Parts Page Reorder No. PD03•33
Effective November, 2003

950 RPM Angle-Head

Model:
53455 – Drill

Air Motor and Machine Parts

WARNING **Always operate, inspect and maintain this tool in accordance with the Safety Code for portable air tools (ANSI B186.1) and any other applicable safety codes and regulations. Please refer to Dynabrade's Warning/Safety Operating Instructions for more complete safety information.**

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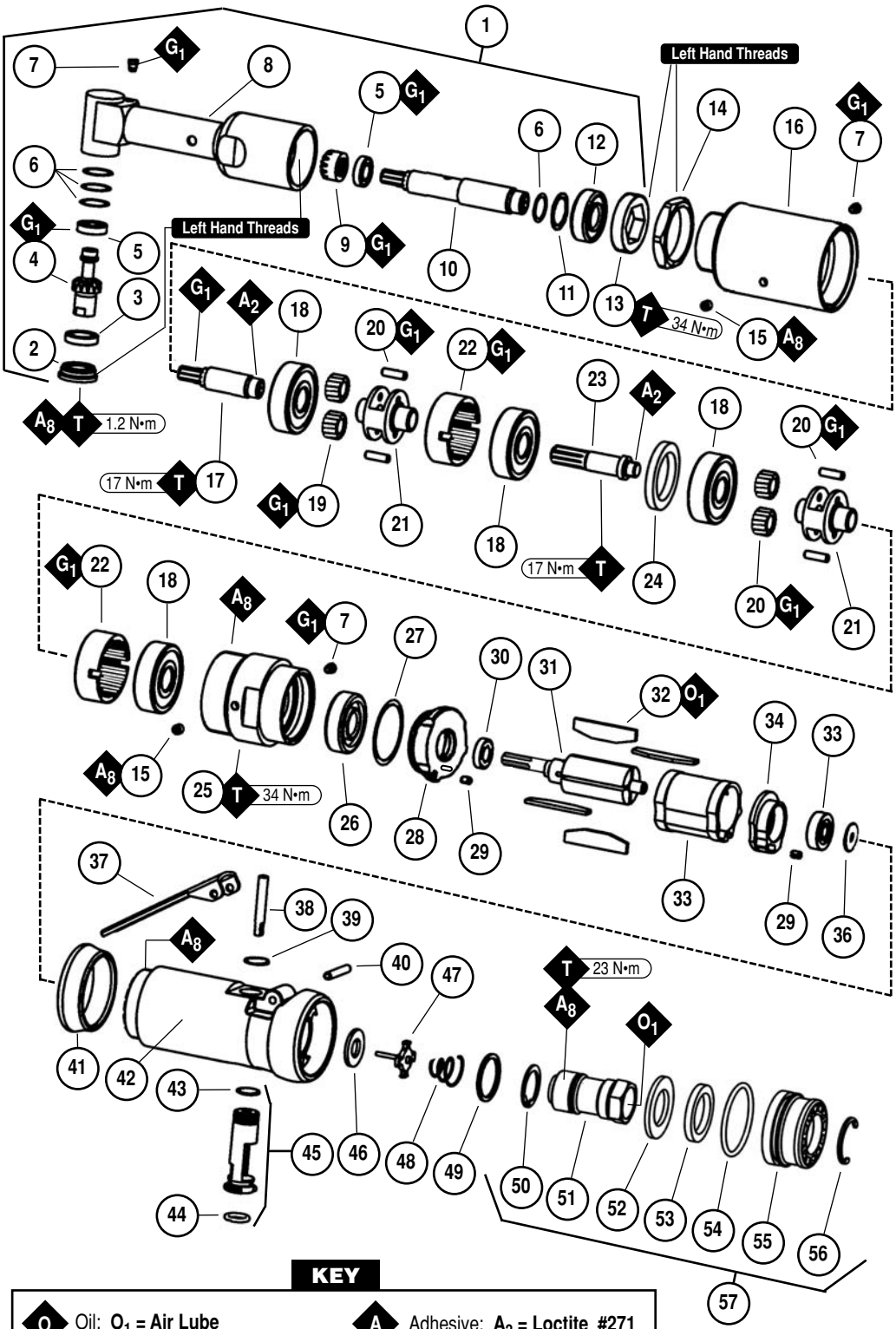

KEY

- **O** Oil: **O_1 = Air Lube**
- **G** Grease: **G_1 = Lubriplate 630 AA**
- **A** Adhesive: **A_2 = Loctite #271**, **A_8 = Loctite #567**
- **T** Torque: **N•m x 8.85 = In. - lbs.**

Important Operating, Maintenance and Safety Instructions

Carefully read all instructions before operating or servicing any Dynabrade® Abrasive Power Tool.
Warning: Hand, wrist and arm injury may result from repetitive work motion and overexposure to vibration.
Important: All Dynabrade Rotary Vane air tools must be used with a Filter-Regulator-Lubricator to maintain all warranties.

