

# Spare Parts List for **Bishamon** Hydraulic Stackers

Battery Powered Lift and Drive Models

**Model ST50A•ST98A**

**Model ST98AWN•ST80AWW**

Note : For the units produced after July 2000

(No Pricing Shown)



**ST50A**

**Note :**

Ask Bishamon for Export Model Info. of Hyd. Unit and Electric Components. Serial No. Info. would be Required. Some parts Info. shown in this Parts List could be only for Japanese market.

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## Hydraulic Stacker

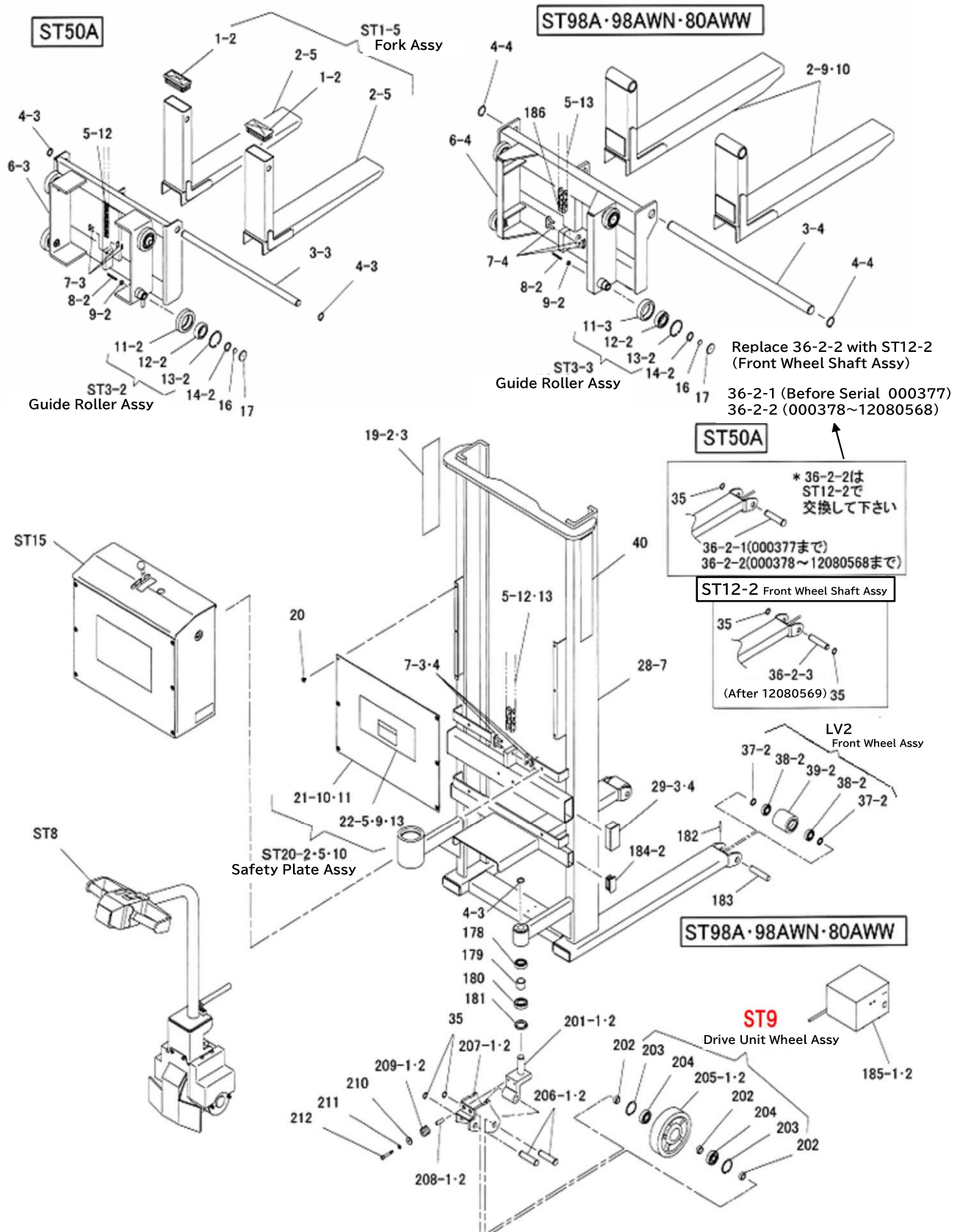
Model ST50A•ST98A

Model ST98AWN•ST80AWW

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# Battery Powered Lift and Drive Model (ST50A·98A·98AWN·80AWW)

