



47140496
Edition 2
May 2014

Air Drill

2X and 22 Series

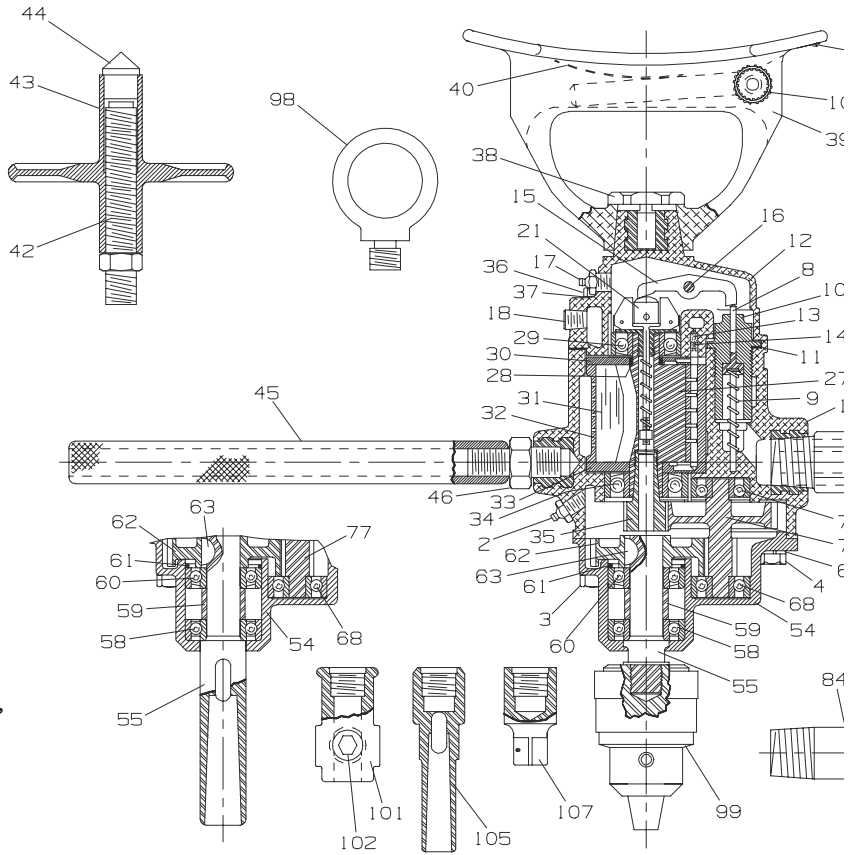
Parts Information



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 **Ingersoll Rand®**

2X Series (Non-Reversible) Air Drill Exploded Diagram



(Dwg. TPA121-2)

