

# Mini-Dynaflex® II

**Models:**

- 15002 - Vacuum Tool
- 15003 - Basic Tool with Drive Wheel
- 15006 - Versatility Kit

**Air Motor and Machine Parts**

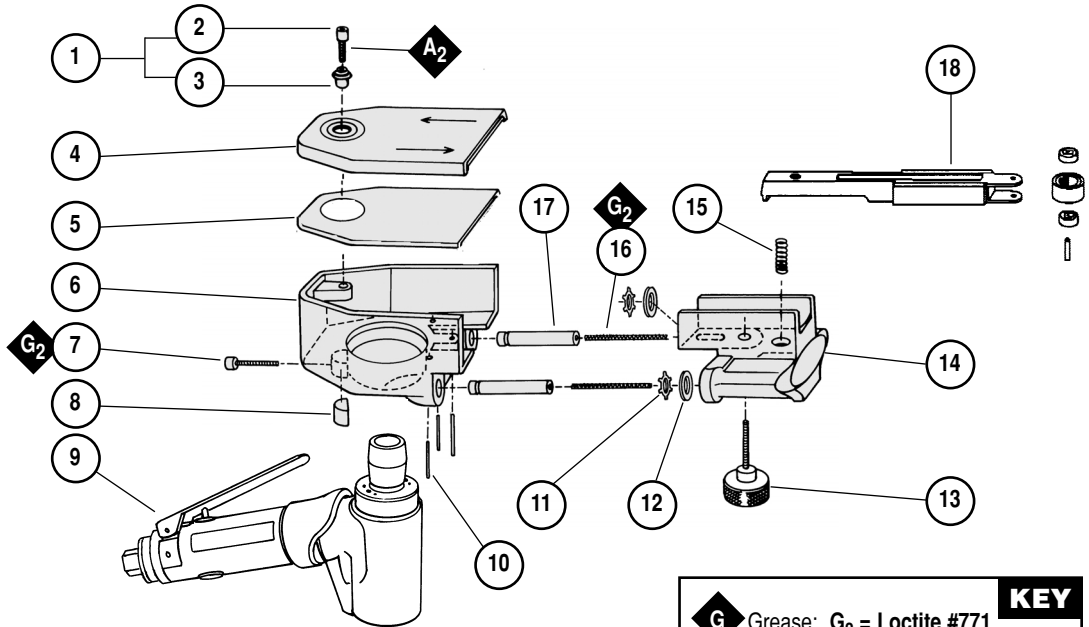
## ! WARNING

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. See inside for Important Operating, Maintenance and Safety Instructions.

**Index Key**

No.	Part #	Description
1	15114	Button Latch Assy. (includes 96084 and 40025)
2	96084	Screw
3	40025	Button
4	15117	Guard Assembly (includes 15102)
5	15102	Gasket
6	15100	Housing
7	01788	Motor Lock Screw
8	40029	Motor Lock
9	04115	Air Motor
10	96086	Roll Pin
11	15112	Retainer Clip
12	15110	Wiper
13	15108	Knob
14	15101	Tension Arm
15	11040	Spring
16	96085	Spring (2)
17	15105	Support Shaft (2)
18		Contact Arm Assy. (Refer to page 6)

