



**16606097**  
Edition 4  
February 2023

## **Air Drill**

**551 Series**

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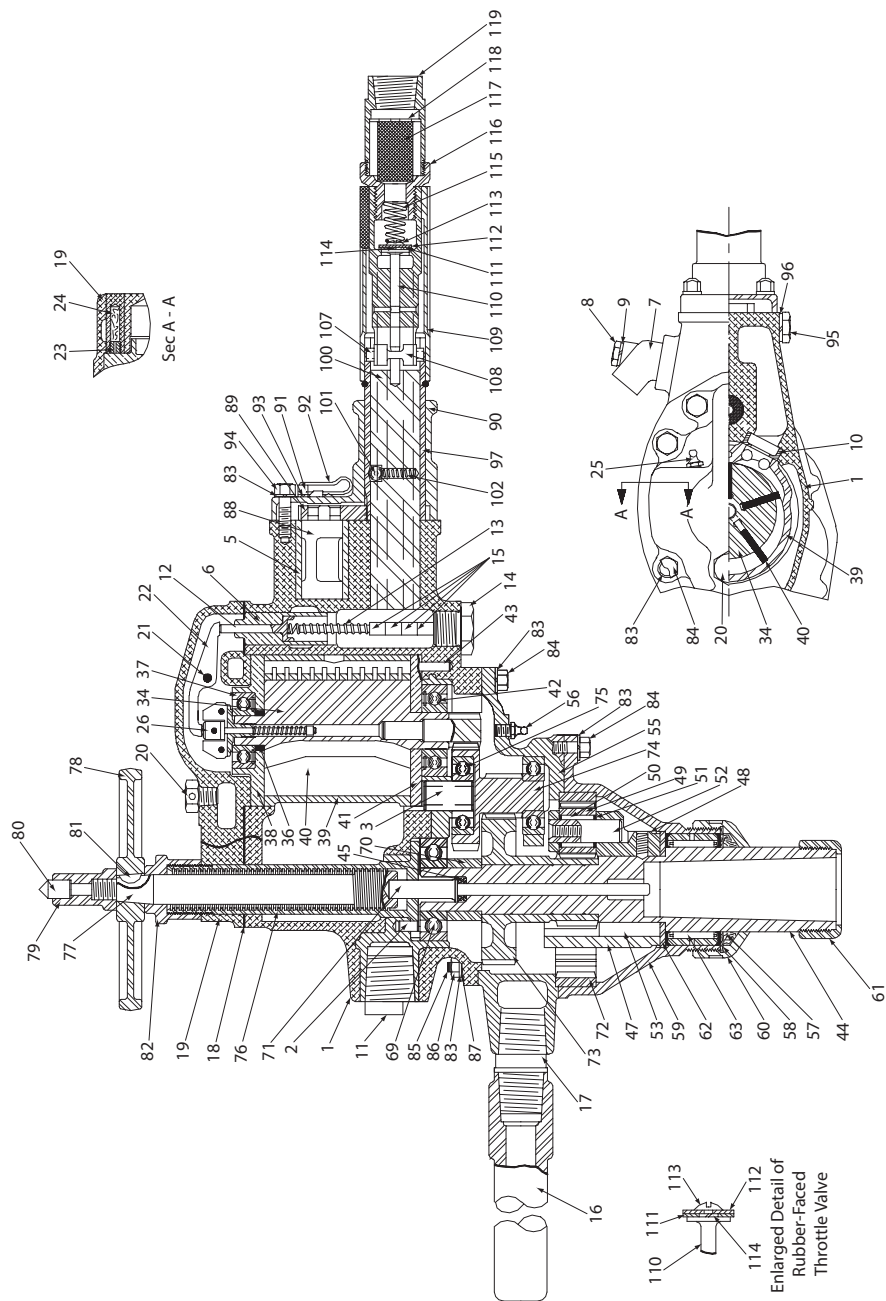
# **Parts Information**



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551 Series, Air Drill - Exploded View



(Dwg. TPA300-3)

