

# Dynangle® II

**Models:**

- 14300 – Standard Duty**
- 14302 – Heavy-duty “Dual Motor”**
- 14303 – Heavy-duty “Dual Motor” w/ Platen**
- 14306 – Heavy-duty “Dual Motor” w/ Platen (2" x 45" belts)**

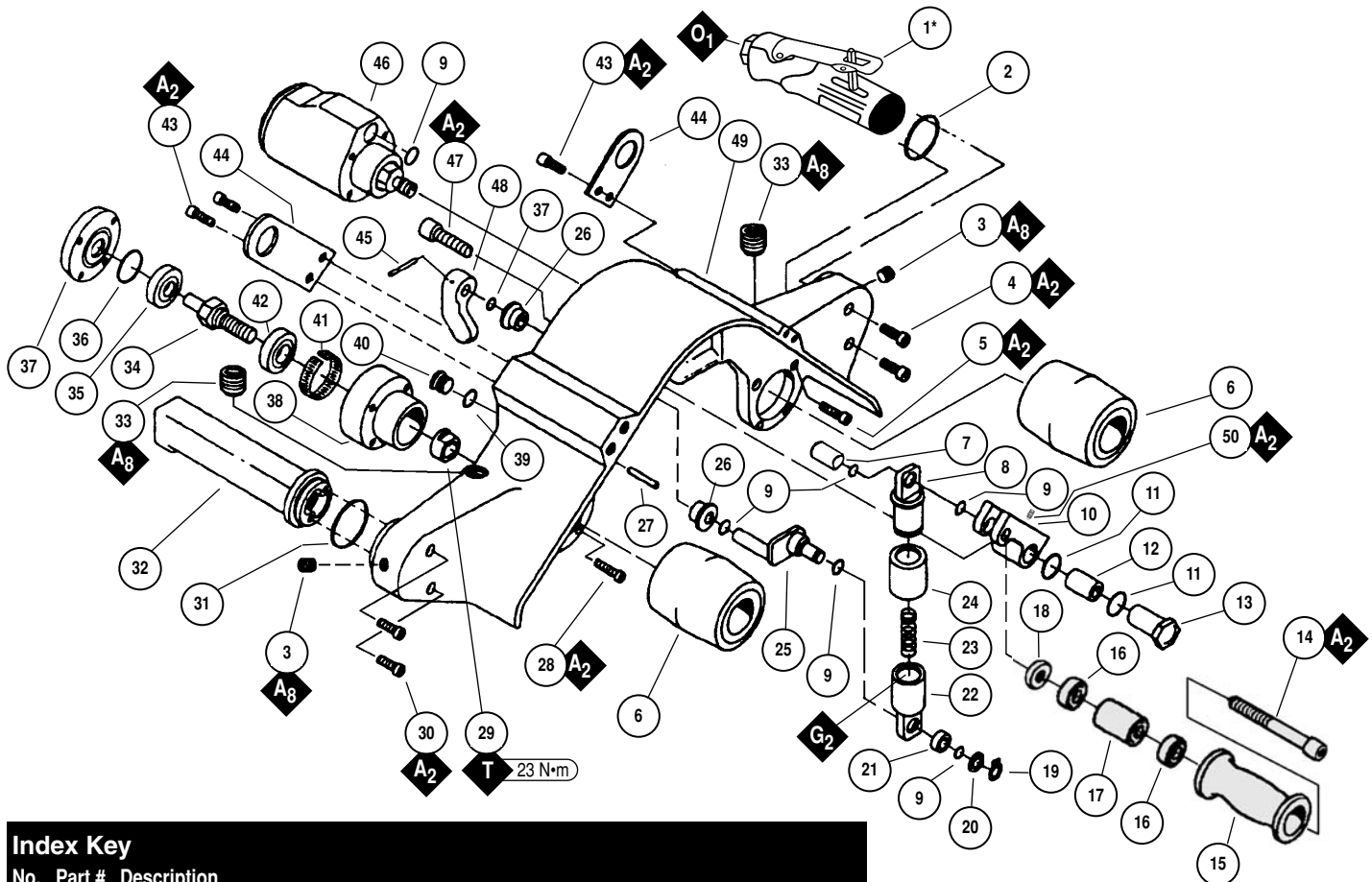
**Machine and Motor Parts**



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.