Operating Instructions:

Warning: Eye, face, respiratory, sound and body protection must be worn while operating power tools. Failure to do so may result in serious injury or death. Follow safety procedures posted in workplace.

1. With power source disconnected from tool, securely fasten abrasive/accessory on tool.
2. Install air fitting into inlet bushing of tool. **Important:** Secure inlet bushing of tool with a wrench before attempting to install the air fitting to avoid damaging valve body housing.
3. Connect power source to tool. Be careful not to depress throttle lever in the process.
4. Check tool speed with tachometer. If tool is operating at a higher speed than the RPM marked on the tool or operating improperly, the tool should be serviced to correct the cause before use.

Maintenance Instructions:

1. Check tool speed regularly with a tachometer. If tool is operating at a higher speed than the RPM marked on the tool, the tool should be serviced to correct the cause before use.
2. Some silencers on air tools may clog with use. Clean and replace as required.
3. All Dynabrade Rotary Vane air motors should be lubricated. Dynabrade recommends one drop of air lube per minute for each 10 SCFM (example: if the tool specifications state 40 SCFM, set the drip rate of your filter-lubricator at 4 drops per minute).
   Dynabrade Air Lube (P/N **95842**: 1pt. 473ml.) is recommended.
4. It is strongly recommended that all Dynabrade rotary vane air tools be used with a Filter-Regulator-Lubricator to minimize the possibility of misuse due to unclear air, wet air or insufficient lubrication. Dynabrade recommends the following: **11405** Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components.
   Operates 40 SCFM @ 100 PSIG has 3/8" NPT female ports.
5. Lubricate the angle gear head with **1 plunge for every 25 hours of use, to achieve maximum gear life.**
6. Lubricate planetary gears through the gear casing grease fitting with **2-3 plunges for every 50 hours of use, to achieve maximum gear life (order: 95542 Grease and 95541 Gun).**
7. Use only genuine Dynabrade replacement parts. To reorder replacement parts, specify the **Model #**, **Serial #** and **RPM** of your machine.
8. A Motor Tune-Up Kit (P/N **96333**) is available which includes assorted parts to help maintain motor in peek operating condition. Please refer to Dynabrade's Preventative Maintenance Schedule for a guide to expectant life of component parts.
9. An Angle-Head Assembly (P/N **54560**) is available which includes replacement parts for the angle-head portion of the tool.
10. Mineral spirits are recommended when cleaning the tool and parts. Do not clean tool or parts with any solvents or oils containing acids, esters, keytones, chlorinated hydrocarbons or nitro carbons.

Safety Instructions:

Products offered by Dynabrade should not be converted or otherwise altered from original design without expressed written consent from Dynabrade, Inc.

- **Important:** User of tool is responsible for following accepted safety codes such as those published by the American National Standards Institute (ANSI).
- Operate machine for one minute before application to workpiece to determine if machine is working properly and safely before work begins.
- Always disconnect power supply before changing abrasive/accessory or making machine adjustments.
- Inspect abrasives/accessories for damage or defects prior to installation on tools.
- Please refer to Dynabrade's Warning/Safety Operating Instructions Tag (Reorder No. **95903**) for more complete safety information.
- **Warning:** Hand, wrist and arm injury may result from repetitive work, motion and overexposure to vibration.

Notice

All Dynabrade motors use the highest quality parts and metals available and are machined to exacting tolerances. The failure of quality pneumatic motors can most often be traced to an unclean air supply or the lack of lubrication. Air pressure easily forces dirt or water contained in the air supply into motor bearings causing early failure. It often scores the cylinder walls and the rotor blades resulting in limited efficiency and power. Our warranty obligation is contingent upon proper use of our tools and cannot apply to equipment which has been subjected to misuse such as unclean air, wet air or a lack of lubrication during the use of this tool.