## Frame

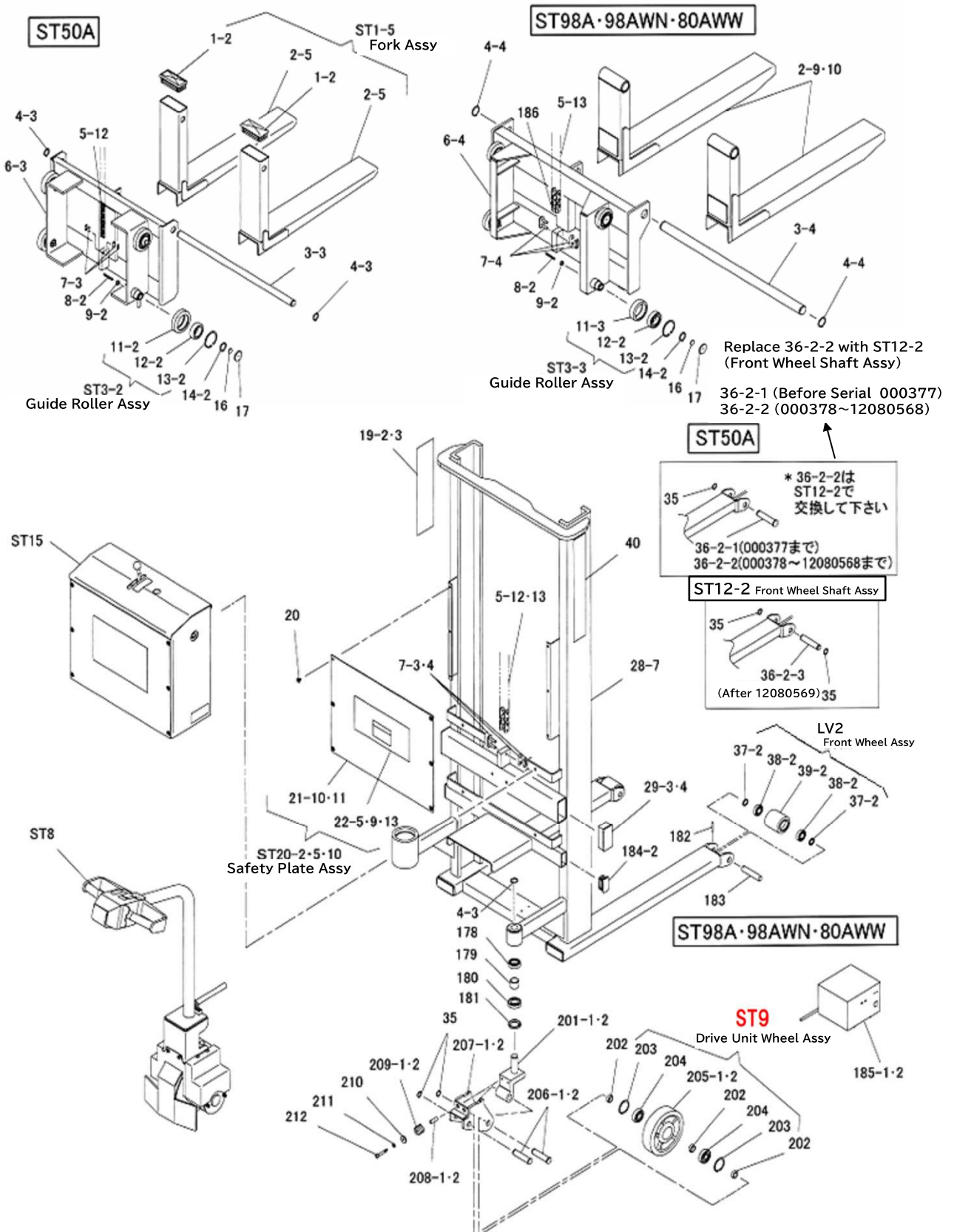


## Frame Battery Powered Lift and Drive Model (ST50A·98A·98AWN·80AWW)

| Ill.No. | Parts No. | Parts Name                                              | Standard                               | Note & Change Date Info. | Qty/Unit |     |       |       | Price/ea. |
|---------|-----------|---------------------------------------------------------|----------------------------------------|--------------------------|----------|-----|-------|-------|-----------|
|         |           |                                                         |                                        |                          | 50A      | 98A | 98AWN | 80AWW |           |
| ST1-5   | 76009310  | Fork Assy                                               | (1-2・2-5) 2ea./set                     | Color - Gray             | 1        |     |       |       |           |
| LV2     | 02585080  | Front Wheel Assy                                        | (37-2X2・38-2X2・39-2)                   | Old and New Compatible   | 2        | 2   | 2     | 2     |           |
| ST3-2-1 | 76009200  | Guide Roller Assy                                       | (11-2・12-2・13-2)                       | Replace with ST3-2-2     | 4        |     |       |       |           |
| ST3-2-2 | 02603250  | Guide Roller Assy                                       | (11-2・12-2・13-2)                       | Old and New Compatible   | 4        |     |       |       |           |
| ST3-3   | 76009600  | Guide Roller Assy                                       | (11-3・12-2・13-2)                       |                          |          | 4   | 4     | 4     |           |
| ST7-1   | 76010600  | Steering Wheel Assy                                     | (35・201-1・205-1~209-1・210-212)         |                          | 1        |     |       |       |           |
| ST7-2   | 76010700  | Steering Wheel Assy                                     | (35・201-2・202-204・205-2~209-2・210-212) |                          |          | 1   | 1     | 1     |           |
| ST9     | 76010740  | Drive Unit Wheel Assy                                   | (202~205-2)                            |                          |          | 1   | 1     | 1     |           |
| ST20-2  | 76010410  | Safety Plate Assy                                       | (21-10・22-5)                           |                          | 1        |     |       |       |           |
| ST20-5  | 76010470  | Safety Plate Assy                                       | (21-11・22-9)                           |                          |          |     |       | 1     |           |
| ST20-10 | 76010710  | Safety Plate Assy                                       | (21-11・22-13)                          |                          |          | 1   | 1     |       |           |
| ST15    | N/A       | Hyd. Unit Assy                                          |                                        | Not to be supplied       | 1        | 1   | 1     | 1     | N/A       |
| ST8     | 70020690  | Drive Unit Assy(353・400~431)                            |                                        | Refer to Page 10, 11     | 1        | 1   | 1     | 1     |           |
| ST12-2  | 76009230  | Front Wheel Shaft Assy                                  | (36-2-3・35X2)                          |                          | 2        |     |       |       |           |
| 1-2     | 52603721  | Fork Cap                                                | 110 x 49.5                             |                          | 2        |     |       |       |           |
| 2-5     | 02605282  | Fork                                                    |                                        | Color - Gray             | 2        |     |       |       |           |
| 2-9     | 00187800  | Fork                                                    |                                        | Color - Gray             |          |     |       | 2     |           |
| 2-10    | 02608260  | Fork                                                    |                                        | Color - Gray             |          | 2   | 2     |       |           |
| 3-3     | 12605661  | Fork Support Shaft                                      |                                        |                          | 1        |     |       |       |           |
| 3-4     | 12608666  | Fork Support Shaft                                      |                                        |                          |          | 1   | 1     | 1     |           |
| 4-3     | 80845015  | Snap Ring                                               | RR025                                  |                          | 3        | 1   | 1     | 1     |           |
| 4-4     | 80845022  | Snap Ring                                               | RR035                                  |                          |          | 2   | 2     | 2     |           |
| 5-12    | 80833071  | Roller Chain                                            | RS60-71L with Joint Link               |                          | 1        |     |       |       |           |
| 5-13    | 80833553  | Roller Chain                                            | RS80-53L with Joint Link + Offset Link |                          |          | 1   | 1     | 1     |           |
| 6-3     | 02605212  | Carriage                                                |                                        |                          | 1        |     |       |       |           |
| 6-4     | 02608213  | Carriage                                                |                                        |                          |          | 1   | 1     | 1     |           |
| 7-3     | 80839321  | Joint Link                                              | RS60                                   |                          | 2        |     |       |       |           |
| 7-4     | 80839343  | Joint Link                                              | RS80                                   |                          |          | 2   | 2     | 2     |           |
| 8-2     | 90960650  | Hex Socket Head Cap Screw                               | HSS0650                                |                          | 4        | 4   | 4     | 4     |           |
| 9-2     | 90930106  | Hex Nut                                                 | HNO6SE                                 |                          | 4        | 4   | 4     | 4     |           |
| 11-2    | 12603601  | Guide Roller                                            |                                        |                          | 4        |     |       |       |           |
| 11-3    | 12603600  | Guide Roller                                            |                                        |                          |          | 4   | 4     | 4     |           |
| 12-2    | 81046206  | Bearing                                                 | 6206ZZ                                 |                          | 4        | 4   | 4     | 4     |           |
| 13-2    | 80846036  | Snap Ring                                               | RR162                                  |                          | 4        | 4   | 4     | 4     |           |
| 14-2    | 80845019  | Snap Ring                                               | RR030                                  |                          | 4        | 4   | 4     | 4     |           |
| 16      | 12603681  | Shoe Collar                                             |                                        |                          | 4        | 4   | 4     | 4     |           |
| 17      | 10593980  | Side Shoe                                               |                                        |                          | 4        | 4   | 4     | 4     |           |
| 19-2    | 52003035  | Bishamon Label 280                                      |                                        |                          | 1        |     |       |       |           |
| 19-3    | 51311024  | Bishamon Label                                          |                                        |                          |          | 1   | 1     | 1     |           |
| 20      | 80821824  | Scrivet                                                 | 3820                                   |                          | 6        | 6   | 6     | 6     |           |
| 21-10   | 11139300  | Safety Plate                                            |                                        |                          | 1        |     |       |       |           |
| 21-11   | 11140940  | Safety Plate                                            |                                        |                          |          | 1   | 1     | 1     |           |
| 22-5    | 11130420  | Capacity Label                                          | 500kg with Load Center Diagram         |                          | 1        |     |       |       |           |
| 22-9    | 11137540  | Capacity Label                                          | 800kg with Load Center Diagram         |                          |          |     |       | 1     |           |
| 22-13   | 11187020  | Capacity Label                                          | 980kg with Load Center Diagram         |                          |          | 1   | 1     |       |           |
| 28-7    | N/A       | Frame (Not available because Frame is structural parts) |                                        |                          | 1        | 1   | 1     | 1     | N/A       |
| 29-3    | 80821859  | Rectangular Cap                                         | B-176 (Daisho)                         |                          | 2        |     |       |       |           |
| 29-4    | 80821858  | Rectangular Cap                                         | 108-21452 Taiyo                        |                          |          | 2   | 2     | 2     |           |
| 35      | 80845011  | Snap Ring (only ST50A)                                  | RR020 Qty was changed after 12080569   |                          | 4→6      | 2   | 2     | 2     |           |
| 36-2-1  | N/A       | Front Wheel Shaft                                       | L=100 for 6mm Bracket                  | Before 000483            | 2        |     |       |       | N/A       |
| 36-2-2  | N/A       | Front Wheel Shaft(L=96 4.5mm Bracket)                   | 000484~12080568                        | Replace with ST12-2      | 2        |     |       |       | N/A       |
| 36-2-3  | 12603280  | Front Wheel Shaft                                       | L=96 for 4.5mm Bracket                 | After 12080569           | 2        |     |       |       |           |
| 37-2    | 12604680  | Pulley Shaft Collar                                     |                                        | Old and New compatible   | 4        | 4   | 4     | 4     |           |
| 38-2    | 81046004  | Bearing                                                 | 6004ZZ                                 | Old and New compatible   | 4        | 4   | 4     | 4     |           |
| 39-2    | N/A       | Front Wheel                                             | V70X73                                 | Replace with LV2-2       | 2        | 2   | 2     | 2     | N/A       |

# Battery Powered Lift and Drive Model (ST50A·98A·98AWN·80AWW)

## Frame



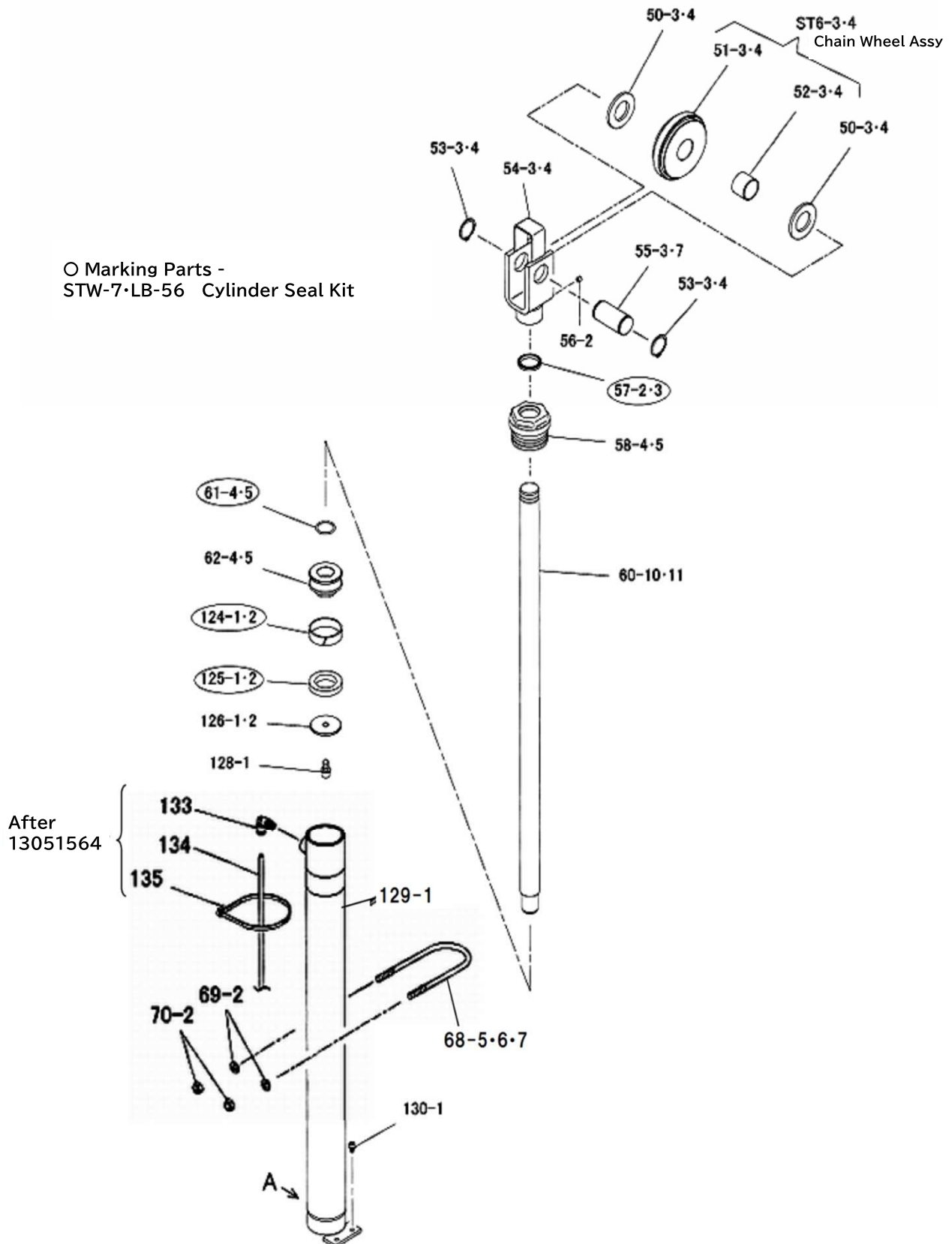
**Frame** Battery Powered Lift and Drive Model (ST50A•98A•98AWN•80AWW)