## 551 Series, Air Drill - Parts List

| Item | Part Description                                                                                  | Part Number  |
|------|---------------------------------------------------------------------------------------------------|--------------|
| 1    | Motor Housing                                                                                     |              |
|      | for models ending in - EU                                                                         | R551H-EU-40  |
|      | for all other models                                                                              | R551H-40     |
| *    | Warning Label                                                                                     |              |
|      | for models ending in - EU                                                                         | EU-99        |
|      | for all other models                                                                              | WARNING-8-99 |
| 2    | Feed Screw Dowel                                                                                  | R3H-527      |
| 3    | Intermediate Gear Bearing Stud                                                                    | R5H-502      |
| 5    | Reverse Valve Bushing                                                                             | R551H-330    |
| 6    | Governor Valve Bushing                                                                            | R551H-429    |
| 7    | Exhaust Deflector                                                                                 | R55H-23      |
| *    | Muffler Screen                                                                                    | R551H-311    |
| 8    | Exhaust Deflector Screw                                                                           | R55H-312B    |
| 9    | Deflector Screw Lock Washer                                                                       | T11-58       |
| 10   | Air Port Gasket (2 required)                                                                      | R44H-210A    |
| 11   | 1" Pipe Plug                                                                                      | TA-464       |
| 12   | Governor Valve                                                                                    | R551H-425    |
| 13   | Governor Valve Spring                                                                             | K4U-863      |
| 14   | Governor Valve Cap                                                                                | R4H-433      |
| 15   | Governor Valve Spring Spacer (4 required)                                                         | R5H-435      |
| 16   | Dead Handle                                                                                       | TAAC-48      |
| 17   | Dead Handle Stud                                                                                  | T1SE-364     |
| • 18 | Backhead Gasket                                                                                   | R5H-283      |
| 19   | Backhead                                                                                          | R5H-102      |
| 20   | Oil Chamber Plug                                                                                  | P25-227      |
| 21   | Governor Lever Pin                                                                                | N00-15       |
| 22   | Governor Lever                                                                                    | R5H-436      |
| 23   | Oiler Adjusting Screw (2 required)                                                                | JA4-71       |
| 24   | Oiler Felt (4 required)                                                                           | JA4-75       |
| 25   | Grease Fitting                                                                                    | 23-188       |
| 26   | Governor Assembly                                                                                 | R5H-A424B    |
| 34   | Rotor and Pinion                                                                                  |              |
|      | for model 551SMA (10 teeth)                                                                       | 9BM-K53      |
|      | for model 551S0A (9 teeth)                                                                        | R55L-53      |
| 36   | Rotor Bearing Spacer                                                                              | R5H-65       |
| 37   | Rear Rotor Bearing                                                                                | R5H-22       |
| 38   | Rear End Plate                                                                                    | R55H-12      |
| 39   | Cylinder                                                                                          |              |
|      | for maximum power in the forward direction of rotation (standard for Drills; optional for Motors) | R551H-3      |
|      | for equal power in the forward direction of rotation (standard for Motors; optional for Drills)   | 588-3        |
|      | for maximum power in reverse direction of rotation (optional for Drills or Motors)                | R55H-203     |
| • 40 | Vane Packet (set of 5 vanes)                                                                      | R5H-42-5     |
| • 41 | Front End Plate                                                                                   | R55H-11      |
| • 42 | Front Rotor Bearing                                                                               | R5H-24       |
| 43   | Cylinder Dowel                                                                                    | R5H-98       |
|      | Spindle Assembly                                                                                  | R55M-B108    |
| 44   | Spindle                                                                                           | R55M-108     |
| 45   | Ejecting Pin Packing                                                                              | R55M-408     |
|      | Planet Gear Frame Assembly                                                                        | R55M-A367    |
| 47   | Planet Gear Frame                                                                                 | R55M-367     |
| 48   | Planet Gear Frame Setscrew (3 required)                                                           | R4SM-574     |
| *    | Planet Gear Shaft Setscrew (3 required)                                                           | 551AMP56-561 |
| 49   | Planet Gear (3 required)                                                                          | R55M-10      |
| 50   | Planet Gear Roller (69 required)                                                                  | R55M-152     |
| 51   | Roller Retaining Plate (6 required)                                                               | R55M-468     |
| 52   | Planet Gear Shaft (3 required)                                                                    | R55M-191     |
| 53   | Planet Gear Frame Key                                                                             | R55M-410     |