2X Series (Non-Reversible) Air Drill Parts List

| Item | Part Description | Part Number | |
|------|---|------------------|-----------------------------|
| | | 2XJ, 2XK and 2XM | 22J, 22K, 22M, 22N and 22KW |
| 1 | Motor Housing | | |
| | for 22N models | --- | R22N-40 |
| | for models ending in -EU | R2XH-EU-40 | R22H-EU-K40 |
| | for all other models | R2XH-40 | R22H-K40 |
| * | Warning Label | | |
| | for models ending in -EU | | EU-99 |
| | for all other models | | WARNING-8-99 |
| * | Nameplate | | |
| | for models ending in -EU | | R2H-EU-99 |
| | for all other models | | R2H-99 |
| 2 | Grease Fitting | | 23-188 |
| ‡ 3 | Housing Stud (for 22N) (4) | | R2N-133 |
| --- | Housing Long Cap Screw (for all others) (4) | | R22H-68 |
| ‡ 4 | Housing Short Cap Screw (2) | | R3-7 |
| 5 | Stud Nut (1 for each stud) | | T06-139 |
| 6 | Lock Washer (6) | | 8U-58 |
| 7 | Reverse Valve Bushing | --- | R22H-330 |
| 8 | Governor Valve | | R3H-425 |
| 9 | Governor Valve Spring | | 503-431 |
| • 10 | Governor Valve Bushing | | R22H-429 |
| • * | Air Port Gasket (1 for 2X Series and 2 for 22 Series) | | R22H-210 |
| • 11 | Backhead Gasket | | R22H-283 |
| 12 | Backhead | | R22H-102 |
| 13 | Oiler Felt (2) | | R1-75 |
| 14 | Oiler Adjusting Screw (2) | | R1-71A |
| 15 | Governor Lever | | R22H-436 |
| 16 | Governor Lever Pin | | T22-306 |
| 17 | Grease Fitting | | 23-188 |
| 18 | Oil Chamber Plug | | R2-227 |
| 21 | Governor Assembly | | R2XJ-A424 |
| 27 | Rotor | | R22H-K53 |
| 28 | Rotor Bearing Spacer | | R2H-65 |
| • 29 | Rear Rotor Bearing | | R2-22 |
| • 30 | Rear End Plate | R2J-12 | R22H-12 |
| • 31 | Vane Packet (set of 5 Vanes) | | R2-42B-5 |
| 32 | Cylinder | R2J-3 | R22H-3 |
| * | Cylinder Dowel | | R22H-98 |
| • 33 | Front End Plate | | R2J-11 |
| • 34 | Front Rotor Bearing | R2-24A | R22H-11 |
| 35 | Rotor Pinion | | |
| | for 2XJ, 2XK, 22J, 22K and 22KW (15 teeth) | | R2J-17 |
| | for 2XM and 22M (9 teeth) | | R2M-17A |
| | for 22N (17 teeth) | | R2N-17 |
| 36 | Backhead Cap Screw (6) | | R22H-68 |
| 37 | Backhead Cap Screw Lock Washer (6) | | 8U-58 |
| 38 | Breast Plate Screw | | T15-278 |
| 39 | Breast Plate | | R22H-79 |
| 40 | Chuck Wrench Clip | | R2J-247 |
| 41 | Clip Screw | | R2J-248 |
| --- | Feed Screw Assembly | | T04-A3 |
| 42 | Feed Screw | | T04-3 |

| Item | Part Description | Part Number | |
|-------|--|------------------|-----------------------------|
| | | 2XJ, 2XK and 2XM | 22J, 22K, 22M, 22N and 22KW |
| 43 | Feed Handle | T05-2A | |
| 44 | Feed Handle Center | T05-244A | |
| 45 | Dead Handle | R2K-48 | |
| 46 | Dead Handle Stud | R2K-364A | |
| 47 | Reverse Valve | --- | R22H-329 |
| 48 | Reverse Valve Sector | --- | TCC-428 |
| † 49 | Stop Pin | --- | R22H-491 |
| † 50 | Stop Pin Spring | --- | 5UT-759 |
| 51 | Sector Cover | --- | TCC-429A |
| 52 | Sector Cover Screw (4) | --- | TCC-430 |
| 53 | Sector Cover Screw Lock Washer (4) | --- | T05-58 |
| * | Throttle Body Set Screw | --- | TCCW-433 |
| * | Throttle Body Set Screw Lock Washer | --- | D02-537 |
| 98 | Suspension Ring | T05-365 | |
| 99 | Drill Chuck | | |
| | 1/8" to 5/8" capacity | R2H-99 | |
| | 0 to 1/2" capacity | T05-99A | |
| | 5/64" to 1/2" capacity | | DE-99C |
| 100 | Drill Chuck Wrench | | |
| | for 1/8" to 5/8" chuck | T05-J253 | |
| | for 0 to 1/2" chuck | T05-J253 | |
| | for 5/64" to 1/2" capacity | | R1T-J253 |
| 101 | Wood Bit Chuck | R2H-151 | R22W-151 |
| 102 | Wood Bit Chuck Screw (1 for R2H-51; 2 for R22W-151) | R33W-150 | R33W-150 |
| 103 | Chuck Screw Retainer | | R33W-149 |
| --- | Wood Bit Chuck Wrench (5/16" x 6" long hex wrench) | K-27 | K-27 |
| 104 | Chuck Nut | --- | DE-347A |
| 105 | Use-Em-Up Socket (No. 2 Morse Taper Socket) | T05-294-2 | --- |
| 106 | Morse Taper Socket | | |
| | No. 1 Morse Taper Socket | T05-323-1 | DE-323A-1 |
| | No. 2 Morse Taper Socket | T05-323-2 | DE-323A-2 |
| | No. 3 Morse Taper Socket | T05-323-3 | DE-323A-3 |
| • 107 | Socket Adapter (1/2" square drive) (Pin-Type Retainer) | R2J-212B | --- |
| * | Socket Retaining Plunger | 804-716 | --- |
| * | Retaining Plunger Spring | 5UHD-718 | --- |
| 108 | Socket Adapter (Overall length 1-3/4") | | |
| | 1/2" Square Drive | --- | DE-215A |
| | 5/8" Square Drive | --- | DE-215B |
| * | Hose Nipple (1/2" hose to 3/8" male pipe) | A01-46 | |

