

**Instruction Manual**  
**PL70-1087EN**  
09/24/2014

**Cleco®**

**507491**  
**Axial Piston Power Unit**

*For additional product information visit our website at <http://www.apextoolgroup.com>*



**Zampini Industrial Group**  
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The original language of this manual is English.

**Product Safety Information:**

Intended Use:

This pneumatic motor is to be used exclusively as a power source to be integrated into an application.

For additional product safety information refer to Apex Tool Group, LLC or Apex Tool Group GmbH & Co. OHG document CE-2005, General Safety Instructions for Air Motors.



The motor must not be modified in any manner unless approved in writing by Apex Tool Group, LLC or Apex Tool Group GmbH & Co. OHG. All safety devices must be properly installed and maintained in good working order.

**Declaration of Incorporation:**

We affirm that this machine complies with the basic requirements of the following directives (2006/42/EC) and is intended for installation / assembly in a / with other machine(s). Commissioning of the incomplete machine is prohibited until such time that the incomplete machine has been incorporated in a machine that complies with the EC Machinery Directive 2006/42/EC and for which there is an EC Declaration of Conformity in accordance with Appendix II A. We furthermore declare that the special technical documentation for the incomplete machine is in accordance with Appendix VII Part B. We undertake to have it passed on to the market surveillance body upon request by our representative for the compilation of technical documentation. The following Sections of Appendix I of Directive 2006/42/EC have been fulfilled: 1.1.2, 1.1.3, 1.1.5, 1.3.2, 1.3.4, 1.5. Applied harmonized standards are ISO 12100-1: 2004-04, ISO 12100-2:2004-04.

The name, job function and address of the person authorized to compile the technical file.

Mr. Vishnu Irigreddy  
Director of Global R&D- Mechanical Engineering  
Apex Tool Group  
670 Industrial Drive  
Lexington, SC 29072

Signature: Vishnu Irigreddy  
Date: March 20, 2014

**Air Line Lubrication:**

Use Apex Tool Group, LLC or Apex Tool Group GmbH & Co. OHG's lightweight air tool oil 500021 (available in quantities shown in the following chart) or an SAE-5 lightweight spindle oil.

Part No.	Packaged	Designation
540397	1 Quart (0.94 liter)	Airlube 10W/NR-420LB DR
533485	1 US Gallon (3.78 liter)	Airlube 10W/NR-420LB DR

**Recommended Grease:**

Part No.	Packaged	Designation
A123771	16 oz. (0.45 kg)	Shell Alvania® EP 00
540450	16 oz. (0.45 kg)	Chevron Black Pearl® EP NLGI

**Air Supply Line:**

Parameter	Description
Air Hose	Minimum inside diameter: 1/2" (12.7mm) Maximum length: 16.4' (5 m)
Working pressure range	Performance rated at: 90 psi (620 kPa)
Compressed air	Air quality according to ISO 8573-1, quality class 2.4.3 The compressed air must be clean and dry.

**Service and Repair:**

Tool service and repair should be performed by an authorized Apex Tool Group, LLC or Apex Tool Group GmbH & Co. OHG Center. Refer to the last page of this manual for locations.

**Disposal:**



Observe local disposal guidelines for all components of this tool and its packaging.

**Copyright Protection:**

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## Repair instructions

### Lubrication

#### “DO NOT SUBSTITUTE LUBRICANTS”

The proper grades of oil and grease are essential too the efficient operation of these air motors. Heavy oil will not flow through a lubricator at a satisfactory rate too insure proper lubrication to the motor. Greases that are too stiff will channel and fail to lubricate properly and greases that are tool thin will blow out of the motor. Improper lubrication or inadequate lubricants can cause extensive motor damage.

A grease fitting is located on the motor housing. The following quantity of A123771 (*High Temp 540450*) grease is provided during factory assembly and this same amount must be provided whenever the air motor is disassembled.

- Motor assembly: 12 oz.