**15003, 15006 Tool Assembly**



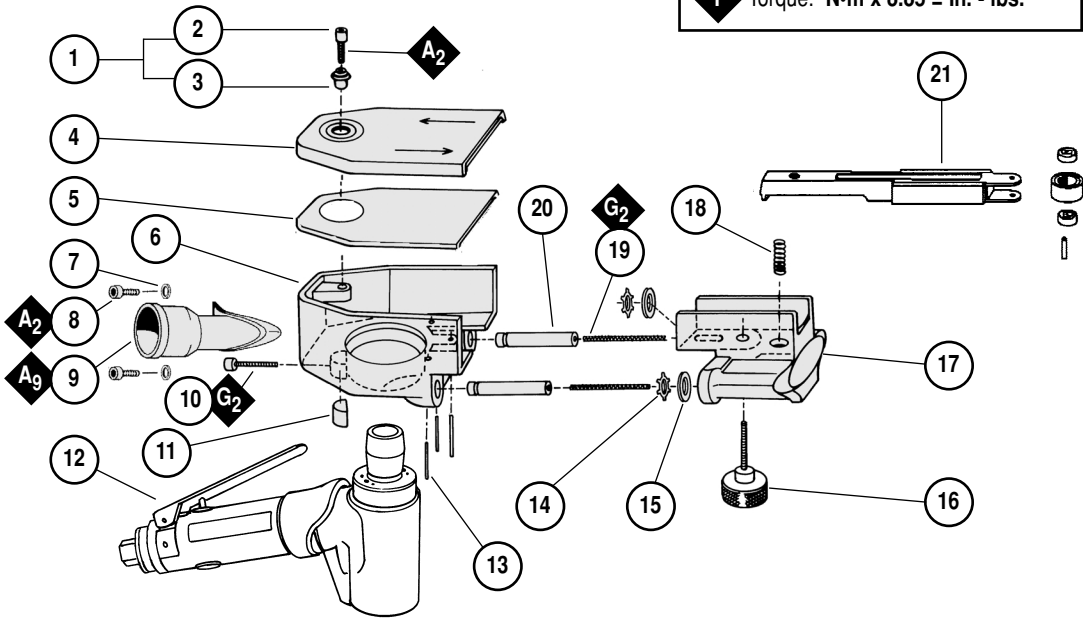
Note: Shaded parts represent 15115 Housing Assembly.

KEY	
<b>G</b>	Grease: G <sub>2</sub> = Loctite #771
<b>A</b>	Adhesive: A <sub>2</sub> = Loctite #271 A <sub>8</sub> = Loctite #567 A <sub>9</sub> = Loctite #587
<b>T</b>	Torque: N•m x 8.85 = In. - lbs.