## Machine Assembly

Model 14300 — for 2" x 34" belts / Standard duty — for strap polishing



### Index Key

No. Part # Description

1	07167	Throttle Valve Assy.*	18	14347	Spacer	35	01266	Bearing
2	14064	O-Ring	19	95558	Retaining Ring	36	95584	O-Ring
3	95562	Plug (2)	20	95557	Washer	37	14328	Cover
4	95720	Screw (2)	21	95572	Bushing	38	14327	Housing
5	95221	Screw (4)	22	14318	Retainer	39	01025	O-Ring (2)
6	01794	Drive Wheel (2)	23	95556	Spring	40	14348	Plug
7	14353	Bushing	24	14319	Cover	41	95583	Ring
8	14317	Retainer	25	14324	Cam Assembly	42	02552	Bearing
9	95288	O-Ring (6)	26	95560	Bearing (2)	43	95536	Screw (4)
10	14316	Idle Arm	27	95333	Pin	44	14333	Bracket (2)
11	95526	O-Ring (2)	28	95564	Screw (4)	45	95164	Pin
12	95555	Bearing	29	14330	Nut	46	07102	Motor
13	14343	Step Nut	30	95720	Screw (2)	47	95559	Screw
14	95565	Screw	31	14064	O-Ring	48	14331	Lever
15	14344	Tension Idler	32	14332	Dead Handle Assy.	49	14320	Housing
16	95398	Bearing (2)	33	95561	Plug (2)	50	95952	Set Screw
17	14346	Spacer	34	14329	Shaft			

KEY	
<b>O</b>	Oil: O <sub>1</sub> = Air Lube
<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
<b>T</b>	Torque: N•m x 8.85 = In - lbs.

Shaded area represents 14334 Tension Wheel Assembly.

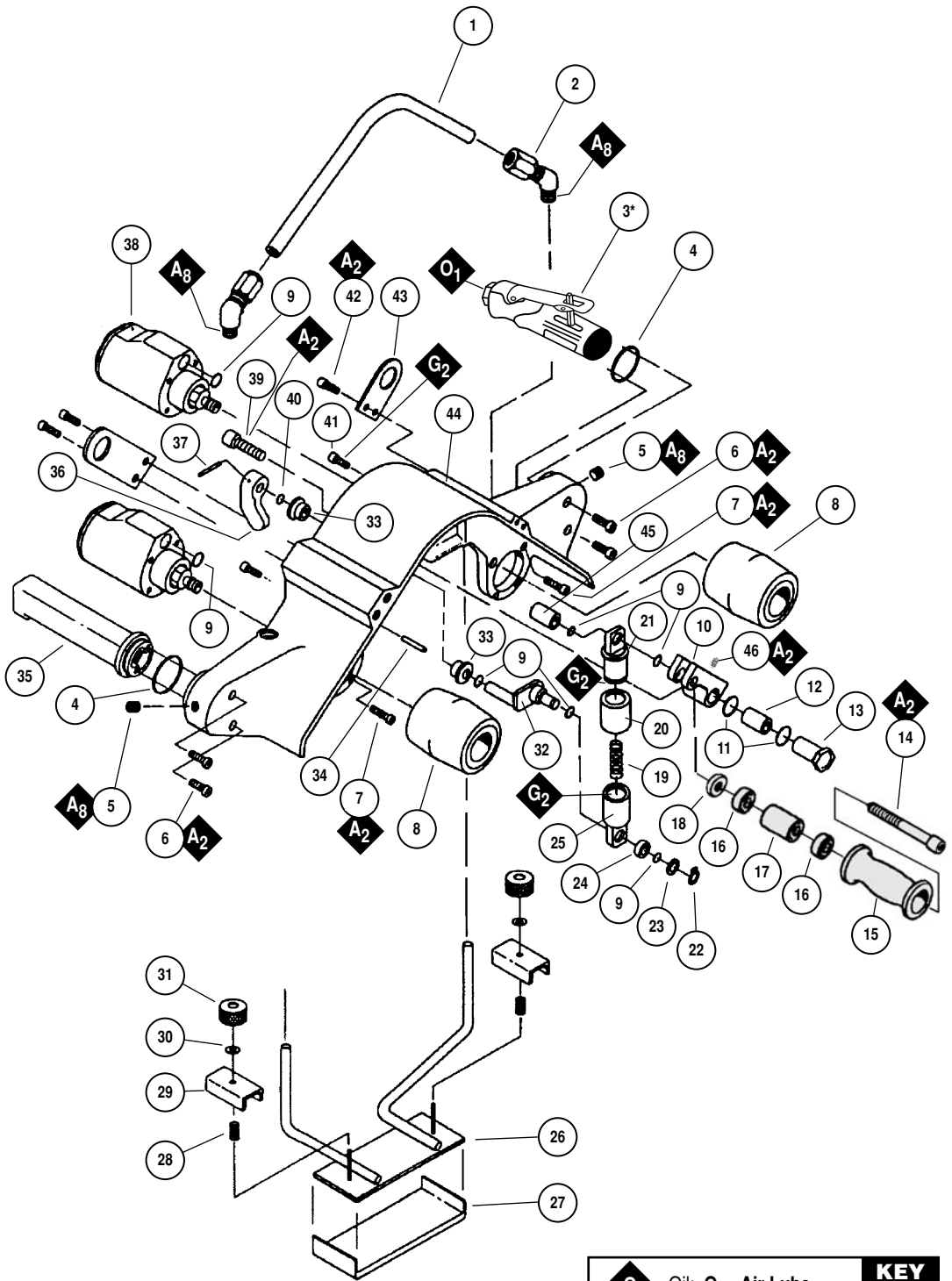
\*See page 5 for 07167 Throttle Valve and 07102 Motor Assemblies.

