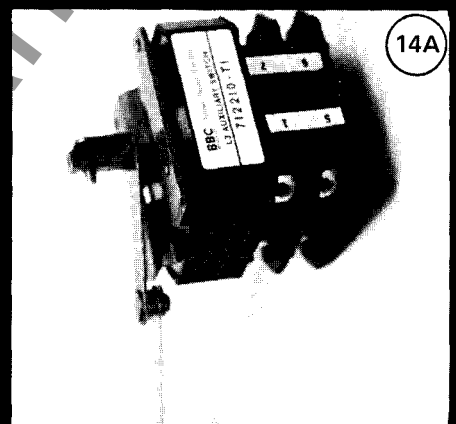
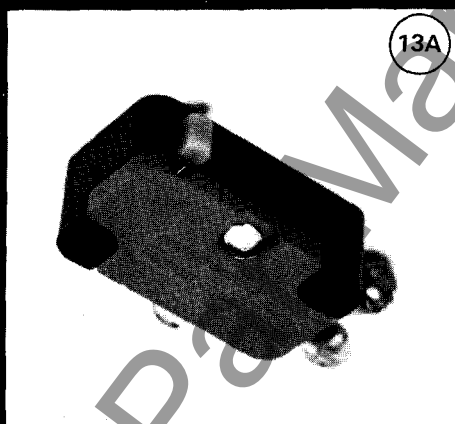
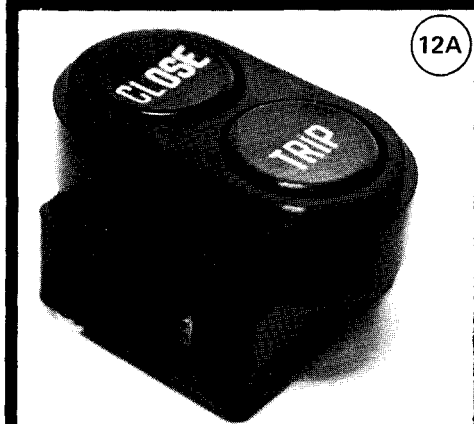
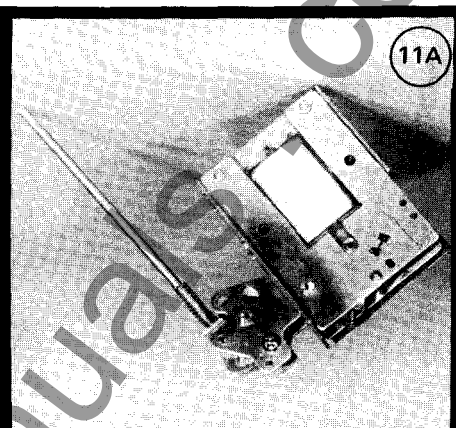
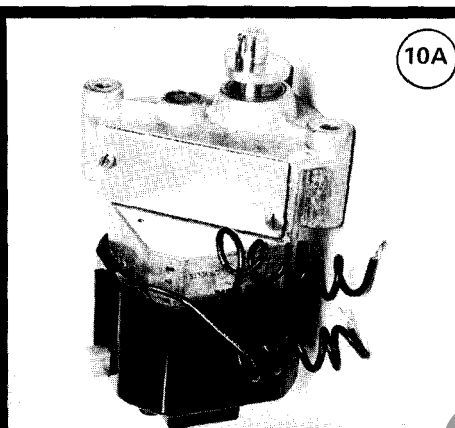
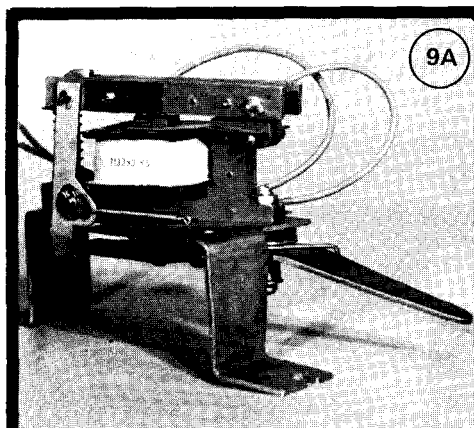
| Description of Assembly or Part  | Fig. Ref.       | Quantities Per Type |               |               |               | Ordering Number |               |           |           |  |
|--|-----------------|---------------------|---------------|---------------|---------------|-----------------|---------------|-----------|-----------|--|
|  |                 | LK 8, LKE 8         | LK 16, LKE 16 | LK 25, LKE 25 | LK 32, LKE 32 |                 | Fused         |           |           |  |
|  |                 |                     |               |               |               |                 | LK 42, LKE 42 | LKD 8     | LKD 16    |  |
| Upper Terminal Assem.<br>(includes stationary main & arc contact)            | 1A              | 3                   | -             | -             | -             | -               | -             | 713908-T7 |           |  |
|  | 1B              | -                   | 3             | -             | -             | -               | -             | T8        |           |  |
|  | 1B              | -                   | -             | 6             | -             | -               | -             | T3        |           |  |
|  | 1C              | -                   | -             | -             | 3             | 3               | -             | T4        |           |  |
|  | Not Illustrated | -                   | -             | -             | -             | -               | 3             | -         | T10       |  |
|  |                 | -                   | -             | -             | -             | -               | 3             | T11       |           |  |
| Lower Terminal & Moving Cont. Assem<br>(includes moving main & arc contacts) | 2A              | 3                   | -             | -             | -             | -               | -             | 713907-T7 |           |  |
|  | 2B              | -                   | 3             | -             | -             | -               | -             | T8        |           |  |
|  | 2B              | -                   | -             | 3             | -             | -               | -             | T3        |           |  |
|  | 2B              | -                   | -             | 3             | -             | -               | -             | T4        |           |  |
|  | 2C              | -                   | -             | -             | 3             | -               | -             | T5        |           |  |
|  | 2C              | -                   | -             | -             | -             | 3               | -             | -         | T6        |  |
|  | Not Illustrated | -                   | -             | -             | -             | 3               | -             | T10       |           |  |