**Index Key**

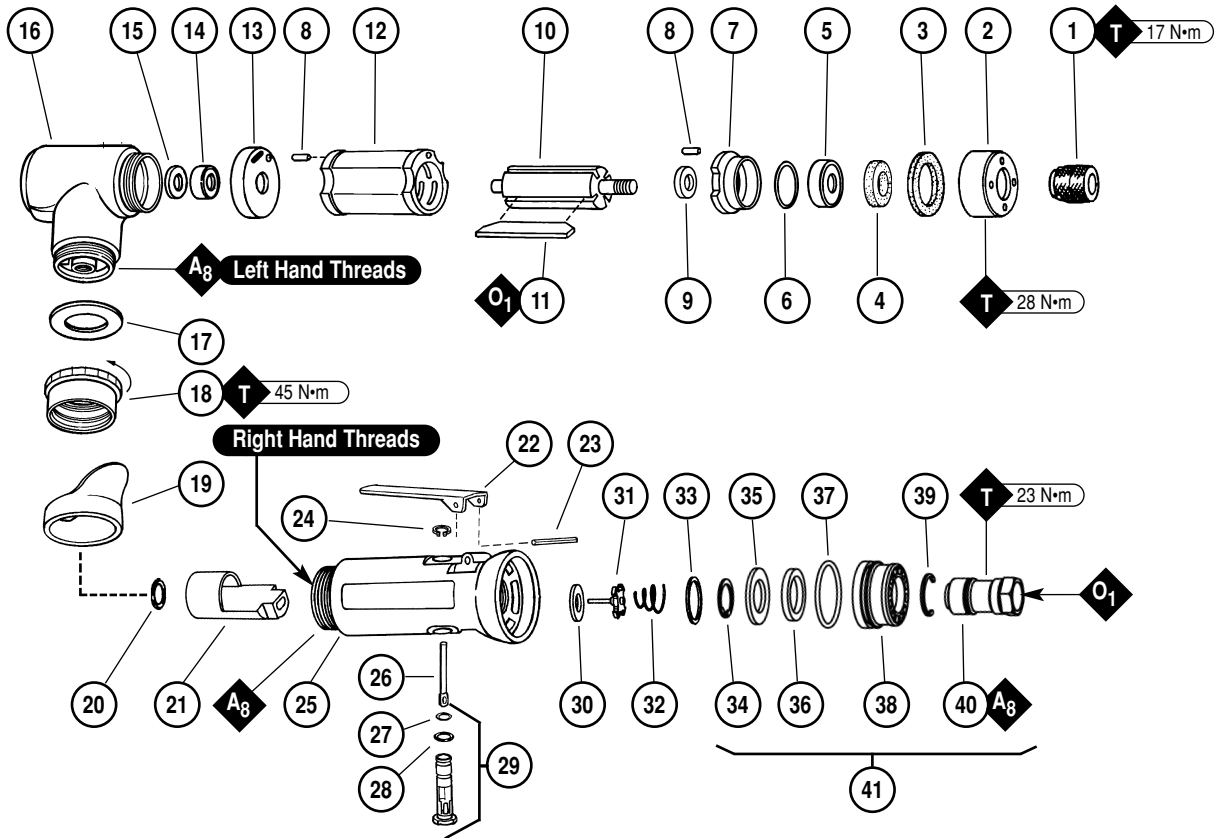
No.	Part #	Description
1	15114	Button Latch Assy. (includes 96084 and 40025)
2	96084	Screw
3	40025	Button
4	15117	Guard Assembly (includes 15102)
5	15102	Gasket
6	15113	Housing
7	96087	Washer (2)
8	95264	Screw (2)
9	15107	Vac Port
10	01788	Motor Lock Screw
11	40029	Motor Lock
12	04115	Air Motor
13	96086	Roll Pin
14	15112	Retainer Clip
15	15110	Wiper
16	15108	Knob
17	15101	Tension Arm
18	11040	Spring
19	96085	Spring (2)
20	15105	Support Shaft (2)
21		Contact Arm Assy. (Refer to page 6)

**15002 Vacuum Tool Assembly**



Note: Shaded parts represent 15116 Housing Assembly.

# 04115 Air Motor



Index Key			
No.	Part #	Description	
1	15118	Drive Wheel	
2	15106	Exhaust Cover	
3	15111	Silencer	
4	01580	Silencer	
5	02649	Bearing	
6	54529	Shim Pak (3)	
7	01478	Front Bearing Plate	
8	50767	Pin (2)	
9	01479	Spacer	
10	01475	Rotor	
11	01480	Blades (4)	
12	01476	Cylinder	
13	02673	Rear Bearing Plate	
14	02696	Bearing	
15	02679	Shield	
16	01546	Housing	
17	01548	Gasket	
18	01461	Lock Nut	
19	01558	Collar	
20	95523	O-Ring	
21	01470	Insert	
22	01448	Throttle Lever	
23	12132	Pin	
24	95558	Retaining Ring	
25	02116	Housing - 15002	
	02117	Housing - 15003	
26	01449	Valve Stem	
27	95730	O-Ring	
28	01024	O-Ring	
29	01469	Speed Regulator Assembly	
30	01464	Seal	
31	01472	Tip Valve	
32	01468	Spring	
33	01378	Air Control Ring	
34	95711	Retaining Ring	
35	01486	Felt Silencer (4)	
36	01379	Bronze Muffler	
37	96065	O-Ring	
38	01446	Air Deflector	
39	95620	Retaining Ring	
40	01578	Inlet Adapter	
41	94535	Muffler Assembly	