# Machine Assembly

Model 14302 — for 2" x 34" belts / Heavy-duty — for strap polishing  
 Model 14303 — for 2" x 34" belts / Heavy-duty — with 14336 Platen Assembly

## Index Key

No.	Part #	Description
1	14335	Air Line
2	95566	Fitting (2)
3	07167	Throttle Valve Assy.*
4	14064	O-Ring (2)
5	95562	Plug (2)
6	95720	Screw (4)
7	95221	Screw (8)
8	01794	Drive Wheel (2)
9	95288	O-Ring (7)
10	14316	Idler Arm
11	95526	O-Ring (2)
12	95555	Bearing
13	14343	Step Nut
14	95565	Screw
15	14344	Tension Idler
16	95398	Bearing (2)
17	14346	Spacer
18	14347	Spacer
19	95556	Spring
20	14319	Cover
21	14317	Retainer
22	95558	Retainer Ring
23	95557	Washer
24	95572	Bushing
25	14318	Retainer
26	14337	Mount
27	14341	Platen Pad
28	95570	Spring (2)
29	14338	Clamp (2)
30	95563	Washer (2)
31	14342	Knob (2)
32	14324	Cam Assembly
33	95560	Bearing (2)
34	95333	Pin
35	14332	Dead Handle Assy.
36	14331	Lever
37	95164	Pin
38	07102	Motor (2)
39	95559	Screw
40	01025	O-Ring
41	95150	Screw (2)
42	95536	Screw (4)
43	14333	Bracket (2)
44	14320	Housing
45	14353	Bushing
46	95952	Set Screw



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<b>T</b>	Torque: N·m x 8.85 = In - lbs.

Shaded area represents 14334 Tension Wheel Assembly.

\*See page 5 for 07167 Throttle Valve and 07102 Motor Assemblies.