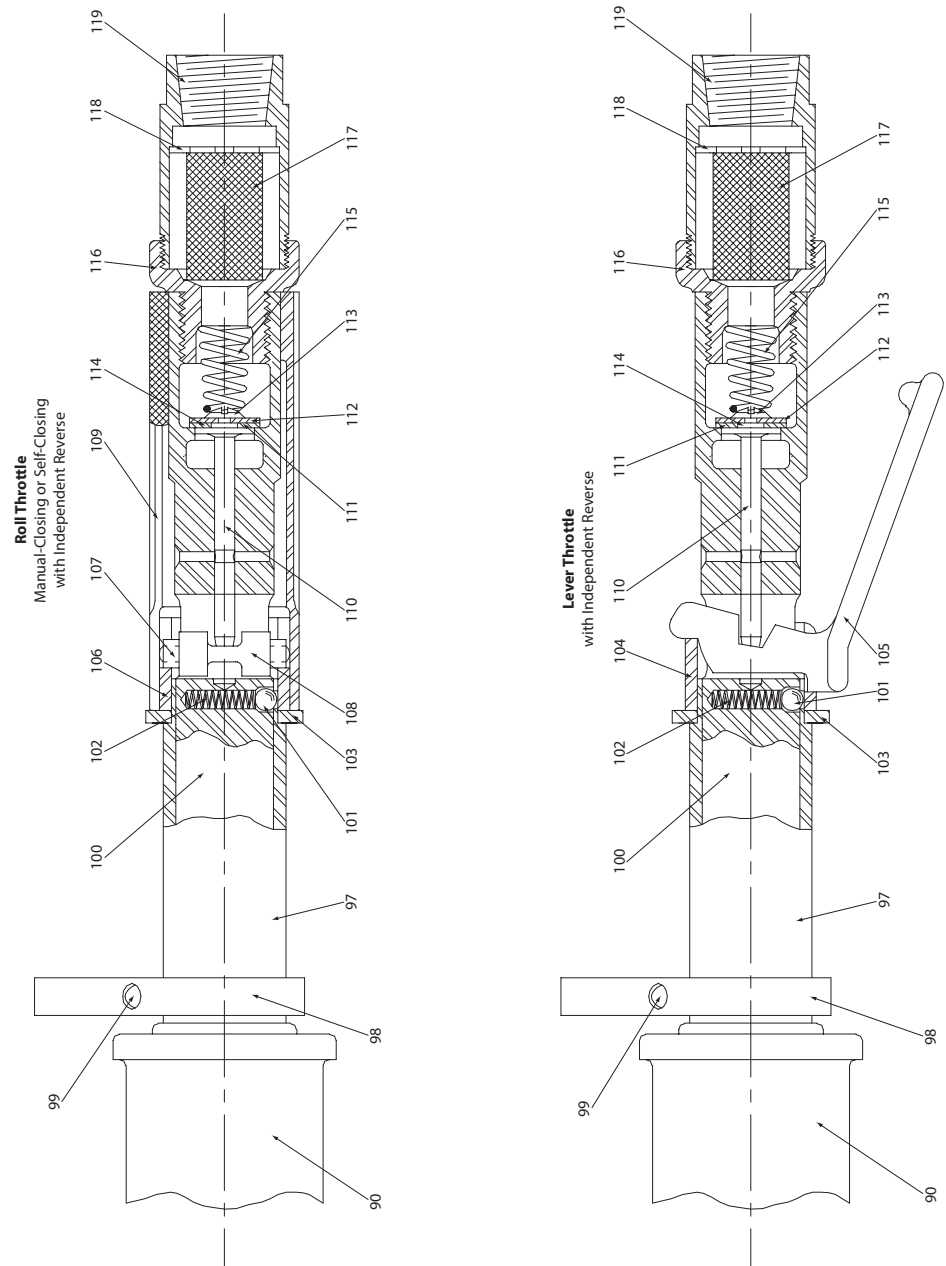
| Item | Part Description                                               | Part Number |
|------|----------------------------------------------------------------|-------------|
| 55   | Gear Case                                                      | R55M-37     |
| 56   | Grease Fitting                                                 | 23-188      |
| 57   | Spindle Packing (1 for 551H, 551J, 551K or 551L; 2 for others) | R55M-14     |
| 58   | Spindle Packing Ring                                           | R55M-202    |
| 59   | Gear Case Cover                                                | R55M-378    |
| 60   | Spindle Packing Nut                                            | R55M-15     |
| 61   | Protection Nut                                                 | T1SE-43     |
| 62   | Spindle Thrust Plate                                           | R55M-80     |
| • 63 | Spindle Bearing                                                | R55M-510    |
| • 69 | Spindle Thrust Bearing                                         | TA-105      |
| 70   | Spindle Thrust Bearing Spacer                                  | R55M-100    |
| 71   | Drill Ejecting Pin                                             | R55M-114    |
| 72   | Internal Gear                                                  | R55M-406    |
| 73   | Spindle Gear                                                   |             |
|      | for model 551SM                                                | R55M-9      |
|      | for model 551S0                                                | R550-9      |
| 74   | Intermediate Gear                                              |             |
|      | for model 551SM                                                | R55M-82     |
|      | for model 551S0                                                | R550-82     |
| 75   | Intermediate Gear Bearing (2 required)                         | D04-366     |
| 76   | Outer Feed Screw                                               | R5H-290     |