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# Battery Powered Lift and Drive Model (ST50A·98A·98AWN·80AWW)

## Cylinder

O Marking Parts -  
STW-7·LB-56 Cylinder Seal Kit

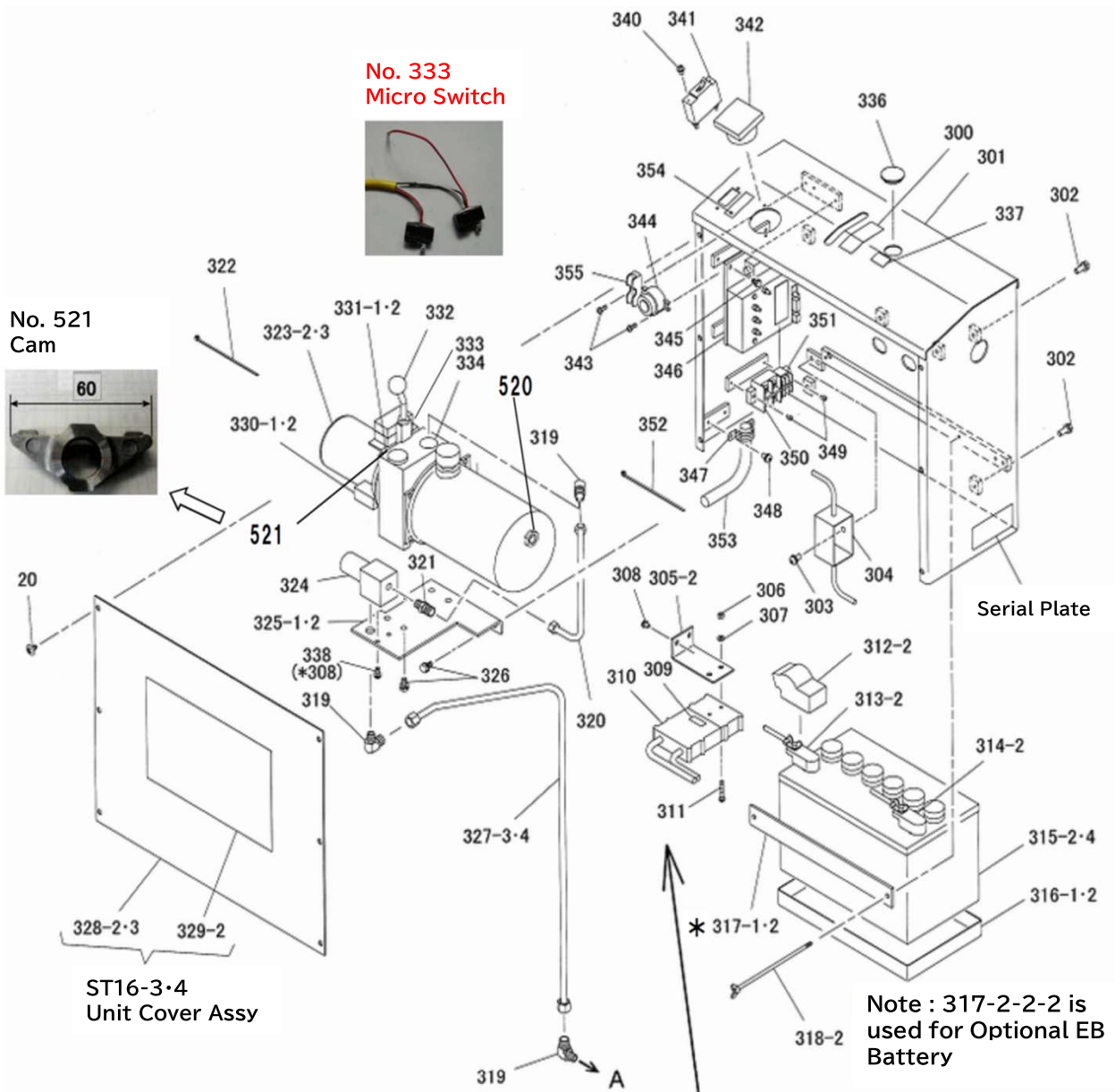


# Cylinder Battery Powered Lift and Drive Model (ST50A·98A·98AWN·80AWW)

| Ill. No. | Parts No. | Parts Name                             | Standard                                                    | Note & Change Date Info.             | Qty/Unit |     |       |       | Price/ea. |
|----------|-----------|----------------------------------------|-------------------------------------------------------------|--------------------------------------|----------|-----|-------|-------|-----------|
|          |           |                                        |                                                             |                                      | 50A      | 98A | 98AWN | 80AWW |           |
| ST6-3    | 76009320  | Chain Wheel Assy                       | (51-3・52-3)                                                 |                                      | 1        |     |       |       |           |
| ST6-4-1  | 76009620  | Chain Wheel Assy                       | (51-4-1・52-4)                                               | Before Mar. 2004                     |          | 1   | 1     | 1     |           |
| ST6-4-2  | 76009621  | Chain Wheel Assy                       | (51-4-2・52-4)                                               | After Apr. 2004                      |          | 1   | 1     | 1     |           |
| ST21-2   | 76010400  | Cylinder Assy                          | (57-2・58-4・60-10-2・61-4・62-4・124-1・125-1・126-1・128-1・129-1) | Old and New Compatible               | 1        |     |       |       |           |
| ST21-3   | 76010500  | Cylinder Assy                          | (57-3・58-5・60-11-2・61-5・62-5・124-2・125-2・126-2・128-1・129-1) | Old and New Compatible               |          | 1   | 1     | 1     |           |
| STW-7    | 76000060  | Cylinder Seal Kit                      | (57-2・61-4・124-1・125-1)                                     |                                      | 1        |     |       |       |           |
| LB-56    | 52594500  | Cylinder Seal Kit                      | (57-3・61-5・124-2・125-2)                                     |                                      |          | 1   | 1     | 1     |           |
| 50-3     | 90930730  | Flat Washer                            | PW30SE                                                      |                                      | 2        |     |       |       |           |
| 50-4     | 90930736  | Flat Washer                            | PW36SE                                                      |                                      |          | 2   | 2     | 2     |           |
| 51-3     | 12606531  | Chain Wheel                            |                                                             |                                      | 1        |     |       |       |           |
| 51-4-1   | 12609261  | Chain Wheel                            |                                                             | Before Mar. 2004                     |          | 1   | 1     | 1     |           |
| 51-4-2   | 12609262  | Chain Wheel                            |                                                             | After Apr. 2004                      |          | 1   | 1     | 1     |           |
| 52-3     | 81630331  | #80 Bushing                            | 80B-3025 (Oiles)                                            |                                      | 1        |     |       |       |           |
| 52-4     | 81635030  | #80 Bushing                            | 80B-3530 (Oiles)                                            |                                      |          | 1   | 1     | 1     |           |
| 53-3     | 80845019  | Snap Ring                              | RR030                                                       |                                      | 2        |     |       |       |           |
| 53-4     | 80845022  | Snap Ring                              | RR035                                                       |                                      |          | 2   | 2     | 2     |           |
| 54-3     | 02605712  | Chain Bracket                          |                                                             |                                      | 1        |     |       |       |           |
| 54-4     | 02608624  | Chain Bracket                          |                                                             |                                      |          | 1   | 1     | 1     |           |
| 55-3     | 11130620  | Chain Wheel Shaft                      |                                                             |                                      | 1        |     |       |       |           |
| 55-7     | 12609271  | Chain Wheel Shaft                      |                                                             |                                      |          | 1   | 1     | 1     |           |
| 56-2     | 90960808  | Hex Socket Head Screw                  | HSS0808                                                     |                                      | 1        | 1   | 1     | 1     |           |
| 57-2     | 80803030  | Dust Seal                              | SDR-30 Sakagami                                             |                                      | 1        |     |       |       |           |
| 57-3     | 80803035  | Dust Seal                              | SDR-35 Sakagami                                             |                                      |          | 1   | 1     | 1     |           |
| 58-4     | 12696530  | Top Nut                                |                                                             |                                      | 1        |     |       |       |           |
| 58-5     | 12594370  | Cylinder Cover                         |                                                             |                                      |          | 1   | 1     | 1     |           |
| 60-10-1  | 11139400  | Piston Rod                             | Before 07050966                                             |                                      | 1        |     |       |       |           |
| 60-10-2  | 11139401  | Piston Rod                             | After 07050967                                              |                                      | 1        |     |       |       |           |
| 60-11-1  | 11141020  | Piston Rod                             | Before 07020720                                             |                                      |          | 1   | 1     | 1     |           |
| 60-11-2  | 11141021  | Piston Rod                             | After 07020721                                              |                                      |          | 1   | 1     | 1     |           |
| 61-4     | 80800016  | O Ring                                 | P16                                                         |                                      | 1        |     |       |       |           |
| 61-5     | 80800030  | O Ring                                 | P30                                                         |                                      |          | 1   | 1     | 1     |           |
| 62-4     | 12671570  | Piston                                 |                                                             |                                      | 1        |     |       |       |           |
| 62-5     | 12594350  | S Piston                               |                                                             |                                      |          | 1   | 1     | 1     |           |
| 68-6     | 12600550  | Cylinder Holder                        |                                                             |                                      | 1        |     |       |       |           |
| 68-7     | 11141030  | Cylinder Holder                        |                                                             |                                      |          | 1   | 1     | 1     |           |
| 69-2     | 90930108  | Hex Nut                                | HN08SE                                                      |                                      | 1        |     |       |       |           |
| 70-2     | 90930508  | Spring Washer                          | SW08SE                                                      |                                      |          | 1   | 1     | 1     |           |
| 124-1    | 80804045  | Wearing                                | SW-45 Sakagami                                              |                                      | 1        |     |       |       |           |
| 124-2    | 80804060  | Wearing                                | SW-60 Sakagami                                              |                                      |          | 1   | 1     | 1     |           |
| 125-1    | 80801532  | U Packing                              | KY-32 Sakagami                                              |                                      | 1        |     |       |       |           |
| 125-2    | 80801541  | U Packing                              | KY604012 Sakagami                                           |                                      |          | 1   | 1     | 1     |           |
| 126-1    | 12696570  | Piston Washer                          |                                                             |                                      | 1        |     |       |       |           |
| 126-2    | 12594360  | Packing Holder                         |                                                             |                                      |          | 1   | 1     | 1     |           |
| 128-1    | 90761020  | Hex Socket Head Cap Bolt               | HSBS1020                                                    |                                      | 1        | 1   | 1     | 1     |           |
| 129-1    | N/A       | Cylinder (To be supplied only by Assy) |                                                             |                                      | 1        | 1   | 1     | 1     | N/A       |
| 130-1    | 90760612  | Hex Socket Head Cap Bolt               | HSBS0612                                                    |                                      | 2        | 2   | 2     | 2     |           |
| 133      | 80817225  | Elbow Union                            | ZL-061                                                      |                                      | 1        | 1   | 1     | 1     |           |
| 134-2    | 11139440  | Overflow Tube                          | F1506-760 Aoi After 13051564                                |                                      | 1        |     |       |       |           |
| 134-3    | 11141160  | Overflow Tube                          | F1506-815 Aoi After 13051564                                |                                      |          | 1   | 1     | 1     |           |
| 135      | 80825295  | Plastic Strap                          | CV-300                                                      | 1ea. (Cylinder),<br>2ea. (Hyd. Unit) | 3        | 3   | 3     | 3     |           |