One Year Warranty

Following the reasonable assumption that any inherent defect which might prevail in a product will become apparent to the user within one year from the date of purchase, all equipment of our manufacture is warranted against defects in workmanship and materials under normal use and service. We shall repair or replace at our factory, any equipment or part thereof which shall, within one year after delivery to the original purchaser, indicate upon our examination to have been defective. Our obligation is contingent upon proper use of Dynabrade tools in accordance with factory recommendations, instructions and safety practices. It shall not apply to equipment which has been subject to misuse, negligence, accident or tampering in any way so as to affect its normal performance. Normally wearable parts such as bearings, contact wheels, rotor blades, etc., are not covered under this warranty.

Model Number	Motor HP (W)	Motor RPM	Air Inlet Thread	Sound Level	Air Flow Rate CFM/SCFM (LPM)	Air Pressure PSIG (Bars)	Hose I.D. Size	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
All Models	.4 (298)	950	1/4" NPT	83 dB(A)	3/21 (595)	90 (6.2)	1/4" (8 mm)	1.9 (.9)	11-1/8 (282)	2-3/4 (70)

Disassembly/Assembly Instructions – 950 RPM Mini Angle-Head Drill

Important: The Manufacturer's warranty is void if the tool is disassembled before the warranty expires.

Notice: Dynabrade recommends the use of the **52296** Repair Collar (sold separately) during the disassembly and assembly of this drill. All of the special repair tools referred to in these instructions can be ordered from Dynabrade. Please refer to this parts page for the proper part identification.

Motor Disassembly:

1. Disconnect the tool from the air supply.
2. Remove the drill or cutter.
3. Use the **52296** Repair Collar to secure the **53456** Housing in a vise.
4. Remove the **53152** Gear Case from the housing by turning it counterclockwise.
5. Pull the air motor from the housing.
6. Fasten the **96346**, 2" Bearing Separator around the portion of the **01476** Cylinder that is closest to the **02676** Rear Bearing Plate. Place the separator on the table of the **96232**, #2 Arbor Press so that the pinion is pointing down.
7. Use a 3/16" dia. flat end drive punch as a press tool and push the rotor out of the **02696** Bearing.
8. Remove the **02696** Bearing from the **02676** Rear Bearing Plate with the **96210** Bearing Removal Tool and the arbor press.
9. Position the **01478** Front Bearing Plate against the flat side of the bearing separator with the pinion pointing up. Place these on the arbor press and push the rotor from the **02649** Bearing.
6. Push the **02649** Bearing out of the **01478** Front Bearing Plate and remove the shims.
7. Slip the **01479** Spacer off the rotor.

Motor Disassembly Complete.

Gear Case Disassembly:

1. Disconnect the tool from the air supply.
2. Remove the drill or cutter.
3. Use the **52296** Repair Collar to secure the **53456** Housing in a vise.
4. Remove the **53152** Gear Case from the housing by turning it counterclockwise.
5. Remove the **01547** Insulator Collar and secure the wrench flats of the gear case in a vise with aluminum or bronze jaws so that the angle-head is pointing up.
6. Use an adjustable wrench on the flats of the **54547** Angle-Head Housing and turn the housing clockwise to remove it from the gear case. (Left Hand Threads)
7. Remove the **54527** Lock Ring by turning it clockwise. (Left Hand Threads)
8. Use the **97782** Lock Ring Tool or an adjustable pin spanner wrench to separate the **53454** Double Planetary Housing from the **53152** Gear Case by turning it counterclockwise. Remove the Spacer.
9. Use the **96401**, 2mm Hex Key to remove the **50784** Set Screw from the **53152** Gear Case.
10. Pull the planetary gear assembly from the **53152** Gear Case.
11. Fasten the **96346**, 2" Bearing Separator between the rear **54520** Bearing and the **54468** Ring Gear so that the flat side of the separator is against the ring gear. To remove the bearing from the planetary carrier, place the separator on the table of the **96232** #2 Arbor Press so that the **53150** Pinion is pointing toward the floor. Use a 3/8" dia. flat end drive punch as a press tool to push the planetary carrier from the **54520** Bearing.
12. Remove the shafts and gears from the planetary carrier.
13. Use the bearing separator and the arbor press to remove the front **54520** Bearing.
14. Carefully hold the **56786** Planetary Carrier in a vise with aluminum or bronze jaws. Apply localized heat to the pinion to soften the thread adhesive. Use a 3mm diameter shaft through the hole in the **53150** Pinion and remove it by turning counterclockwise.