KEY	
<b>O</b>	Oil: O <sub>1</sub> = Air Lube
<b>A</b>	Adhesive: A <sub>8</sub> = Loctite #567
<b>T</b>	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. An Air Line Filter-Regulator-Lubricator must be used with this air tool to maintain all warranties. 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. Use only genuine Dynabrade replacement parts. To reorder replacement parts, please specify the **Model #**, **Serial #** and **RPM** of your machine.
6. A Motor Tune-Up Kit (P/N 96074) is available which includes assorted parts to help maintain motor in peak operating condition. Please refer to Dynabrade's Preventative Maintenance Schedule for a guide to expectant life of component parts.
7. Mineral spirits are recommended when cleaning the tool and parts. Do not clean tool or parts with any solvents or oils containing acids, esters, ketones, 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	Max. SFPM (SMPM)	Sound Level	Air Flow Rate CFM/SCFM (LPM)	Abrasive Belt Size Inch (mm)	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
All Models	.35 (261)	25,000	4,890 (1,486)	78 dB(A)	3/20 (566)	1/8"-1/2" (3-13)W x 12" (305)L	1.8 (.82)	10-3/4 (275)	3-1/2 (89)

Additional Specifications: Air Inlet Thread 1/4" NPT • Hose I.D. Size 1/4" (8 mm) • 90 PSIG (6.2 Bars)

# Disassembly/Assembly Instructions - Mini-Dynafire® II

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

**Notice:** Dynabrade strongly recommends the use of their 52296 Repair Collar (sold separately) during assembly/disassembly activities. Failure to use this collar will highly increase the risk of damage to the valve body of this tool. Please refer to parts breakdown for part identification.

## To Disassemble:

1. Remove Belt Guard, abrasive belt and contact arm assembly.

## Motor Disassembly:

1. Separate **04115** Air Motor from tool assembly (**15002**, **15003** or **15006**) by loosening **01788** Motor lock screw with a **95266**, 3 mm hex key.
2. Hold **01546** Housing in a vise by using **52296** Repair Collar or padded jaws.  
**Note:** Be careful not to over tighten vise which could damage **01546** Housing
3. Use **50791** Lock Ring Wrench or an adjustable 3 mm pin wrench to remove the **15106** Exhaust Cover (turn counterclockwise). Remove Silencer.
4. Pull motor assembly from housing.
5. Fasten a bearing separator around the **01476** Cylinder (end nearest the **02673** Rear Bearing Plate).
6. Place the bearing separator on the table of the **96232** Arbor press so that the motor spindle points toward the floor.
7. Use a 3/16" diameter drive punch as a press tool and press the rear portion of the **01475** Rotor out of the **02696** Rear Bearing.
8. With the motor now disassembled, secure **01475** Rotor in a soft aluminum or bronze jaw vise, and remove **15118** Drive Wheel with a **95262** 14 mm Wrench or pipe wrench.
9. Remove **01478** Front Bearing Plate, **02649** Front Bearing, shims and **01479** Spacer, these are a slip fit onto the rotor.
10. Remove **02679** Shield from **02696** Rear Bearing, and press **02696** Rear Bearing from **02673** Rear Bearing Plate (**96210** Bearing Removal Tool is available).

**Motor disassembly complete.**

## Valve Body Disassembly:

1. Position valve body in a vise by using **52296** Repair collar so that air inlet points up..
2. Secure **01578** Inlet Adapter with a wrench to prevent it from turning. While holding the inlet adapter stationary remove the air fitting by turning it counterclockwise. **Important:** **01578** inlet Adapter must be secured before attempting to remove the air fitting so as to avoid damaging the valve body housing.
3. Remove **01578** inlet Adapter.
4. Remove **95711** Retaining Ring from inlet adapter. Remove **01486** Felt Silencer (4), and **01379** Bronze Muffler.
5. Remove **01564** Air Control Ring from the valve body housing. Use needle nose pliers and remove **01468** Spring, **01472** Tip Valve and **01464** Seal.
6. Use a 2.5 mm drive punch to remove **12132** Pin and **01448** or **01462** Throttle Lever.
7. Remove **95558** Retaining Ring and push **01469** Regulator from the valve body housing.