|      | Feed Screw Assembly                                            | TA-A291     |
| 77   | Inner Feed Screw                                               | TA-291      |
| 78   | Feed Handle                                                    | TB-2        |
| 79   | Feed Handle Locknut                                            | TB-388A     |
| 80   | Feed Screw Center                                              | TB-244      |
| 81   | Feed Handle Key                                                | TC-18       |
| 82   | Feed Screw Cap                                                 | TA-392      |
| 83   | Lock Washer (18 required)                                      | T11-58      |
| 84   | Backhead Cap Screw (9 required)                                | B8-240      |
| 85   | Gear Case Bolt                                                 |             |
|      | Short (3 required)                                             | R55M-103A   |
|      | Long                                                           | R551P58-103 |
| 86   | Gear Case Bolt Nut (1 for each bolt)                           | D02-428     |
| 87   | Gear Case Bolt Seal Washer (copper) (8 required)               | D01-504     |
| 88   | Reverse Valve                                                  | R551H-329   |
| 89   | Reverse Valve Sector                                           | R55H-488    |
| 90   | Sector Cover                                                   | R55H-1489   |
| 91   | Reverse Stop                                                   | R44H-568A   |
| 92   | Reverse Stop Lever                                             | R44H-569    |
| 93   | Reverse Stop Washer                                            | R44H-572A   |
| 94   | Sector Cover Screw (5 required)                                | R44H-490A   |
| 95   | Throttle Body Setscrew                                         | R551H-593   |
| 96   | Throttle Body Setscrew Lock Washer                             | D02-537     |