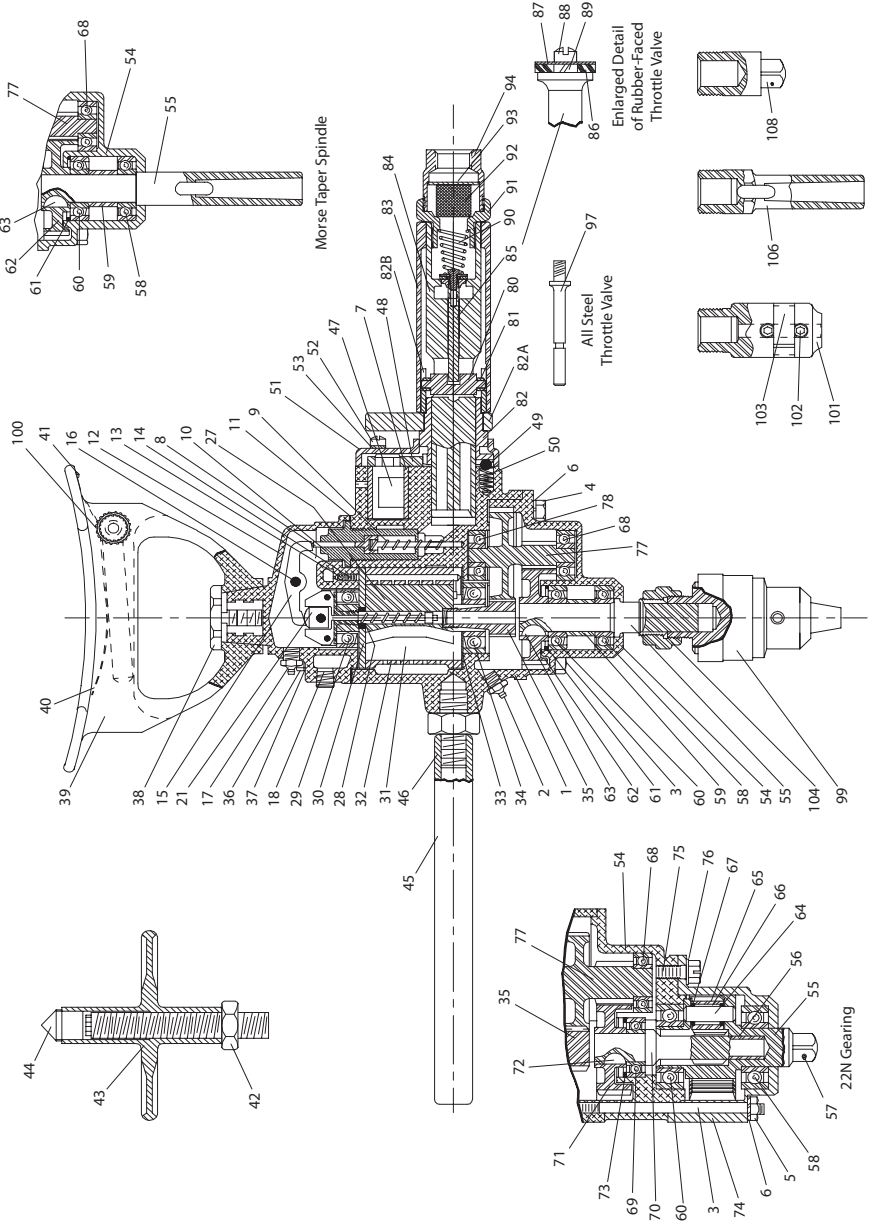
* Not Illustrated.