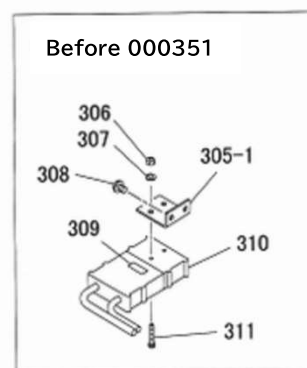
# Battery Powered Lift and Drive Model (ST50A·98A·98AWN·80AWW)

## Hyd. Unit



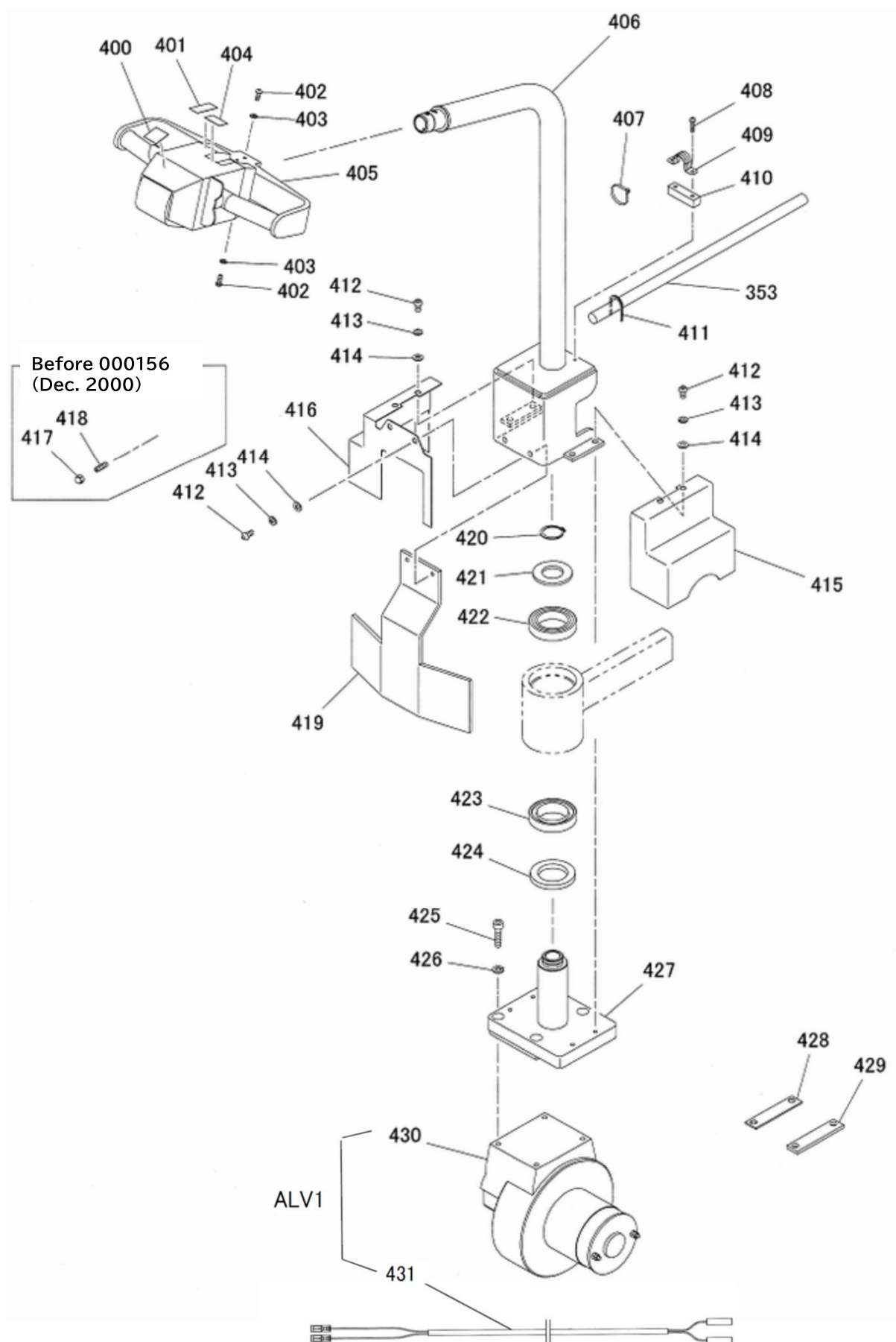
Serial No. Info. for No. 308  
 ·ST50A Before 07060107  
 ·ST98A·ST80AWW Before 07060679