# 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. Air supply hose accessories must have a minimum working pressure of 150 PSIG (10 Bars, g) or 150 percent of the maximum pressure produced in the system, whichever is higher. (See Machine Specifications on pg 7.)
3. Connect power source to tool. Be careful **not** to depress throttle lever in the process.
4. Whenever a Dynangle® II is issued for use, check tool RPM (speed) with a tachometer. Run tool with air pressure set at 90PSIG. 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 specification states 40 SCFM, set the drip rate of your filter-lubricator at 4 drops per minute). Dynabrade Air Lube (P/N 95842: 1 pt. 473 ml.) is recommended.
4. An Air Line Filter-Regulator-Lubricator must be used with this air tool to maintain all warranties. Dynabrade recommends the following: **11411** Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components. Operates 55 SCFM @ 100 PSIG has 1/2" 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 96011) is available which includes assorted parts to help maintain motor in peak operating condition.
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, keytones, chlorinated hydrocarbons or nitro carbons.
8. Do not clean or maintain tools with chemicals that have a low flash point (example: WD-40®)
9. Visually inspect air hoses and fittings for frays, visible damage and signs of deterioration. Replace damaged or worn components.

## Handling and Storage

- Visually inspect abrasives/accessories for damage or defects prior to installation on tools.
- Use of tool rests and hangers are recommended.
- Protect tool inlet from debris (see Notice below).
- Do not carry tool by air hose.
- Protect abrasive accessories from exposure to water, solvents, high humidity, freezing temperature and extreme temperature changes.
- Store accessories in protective racks or compartments to prevent damage.

## Safety Instructions:

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



- Abrasive/accessory RPM (speed) rating MUST be approved for AT LEAST the tool RPM rating.
- **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.
- 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

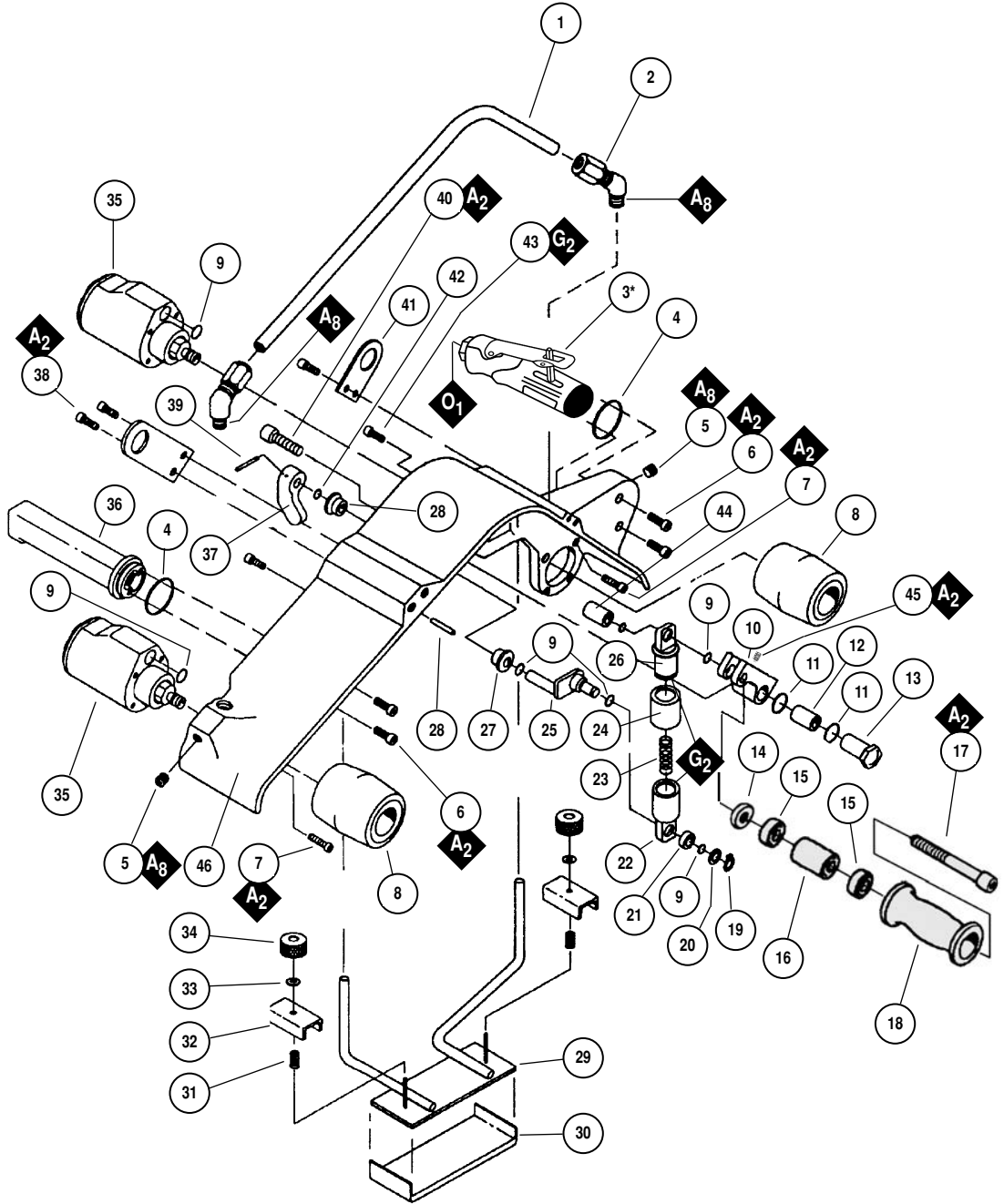
Following the reasonable assumption that any inherent defect which might prevail in a product will become apparent to the user within one year from the date of purchase, all equipment of our manufacture is warranted against defects in workmanship and materials under normal use and service. We shall repair 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.