|  |                 | -                   | -             | -             | -             | -               | 3             | T11       |           |  |
| Moving Contact Assem.<br>(Bridge Blade, includes main & arc contacts)        | 3A              | 3                   | -             | -             | -             | 3               | -             | 714382-K2 |           |  |
|  | 3B              | -                   | 3             | 6             | 6             | 6               | -             | 3         | 714370-K2 |  |
| Operating Mechanism<br>Small   | 4A              | Man. Oper           | 1             | 1             | -             | -               | 1             | 1         | 713911-T3 |  |
|  |                 | Elec. Oper          | 1             | 1             | -             | -               | 1             | 1         | T4        |  |
| Large  | 4A              | Man. Oper           | -             | -             | 1             | 1               | 1             | -         | T5        |  |
|  |                 | Elec. Oper          | -             | -             | 1             | 1               | 1             | -         | T6        |  |
| Phase Sensor   | 5A              | 200A                | 3             | 3             | -             | -               | 3             | 3         | 401740-K4 |  |
|  |                 | 800A                | 3             | 3             | -             | -               | 3             | 3         | K5        |  |
|  |                 | 1600A               | -             | 3             | -             | -               | -             | 3         | K6        |  |
|  | 5B              | 2500A               | -             | -             | 3             | -               | -             | -         | 401717-K6 |  |
|  |                 | 3000A               | -             | -             | -             | 3               | -             | -         | K7        |  |
|  |                 | 3200A               | -             | -             | -             | 3               | -             | -         | K8        |  |
|  |                 | 4000A               | -             | -             | -             | -               | 3             | -         | K9        |  |
|  |                 | 4200A               | -             | -             | -             | -               | -             | 3         | K10       |  |
|  |                 |                     |               |               |               |                 |               |           |           |  |
|  |                 |                     |               |               |               |                 |               |           |           |  |
| Arc Chute  | 6A              | 3                   | 3             | -             | -             | 3               | 3             | 712207-T2 |           |  |
|  | 6B              | -                   | -             | 3             | 3             | 3               | -             | T3        |           |  |