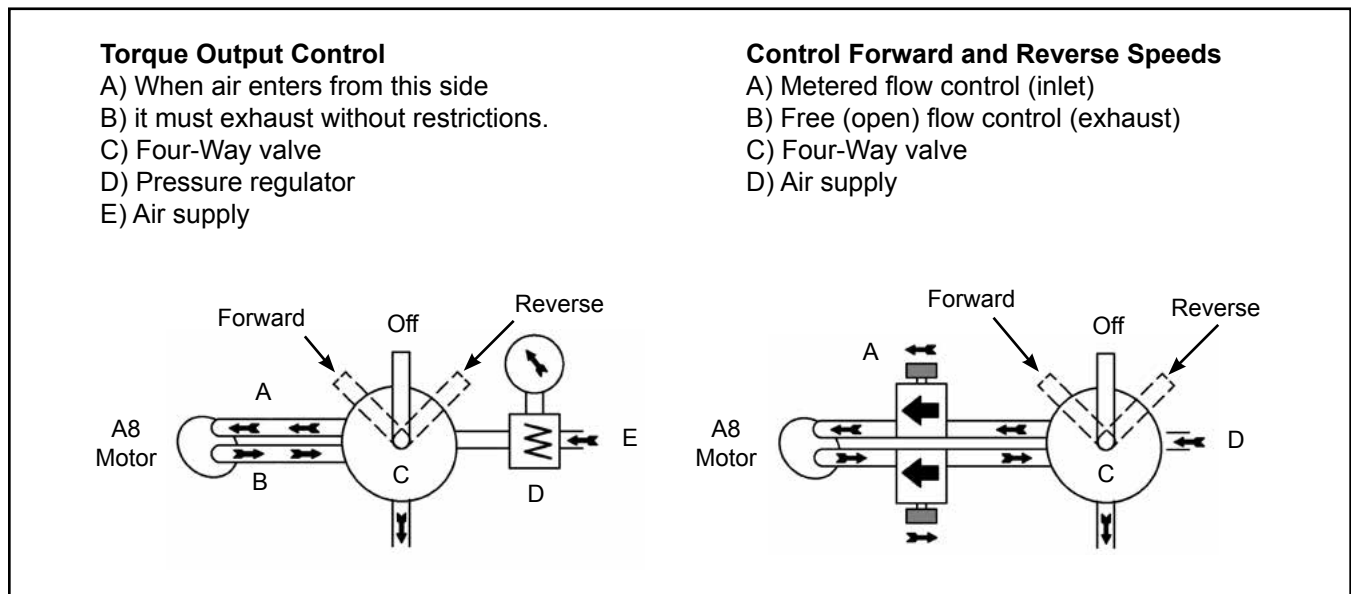
During normal operation, the motor will loose a small amount of grease through the exhaust making it necessary to add grease at regular intervals. After each 50 hours of operation add 2.0 oz. of A123771 (*High Temp 540450*) grease to the motor housing.



**Excessive grease in the motor housing will cause a loss in motor performance. Not enough grease will cause premature motor failure.**

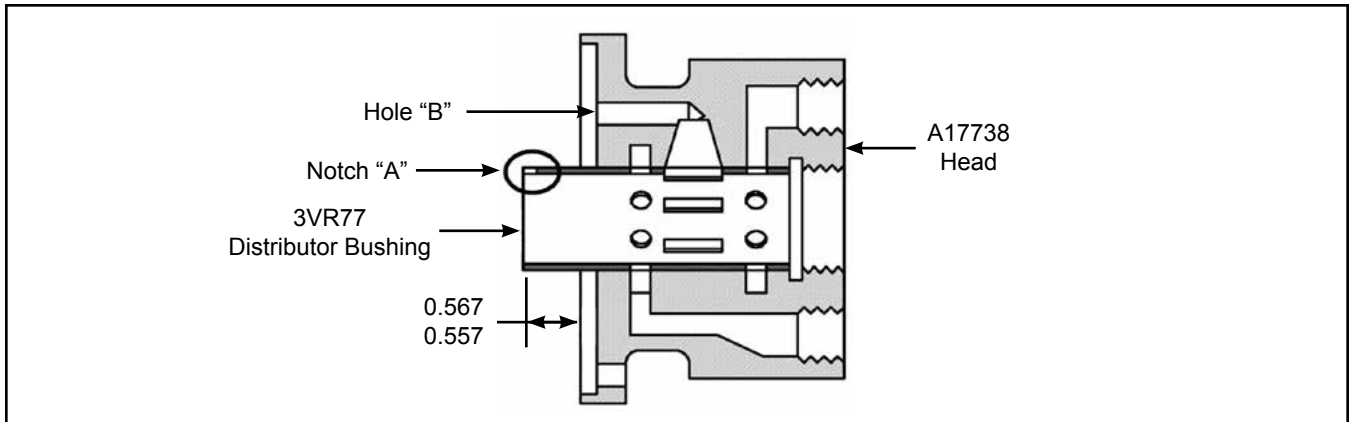
### Valving

If a valve is used, it should have a full flow air passage to utilize full power of the motor. For quick motor stops, an all-ports closed-in-neutral type valve with a spring return should be used.