\* Indicates not illustrated.

- To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (•) for every four tools in service.

Note: Item numbers from 97 to 119 are Throttle Assembly parts which are shown on page 6.

Throttle Assembly for 551 Series, Air Drill - Exploded View



## Throttle Assembly for 551 Series, Air Drill - Parts List

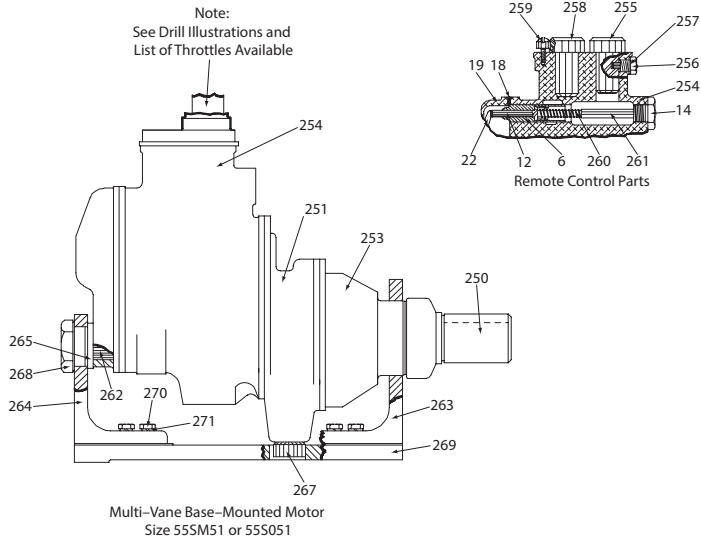
| Item  | Part Description                    | Part Number      |                |                                           |                                       |                                         |
|-------|-------------------------------------|------------------|----------------|-------------------------------------------|---------------------------------------|-----------------------------------------|
|       |                                     | Roll Throttle    |                |                                           |                                       | Lever Throttle with Independent Reverse |
|       |                                     | ★ Manual-Closing | ★ Self-Closing | ★ Manual-Closing with Independent Reverse | Self-Closing with Independent Reverse |                                         |
|       | Throttle Assembly                   | ★R551H-A419      | R551H-A319     | ★R551H-B419-2                             | R551H-B319                            | R551H-BL419-2                           |
| 97    | Throttle Sector                     | ★R551H-587       | R551H-597      | ★R55H-1487                                | R55H-1487                             | R55H-1487                               |
| 98    | Independent Reverse Lever           |                  |                | R55H-314                                  | R55H-314                              | R55H-314                                |
| 99    | Reverse Lever Setscrew (2 required) |                  |                | R2J-561                                   | R2J-561                               | R2J-561                                 |
| 100   | Throttle Body                       | ★R551H-419       | R551H-319      | R55H-409-2                                | R55H-409-2                            | R55H-409-2                              |
| 101   | Stop Ball                           | G601-65          |                | G601-65                                   | G601-65                               | G601-65                                 |
| 102   | Stop Ball Spring                    | R55H-492         |                | R55H-492                                  | R55H-492                              | R55H-492                                |
| 103   | Throttle Sleeve Spacer              |                  |                | R55H-310                                  | R55H-310                              | R55H-310                                |
| 104   | Throttle Lever Spacer               |                  |                |                                           |                                       | R4H-270                                 |
| 105   | Throttle Lever                      |                  |                |                                           |                                       | R55H-273                                |
| 106   | Throttle Cam                        |                  |                | R4H-307                                   | R4H-317                               |                                         |
| 107   | Lift Pin Roller (2 required)        | TAA-426          | TAA-426        | TAA-426                                   | TAA-426                               |                                         |
| 108   | Throttle Valve Lift Pin             | R551H-606        | R551H-606      | R4H-306                                   | R4H-306                               |                                         |
| 109   | Throttle Sleeve                     | R551H-460        | R551H-460      | R4H-305                                   | R4H-305                               |                                         |
| 110   | Rubber-Faced Throttle Valve         | R551H-602        | R551H-602      | R4H-402                                   | R4H-402                               | R4H-402                                 |
| • 111 | Throttle Valve Face                 | R551H-259        | R551H-259      | R4H-159                                   | R4H-159                               | R4H-159                                 |
| 112   | Throttle Valve Face Cap             | R551H-257        | R551H-257      | R4H-157                                   | R4H-157                               | R4H-157                                 |
| 113   | Throttle Valve Face Retaining Screw | R4-158           | R4-158         | R4-158                                    | R4-158                                | R4-158                                  |
| 114   | Retaining Screw Lock Washer         | H54U-352         | H54U-352       | H54U-352                                  | H54U-352                              | H54U-352                                |
| 115   | Throttle Valve Spring               | TAA-418          | R551H-618      | T01-308                                   | TAA-418                               | T01-308                                 |
|       | Air Strainer Assembly               | R551H-A665       | R551H-A665     | R551H-A465                                | R551H-A465                            | R551H-A465                              |
| 116   | Air Strainer Cap                    | R551H-666        | R551H-666      | R4H-566                                   | R4H-566                               | R4H-566                                 |
| 117   | Air Strainer Screen                 | R551H-261        | R551H-261      | R5H-61                                    | R5H-61                                | R5H-61                                  |
| 118   | Air Strainer Screen Support         | R551H-667        | R551H-667      | R3H-567                                   | R3H-567                               | R3H-567                                 |
| 119   | Air Strainer Body                   | R551H-665        | R551H-665      | R551H-465                                 | R551H-465                             | R551H-465                               |