No. 522 (Option)  
 Handle for Charging  
 Socket



## Hyd. Unit    Battery Powered Lift and Drive Model (ST50A·98A·98AWN·80AWW)

| Ill.No.   | Parts No. | Parts Name                  | Standard                                  | Note & Change Date Info. | Qty/Unit |     |       |       | Price/ea. |
|-----------|-----------|-----------------------------|-------------------------------------------|--------------------------|----------|-----|-------|-------|-----------|
|           |           |                             |                                           |                          | 50A      | 98A | 98AWN | 80AWW |           |
| ST15      | N/A       | Hyd. Unit Assy              | (20・300-321・323-334・336-338・340-355)      |                          | 1        | 1   | 1     | 1     | N/A       |
| ST16-3    | 76010630  | Unit Cover Assy             | (328-3・329-2)                             |                          | 1        |     |       |       |           |
| ST16-4    | 76010730  | Unit Cover Assy             | (328-2・329-2)                             |                          |          | 1   | 1     | 1     |           |
| 20        | 80821824  | Scrivet                     | 3820                                      |                          | 6        | 6   | 6     | 6     |           |
| 300       | 52600401  | Function Label              |                                           |                          | 1        | 1   | 1     | 1     |           |
| 301       | N/A       | Unit Case (Assy)            |                                           | Not to be supplied       | 1        | 1   | 1     | 1     | N/A       |
| 302       | 90890820  | Hex Bolt with Washer        | HBS0820SE                                 |                          | 4        | 4   | 4     | 4     |           |
| 303       | 90800815  | Round Head Screw            | MSRS0815SE                                |                          | 1        | 1   | 1     | 1     |           |
| 304       | 80819681  | Fuse Holder                 | E110B-100A                                |                          | 1        | 1   | 1     | 1     |           |
|           | 80819691  | Fuse                        | 100A                                      |                          | 1        | 1   | 1     | 1     |           |
| 305-1     | 12593440  | Connector Fixing Plate      |                                           | Before 000351            | 1        | 1   | 1     | 1     |           |
| 305-2     | 11186510  | Connector Fixing Plate      |                                           | After 000352             | 1        | 1   | 1     | 1     |           |
| 306       | 90930106  | Hex Nut                     | HNO6SE                                    |                          | 2        | 2   | 2     | 2     |           |
| 307       | 90930506  | Spring Washer               | SWO6SE                                    |                          | 2        | 2   | 2     | 2     |           |
| 308       | 90800610  | Round Head Screw            | MSRS0610SE Qty was changed after 07060108 |                          | 4 → 2    |     |       |       |           |
| 309       | 52594420  | Charging Inlet Label        |                                           |                          | 1        | 1   | 1     | 1     |           |
| 310       | 80819951  | Battery Connector           | CB175 P/N 149112                          |                          | 2        | 2   | 2     | 2     |           |
| 311       | 90940635  | Pan Head Screw              | MSRO635SE                                 |                          | 2        | 2   | 2     | 2     |           |
| 312-2     | 52600571  | Terminal Cover (Large) R    |                                           |                          | 1        | 1   | 1     | 1     |           |
| 313-2     | 80819900  | Battery Terminal            | No. 9P+                                   |                          | 1        | 1   | 1     | 1     |           |
| 314-2     | 80819901  | Battery Terminal            | No. 9N-                                   |                          | 1        | 1   | 1     | 1     |           |
| 315-2     | 80819811  | Battery                     | GR-95D31R (NX120-7)                       |                          | 1        |     |       |       |           |
| 315-4     | 80819812  | Battery                     | SG-130E41R (NX200-10)                     |                          |          | 1   | 1     | 1     |           |
| 316-1     | 52600591  | Battery Plate               |                                           |                          | 1        |     |       |       |           |
| 316-2     | 11951200  | Battery Plate               |                                           |                          |          | 1   | 1     | 1     |           |
| 317-1     | 12624821  | Battery Clamp Plate         |                                           |                          | 1        |     |       |       |           |
| 317-2-1   | 11951180  | Battery Clamp Plate         |                                           | Before 07060457          |          | 1   | 1     | 1     |           |
| 317-2-2-1 | 11951190  | Battery Clamp Plate         |                                           | After 07060458           |          | 1   | 1     | 1     |           |
| 317-2-2-2 | 11951180  | Battery Clamp Plate         | for EB Battery (Option)                   |                          |          | 1   | 1     | 1     |           |
| 318-2     | 02624450  | Battery Fixing Bolt         |                                           |                          | 2        | 2   | 2     | 2     |           |
| 319       | 80813910  | 90° Elbow                   | HS-E1-10X1/4                              |                          | 3        | 3   | 3     | 3     |           |
| 320       | 76010330  | Pressure Pipe B Assy        | with Sleeve and Nut                       |                          | 1        | 1   | 1     | 1     |           |
| 321       | 80814910  | Connector                   | HS-S-10X1/4                               |                          | 1        | 1   | 1     | 1     |           |
| 323-2     | 70819642  | Power Pack                  | DCCA1.7F207AC1H 426L                      |                          | 1        |     |       |       |           |
| 323-3-1   | 80819553  | Power Pack                  | DCCA1.7F210AC3H 427H                      | Before 11121511          |          | 1   | 1     | 1     |           |
| 323-3-2   | 80819554  | Power Pack (024427H)        | DCCA1.7S210AC3H 024H                      | After 11121512           |          | 1   | 1     | 1     |           |
| 324       | 80819405  | Solenoid Valve Assy         | 958-22-12S                                |                          | 1        | 1   | 1     | 1     |           |
| 325-1     | N/A       | Unit Base (No knotching)    | Before 08051169                           | Comptible with 325-3     | 1        | 1   | 1     | 1     | N/A       |
| 325-2     | N/A       | Unit Base (W/knotching)     | (08051170 - 11121511)                     | Comptible with 325-3     | 1        | 1   | 1     | 1     | N/A       |
| 325-3     | 12594492  | Unit Base (W/knotching)     | Knotching - 50X140                        | (11121512 - 13101529)    | 1        | 1   | 1     | 1     |           |
| 325-4     | 12594493  | Unit Base (W/knotching)     | Knotching - (50X140 + 10X55)              | After 13101530           | 1        | 1   | 1     | 1     |           |
| 326       | 90890815  | Hex Bolt with Washer        | HBS0815SE                                 |                          | 6        | 6   | 6     | 6     |           |
| 327-3-1   | 76010520  | Pressure Pipe A Assy        | with Sleeve and Nut                       | Before 08072061          |          | 1   | 1     | 1     |           |
| 327-3-2   | 76010521  | Pressure Pipe A Assy        | with Sleeve and Nut                       | After 08072062           |          | 1   | 1     | 1     |           |
| 327-4-1   | 76010640  | Pressure Pipe A Assy        | with Sleeve and Nut                       | Before 08072061          | 1        |     |       |       |           |
| 327-4-2   | 76010641  | Pressure Pipe A Assy        | with Sleeve and Nut                       | After 08072062           | 1        |     |       |       |           |
| 328-2     | 11141080  | Unit Cover Front            |                                           |                          |          | 1   | 1     | 1     |           |
| 328-3     | 11186350  | Unit Cover Front            |                                           |                          | 1        |     |       |       |           |
| 329-2     | 11128740  | Caution Label               |                                           |                          | 1        | 1   | 1     | 1     |           |
| 330-1     | 80819409  | Contacto                    | (used for 323-2)                          |                          | 1        |     |       |       |           |
| 330-2-1   | N/A       | Contacto (used for 323-3・1) |                                           | Before 11121511          |          | 1   | 1     | 1     | N/A       |
| 330-2-2   | 70819409  | Contacto (used for 323-3・2) | (used for 323-3-2)                        | After 11121512           |          | 1   | 1     | 1     |           |
| 330-2-3   | 70819404  | Contacto                    | (used for 323-3-1)                        |                          |          | 1   | 1     | 1     |           |
| 331-1     | 24998376  | Carbon Brushing             | (used for 323-2) 4ea./set                 |                          | 1        |     |       |       |           |
| 331-2     | 24998377  | Carbon Brushing             | (used for 323-3) 4ea./set                 |                          |          | 1   | 1     | 1     |           |
| 332       | 24997600  | Lever Assy with Grip Ball   |                                           |                          | 1        | 1   | 1     | 1     |           |
| 333       | 80819398  | Micro Switch                | Z-15GW 2255-MD (for lifting)              | 2ea./set                 | 1        | 1   | 1     | 1     |           |
| 334       | 76011110  | Power Pack Lever Spring     |                                           |                          | 1        | 1   | 1     | 1     |           |
| 336       | 80821802  | Rubber Cap                  | OB-13 (Black)                             | After 000488             | 1        | 1   | 1     | 1     |           |
| 337       | 11138270  | Oil Filling Port Label      |                                           | After 000488             | 1        | 1   | 1     | 1     |           |
| 338       | 90780615  | Round Head Screw            | MSRPS0615SE                               | After 07060108           | 2        | 2   | 2     | 2     |           |
| 340       | 90800306  | Round Head Screw            | MSRPS0306SE                               |                          | 2        | 2   | 2     | 2     |           |
| 341-1     | N/A       | Circuit Contactor           | NRBM1100-40AMD Izumi                      | Before 000189            | 1        | 1   | 1     | 1     | N/A       |
| 341-2     | 76010650  | Circuit Contactor           | CP51BS/40DC                               | After 000190             | 1        | 1   | 1     | 1     |           |
| 342       | 80819960  | Voltage Meter               | FM-60 16V                                 |                          | 1        | 1   | 1     | 1     |           |
| 343       | 90800412  | Round Head Screw            | MSRS0412SE                                |                          | 3        | 3   | 3     | 3     |           |
| 344       | 80820868  | Buzzar                      | EB1112                                    |                          | 1        | 1   | 1     | 1     |           |
| 345       | 90890612  | Hex Bolt with Washer        | HBS0612SE                                 |                          | 2        | 2   | 2     | 2     |           |
| 346       | 80822350  | Control Unit                | CFR                                       |                          | 1        | 1   | 1     | 1     |           |
| 347-1     | 80821520  | Saddle                      | AC-20                                     |                          | 1        | 1   | 1     | 1     |           |
| 347-2     | 80821524  | Saddle                      | AC-24                                     |                          | 1        | 1   | 1     | 1     |           |
| 348       | 90800508  | Round Head Screw            | MSRS0508SE                                |                          | 2        | 2   | 2     | 2     |           |
| 349       | 90800408  | Round Head Screw            | MSRS0408SE                                |                          | 2        | 2   | 2     | 2     |           |
| 350       | 80821430  | Terminal Block              | TU-80X2UD                                 |                          | 1        | 1   | 1     | 1     |           |
| 351       | 80821288  | Terminal Block              | TU-15X3UD                                 |                          | 1        | 1   | 1     | 1     |           |
| 352       | 80825291  | Plastic Strap               | CV-150 Qty was changed after 08070807     |                          | 10 → 11  |     |       |       |           |
| 353       | 76010621  | SF Tube                     | SF-19 SSK L=500                           | Old and New Compatible   | 1        | 1   | 1     | 1     |           |
| 354       | 11950040  | Main Switch Label           |                                           |                          | 1        | 1   | 1     | 1     |           |
| 355       | 80662400  | Fuse Holder                 | F-10                                      |                          | 1        | 1   | 1     | 1     |           |
| 520       | 76011210  | Plug Assy                   |                                           |                          | 1        | 1   | 1     | 1     |           |
| 521       | 76011140  | Cam                         |                                           |                          | 1        | 1   | 1     | 1     |           |
| 522       | 24008990  | Charging Socket Handle      | (Option)                                  |                          | 1        | 1   | 1     | 1     |           |