**Valve Body disassembly complete.**

**Optional:** To disassemble valve body from motor housing, peel back **01558** Collar to expose **01461** Lock Nut. Unscrew lock nut/valve body from motor housing (left hand thread).

## To Assemble:

**Important:** Make sure parts are clean and in good condition before assembling.

## Motor Assembly:

1. Place **01475** Rotor in soft aluminum or bronze jaw vise with threaded spindle pointing upwards.
2. Slip **01479** Spacer onto rotor.
3. Place a .002" shim into **01478** Front Bearing Plate as an initial spacing and slip **02649** Bearing into plate (**Note:** Shim Pak contains .001" and .002" shims.)
4. Install bearing/bearing plate assembly onto rotor.
5. Insert silencers into **15106** Exhaust Cover and slide over rotor.
6. Tighten **15118** Drive Wheel onto Rotor (torque to 17 N•m/150 in. - lbs.).
7. Check clearance between rotor and bearing plate by using a .001" feeler gauge. Clearance should be at .001" to .0015". Adjust clearance by repeating steps 1-5 with different shim if necessary.
8. Once proper rotor/gap clearance is achieved, install well lubricated **01480** Blades (4) into rotor slots. Dynabrade recommends their air lube P/N **95842**.
9. Install cylinder over rotor. Be sure air inlet holes of cylinder face away from bearing plate and that the **50767** Pin in the front bearing plate aligns correctly with the pin-hole in the cylinder.
10. Press **02696** Rear Bearing into **02673** Rear Bearing Plate. Press bearing/bearing plate assembly onto rotor. Be sure that pin and air inlet holes line-up with pin slot and air inlet holes in cylinder. **Important:** Fit must be snug between bearing plates and cylinder. A loose fit will not achieve the proper preload of motor bearings. If too tight, rotor will not turn freely and must then be lightly tapped at press fit end so it will turn freely while still maintaining a snug fit.
11. Apply a dab of grease onto **02673** Bearing and place **02679** Shield over **02673** Bearing.
12. Secure housing in vise using **52296** Repair Cover or padded jaws so motor cavity faces upwards.
13. Install motor assembly into housing. Be sure motor drops all the way into housing.
14. Tighten exhaust cover onto motor housing by using **50971** Lock Ring Wrench (torque 28 N•m/250 in. - lbs.).

## Disassembly/Assembly Instructions - Mini-Dynaflex® II (continued)

15. Motor adjustment can now be checked. With motor housing still mounted in vise, pull end of rotor and twist (10-15 lbs. force), rotor should turn freely without drag. If drag or rub is felt, then increase preload or remove shim. Also, push end of rotor and twist (10-15 lbs. force), rotor should turn freely without drag. If drag or rub is felt, then deload or add shim.

**Motor assembly is complete.**

### Valve Body Assembly:

1. Install **01469** Regulator complete with o-rings and valve stem into valve body housing. Secure it in place with **95558** Retaining Ring.
2. Place valve body housing in a vise, holding it with the aid of **52296** Repair collar so that the air inlet opening points up.
3. Insert **01464** Seal into the air inlet opening so that it lays flat.
4. Line up hole in valve stem with inlet opening in housing (looking past brass bushing). Install **01472** Tip Valve so that the metal pin passes through the hole in the valve stem. Install **01468** Spring (small end against tip valve).
5. Position **01378** Air Control Ring around inlet opening. Place **01379** Bronze Muffler inside **01446** Air Deflector. With **95620** Retaining Ring installed on female threaded end of **01578** Inlet Adapter insert the inlet adapter through **01446** Air Deflector. Place **01486** Felt Silencer (4) inside **01446** Air Deflector. Install **95711** Retaining Ring into groove at the male threaded end of the inlet adapter. Install **96065** O-Ring into groove on the air deflector.
6. Apply Loctite® #567 (or equivalent) to the male threads of the **01578** Inlet adapter install **96065** O-Ring into groove on the air deflector.
7. Install **01448** or **01462** Throttle Lever onto valve body housing with **12132** Pin.
8. Secure **01578** Inlet Adapter with a wrench to prevent it from turning. While holding the inlet adapter stationary install the air fitting by turning it clockwise. Important: **01578** Inlet Adapter must be secured before attempting to install the air fitting so as to avoid damaging the valve body housing.