‡ Listed Cap Screw can be used as a replacement for the previously used Stud.

• 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) or each part indicated by a bullet (•) for every four tools in service.

† Used only with Manual-Closing Throttles. 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.

22 Series (Reversible) Air Drill Exploded Diagram



(Dwg. TPA122-3)

2X Series (Non-Reversible) Air Drill Parts List

| Item | Part Description | Part Number | | | |
|---|---|-------------|-----------------|------------|------------|
| | | 2XJ,22J | 2XK,22K 22KW | 2XM,22M | 22N |
| 54 | Gear Case | | | | |
| | For threaded Stub Taper or No. 2 Morse Taper Spindle | | RM2J-37 | | --- |
| | For No. 3 Morse Taper Spindle | --- | --- | R2M137 | --- |
| | for 5/8" Square Drive or Stub Taper Spindle | --- | --- | --- | R2N-37 |
| | Spindle Assembly | | | | |
| | Threaded Spindle (for Series 2X) | R2J-A8 | R2K-A8 | R2K-A8 | --- |
| | Stub Taper Spindle (for Series 22) | R22J-A8 | R22K-A8 | R22K-A8 | --- |
| | Stub Taper Spindle | --- | --- | --- | R22N-A8 |
| | No. 2 Morse Taper Spindle | R2H-A108 | R2M-A108 | R2M-A108 | --- |
| | No. 3 Morse Taper Spindle | --- | --- | R2M-A208 | --- |
| | 5/8" Square Drive Spindle with Pin-Type Retainer | --- | --- | --- | R22N-AP108 |
| 5/8" Square Drive Spindle with Ball-Type Retainer | --- | --- | --- | R22N-AB108 | |
| 55 | Spindle | | | | |
| | Threaded (703-16 thd.) (for Series 2X) | R2H-8 | R2H-8 | R2H-8 | --- |
| | Stub Taper (for Series 22) | R22H-8 | R22H-8 | R22H-8 | --- |
| | Stub Taper | --- | --- | --- | R22N-8 |
| | No. 2 Morse Taper | R2M-108 | R2M-108 | R2M-108 | --- |
| | No. 3 Morse Taper | --- | --- | R2M-208 | --- |
| | 5/8" Square Drive with Pin-Type Retainer | --- | --- | --- | R22N-P108 |
| 5/8" Square Drive with Ball-Type Retainer | --- | --- | --- | R22N-B108 | |
| 56 | Spindle Gear Shaft Bushing | --- | --- | --- | T06-110 |
| | Socket Retaining Plunger (for 5/8" Square Drive Spindle) | | | | |
| | Pin-Type | --- | --- | --- | 808-716 |
| | Ball-Type | --- | --- | --- | 8U-715 |
| | Plunger Retaining Spring (for 5/8" Square Drive Spindle) | --- | --- | --- | 5UHD-718 |
| 58 | Spindle Bearing | R2H-510 | R2H-510 | R2H-510 | D01-616 |
| 59 | Spindle Bearing Spacer | R2H-111 | R2H-111 | R2H-111 | --- |
| 60 | Thrust Bearing | R2H-97 | R2H-97 | R2H-97 | G7-24 |
| 61 | Bearing Retainer | R2H-118 | R2H-118 | R2H-118 | --- |
| 62 | Spindle Gear | R21-9 | R2K-9 | R2K-9 | --- |
| 63 | Spindle Gear Key | TC-18 | TC-18 | TC-18 | --- |
| 64 | Planet Gear Shaft (3) | --- | --- | --- | R2N-191 |
| 65 | Planet Gear (3) | --- | --- | --- | R2N-10 |
| 66 | Planet Gear Roller (63) | --- | --- | --- | R2N-152 |
| 67 | Roller Retaining Plate (6) | --- | --- | --- | R2N-655 |
| 68 | Intermediate Gear Front Bearing | T06-33 | T06-33 | T06-33 | T06-33 |
| 69 | Spindle Gear Bearing | --- | --- | --- | T06-24 |
| 70 | Spindle Gear Shaft | --- | --- | --- | R2N-16 |
| 71 | Spindle Gear | --- | --- | --- | R2J-9 |
| 72 | Spindle Gear Key | --- | --- | --- | TC-18 |
| 73 | Bearing Retainer | --- | --- | --- | R2H-1 18 |
| 74 | Gear Case Cover | --- | --- | --- | R2N-378 |
| 75 | Gear Case Cover Cap Screw | --- | --- | --- | R2N-103 |
| 76 | Cover Cap Screw Lock Washer | --- | --- | --- | 8U-58 |
| 77 | Intermediate Gear | --- | --- | --- | --- |
| | for 2XJ and 22J (13/45 teeth) | R2J-82 | --- | --- | --- |
| | for 2XK, 22K and 22KW (10/45 teeth) | --- | R2K-82 | --- | --- |
| | for 2XM and 22M (9/50 teeth) | --- | --- | R2M-82A | --- |
| | for 22N (13/43 teeth) | --- | --- | --- | R2N-82 |
| 78 | Intermediate Gear Rear Bearing | R1L-24 | R1L-24 | R1L-24 | R1L-24 |