CIRCUIT BREAKER COMPONENTS (Continued)

| Description for Types LK, LKE and LKD                 | Fig. Ref. | Ordering Number | Add Suffix to Oreding Number         |     |      |      |      |          |          |          |          |          | Quant. Per Circuit Breaker (Options) |
|---|-----------|-----------------|--------------------------------------|-----|------|------|------|----------|----------|----------|----------|----------|--------------------------------------|
|   |           |                 | DC                                   |     |      |      |      | 50/60 Hz |          |          |          |          |                                      |
|   |           |                 | 24V                                  | 48V | 125V | 250V | 120V | 208V     | 220/240V | 440/480V | 550/600V |          |                                      |
| Shunt Trip Assem (Elec. Oper. & Option on Man. Oper.) | 7A        | 712214-         | T9                                   | T6  | T7   | T8   | T1   | T3       | T3       | -        | -        | 1        |                                      |
| Close Coil Assem (Elec. Oper. Only)                   | 8A        | 712217          | -                                    | T6  | T7   | T8   | T1   | T3       | T3       | -        | -        | 1        |                                      |
| "Y" Relay Assem (Elec. Oper. Only)                    | 9A        | 712218-         | -                                    | T6  | T7   | T8   | T1   | T3       | T3       | -        | -        | 1        |                                      |
| Motor Assem. (Elec. Oper. Only)                       | 10A       | 709799-         | -                                    | T8  | T6   | T7   | T6   | T7       | T7       | -        | -        | 1        |                                      |
| Undervoltage Trip Device (Option)                     | 11A       | 712215-         | T9                                   | T6  | T7   | T8   | T1   | T2       | T3       | T4       | T5       | (1)      |                                      |
| U.V. Lockopen   |           | 712216-T9       | (Option for U.V. Device)             |     |      |      |      |          |          |          |          | (1)      |                                      |
| U.v. Trip defeator                                    |           | 712216-T7       | (Option for U.V. Device)             |     |      |      |      |          |          |          |          | (1)      |                                      |
| Close & Trip Switch                                   | 12A       | 712780-A        | (Option for Elec. Oper.)             |     |      |      |      |          |          |          |          | (1)      |                                      |
| Alarm Switch (Auto Trip)                              | 13A       | 713008-A        | (Option)                             |     |      |      |      |          |          |          |          | (1 or 2) |                                      |
| Auxiliary Switch (L3)                                 | 14A       | 712210-T1       | Elec., or Man. Oper. with Shunt Trip |     |      |      |      |          |          |          |          | 1        |                                      |
| Limit Switch (LS1 &3)                                 | 15A       | 713916-T2       | Electrical Operation Only            |     |      |      |      |          |          |          |          | 1        |                                      |
| Limit Switch (LS-2)                                   | 15B       | 713916-T1       | Electrical Operation Only            |     |      |      |      |          |          |          |          | 1        |                                      |
| Motor Disconnect Switch                               | 16A       | 703270-A        | Electrical Operation Only            |     |      |      |      |          |          |          |          | 1        |                                      |
| Operation Counter                                     | 17A       | 180522-A        | (Option)                             |     |      |      |      |          |          |          |          | (1)      |                                      |
| Secondary Disconnect Moving (7Contact)                | 18A       | 712208-T1       | No Guide                             |     |      |      |      |          |          |          |          | As Req'd |                                      |
|   | 18B       | 712208-T3       | Single Guide                         |     |      |      |      |          |          |          |          | As Req'd |                                      |
|   | 18C       | 712208-T4       | Double Guide                         |     |      |      |      |          |          |          |          | As Req'd |                                      |