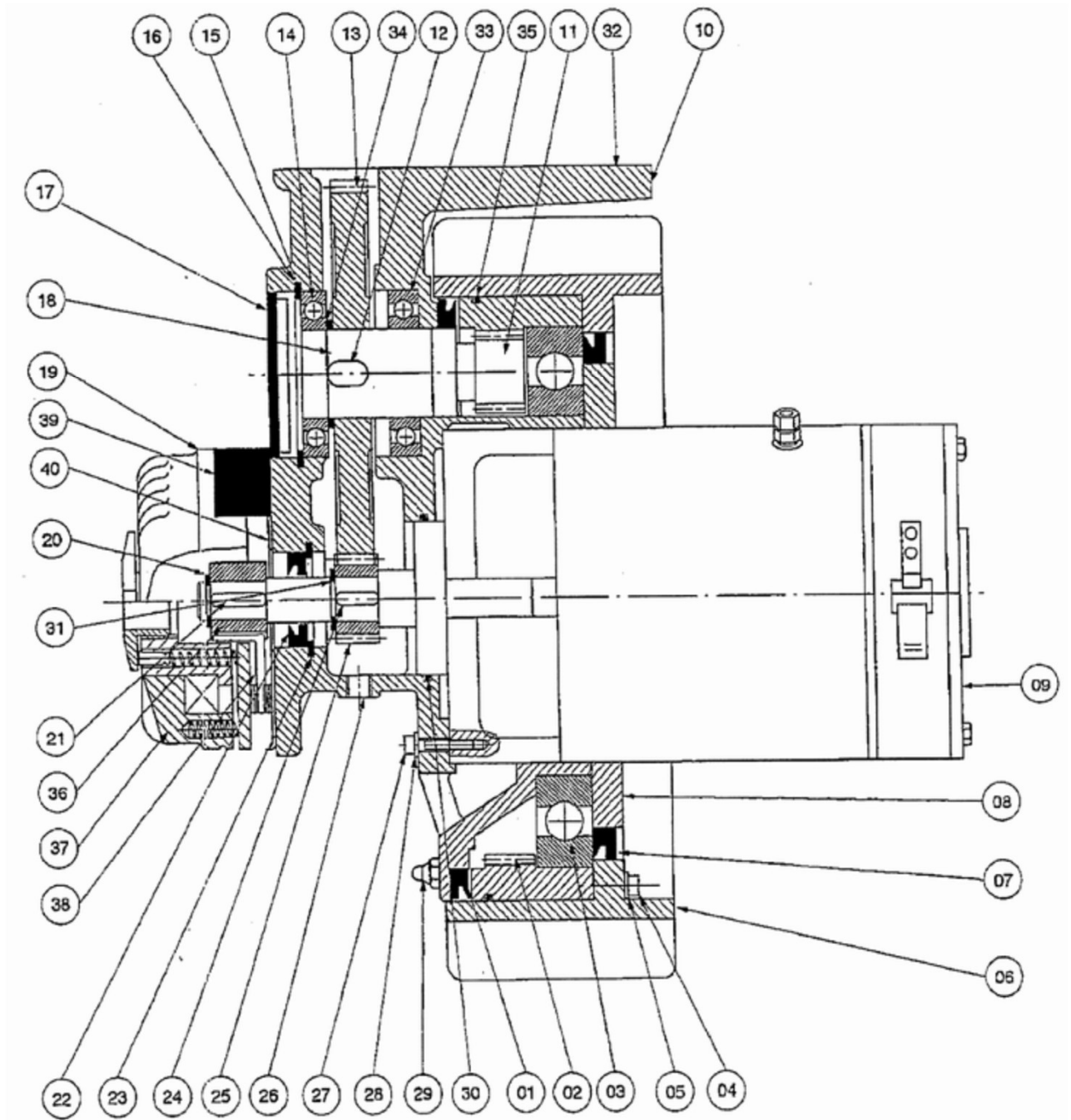
# Drive Unit Assy

## Battery Powered Lift and Drive Model (ST50A·98A·98AWN·80AWW)

| Ill. No. | Parts No. | Parts Name                      | Standard                               | Note & Change Date Info.          | Qty /Unit | Price/ea. |
|----------|-----------|---------------------------------|----------------------------------------|-----------------------------------|-----------|-----------|
| ST8-1    | N/A       | Drive Unit Assy (353・400~430-1) | Before 14051553                        | Replace with ST8-2                | 1         | N/A       |
| ST8-2    | 70020690  | Drive Unit Assy (353・400~431)   | After 14051554                         |                                   | 1         |           |
| ALV1     | 70020680  | Drive Wheel Assy                | (430-2・431)                            | Before 14051553                   | 1         |           |
|          |           |                                 |                                        |                                   |           |           |
| 353      | 76010621  | SF Tube                         | SF-19 SSK L=500                        | Old and New Compatible            | 1         |           |
| 400      | 11950060  | Horn Label                      |                                        |                                   | 1         |           |
| 401      | 11950020  | Drive Operation Label           |                                        |                                   | 1         |           |
| 402      | 91040615  | Hex Socket Head Cap Bolt        | HSR0615SE                              |                                   | 4         |           |
| 403      | 90930566  | Spring Washer                   | SW06SE                                 |                                   | 4         |           |
| 404      | 11186011  | Drive Switch Label              |                                        |                                   | 1         |           |
| 405      | 80822344  | Switch Box                      | CFR                                    |                                   | 1         |           |
| 406      | 01735091  | Handle                          |                                        |                                   | 1         |           |
| 407      | 80825291  | Plastic Strap                   | CV-150                                 |                                   | 2         |           |
| 408-1    | 90800508  | Round Head Screw                | MSRS0508SE                             | Before 000351                     | 2         |           |
| 408-2    | 90800525  | Round Head Screw                | MSRS0525SE                             | After 000352                      | 2         |           |
| 409-1    | 80821520  | Saddle                          | AC-20                                  | Before 000351                     | 1         |           |
| 409-2    | 80821524  | Saddle                          | AC-24                                  | After 000352                      | 1         |           |
| 410      | 11186500  | Saddle Base                     |                                        | After 000352                      | 1         |           |
| 411-1    | N/A       | Flexible Bushing                | KG-032 L=135                           | Replace with 411-2                | 1         | N/A       |
| 411-2    | 80821873  | Oval Groove Rubber              | t1.6 L=115                             | Old and New Compatible            | 1         |           |
| 412      | 91040816  | Hex Socket Head Cap Bolt        | HSR0815SE Qty was changed after 000157 |                                   | 4→6       |           |
| 413      | 90930589  | Spring Washer                   | SW08SE Qty was changed after 000157    |                                   | 4→6       |           |
| 414      | 90930788  | Flat Washer                     | PW08SE Qty was changed after 000157    |                                   | 4→6       |           |
| 415      | 12594630  | Motor Cover                     |                                        |                                   | 1         |           |
| 416-1    | 11186070  | Brake Cover                     |                                        | Before Apr. 2003                  | 1         |           |
| 416-2    | 12594620  | Brake Cover                     |                                        | After May. 2003                   | 1         |           |
| 417      | 90932409  | Hex Nut                         | HGN08SE                                | Before 000156                     | 2         |           |
| 418      | 90962825  | Hex Socket Head Cap Screw       | HSS0825                                | Before 000156                     | 2         |           |
| 419      | 11186110  | Foot Guard                      |                                        |                                   | 1         |           |
| 420      | 80845022  | Snap Ring                       | RR035                                  |                                   | 1         |           |
| 421      | 90930736  | Flat Washer                     | PW36SE                                 |                                   | 1         |           |
| 422      | 81146010  | Ball Bearing                    | 6010-NSL                               |                                   | 1         |           |
| 423      | 81230310  | Taper Roller Bearing            | 32010J                                 |                                   | 1         |           |
| 424      | 11950300  | Caster Collar                   |                                        |                                   | 1         |           |
| 425      | 90921040  | Hex Socket Head Cap Bolt        | HSB1040                                |                                   | 4         |           |
| 426      | 90930510  | Spring Washer                   | SW10SE                                 |                                   | 4         |           |
| 427      | 01735110  | Handle Base                     |                                        |                                   | 1         |           |
| 428      | 11186130  | Drive Wheel Adjust Washer A     | 3X25-110                               |                                   | 4         |           |
| 429      | 11186150  | Drive Wheel Adjust Washer B     | 6X25-110                               |                                   | 2         |           |
| 430-1    | N/A       | Drive Wheel (113-MP-NV-Q 400W)  | Before 14051553                        | Replace with ALV1                 | 1         | N/A       |
| 430-2    | 85010622  | Drive Wheel (113-MP-NV-Q FL08)  | After 14051554                         |                                   | 1         |           |
| 431      | 76010671  | Brake Cable                     | VCT531X1.25SX20-1250                   |                                   | 1         |           |
|          |           |                                 |                                        |                                   |           |           |
|          | N/A       | Drive Wheel Brake               | Before 14051553                        | Replace with Brake Assy (Page 13) | 1         | N/A       |
|          | 72800050  | Brake Assy                      | After 14051554                         | Refer to 19-2 (Page 13)           | 1         |           |
|          |           |                                 |                                        |                                   |           |           |
|          |           |                                 |                                        |                                   |           |           |
|          |           |                                 |                                        |                                   |           |           |
|          |           |                                 |                                        |                                   |           |           |
|          |           |                                 |                                        |                                   |           |           |