★ In compliance with the Williams-Steiger Occupational Safety and Health Act, Manual-Closing Throttle Assemblies and parts used exclusively for Manual-Closing Throttles will be furnished only on international orders.

- To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (•) for every four tools in service.

Note: Item number from 90 is shown on page 4.

## Models 551SM51 and 551S051 Base - Mounted Motors for 551 Series, Air Drill - Exploded View



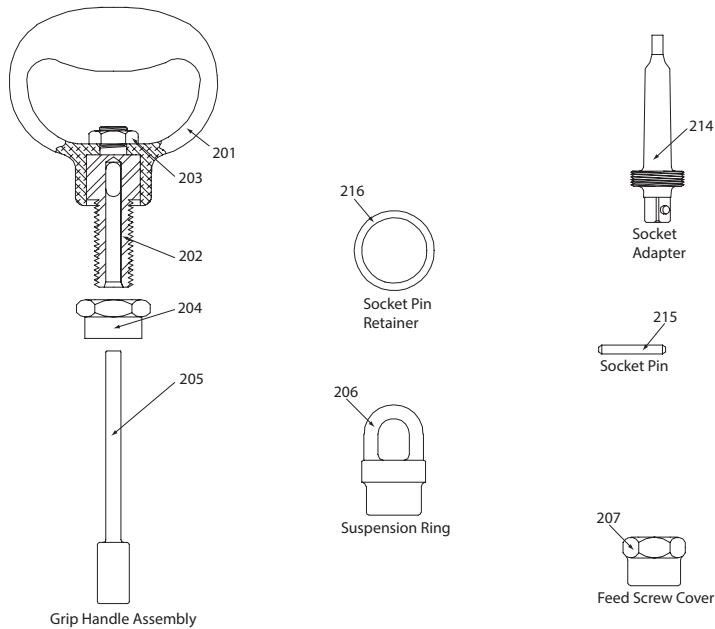
(Dwg. TPB140-1)