**Tool assembly is complete. Please allow 30 minutes for adhesives to cure before operating tool.**

### Housing Assembly:

1. With **40029** Motor lock in place, install air motor assembly into housing and secure in place by tightening **01788** Motor Lock Screw.
2. Complete assembly by installing contact arm assembly, abrasive belt and belt guard.

**Tool assembly is complete. Please allow 30 minutes for adhesives to cure before operating tool.**

**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.

**Note:** Throttle lever is present at the factory at an 11:00 o'clock position.

**Important:** The regular maintenance of any air tool will contribute to greater efficiency of tool and will prolong tool life. The failure of quality pneumatic air bearings causing early failure. It often scores the cylinder walls and the rotor blades resulting in limited efficiency and power. Frequent drainage of water traps in air lines is recommended. Each tool on each drop should also be equipped with a secondary air processing unit. This consists of an in-line Filter-Regulator-Lubricator. All Dynabrade Rotary Vane air tools must be used with a Filter-Regulator-Lubricator to maintain all warranties. Our warranty obligation is contingent upon proper use of our tools and cannot apply to equipment which has been subject to misuse such as unclean air, wet air or a lack of lubrication during the use of the tool.

Loctite® is a registered trademark of the Loctite Corp.

### Housing Angle Adjustment:

1. Disconnect power source.
2. To pivot housing, loosen **01788** Motor Lock Screw on housing with the supplied 3 mm hex wrench (P/N – **95266**).
3. Pivot housing to desired angle and retighten the **01788** Motor Lock Screw.

### Abrasive Belt/Contact Arm Change Instructions:

#### To Change Belt:

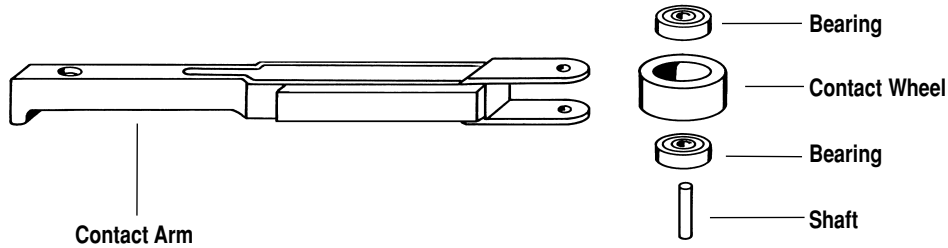
1. Disconnect power source.
2. Remove "pop-off" cover.
3. Pull back on tension arm assembly.
4. Remove and replace abrasive belt and cover.
5. Connect power source.
6. Adjust belt tracking by turning **15108** Rough Adjustment Knob to the left or right accordingly while machine is running.

#### To Change Contact Arm Assembly:

1. Disconnect power source. 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.
2. Remove "pop-off" cover.
3. Pull back on tension arm assembly and remove abrasive belt.
4. Remove **15108** Rough Adjustment Knob.
5. Remove contact arm and replace with desired arm, making sure that the tab on the end of the arm is facing downward.
6. Replace **15108** Knob.
7. Install abrasive belt and cover.
8. Connect power source and adjust belt tracking by turning **15108** Knob to the left or right accordingly while machine is running.

# Mini-Dynafile® II Contact Arm Assemblies

Contact Wheel Assembly Includes wheel, bearing and shaft.