2X Series (Non-Reversible) Air Drill Parts List

| Item | Part Description | Part Number | | |
|------|--|----------------------|----------------|-------------------|
| | | Nonreversible Drills | | Reversible Drills |
| | | Roll Throttle | Lever Throttle | Roll Throttle |
| --- | Throttle Assembly | R2XH-A417 | R2XH-AL401 | R22H-A518-2 |
| 79 | Throttle Cam | T01-317A | --- | --- |
| 80 | Throttle Valve Lift Pin | TCC-306B | --- | R4H-306 |
| 81 | Throttle Valve Lift Pin Roller (2) | --- | --- | TAA-426 |
| 82 | Throttle Sector | --- | --- | R33P5-1487 |
| 82A | Reverse Lever (for reversible models only) | --- | --- | R55H-314 |
| * | Reverse Lever Set Screw (2) | --- | --- | R2J-561 |
| 82B | Throttle Cam (for reversible models only) | --- | --- | 22MA2-317 |
| 83 | Throttle Sleeve | TCL-305 | R2J-269 | 22B518-409 |
| † 84 | Throttle Body | R3H-401 | R3H-401 | R3H-402 |
| ‡ 85 | Rubber-Faced Throttle Valve | R3H-402 | R3H-402 | 8000-159A |
| • 86 | Throttle Valve Face | 8000-159A | 8000-159A | 8000-157 |
| 87 | Throttle Valve Face Cap | 8000-157 | 8000-157 | R4-158 |
| 88 | Throttle Valve Face Retaining Screw | R4-158 | R4-158 | H54U-352 |
| 89 | Retaining Screw Lock Washer | H54U-352 | H54U-352 | TAA-418 |
| • 90 | Throttle Valve Spring | TAA-418 | T01-308 | R4H-A565 |
| ---- | Air Strainer Assembly | R22H-A565 | R22H-A565 | R4H-566 |
| 91 | Air Strainer Cap | R3H-566 | R3H-566 | R3H-61 |
| 92 | Air Strainer Screen | R3H-61 | R3H-61 | R3H-567 |
| 93 | Air Strainer Screen Support | R3H-567 | R3H-567 | R3H-565 |
| 94 | Air Strainer Body | R22H-565 | R22H-565 | R22H-565 |
| 95 | Throttle Lever | --- | R2J-273 | --- |
| 96 | Throttle Lever Spacer | --- | R2J-270 | --- |
| * | Rotational Label | R2H-100 | R2H-100 | R3H-565 |
| 97 | All Steel Throttle Valve | T01-302 | T01-302 | T01-302 |

* Not illustrated.

† If ordered as a replacement for a Throttle Body equipped with an All-Steel Throttle Valve also order the Rubber Faced Throttle Valve (85).

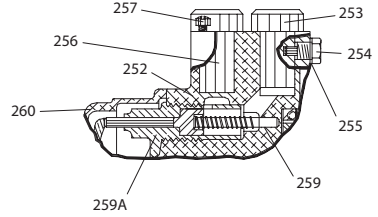
The Throttle Body for use with the All-Steel Throttle Valve is discontinued.

‡ Cannot be used as a replacement for the All-Steel Throttle Valve.