## Models 551SM51 and 551S051 Base - Mounted Motors for 551 Series, Air Drill - Parts List

| Item | Part Description                                                                                                                                                            | Part Number                                       |                                                |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------|
|      |                                                                                                                                                                             | Models 551SM51 and 551S051 with Integral Throttle | Models 551SM51 and 551S051 with Remote Control |
| 250  | Spindle                                                                                                                                                                     | R5SM51-8                                          | R5SM51-8                                       |
| 251  | Gear Case                                                                                                                                                                   | R5SM-37                                           | R5SM-37                                        |
| 253  | Gear Case Cover                                                                                                                                                             | R5SM51-378                                        | R5SM51-378                                     |
| 254  | Motor Housing                                                                                                                                                               | R551H51-40                                        | R551H51-RC40                                   |
| 255  | Forward Inlet Stud                                                                                                                                                          |                                                   | R5SH-471                                       |
| 256  | Forward Inlet Stud Lock Screw                                                                                                                                               |                                                   | R551H-593                                      |
| 257  | 7/16" Lock Washer                                                                                                                                                           |                                                   | D02-537                                        |
| 258  | Reverse Inlet Stud                                                                                                                                                          |                                                   | R551H-472                                      |
| 259  | Reverse Inlet Stud Lock Screw                                                                                                                                               |                                                   | R5SH-473                                       |
| *    | Exhaust Bushing<br>(The Motor Housing also includes illustrated parts 2, 3, 6, 10[2], and 11 for all motors; and illustrated part 5 for all motors with Integral Throttle.) | R44H51-439                                        | R44H51-439                                     |
| 260  | Governor Valve Spring                                                                                                                                                       | R4H-431                                           | K4U-863                                        |
| 261  | Governor Valve Spring (3 for remote control; 1 for others)                                                                                                                  | R5H-435                                           | R5H-435                                        |
| 262  | Motor Mounting Stud (for Base-Mounted Motors)                                                                                                                               | R5SH52-790                                        | R5SH52-790                                     |
| 262  | Backhead Clamp Stud (for Flange Mounted Motors)                                                                                                                             | R5SH52-790                                        | R5SH52-790                                     |
| 263  | Front Motor Mounting Bracket (for Base-Mounted Motors)                                                                                                                      | R5SM51-303                                        | R5SM51-303                                     |
| 264  | Rear Motor Mounting Bracket (for Base-Mounted Motors)                                                                                                                       | R5SM51-304                                        | R5SM51-304                                     |
| 265  | Rear Motor Mounting Bracket Spacer (for Base-Mounted Motors)                                                                                                                | R5H51-277                                         | R5H51-277                                      |
| 267  | Gear Case Anchor (for Base-Mounted Motors)                                                                                                                                  | R5SM51-364                                        | R5SM51-364                                     |
| 268  | Motor Mounting Stud Cap (for Base-Mounted Motors)                                                                                                                           | R5H51-461                                         | R5H51-461                                      |
| 268  | Clamp Stud Cap (for Flange Mounted Motors)                                                                                                                                  | TA-461                                            | TA-461                                         |
| 269  | Motor Mounting Base (for Base-Mounted Motors)                                                                                                                               | R55SM51-564                                       | R55SM51-564                                    |
| 270  | Base Cap Screw (8 required) (for Base-Mounted Motors)                                                                                                                       | 215-148                                           | 215-148                                        |
| 271  | Base Cap Screw Lock Washer (8 required) (for Base-Mounted Motors)                                                                                                           | D10-322                                           | D10-322                                        |
| *    | Spindle Key                                                                                                                                                                 | R5SM51-768                                        | R5SM51-768                                     |
| *    | Male Hose Nipple (1" hose to 3/4" male pipe)                                                                                                                                |                                                   | R5H-46                                         |

\* Indicates not illustrated.

Special Equipment for 551 Series, Air Drill - Exploded View



(Dwg. TPB992)

Special Equipment for 551 Series, Air Drill - Parts List

| Item | Part Description                           | Part Number     |
|------|--------------------------------------------|-----------------|
| 200  | Grip Handle Assembly                       | TA-A41          |
| 201  | Grip Handle                                | TA-41           |
| 202  | Grip Handle Stud                           | TC-448          |
| 203  | Grip Handle Stud Nut                       | B12-249         |
| 204  | Grip Handle Nut                            | TA-447          |
| 205  | Grip Handle Ejecting Pin                   | TA-50A          |
| 206  | Suspension Ring                            | TA-365          |
| 207  | Feed Screw Cover                           | TA-461          |
| 208  | Interchangeable Reamer Chuck Assembly      | T1SE-A45A-1 1/8 |
| 214  | Socket Adapter (1" square drive)           | R5SM-214        |
| 215  | Socket Pin                                 | 34U-215A        |
| 216  | Socket Pin Retainer                        | 34U-216         |
| 217  | Chuck Nut                                  | T1SE-347        |
| *    | Male Hose Nipple (1" hose to 1" male pipe) | P35-46          |

\* Indicates not illustrated.

Parts and Maintenance

When tool life has expired, it is recommended that the tool be disassembled, degreased and parts separated by material for proper recycling. Tool repair and maintenance should only be carried out by an Authorized Service Center. Refer all communications to the nearest **Ingersoll Rand** office or distributor.

Related Documentation

Manuals can be downloaded from [ingersollrand.com](http://ingersollrand.com)  
For additional information, refer to:  
Product Safety Information Manual 04580353  
Product Information Manual 03524410  
Maintenance Information Manual 16606105



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