# Machine Assembly

Model 14306 — for 2" x 45" belts / Heavy-duty — with 14339 Platen Assembly

## Index Key

No.	Part #	Description
1	14345	Air Line
2	95566	Fitting (2)
3	07167	Throttle Valve Assy.*
4	14064	O-Ring (2)
5	95562	Plug (2)
6	95720	Screw (4)
7	95221	Screw (8)
8	01794	Drive Wheel (2)
9	95288	O-Ring (7)
10	14316	Idler Arm
11	95526	O-Ring (2)
12	95555	Bearing
13	14343	Step Nut
14	14347	Spacer
15	95398	Bearing (2)
16	14346	Spacer
17	95565	Screw
18	14344	Tension Idler
19	95558	Retaining Ring
20	95557	Washer
21	95572	Bushing
22	14318	Retainer
23	95581	Spring
24	14319	Cover
25	14324	Cam Assembly
26	14317	Retainer
27	95560	Bearing (2)
28	95333	Pin
29	14351	Mount
30	14341	Platen Pad
31	95570	Spring (2)
32	14338	Clamp (2)
33	95563	Washer (2)
34	14342	Knob (2)
35	07102	Motor (2)
36	14332	Dead Handle Assy.
37	14331	Lever
38	95536	Screw (4)
39	95164	Pin
40	95559	Screw
41	14333	Bracket (2)
42	01025	O-Ring
43	95150	Screw (2)
44	14353	Bushing
45	95952	Set Screw
46	14450	Housing



KEY	
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<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
<b>T</b>	Torque: N·m x 8.85 = In - lbs.

Shaded part numbers represent 14334 Tension Wheel Assembly.