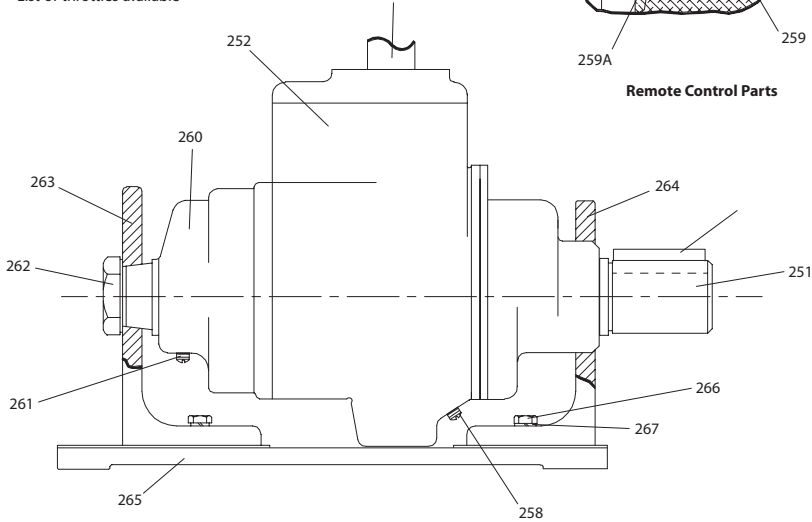
• To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (•) for every four tools in service.

Model 22N51-W/RC Base-Mounted MULTI-VANE Motor

NOTE: See Drill Illustrations and List of throttles available



Remote Control Parts



(Dwg. TPB152-2)

| Item | Part Description | Part Number |
|-------|--|----------------|
| --- | Spindle Assembly | R2XN51-A8 |
| 251 | Spindle (All other parts included in the Spindle Assembly are the same as those included in the Spindle Assembly of Drills.) | E22N-8 |
| 252 | Motor Housing | |
| | for models ending in -EU | R22N51-EU-RC40 |
| | for all other models | R22N51-RC40 |
| * | Warning Label | |
| | for models ending in -EU | EU-99 |
| | for all other models | WARNING-10-99 |
| * | Nameplate | |
| | for models ending in -EU | R2H-EU-99 |
| | for all other models | R2H-99 |
| 253 | Forward Inlet Stud | R22H-471 |
| 254 | Forward Inlet Stud Lock Screw | TCCW-433 |
| 255 | 7/16" Lock Washer | D02-537 |
| 256 | Reverse Inlet Stud | R22H-472 |
| 257 | Reverse Inlet Stud Lock Screw | T05-44 |
| 258 | 1/8" Pipe Plug | R2-227 |
| 259 | Governor Valve Spring | R22F61-431 |
| 259A | Governor Valve Bushing | R22F61-429 |
| ‡ --- | Housing Long Stud (4) (All other parts included in the Motor Housing are the same as those included in the Motor Housing of Drills.) | R22N51-133 |

| | | |
|-------|---|-------------|
| † --- | Cylinder | R22H61-3 |
| 260 | Backhead | R22H-102 |
| 261 | 1/8" Pipe Plug (All other parts included in the Backhead are the same as those included in the Backhead for Drills) | R2-227 |
| | (See illustrated part 12) | |
| 262 | Motor Mounting Screw | T15-278 |
| 263 | Rear Motor Mounting Bracket | R22N51-304 |
| 264 | Front Motor Mounting Bracket | R22N51-303 |
| 265 | Motor Mounting Base | R22N51-564A |
| 266 | Base Cap Screw (4) | D02-506 |
| 267 | Base Cap Screw Lock Washer (4) | D02-321 |
| 269 | Spindle Key | R2XH51-768 |

* Not illustrated.

‡ See illustration No. 3 for Drills. Order by Part Number shown above.

† See illustration No. 32 for Drills. Order by Part Number shown above.

Parts and Maintenance

When the life of the tool has expired, it is recommended that the tool be disassembled, degreased and parts be separated by material so that they can be recycled.

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

For additional information refer to:

Air Drill Product Safety Information Manual 04580353.

Air Drill Product Information Manual 03523024.

Air Drill Maintenance Information Manual 47140504.

Manuals can be downloaded from ingersollrandproducts.com

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