Gear Case Disassembly Complete.

Double Planetary Housing Disassembly:

1. Use the **96401**, 2mm Hex Key to remove the **50784** Set Screw from the **53454** Double Planetary Housing.
2. Pull the planetary gear assembly from the **53454** Double Planetary Housing.
3. Fasten the **96346**, 2" Bearing Separator between the rear **54520** Bearing and the **54468** Ring Gear so that the flat side of the separator is against the ring gear. To remove the bearing from the planetary carrier, place the separator on the table of the **96232** #2 Arbor Press so that the **53450** Spline Drive is pointing toward the floor. Use a 3/8" dia. flat end drive punch as a press tool to push the planetary carrier from the **54520** Bearing.
4. Remove the shafts and gears from the planetary carrier.
5. Use the bearing separator and the arbor press to remove the front **54520** Bearing.
6. If the **53450** Spline Drive is worn or damaged carefully hold the **56786** Planetary Carrier in a vise with aluminum or bronze jaws. Apply localized heat to the spline drive to soften the thread adhesive. Use adjustable groove style pliers to grab the spline drive and remove it by turning counterclockwise.

Double Planetary Housing Disassembly Complete.

Angel-Head Disassembly:

1. Secure the **54547** Angle-Head Housing in a vise with aluminum of bronze jaws.
2. Remove the **54540** Retaining Ring with a 5/8" hex key by turning it clockwise. (Left Hand Threads)
3. Pull the **54541** Spindle along with bearings and bevel gear out of the **54547** Angle-Head Housing.
4. Use the **96346**, 2" Bearing Separator, a 3/16" dia. flat end drive punch and the **96232**, #2 Arbor Press to remove the bevel gear and the bearings from the spindle.
5. Position the angle-head housing in the vise so that the **54550** Bearing Cap can be removed.
6. Use the **96165** Lock Ring Tool to remove the **54550** Bearing Cap by turning it clockwise. (Left Hand Threads)

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7. Pull the **54529** Spindle along with the bearings out of the angle-head housing.
8. Use the **96346**, 2" Bearing Separator, a 3/16" dia. flat end drive punch and the **96232**, #2 Arbor Press to remove the bearings from the **54529** Spindle.
9. Remove the shims from the inside of the **54547** Angle-Head Housing.

Angle-Head Disassembly Complete.

Valve Disassembly:

1. Use the **52296** Repair Collar to secure the **53456** Housing in a vise. Position the air inlet so that it is pointing up.
2. Hold the **01578** Inlet Adapter stationary with an adjustable wrench and remove the air fitting with another wrench by turning it counterclockwise. **Important:** The **01578** Inlet Adapter must be held stationary with a wrench when the air fitting is installed or removed to avoid damage to the housing.
3. Remove the **01578** Inlet Adapter by turning it counterclockwise and remove the **01564** Air Control Ring.
4. Remove the **95711** Retaining Ring with the **96343** Retaining Ring Pliers.
2. Remove the **01486** felt silencer (4).
6. Remove the **01379** Bronze Muffler.
7. Use a needle nose pliers to remove the **01468** Spring and the **01472** Tip Valve. The **01464** Seal can be picked out of the housing with a small flat bladed screwdriver.
8. Use a 2.5mm flat end drive punch to remove the **12132** Pin and throttle lever.
9. Use the retaining ring pliers to remove **95558** Retaining Ring and push the **01469** Speed Regulator Assembly along with the **01449** Valve Stem out of the housing.

Valve Disassembly Complete.

Valve Assembly:

1. Install the **01469** Speed Regulator Assembly (o-rings included) along with the **01449** Valve Stem into the **53456** Housing and secure it in place with the **95558** Retaining Ring.
2. Install the **01464** Seal into the inlet opening of the housing.
3. Align the hole in the **01449** Valve Stem with the inlet opening of the housing.
4. Use needle nose pliers to install the **01472** Tip Valve so that the metal pin fits into the hole of the **01449** Valve Stem.
5. Install the **01468** Spring so that the small end of the spring fits against the tip valve.
6. Assemble the **94535** Muffler Assembly and install the **01564** Air Control Ring onto the inlet opening of the housing.
7. Apply a small amount of the Loctite #567 (or equivalent) to the male threads of the **01578** Inlet Adapter.
8. Install the muffler assembly onto the housing. (Torque to 23 N·m/200 in. lbs.)