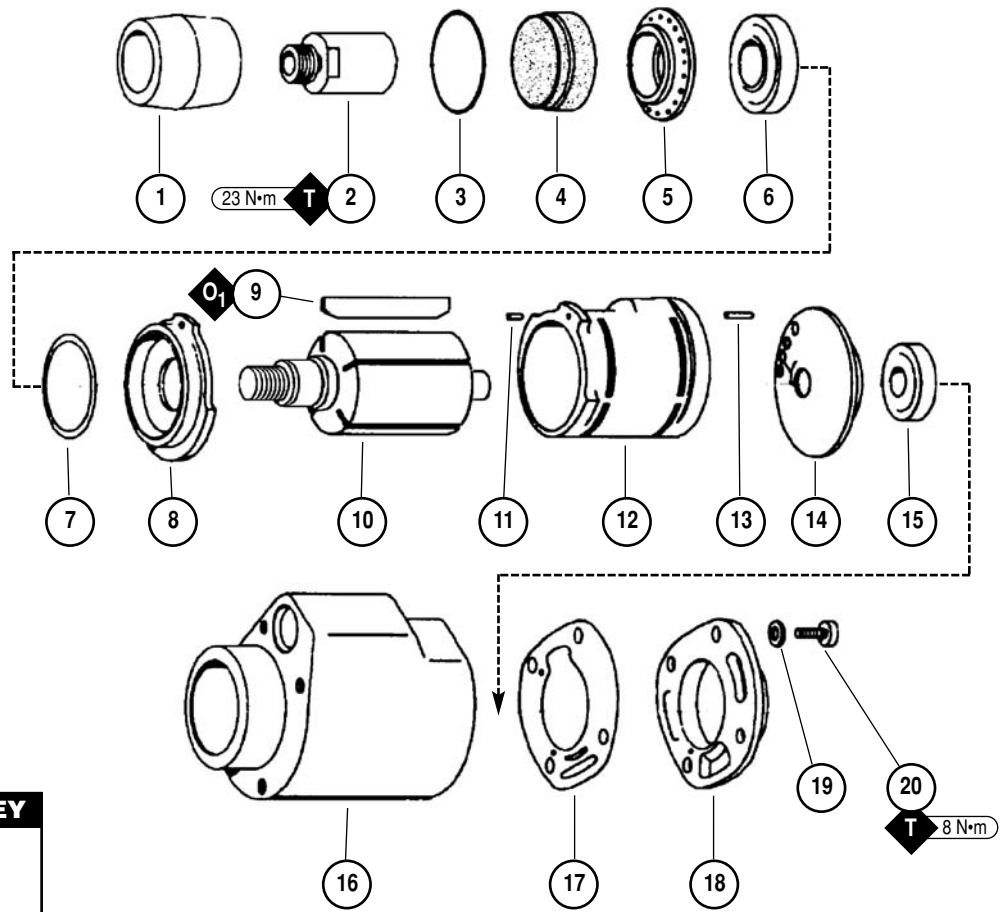
\*See page 5 for 07167 Throttle Valve and 07102 Motor Assemblies.

# Heavy-Duty Air Motor 07102 - Dynangle® II

## Index Key

No. Part # Description

- 1 01794 Drive Wheel
- 2 02553 Adapter
- 3 95584 O-Ring
- 4 01674 Silencer
- 5 07153 Air Control Ring
- 6 01036 Bearing
- 7 01277 Shim Pack (3/Pkg.)
- 8 07119 Bearing Plate
- 9 07107 Blades (5/Pkg.)
- 10 07103 Rotor
- 11 01673 Guide Pin
- 12 07118 Cylinder
- 13 01775 Guide Pin
- 14 07114 Bearing Plate
- 15 01007 Bearing
- 16 07132 Housing
- 17 07129 Gasket
- 18 07122 Housing Cap
- 19 01791 Washer (4)
- 20 01790 Screw (4)



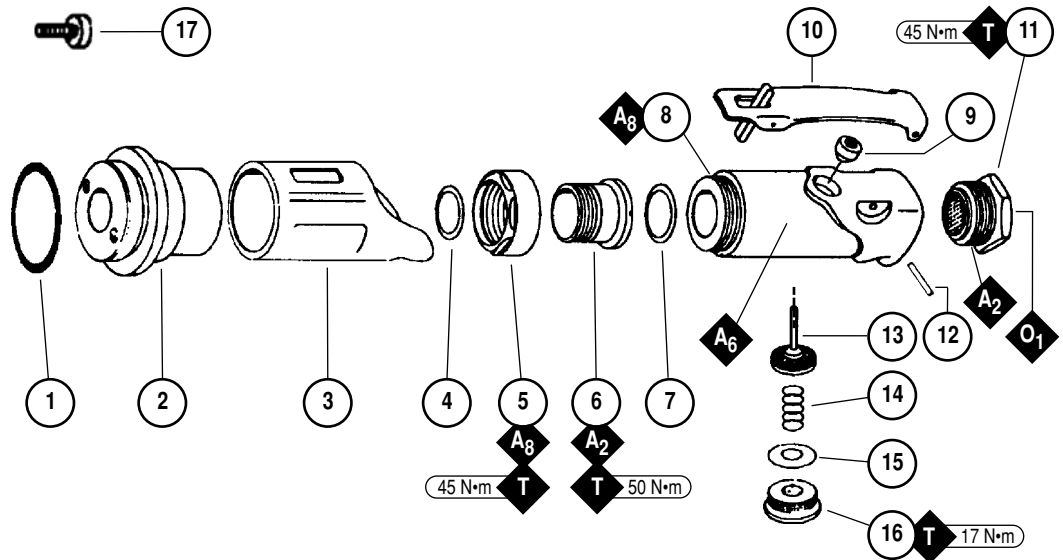
- | KEY      |   |
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| <b>A</b> | Adhesive: A <sub>2</sub> = Loctite #271<br>A <sub>6</sub> = Loctite #380<br>A <sub>8</sub> = Loctite #567 |
| <b>T</b> | Torque: N·m x 8.85 = In - lbs.  |