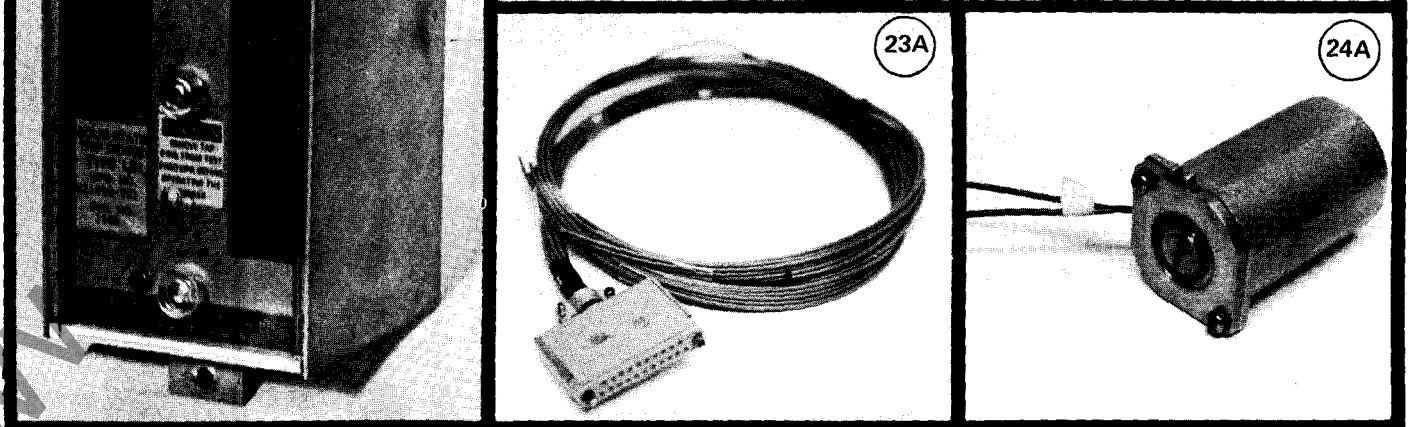
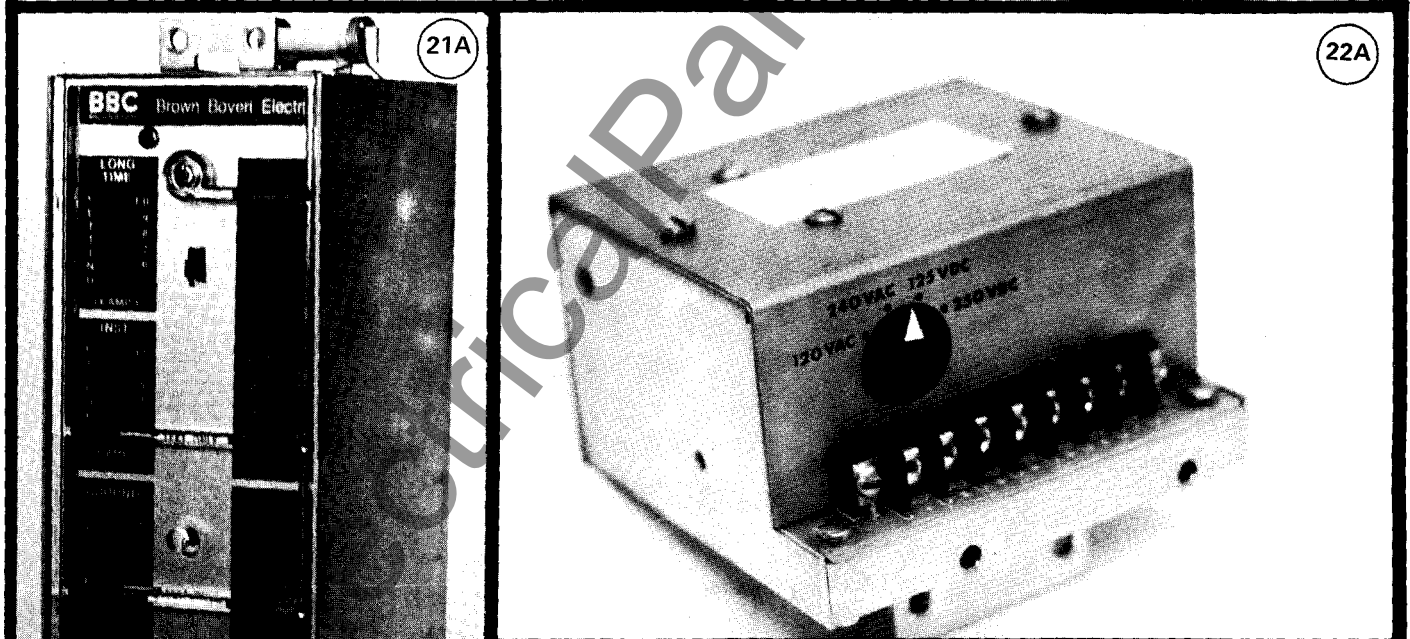