Valve Assembly Complete.

Motor Assembly:

Important: Clean and inspect parts before assembling.

1. Install the **01479** Spacer onto the rotor.
2. Place .003" (.08mm) thickness in shims from the **54529** Shim Pack into the **01478** Front Bearing Plate as an initial spacing. Install the **02649** Bearing into the **01478** Front Bearing Plate. Use the **96240** Bearing Press Tool against the inner race of the bearing and press the assembly onto the rotor.
3. Check the clearance between the rotor and the bearing plate by using a .001" (.03mm) to .0015" (.04mm) thick feeler gauge. The clearance should be a .001" (.03mm) to .0015" (.04mm). If necessary adjust the clearance by repeating steps 1-3 changing shims as required. Once the proper rotor/bearing plate clearance is achieved, install blades that have been lubricated with the **95842** Dynabrade Air Lube (10W/NR or equivalent).
4. Install the **01476** Cylinder so that it rests against the **01478** Front Bearing Plate. Make sure that the air inlet holes of the cylinder line up with the air inlet holes in the **02676** Rear Bearing Plate.
5. Use the **96216** Bearing Press Tool against the outer race of the bearing to press the **02696** Bearing into the **02676** Rear Bearing Plate. Use the **96216** Bearing Press Tool against the inner race of the bearing to press this assembly onto the rotor. **Important:** The fit must be snug between the bearing plates and the cylinder. If it is too tight the rotor will not turn freely. The rotor must turn freely while still maintaining a snug fit. A loose fit will not achieve proper preload of the motor bearings. Place a small amount of grease on the seal of the **02696** Bearing and stick the **02679** Shield against the bearing.
6. Use the **52296** Repair Collar to secure the housing in a vise. Position the opening of the housing so that the motor cavity is pointing up.
7. Install the motor assembly into the housing making sure that the motor fits all the way into the housing. **Note:** Align the Rear Bearing Plate node with the notch on the inside of the Housing.

Motor Assembly Complete.

Gear Case Assembly:

1. Use the raised center portion of the **96239** Bearing Press Tool and the **96232**, #2 Arbor Press to push the front **54520** Bearing onto the threaded end of the **50787** Planetary Carrier.
2. Secure the planetary carrier in a vise with aluminum or bronze jaws. Apply one drop of Loctite #271 (or equivalent) to the threads of the **53150** Pinion. Install the pinion onto the planetary carrier. (Torque to 17 N·m/150 in. lbs.)
3. Apply a small amount of the **95542** Grease to the needle bearings, the planetary gears, and the gear shafts. Install these into the planetary carrier.
4. Slip the **54468** Ring Gear over the planetary gear assembly positioning it so that the notches in the ring gear will align with the lock screw and grease fitting openings in the **53152** Gear Case.
5. Use the raised center portion of the **96239** Bearing Press Tool and the arbor press to push the rear **54520** Bearing onto the **50787** Planetary Carrier until the outer race of the bearing touches the ring gear. Important: The fit should be snug between the bearings and the ring gear. If it is too tight the carrier will not turn freely. The carrier must turn freely while still maintaining a snug fit. A loose fit will not achieve proper preload of the bearings.
6. Install the complete planetary gear assembly into the **53152** Gear Case. Apply a small amount of the Loctite #567 (or equivalent) to the **50784** Set Screw and install it.

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8. Apply a small amount of the Loctite #567 (or equivalent) to the threads of the housing and install the **53152** Gear Case onto the housing. (Torque to 28 N·m/250 in. lbs.)
9. Lubricate planetary gears through the **01041** Grease Fitting, applying 2-3 plunges of the **95542** Grease with the **95541** Grease Gun initially, and there after for every 50 hours of use.

Gear Case Assembly Complete.