## Battery Powered Lift and Drive Model

### Drive Wheel Assy

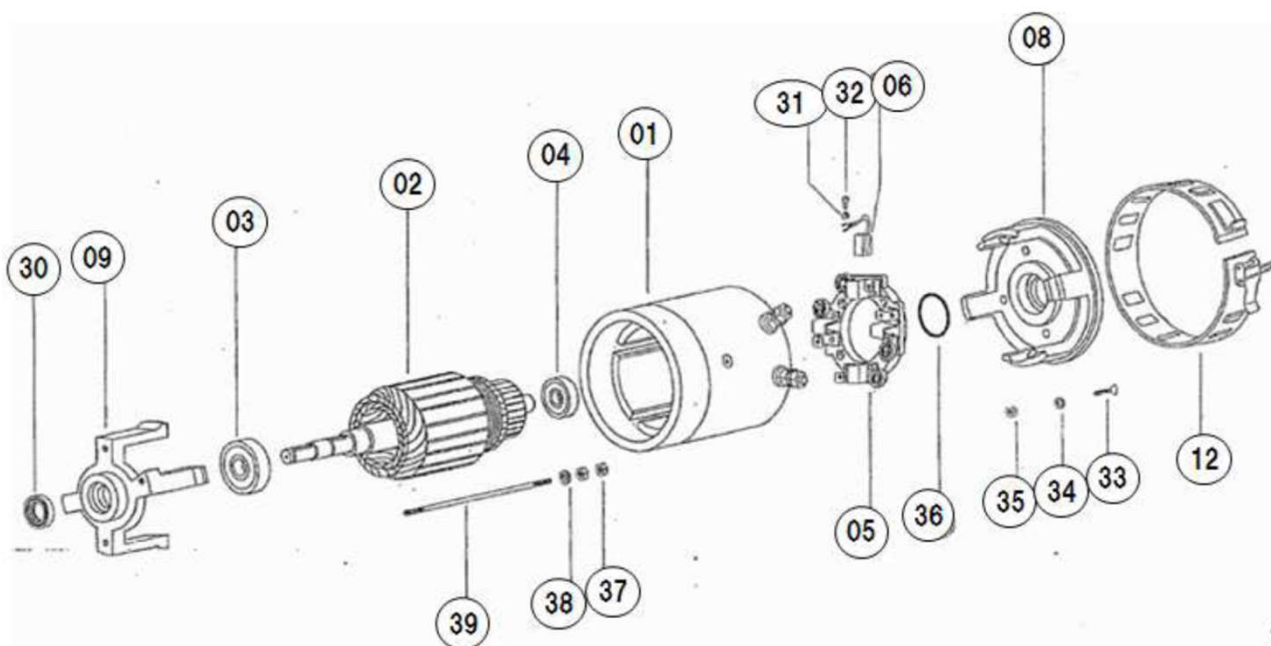


# Drive Wheel Assy

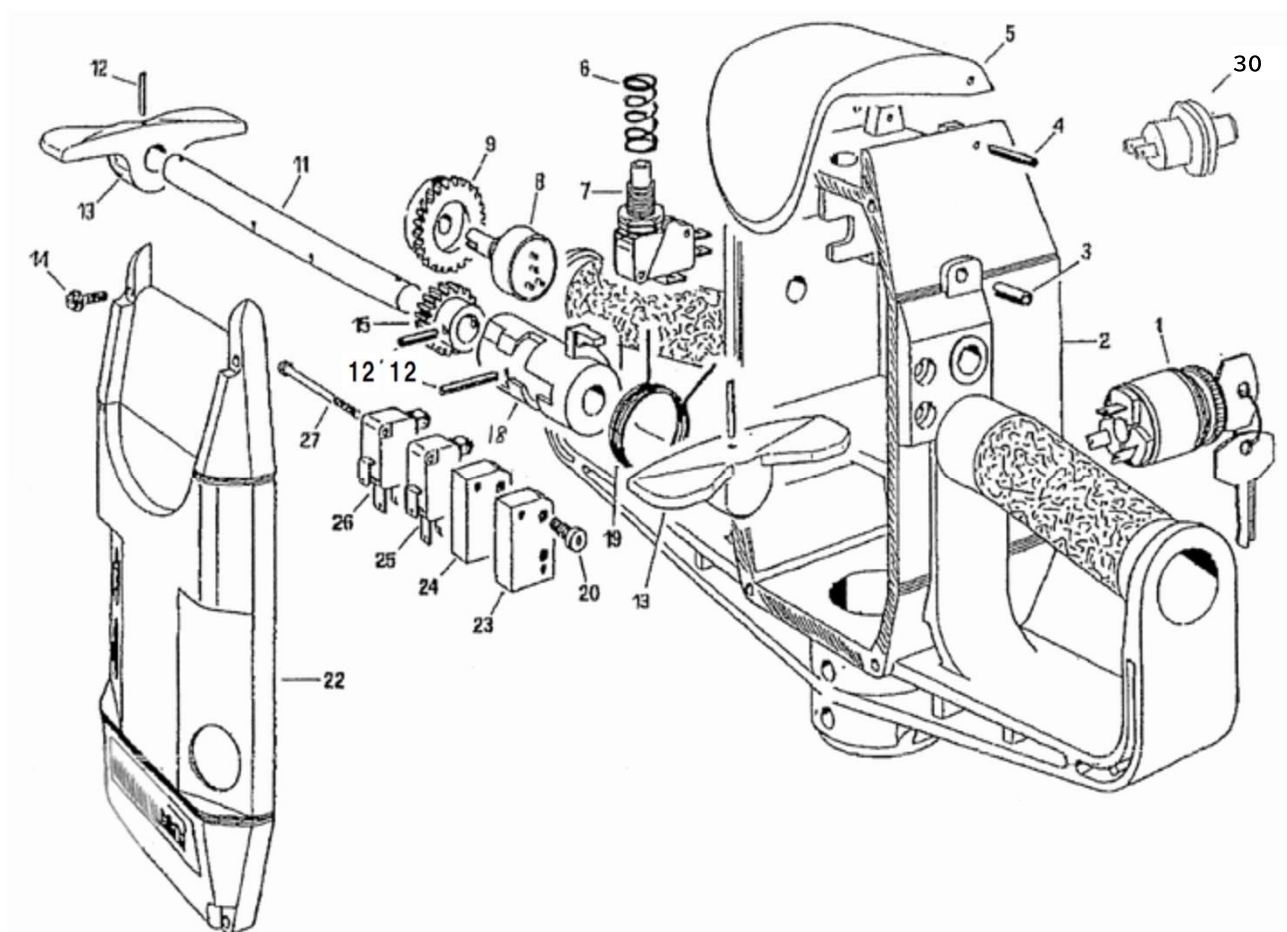
## Battery Powered Lift and Drive Model (ST50A·98A·98AWN·80AWW)

| Ill. No. | Parts No. | Parts Name                     | Standard         | Note & Change Date Info. | Qty /Unit | Price/ea. |
|----------|-----------|--------------------------------|------------------|--------------------------|-----------|-----------|
| 430-1    | N/A       | Drive Wheel (113-MP-NV-Q 400W) | Before 14051553  | Replace with ALV1 (P67)  | 1         | N/A       |
| 430-2    | 85010622  | Drive Wheel                    | 113-MP-NV-Q FL08 | After 14051554           | 1         |           |
|          |           |                                |                  |                          |           |           |
| 1        | 72800001  | Oil Seal                       |                  |                          | 1         |           |
| 2        | 72800002  | Crown Gear                     |                  |                          | 1         | Inquire   |
| 3        | 72800003  | Bearing                        |                  |                          | 1         |           |
| 4        | 72800004  | Screw                          |                  |                          | 8         | Inquire   |
| 5        | 72800005  | Washer                         |                  |                          | 8         | Inquire   |
| 6        | 72800006  | Wheel                          |                  |                          | 1         |           |
| 7        | 72800007  | Oil Seal                       |                  |                          | 1         |           |
| 8        | 72800008  | Ring                           |                  |                          | 1         | Inquire   |
| 9        | 72800009  | DC Motor                       |                  |                          | 1         | Inquire   |
| 10       | 72800010  | Support                        |                  |                          | 1         | Inquire   |
| 11       | 72800011  | Pinion                         |                  |                          | 1         | Inquire   |
| 12       | 72800012  | Key                            |                  |                          | 1         | Inquire   |
| 13       | 72800013  | Crown Gear                     |                  |                          | 1         | Inquire   |
| 14       | 72800014  | Bearing                        |                  |                          | 1         | Inquire   |
| 15       | 72800015  | Spacer                         |                  |                          | 3         | Inquire   |
| 16       | 72800016  | Snap Ring                      |                  |                          | 1         | Inquire   |
| 17       | 72800017  | Cap                            |                  |                          | 1         | Inquire   |
| 18       | 72800018  | Snap Ring                      |                  |                          | 1         | Inquire   |
| 19-1     | 72800019  | Brake                          | Before 14051553  | Replace with 19-2        | 1         | N/A       |
| 19-2     | 72800050  | Brake Assy                     | After 14051554   |                          | 1         |           |
| 20       | 72800020  | Snap Ring                      |                  |                          | 1         | Inquire   |
| 21       | 72800021  | Key                            | 5X5X18           |                          | 1         | Inquire   |
| 22       | 72800022  | Oil Seal                       |                  |                          | 1         |           |
| 23       | 72800023  | Snap Ring                      |                  |                          | 1         | Inquire   |
| 24       | 72800024  | Key                            | 5X5X14           |                          | 1         | Inquire   |
| 25       | 72800025  | Pinion                         |                  |                          | 1         |           |
| 26       | 72800026  | Cap                            | M10X1            |                          | 1         | Inquire   |
| 27       | 72800027  | Screw                          | M6X20            |                          | 3         | Inquire   |
| 28       | 72800028  | Washer                         |                  |                          | 3         | Inquire   |
| 29       | 72800029  | Grease Fitting                 |                  |                          | 1         | Inquire   |
| 30       | 72800030  | O Ring                         |                  |                          | 1         |           |
| 31       | 72800031  | Snap Ring                      |                  |                          | 1         | Inquire   |
| 32       | 72800032  | Seal                           |                  |                          | 1         | Inquire   |
| 33       | 72800033  | Bearing                        |                  |                          | 1         | Inquire   |
| 34       | 72800034  | Spacer                         |                  |                          | 1         | Inquire   |
| 35       | 72800035  | O Ring                         |                  |                          | 1         | Inquire   |
| 36       | 72800036  | Hub                            |                  |                          | 1         |           |
| 37       | 72800037  | Brake Magnet                   |                  |                          | 1         | Inquire   |
| 38       | 72800038  | Brake Disc                     |                  |                          | 1         | Inquire   |
| 39       | 72800039  | Cover                          |                  |                          | 1         |           |
| 40       | 72800040  | Plate                          |                  |                          | 1         | Inquire   |
|          |           |                                |                  |                          |           |           |
|          |           |                                |                  |                          |           |           |
|          |           |                                |                  |                          |           |           |
|          |           |                                |                  |                          |           |           |