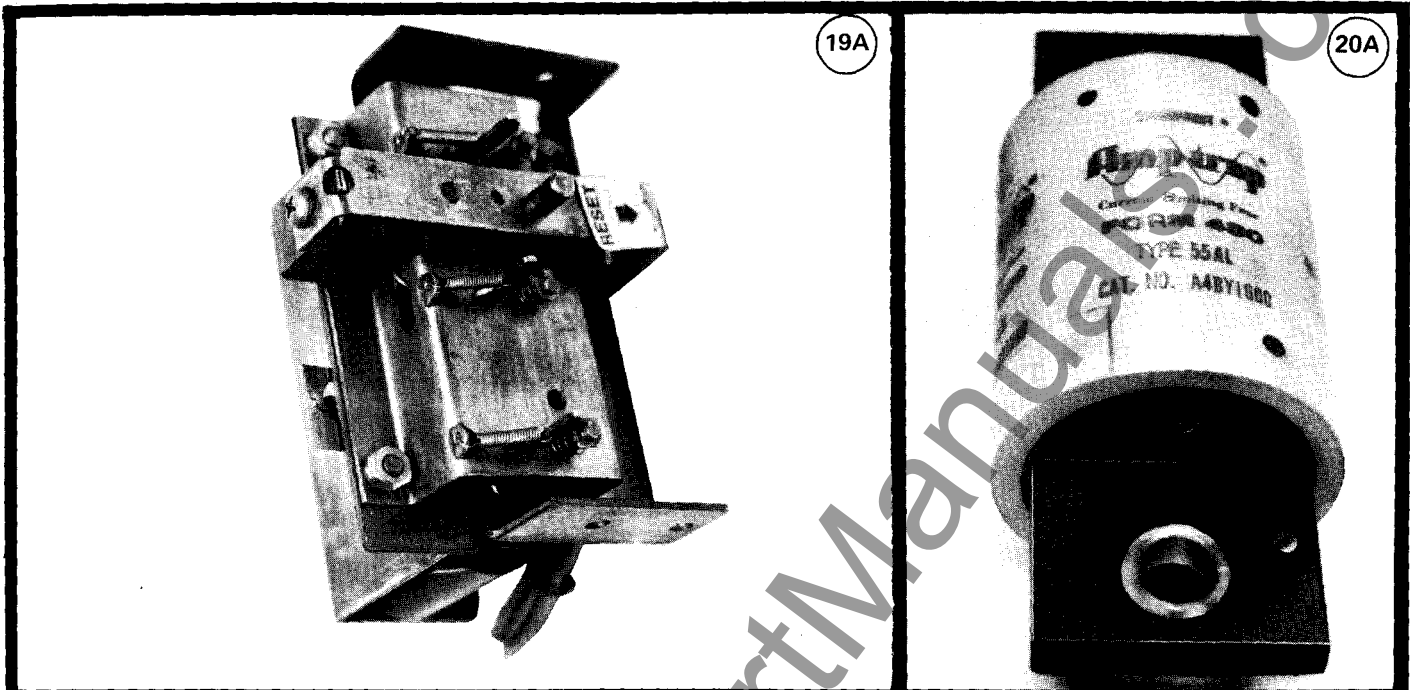