Double Planetary Housing Assembly:

1. Use the raised center portion of the **96239** Bearing Press Tool and the **96232**, #2 Arbor Press to push the front **54520** Bearing onto the threaded end of the **50787** Planetary Carrier.
2. Secure the planetary carrier in a vise with aluminum or bronze jaws. Apply one drop of Loctite #271 (or equivalent) to the threads of the **53450** Spline Drive. Install the spline drive onto planetary carrier. (Torque to 17 N·m/150 in. lbs.)
3. Apply a small amount of the **95542** Grease to the needle bearings, the planetary gears, and the gear shafts. Install these into the planetary carrier.
4. Slip the **54468** Ring Gear over the planetary assembly positioning it so that the notches in the ring gear will align with the lock screw and grease fitting openings in the **53454** Double Planetary Housing.
5. Use the raised center portion of the **96239** Bearing Press Tool and the arbor press to push the rear **54520** Bearing onto the **50787** Planetary Carrier until the outer race of the bearing touches the ring gear. Important: The fit should be snug between the bearings and the ring gear. If it is too tight the carrier will not turn freely. The carrier must turn freely while still maintaining a snug fit. A loose fit will not achieve proper preload of the bearings.
6. Slip the complete planetary gear assembly into the **53153** Planetary Housing. Apply a small amount of the Loctite #567 (or equivalent) to the **50784** Lock Screw and install it.
7. Install the **50778** Spacer into the **53152** Gear Case so that the chamfered side is visible.
8. Apply a small amount of the Loctite #567 (or equivalent) to the threads of the **53152** Gear Case and carefully install the double planetary housing assembly onto the gear case making sure to properly align the **53150** Pinion with the planetary gears. (Torque to 28 N-m/ 250 in.-lbs.)
9. Lubricate planetary gears through the **01041** Grease Fittings, applying 2-3 plunges of the **95542** Grease with the **95541** Grease Gun initially, and there after for every 50 hours of use.

Double Planetary Housing Assembly Complete.

Angle-Head Assembly:

Important: All parts should be thoroughly cleaned before assembling.

1. Use the raised center portion of the **96418** Bearing Press Tool and the **96232**, #2 Arbor Press to push the **54537** Bearing onto the **54529** Spindle.
2. In the same manner use the **96245** Bearing Press Tool to install the **54542** Bearing onto the **54529** Spindle.
3. Apply a small amount of the **95542** Grease to the gear and bearings. Install the **54529** Spindle and bearings into the **54547** Angle-Head Housing.
4. Place the angle-head housing in a vise with aluminum or bronze jaws so that the **54529** Spindle is pointing up.
5. Apply a very small amount of the Loctite #567 to the threads of the **54550** Bearing Cap. Use the **96165** Lock Ring Tool to install the bearing cap by turning it counterclockwise. (Left Hand Threads) (Torque to 1.2 N·m/10 in. lbs.) Check spindle for smooth rotation.
6. Use the raised center portion of the **96245** Bearing Press Tool and the **96232**, #2 Arbor Press to push the **54542** Bearing onto the **54541** Spindle.
7. Apply a small amount of the **95542** Grease to the **54542** Bearing.
8. Install the **54546** Bevel Gear and the **95398** Bearing onto the spindle.
9. Install this assembly into the angle-head housing and apply some pressure with your finger against the **95398** Bearing. Check the backlash (the amount of clearance between the bevel gears). There should be minimal backlash between the gears, while still maintaining a smooth feel in the rotation of the spindles. If the fit between the gears is too tight install one or two of the **54551** Shim(s) between the **95398** Bearing and the bearing seat in the housing. Apply pressure and check the backlash. **Note:** Installing or removing the **54536** and **54551** Shim(s) as required, can adjust the backlash.
10. Apply a small amount of the Loctite #567 to the threads of the **54540** Retaining Nut and use a 5/8" hex key to install the retaining nut. (Left Hand Threads) (Torque to 34 N·m/300 in. lbs.)
11. Lubricate the angle gears with one plunge of the **95542** Grease and the **95541** Grease Gun. Apply this lubrication after every 25 hours of use.

Angle-Head Assembly Complete.