## 07167 Throttle Valve Assembly

## Index Key

No. Part # Description

- 1 14064 O-Ring
- 2 07086 Adapter
- 3 07136 Handle Grip
- 4 02658 Packing
- 5 02631 Nut
- 6 02626 Adjustment Bushing
- 7 01746 O-Ring
- 8 07141 Valve Body Assembly (Incl. 07142 Bushing)
- 9 07142 Bushing
- 10 01089 Lever
- 11 01697 Inlet Bushing
- 12 01017 Pin
- 13 07168 Valve Stem Assembly
- 14 07145 Spring
- 15 07146 Packing
- 16 07147 Plug
- 17 95720 Screw (2)



**Note:** On Models 14302, 14303, and 14306 the 07167 Throttle Valve Assembly can be mounted on either side of the tool for right or left hand comfort.

# Disassembly/Assembly Instructions

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

**A Motor Tune-Up Kit is available (P/N 96011) to help maintain motor in peak operating condition.**

## Tool Disassembly:

1. Disconnect tool from power source.
2. Remove any abrasive belt from machine.
3. Roll **07136** Handle Grip away from **07086** Adapter to expose wrench flats.
4. Remove **07086** Adapter from housing (right hand thread). Separate **07167** Throttle Valve Assembly from machine assembly.
5. Insert **01697** Inlet Bushing securely into vise.
6. Remove **02631** Nut by using a 32 mm wrench.
7. Remove **01794** Drive Wheel with a 19 mm wrench.
8. Remove **95221** Screws (4) and disconnect **07102** Motor Assembly from machine housing.
9. Place **07102** Motor Assembly housing in soft jaw vise. **Important:** Be careful not to over tighten vise to prevent damage.
10. Remove **01790** Screws (4) and **01791** Washers (4) from **07122** Housing Cap. Remove housing cap and **07129** Gasket.

## Motor Disassembly:

1. Fasten a 2 in. bearing separator around the rear portion of the **07118** Cylinder and using a #2 arbor press (P/N **96232** available) place the separator on the table of the arbor press so that the motor spindle points toward the floor.
2. Use a 3/16 in. Dia. flat nose drive punch as a press tool and push against the rear shaft of the rotor to remove rear bearing/plate assembly.
3. Hold the body of the **07103** Rotor in a soft (aluminum or bronze) jaw vise and remove **02553** Adapter.
4. Remove **07119** Front Bearing Plate, **01036** Front Bearing from **07103** Rotor.  
**Note:** Bearing, front bearing plate are a slip fit onto rotor.
5. Push **01036** Bearing Plate and remove shims from front bearing plate.