## Mini-Dynafile® II Standard Contact Arms

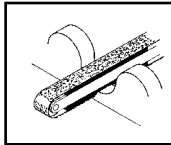
Part Number	Abrasive Belt Size	Contact Wheel Description	Contact Wheel Assembly	Contact Wheel Only	Bearing (2) Req.	Shaft
15026	1/2" x 12"	5/8" D x 3/8" W, Rubber	11078	11077	11052	11054
15028	1/4" or 1/2" x 12"	1" D x 3/8" W, Rubber	11080	11079	11052	11054
15029	1/8" x 12"	1" D x 3/8" W Urethane, Tapered	11086	11085	11052	11054
15030	1/2" x 12"	5/16" D x 3/8" W, Steel	11068	11067	11051	11054
15031	1/2" x 13"	7/16" D x 3/8" W, Rubber	11070	11069	11051	11054

## Mini-Dynafile® II Contact Arms

Contact arms allow for 3" workable reach.

Contact Wheels noted include bearing and shaft.

**15026** (Standard on all models).  
Grind over contact wheel or platen.

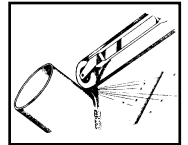


**Belt Size:** 1/2" wide x 12" long.

**11078 Contact Wheel:** 5/8" diameter x 3/8" wide, rubber.

**11026 Platen:** 1/2" wide.

**15029**  
Grind corners, enter grooves, strap polish.

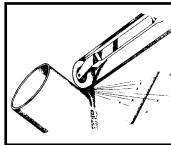


**Belt Size:** 1/8" wide x 12" long.

**11086 Contact Wheel:** 1" diameter x 3/8" wide, urethane.

**No Platen**

**15028**  
Grind corners, enter grooves, strap polish.

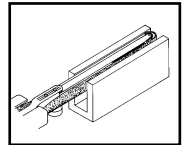


**Belt Size:** 1/4" or 1/2" wide x 12" long.

**11080 Contact Wheel:** 1" diameter x 3/8" wide, rubber.

**No Platen**

**15030**  
Enter channels as narrow as 7/16".



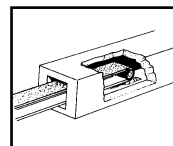
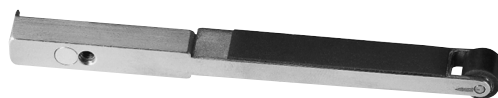
**Belt Size:** 1/2" wide x 12" long.

**11068 Contact Wheel:** 5/16" diameter x 3/8" wide, steel.

**11027 Platen:** 1/2" wide.

45 PSIG Max.

**15031**  
**For 13" long belts**  
Runs at 45 PSIG max.  
Work on contact wheel or Dynapad.



**Belt Size:** 1/2" wide x 13" long.

**11070 Contact Wheel:** 7/16" diameter x 3/8" wide, rubber.

**11027 Platen:** 1/2" wide.

## Optional Accessories



### Dynaswivel®

- Swivels 360° AT TWO PIVOT POINTS allowing the air hose to drop directly to the floor while providing superb tool handling.
- New 94300 1/4" NPT, non-marring composite construction.



### 96074 Motor Tune-Up Kit

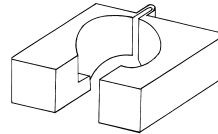
- Includes assorted parts to help maintain and repair motor.



### Threaded Collet Inserts

These uniquely designed inserts thread directly into the drive wheel.

- 01644 – 1/4" insert
- 01646 – 6 mm insert
- 01647 – 1/8" insert
- 01648 – 3 mm insert



### 52296 Repair Collar

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

## Abrasives

### 12" Long Abrasive Belts

#### Abrasive Impregnated Non-Woven Nylon

Belt Width	Super Fine Grey	Very Fine Blue	Medium Maroon	Coarse Brown
1/2"	90311	90312	90313	90314

#### Aluminum Oxide

Belt Width	Grit						
	40	60	80	120	180	220	320
1/8"	—	—	92206	92207	92208	92209	92210
1/4"	92105	92106	92107	92108	92118	92119	92120
1/2"	92110	92111	92112	92113	92114	92115	962116



**DYNABRADE**

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