Gear Case and Double Planetary Housing Connection to the Motor Assembly:

1. Use the **52296** Repair Collar to secure the **53456** Housing in a vise so that the **54553** Rotor pinion is pointing up.
2. With the **01547** Insulator Collar pulled down onto the **53456** Housing, apply a small amount of the Loctite #567 to the threads of the housing.
3. Carefully align the **53152** Gear Case assembly so that the planet gears mesh properly with the motor pinion. **Note:** The gear case assembly will thread onto the **53456** Housing easily when the gears are meshed properly. If the gear case does not thread on easily, stop, remove the gear case assembly and realign. (Torque to 28 N·m/250 in. lbs.) Pull the insulator collar up onto the gear case.
4. Install the **50778** Spacer so that the flat side of the spacer is toward the gear case assembly.
5. Apply a small amount of the Loctite #567 to the threads of the gear case.
6. Carefully align the **53454** Double Planetary Housing so that the planet gears mesh properly with the gear case pinion. **Note:** The double planetary assembly will thread onto the **53152** Gear Case easily when the gears are meshed properly. If the double planetary assembly does not thread on easily, stop, remove the double planetary assembly and realign. (Torque to 28 N·m/250 in. lbs.)
7. Lubricate the planetary gears through the gear case and double planetary grease fittings with 2-3 plunges of the **95542** Grease and the **95541** Grease Gun. Apply this lubrication after every 50 hours of use.

Gear Case and Double Planetary Connection to the Motor Assembly Complete.

Angle-Head Connection to the Double Planetary Housing:

1. Thread the **54527** Lock Ring all the way onto the **53454** Double Planetary Housing by turning it counterclockwise. (Left Hand Threads)

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Disassembly/Assembly Instructions – 950 RPM Mini Angle-Head Drill

2. Apply a small amount of the **95541** Grease to the **53450** Spline Drive, align and thread the angle-head housing assembly onto the double planetary housing so that the spline drive will mesh with the **54541** Spindle. Thread the angle-head housing all the way onto the **53454** Double Planetary Housing until it touches the **54527** Lock Ring by turning it counterclockwise. (Left Hand Threads) Back the angle-head housing off and orient it to the desired position in relation to the throttle lever.
3. Hold the **54547** Angle-Head Housing stationary with a wrench and tighten the **54527** Lock Ring against the angle-head housing to lock the angle-head in the desired position. (Torque to 34 N·m/300 in. lbs.)

Angle-Head Connection to the Double Planetary Housing Complete. Tool Assembly Complete.

Note: Motor should operate at 950 RPM at 6.2 bar (90 PSIG). RPM should be checked with a tachometer. Before operating, we recommend that 2-3 drops of pneumatic tool oil be placed directly into the air inlet with throttle lever depressed. Grease gears through grease fittings.

Important: Motor should now be tested for proper operation at 90 PSIG. If motor does not operate properly or operates at a higher RPM than marked on the tool, the tool should be serviced to correct the cause before use. Before operating, place 2-3 drops of Dynabrade Air Lube (P/N **95842**) directly into air inlet with throttle lever depressed. Operate tool for 30 seconds to determine if tool is operating properly and to allow lubricating oils to properly penetrate motor

Loctite® is a registered trademark of Loctite Corp.

Optional Accessories

Grease

- Multi-purpose grease for all types of bearings, cams, gears.
- High film strength; excellent resistance to water, steam, etc.
- Workable range 0˚ F to 300˚ F

95541: Push-Type Grease Gun (one-handed operation).

95542: 10 oz. (283.5 g) tube.

Dynabrade Air Lube

- Formulated for pneumatic equipment.
- Absorbs up to 10% of its weight in water.
- Prevents rust and formation of sludge.
- Keeps pneumatic tools operating longer with greater power.

95842: 1pt. (473 ml)

95843: 1gal. (3.8 L)

Dynaswivel®

Swivels 360° at two locations which allows an air hose to drop straight to the floor, no matter how the tool is held.

- **94300** Composite Swivel 1/4" NPT.

96333 Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.

96232 #2 Arbor Press

- This arbor press is ideal for the disassembly and assembly of air motors.

96346 Bearing Separator

- Use the separator to remove bearings and gears.

52296 Repair Collar

- Specially designed collar for use in vise to prevent damage to valve body of tool during disassembly/assembly.

96401 Metric Hex Key

- This 2mm hex key is used for the removal and installation of the **50784** Set Screw.

97782 Lock Ring Tool

- Lock Ring Tool has a 3/8 in. square socket for use with 3/8 in. drive; breaker bar, ratchet head, or torque wrenches.

96165 Lock Ring Tool

- Lock Ring Tool has a 1/4 in. square socket for use with 1/4 in. drive; breaker bar, ratchet head, or torque wrenches.

96343 Retaining Ring Pliers

- Internal/external retaining ring pliers Tip diameter - .0.038" (0.96mm)

Visit Our Web Site: www.dynabrade.com **Email:** Customer.Service@Dynabrade.com

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