CIRCUIT BREAKER COMPONENTS (Continued)

| DESCRIPTION  | Quantity per type |        | Fig. Ref | Ordering Number   |
|--|-------------------|--------|----------|---|
|  | LKD 8             | LKD 16 |          |   |
| Open Fuse Trip Device  | 1                 | 1      | 19A      | 712219-T1   |
| Amp Trap Fuse* 300A<br>400<br>600<br>800<br>1000<br>1200<br>1600<br>2000<br>2500   | 3                 | 3      | 20A      | 710316-A1<br>A2<br>A3<br>A4<br>A5<br>A6<br>A7<br>A8<br>712652-A |
| *Warning:<br>Fuse is current limiting and must be coordinated with LSS Trip Device. (Listed is Type 55 AL, Style "Y" Form 480. AMP Trap) |                   |        |          |   |

| Description  | Type                 | Fig. Ref. | Basic Order No.               | Add Suffix to Basic Order No. (Sensor Ratings) |                   |                   |                   |                   |                   |                         | Quantity Per Circuit Breaker | With Ground Type           |          |        |
|--|----------------------|-----------|-------------------------------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------------|------------------------------|----------------------------|----------|--------|
|  |                      |           |                               | No Ground Trip                                 |                   |                   | With Ground Trip  |                   |                   |                         |                              |                            |          |        |
|  |                      |           |                               | 200A to 4200A                                  | 200A              | 800A              | 1600A             | 2500A             | 3000 3200A        | 4000 4200A              |                              |                            |          |        |
| Solid State Trip Unit (without targets)<br>(without ground)                              | LSS1                 | 21A       | 611090-                       | T01  | T11               | T21               | T31               | T41               | T51               | T61                     | 1                            | LSS-1G                     |          |        |
|  | LSS2                 |           | 611090-                       | T02  | -                 | -                 | -                 | -                 | -                 | -                       |                              | -                          | -        |        |
|  | LSS4                 |           | 611037-                       | T04  | T11               | T14               | T21               | T24               | T31               | T34                     |                              | T31                        | T34      | LSS-4G |
|  | LSS5                 |           | 611037-                       | T05  | T12               | T15               | T22               | T25               | T32               | T35                     |                              | T32                        | T35      | LSS-3G |
| LSS6   | 611037-              | T06       | T13                           | T16  | T23               | T26               | T33               | T36               | T33               | T36                     | LSS-6G                       |                            |          |        |
| Solid State Trip Unit (with targets)<br>(without ground)                                 | LSS4<br>LSS5<br>LSS6 | -         | 611250-<br>611250-<br>611250- | T04<br>T05<br>T06                              | T11<br>T12<br>T13 | T14<br>T15<br>T16 | T21<br>T22<br>T23 | T24<br>T25<br>T26 | T31<br>T32<br>T33 | T34<br>T35<br>T36       | 1                            | LSS-4G<br>LSS-5G<br>LSS-6G |          |        |
| Auxiliary Static Units (optional)<br>Not available for LSS1 & 2                          |                      | -         |                               | Control Power                                  |                   |                   |                   |                   |                   |                         | 1                            |                            |          |        |
|  |                      |           |                               | 240VAC   | 125VAC            | 120VAC            | 250VDC            | 48VDC             |                   |                         |                              |                            |          |        |
| Load Alarm   |                      | 22A       | 611068-                       | T01  | T01               | T01               | T01               | T48               |                   |                         |                              |                            |          |        |
| Ground Trip Alarm  |                      | 22A       | 611068-                       | T02  | T02               | T02               | T02               | T49               |                   |                         |                              |                            |          |        |
| Remote Neutral Sensor (4-wire ground)  |                      | -         | 401786                        | Circuit Breaker Sensor Rating (Amperes)        |                   |                   |                   |                   |                   | Mounting Bus Bars (max) | I.D. Window Width            | (Remote)<br>1              |          |        |
|  |                      |           |                               | 200  | 800               | 1600              | 2500              | 3000              | 3200              |                         |                              |                            | 4000     | 4200   |
|  |                      |           |                               | K1   | K2                | K3                | K4                | K5                | K6                | K7                      | K8                           |                            | (1)½"x4" | 4½"    |
|  |                      |           | 401781                        | -  | -                 | -                 | K1                | K2                | K3                | K4                      | K5                           | (3)¼"x6"                   | 6½"      |        |
| Control Cable Assembly Standard (9 wire)<br>Special (for use with Load or G. Trip Alarm) |                      | 23A       | 611080-                       | T01  |                   |                   |                   | T03               |                   |                         |                              | 1                          |          |        |
|  |                      |           | 611080-                       | T02  |                   |                   |                   | T04               |                   |                         |                              |                            |          |        |
| Magnetic Latch   |                      | 24A       | 712293-T15                    | ALL RATINGS                                    |                   |                   |                   |                   |                   |                         | 1                            |                            |          |        |
| Trip Unit Transparent Cover  |                      | -         | 611092-A                      | ALL RATINGS                                    |                   |                   |                   |                   |                   |                         | 1                            |                            |          |        |