**Motor Disassembly Complete.**

## Motor Assembly:

**Important:** Be certain all parts are cleaned and in good repair before assembling.

1. Place **07103** Rotor in soft (aluminum or bronze) jaw vise with threaded spindle pointing upwards.
2. Place .002" shim into front bearing plate as initial spacing and slip **01036** Bearing into plate. **Note:** **01277** Shim Pack contains .001" and .003" shims.
3. Install bearing/bearing plate assembly onto rotor.
4. Install **02553** Adapter onto assembly.
5. Tighten **02553** Adapter onto rotor, torque 23 N•m/200 in. - lbs.
6. 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 shims if necessary.
7. Once proper rotor/gap clearance is achieved, install lubricated **07107** Blades (5) into rotor slots. Dynabrade Air Lube P/N **95842** (or equivalent) is recommended for lubrication before installation in rotor slots.
8. Install cylinder over rotor.
9. Press the **01007** Rear Bearing into **07114** Rear Bearing Plate. Press bearing/bearing plate assembly onto rotor. Be sure that pin and air inlet line-up with pin hole and air inlet in cylinder.
10. Place **95584** O-Ring **01674** Silencer and **07153** Exhaust Ring into housing.
11. Slide motor assembly into motor housing.
12. Install **07129** Gasket and **07122** Housing Cap with **01790** Screws (4) and **01791** Washers (4), tighten screws to 9 N•m/80 in. - lbs.
13. 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 a shim.
14. Install **95221** Screws (4) to connect **07102** Motor Assembly onto machine housing.
15. Apply 2 drops of #271 Loctite® (or equivalent) to threads of **02626** Adjustment Bushing before tightening.
16. Slip **02626** Adjustment Bushing through **02631** Nut and **02658** Packing, and secure into **07886** Adapter.
17. Apply Loctite® #271 (or equivalent) and tighten **02626** Adjustment Bushing into housing torque to 50 N•m/450 in. - lbs.
18. Apply Loctite® #567 (or equivalent) to threads of **07141** Valve Body, and fasten **02631** Nut and **01746** O-Ring onto valve body. Swivel **07141** Valve Body to desired throttle lever position.
19. Tighten **02631** Nut to 45 N•m/400 in. - lbs. Roll **07136** Grip back into place.

**Tool Assembly 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. Before operating, place 2-3 drops of Dynabrade Air Lube (P/N **95842**) directly into air inlet with throttle lever depressed. Operate tool for thirty 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.

## Machine Specifications

Model Number	Motor HP (W)	Motor RPM	Sound Level	Abrasive Belt Size Inch (mm)	Maximum Air Flow CFM/SCFM (LPM)	Max. SFPM (SMPM)	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
14300	1.2 (895)	13,000	85 dB(A)	2 (51) W x 34 (864) L	7/53 (1,501)	8,500 (2,591)	15.1 (6.9)	18-7/8 (480)	8-1/2 (216)
14302	2.4 (1,790)	13,000	85 dB(A)	2 (51) W x 34 (864) L	15/106 (3,002)	8,500 (2,591)	17.4 (7.9)	18-7/8 (480)	9-9/16 (243)
14303	2.4 (1,790)	13,000	85 dB(A)	2 (51) W x 34 (864) L	15/106 (3,002)	8,500 (2,591)	18.7 (8.5)	18-7/8 (480)	9-9/16 (243)
14306	2.4 (1,790)	13,000	90 dB(A)	2 (51) W x 45 (1,143) L	15/106 (3,002)	8,500 (2,591)	19.2 (8.7)	22-7/8 (581)	9-1/2 (241)

Additional Specifications: Air Inlet Thread 1/2" NPT • Hose Size 1/2" or 15 mm • Air Pressure 90 PSIG (6.2 Bars)

## Optional Accessories



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

- 95462 1/2" NPT



**96011 Motor Tune-Up Kit:**

- Includes assorted parts to help maintain and repair motor.
- Two kits are required.



**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 and less down time.

95842: 1 pt. (473 ml)  
95843: 1 gal. (3.8 L)



**Wrenches**

**Open-End**  
95304 – 24 mm  
96079 – 32 mm

**Hex**  
95303 – 1/4"

## Abrasive Belts

### Coated Aluminum Oxide

Belt Width	Abrasive Grit								
	40	60	80	100	120	180	220	320	500
18" Long									
1"	90284	90285	90286	90148	90287	90288	90289	90290	90291
34" Long									
2"	90376	90377	90378	90379	90380	–	–	–	–
45" Long									
2"	90348	90349	90350	90351	90352	–	–	–	–

1" Belts: Unit = 200 Belts. 2" Belts: Unit = 50 Belts

### Non-Woven Nylon

Belt Width	Grade/Belt Color			
	Super Fine/Grey Grit Range 320-600	Very Fine/Blue Grit Range 220-320	Medium/Maroon Grit Range 150-180	Course/Brown Grit Range 80-150
18" Long				
1"	90162	90259	90295	90300
34" Long				
2"	–	90371	90373	90374

1" and 2" Belts: Unit = 10 Belts.