## Motor for Drive Wheel



## Control Handle



## Motor for Drive Wheel

| Ill.No. | Parts No. | Parts Name           | Standard | Note & Change Date Info. | Qty /Unit | Price/ea. |
|---------|-----------|----------------------|----------|--------------------------|-----------|-----------|
| 1       | 72801001  | Motor Case           |          |                          | 1         | Inquire   |
| 2       | 72801002  | Armature             |          |                          | 1         |           |
| 3       | 72801003  | Bearing              |          |                          | 1         |           |
| 4       | 72801004  | Bearing              |          |                          | 1         |           |
| 5       | 72801005  | Brush Holder         |          |                          | 1         | Inquire   |
| 6       | 72801006  | Brush                |          |                          | 4         |           |
| 8       | 72801008  | Brush Holder Support |          |                          | 1         | Inquire   |
| 9       | 72801009  | Flange               |          |                          | 1         |           |
| 12      | 72801012  | Clamp                |          |                          | 1         | Inquire   |
| 30      | 72801030  | Oil Seal             |          |                          | 1         |           |
| 31      | 72801031  | Washer               |          |                          | 4         | Inquire   |
| 32      | 72801032  | Screw                |          |                          | 4         | Inquire   |
| 33      | 72801033  | Screw                |          |                          | 4         | Inquire   |
| 34      | 72801034  | Washer               |          |                          | 4         | Inquire   |
| 35      | 72801035  | Nut                  |          |                          | 4         | Inquire   |
| 36      | 72801036  | O Ring               |          |                          | 1         | Inquire   |
| 37      | 72801037  | Nut                  |          |                          | 4         | Inquire   |
| 38      | 72801038  | Washer               |          |                          | 2         | Inquire   |
| 39      | 72801039  | Screw Rod            |          |                          | 2         | Inquire   |
|         |           |                      |          |                          |           |           |
|         |           |                      |          |                          |           |           |

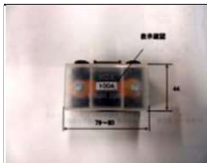
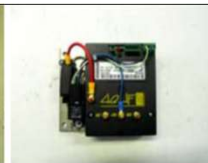
## Control Handle

| Ill.No. | Parts No. | Parts Name         | Standard | Note & Change Date Info. | Qty /Unit | Price/ea. |
|---------|-----------|--------------------|----------|--------------------------|-----------|-----------|
| KB1     | 80822344  | Switch Box         |          |                          | 1         |           |
| 1       | 72802001  | Key Switch         |          |                          | 1         |           |
| 2       | 72802002  | Handle Case        |          |                          | 1         | Inquire   |
| 3       | 90980520  | Roll Pin           | SRP0520  |                          | 1         |           |
| 4       | 90980324  | Roll Pin           | SRP0316  |                          | 2         |           |
| 5       | 72802005  | Emergency Switch   |          |                          | 1         | Inquire   |
| 6       | 72802006  | Spring             |          |                          | 1         | Inquire   |
| 7       | 72802007  | Micro Switch       |          |                          | 1         |           |
| 8       | 72802008  | Potention Meter    |          |                          | 1         |           |
| 9       | 72802009  | Gear               |          |                          | 1         | Inquire   |
| 10      |           |                    |          |                          |           | Inquire   |
| 11      | 72802011  | Shaft              |          |                          | 1         | Inquire   |
| 12      | 72802012  | Roll Pin           | SRP0320  |                          | 4         | Inquire   |
| 13      | 72802013  | Switch Lever       |          |                          | 2         | Inquire   |
| 14      | 72802014  | Screw              |          |                          | 4         | Inquire   |
| 15      | 72802015  | Gear               |          |                          | 1         | Inquire   |
| 18      | 72802018  | Switch Cam         |          |                          | 1         | Inquire   |
| 19      | 72802019  | Spring             |          |                          | 1         |           |
| 20      | 72802020  | Screw              |          |                          | 2         | Inquire   |
| 21      |           |                    |          |                          |           |           |
| 22      | 72802022  | Handle Cover       |          |                          | 1         | Inquire   |
| 23      | 72802023  | Support            |          |                          | 1         | Inquire   |
| 24      | 72802024  | Spacer             |          |                          | 1         | Inquire   |
| 25      | 72802025  | Micro Switch       |          |                          | 1         |           |
| 26      |           |                    |          |                          |           |           |
| 27      | 72802027  | Screw              |          |                          | 2         | Inquire   |
| 28      |           |                    |          |                          |           |           |
| 29      |           |                    |          |                          |           |           |
| 30      | 72802030  | Push Button Switch | for Horn |                          | 1         | Inquire   |
|         |           |                    |          |                          |           |           |



# Wiring Info.

## Battery Powered Lift and Drive Model (ST50A・98A・98AWN・80AWW)

|                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| 304<br>Fuse Holder                                                                | 310<br>Battery                                                                    | 341-2<br>Circuit Protector                                                        | 342<br>Voltage Meter                                                               | 344<br>Buzzar                                                                       | 346<br>Control Unit                                                                 |
|  |  |  |  |  |  |
| 350<br>Terminal Block                                                             | 351<br>Terminal Block                                                             | 516<br>Brake Cable                                                                | 537<br>Insulation Cap                                                              | 355<br>Fuse Holder                                                                  | KB1<br>Switch Box                                                                   |

| Ill. No. | Parts No. | Parts Name                    | Standard        | Note & Change Date Info. | Qty /Unit | Price/ea. |
|----------|-----------|-------------------------------|-----------------|--------------------------|-----------|-----------|
| ST32     | 70020370  | M Battery Cable + Socket      | (310・506・507)   |                          | 1         |           |
| ST33     | 70020380  | N Unit Cable + Socket         | (310・508・509)   |                          | 1         |           |
| ST35-1   | N/A       | Wiring Set                    | Before 000189   | Replace with ST35-3      | 1         | N/A       |
| ST35-2   | N/A       | Wiring Set                    | 000190~000351   | Replace with ST35-3      | 1         | N/A       |
| ST35-3   | 11186332  | <b>Wiring Set (See below)</b> | 000352~14051553 |                          | 1         |           |
| ST35-4   | 11186333  | <b>Wiring Set (See below)</b> | After 14051554  |                          | 1         |           |

※ The Parts supplied by the **WIRING SET** are as below (Area inside the bold lines)

|       |          |                             |                           |                                        |   |     |
|-------|----------|-----------------------------|---------------------------|----------------------------------------|---|-----|
| 304   | 80819681 | Fuse Holder                 | E110B-100A                |                                        | 1 |     |
| 305   | 80819691 | Fuse                        | 100A                      |                                        | 1 |     |
| 310   | 80819951 | Battery Connector           | CB175 P/N149112           |                                        | 2 |     |
| 341-1 | N/A      | Circuit Contactor           | NRBM1100-40AMD Izumi      | Before 000189                          | 1 | N/A |
| 341-2 | 76010650 | Circuit Contactor           | CP51BS/40DS Fuji          | After 000190                           | 1 |     |
| 342   | 80819960 | Voltage Meter               | FM-60 16V                 |                                        | 1 |     |
| 344   | 80820868 | Buzzar                      |                           |                                        | 1 |     |
| 350   | 80821430 | Terminal Block              | TU-80X2UD (Fuji)          |                                        | 1 |     |
| 351   | 80821288 | Terminal Block              | TU-15X3UD (Fuji)          |                                        | 1 |     |
| 353   | 76010621 | SF Tube                     | SF-19 SSK L=500           | Old and New Compatible                 | 1 |     |
| 355   | 80662400 | Fuse Holder                 | F-10 (Fuji)               |                                        | 1 |     |
| 505   | 70020270 | Battery Cable A             | KIV14S L=350              |                                        | 1 |     |
| 506   | 70020280 | Battery Cable B             | KIV14S L=750              |                                        | 1 |     |
| 507   | 70020290 | Battery Cable C             | KIV14S L=600              |                                        | 1 |     |
| 508   | 70020300 | Unit Cable A                | KIV14S L=400              |                                        | 1 |     |
| 509   | 70020310 | Unit Cable B                | KIV14S L=400              |                                        | 1 |     |
| 510   | 70020320 | Unit Cable C                | KIV14S L=300              |                                        | 1 |     |
| 511   | 70020330 | Unit Cable D                | KIV14S L=400              |                                        | 1 |     |
| 512   | 70020340 | Unit Cable E                | KIV14S L=650              |                                        | 1 |     |
| 513   | 70020350 | CB Cable A                  | KIV8S L=250               |                                        | 1 |     |
| 514   | 70020360 | CB Cable B                  | KIV8S L=450               |                                        | 1 |     |
| 515   | 76010660 | Motor Cable                 | VCT531X5. 5SQX2C L=1050   | After 000190                           | 1 |     |
| 516-1 | N/A      | Brake Cable                 | VCT531X1. 25SQX2C L=1250  | 000190~14051553<br>Replace with ST35-3 | 1 | N/A |
| 516-2 | 76010671 | Brake Cable                 | VCT531X1. 25SQX2C L=1250  | After 14051554                         | 1 |     |
| 517   | 24997210 | Handle Cable Assy           | VCT531X0. 75SQX12C L=1930 | Without Handle                         | 1 |     |
| 518   | 76010680 | Glass Fuse                  | FGB0 125V-3A              |                                        | 1 |     |
| 530   | 76011400 | Unit Monitor Cable A        | VSF0. 75S L=550           |                                        | 1 |     |
| 531   | 76011420 | Unit Monitor Cable B        | VSF0. 75S L=350           |                                        | 1 |     |
| 532   | 76011440 | Unit Remote Control Cable A | VSF0. 75S L=400           |                                        | 1 |     |
| 533   | 76011460 | Unit Remote Control Cable B | VSF0. 75S L=300           |                                        | 1 |     |
| 534   | 76011480 | Unit Remote Control Cable C | VSF0. 75S L=450           |                                        | 1 |     |
| 535   | 76011500 | Unit Remote Control Cable D | VSF0. 5S L=350            |                                        | 1 |     |
| 536   | 76011520 | Unit Remote Control Cable E | VSF0. 5S L=350            |                                        | 1 |     |
| 537   | 76011540 | Insulation Cap              | OA-QM6 (OHM)              |                                        | 1 |     |
| KB1   | 80822344 | Switch Box                  |                           |                                        | 1 |     |
| 346   | 80822350 | Control Unit                | CFR                       |                                        | 1 |     |

# **Bishamon**

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