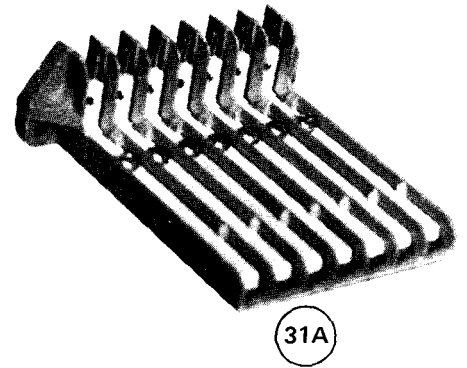
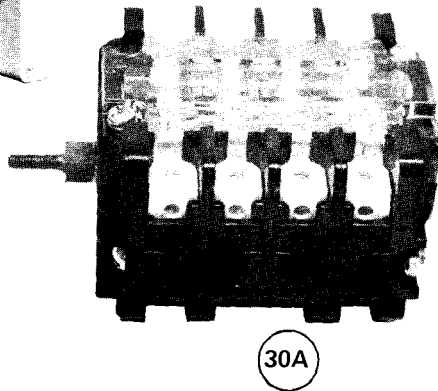
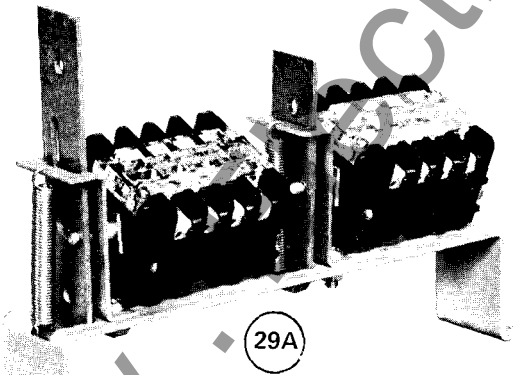
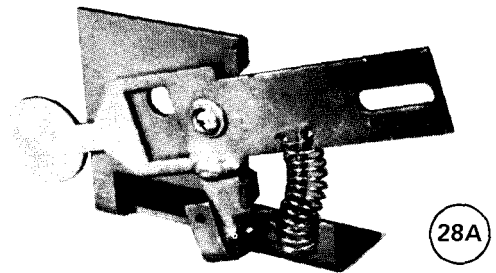
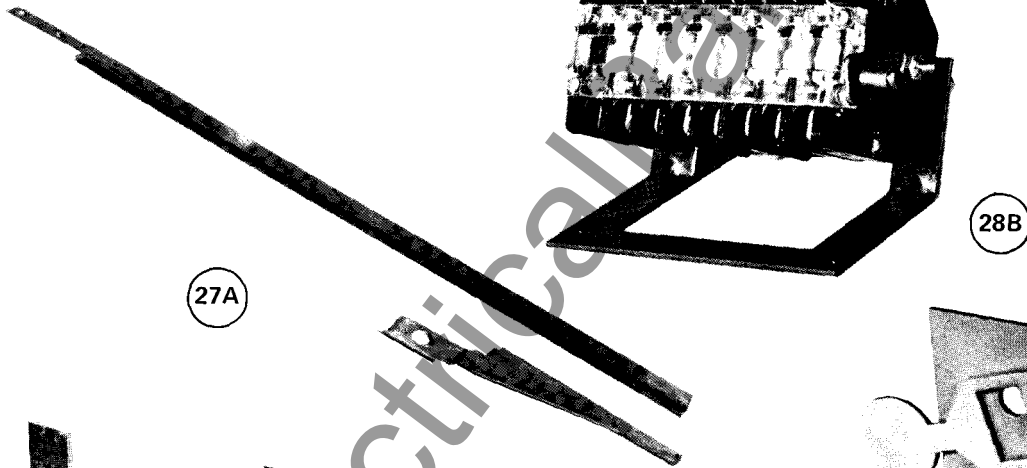
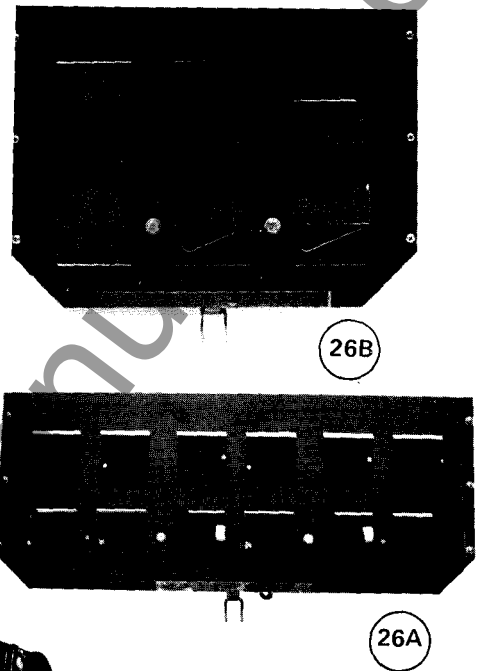
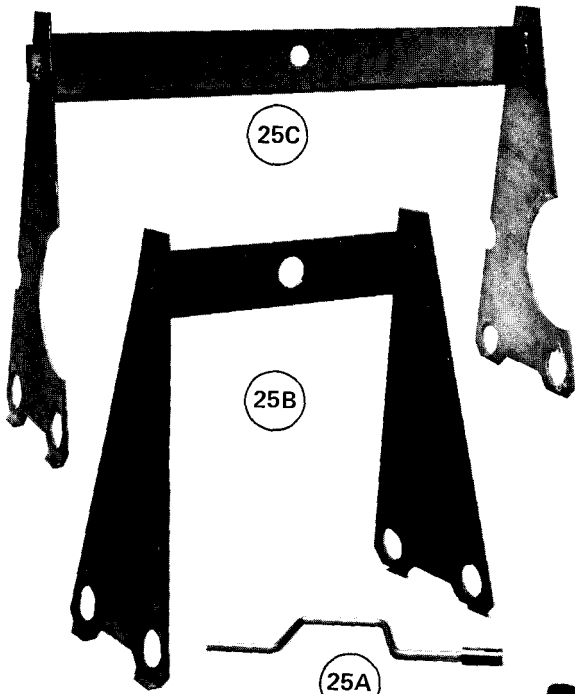


**ACCESSORIES:**

| Type                                 | Description   | Fig. Ref. | Ordering Number |
|--------------------------------------|---------------|-----------|-----------------|
| LK, LKE, LKD,<br>LK, LKE, LKD 8 & 16 | Racking Crank | 25A       | 712229-T6       |
| LK, LKE 25 to 42                     | Lifting Yoke  | 25B       | 712229-T7       |
|                                      | Lifting Yoke  | 25C       | 712229-T8       |

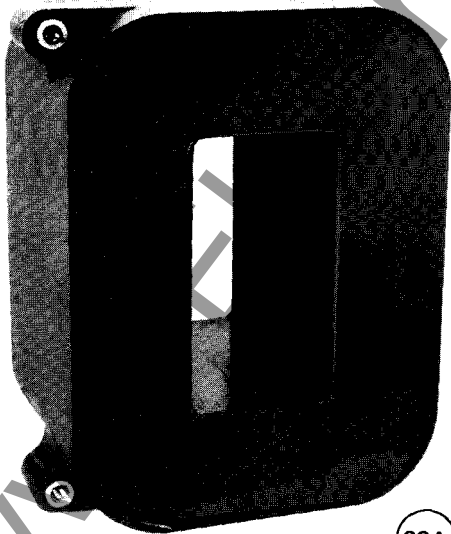
**CRADLE COMPONENTS:**

| Description   | Quantities Per Type: |                         |                  | Ordering Number          |
|---|----------------------|-------------------------|------------------|--------------------------|
|   | Fig. Ref.            | LK, LKE, LKD<br>8 or 16 | LK, LKE 25 to 42 |                          |
| Shutter Assem.<br>Large   | 26A                  | —                       | 1                | 712250-T2                |
| Small   | 26B                  | 1                       | —                | 712250-T1                |
| Position Indicator Kit (Optional)                               | 27A                  | 1                       | —                | 712224-T13<br>712224-T14 |
| MOC Switch Kit (Optional)<br>Actuator                           | 28A                  |                         |                  |                          |
| Operates Connected Position                                     |                      | 1                       | 1                | 712224-T11               |
| Operates Connected & Test Position                              |                      | 1                       | 1                | 712224-T12               |
| Switch Includes Mounting & Crank                                | 28B                  |                         |                  |                          |
| 4 Contact (L2) or   |                      | 1                       | 1                | 712224-T1                |
| 8 Contact (L2) Max. (shown)                                     |                      | 1                       | 1                | 712224-T2                |
| TOC Switch Kit (Optional)                                       | 29A                  |                         |                  |                          |
| 4 Contact (L2) Standard*  |                      | 1                       | 1                | 712225-T1                |
| 8 Contact (L2) Standard*  |                      | 1                       | 1                | 712225-T2                |
| 4 Contact - Special**   |                      | 1                       | 1                | 712225-T3                |
| 8 Contact - Special**   |                      | 1                       | 1                | 712225-T4                |
| 4 Contact - Standard and 4<br>Contact - Special (Shown)         |                      | 1                       | 1                | 712225-T5                |
| * Operates between Test and Connected<br>Positions              |                      |                         |                  |                          |
| ** Operates between Test and<br>Disconnect Positions            |                      |                         |                  |                          |
| Auxiliary Switch Assem.(Optional)<br>4 Contact (L2) (Shown)     | 30A                  | 1                       | 1                | 700034-K1                |
| 8 Contact (L2)  |                      | 1                       | 1                | 700038-K1                |
| Secondary Disconnect (As Required)<br>Stationary (7 Contact)    | 31A                  | 0 to 4                  | 0 to 4           | 712209-T2                |
| Insulation Strip-Secondary<br>Disconnect "TP" Function          | —                    | (As Required)           | (As Required)    | 712692-A                 |
| Short Contact-Secondary<br>Disconnect "OP" Function             | —                    | (As Required)           | (As Required)    | 712638-A                 |
| Transparent Door Mounted<br>Position Indicator Cover (Optional) | —                    | 1                       | 1                | 883132-A                 |
| Emergency Trip Button-<br>Door Mounted (Optional)               | —                    | 1                       | 1                | 883213-T1                |

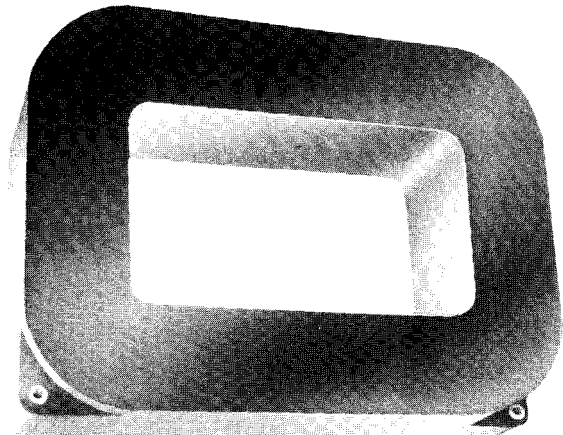


CRADLE COMPONENTS

| Description                        | Quantities Per Type: |                         |                  | Ordering Number |
|------------------------------------|----------------------|-------------------------|------------------|-----------------|
|                                    | Fig Ref.             | LK, LKE, LKD<br>8 or 16 | LK, LKE 25 to 42 |                 |
| Current Transformer:<br>Type LKM-1 | 32A                  | 0 to 3                  |                  | 401775-K1       |
| 100/5 A                            |                      |                         |                  | K2              |
| 150/5 A                            |                      |                         |                  | K3              |
| 200/5 A                            |                      |                         |                  | K4              |
| 300/5 A                            |                      |                         |                  | K5              |
| 400/5 A                            |                      |                         |                  | K6              |
| 500/5 A                            |                      |                         |                  | K7              |
| 600/5 A                            |                      |                         |                  | K8              |
| 800/5 A                            |                      |                         |                  | K9              |
| 1000/5 A                           |                      |                         |                  | K10             |
| 1200/5 A                           |                      |                         |                  | K11             |
| 1500/5 A                           |                      |                         |                  | K12             |
| 1600/5 A                           |                      |                         |                  | K13             |
| 2000/5 A                           |                      |                         |                  | K14             |
| 2500/5 A                           |                      |                         |                  |                 |
| Type LKM-2                         | 32B                  |                         | 0 to 3           | 401739-K1       |
| 2000/5 A                           |                      |                         |                  | K2              |
| 2500/5 A                           |                      |                         |                  | K3              |
| 3000/5 A                           |                      |                         |                  | K4              |
| 4000/5 A                           |                      |                         |                  | K5              |
| 5000/5 A                           |                      |                         |                  | K6              |
| 6000/5 A                           |                      |                         |                  |                 |



32A



32B

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