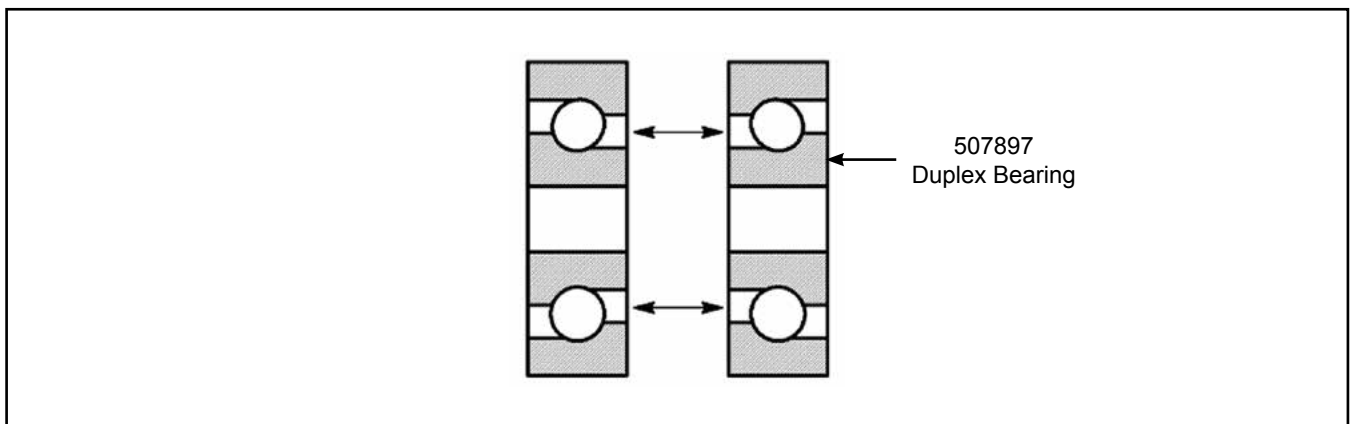
### Distributor bushing assembly

Press the new bushing into the head as shown. Notch "A" in the bushing must be opposite hole "B" in the head.



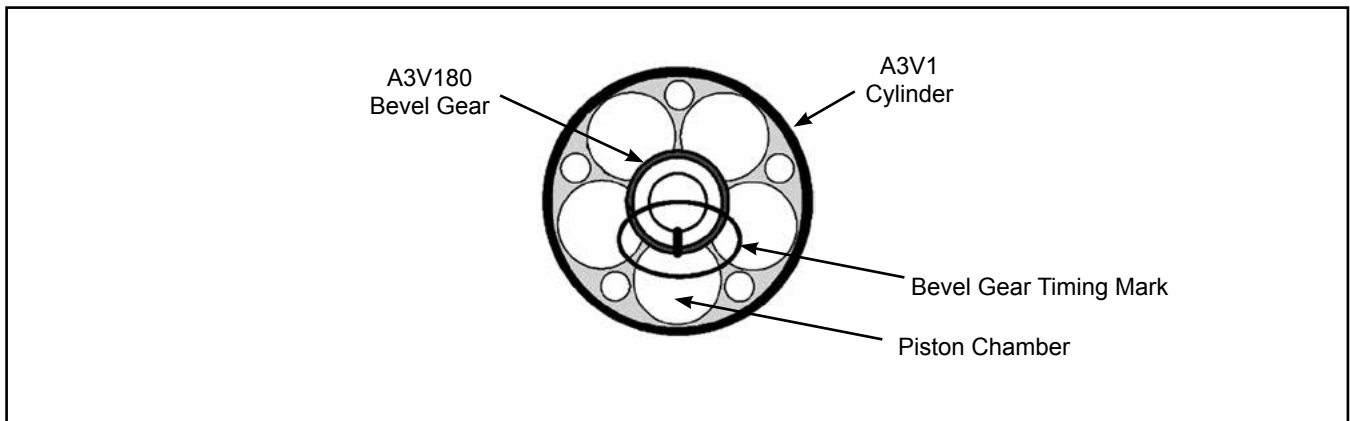
### Duplex bearing assembly

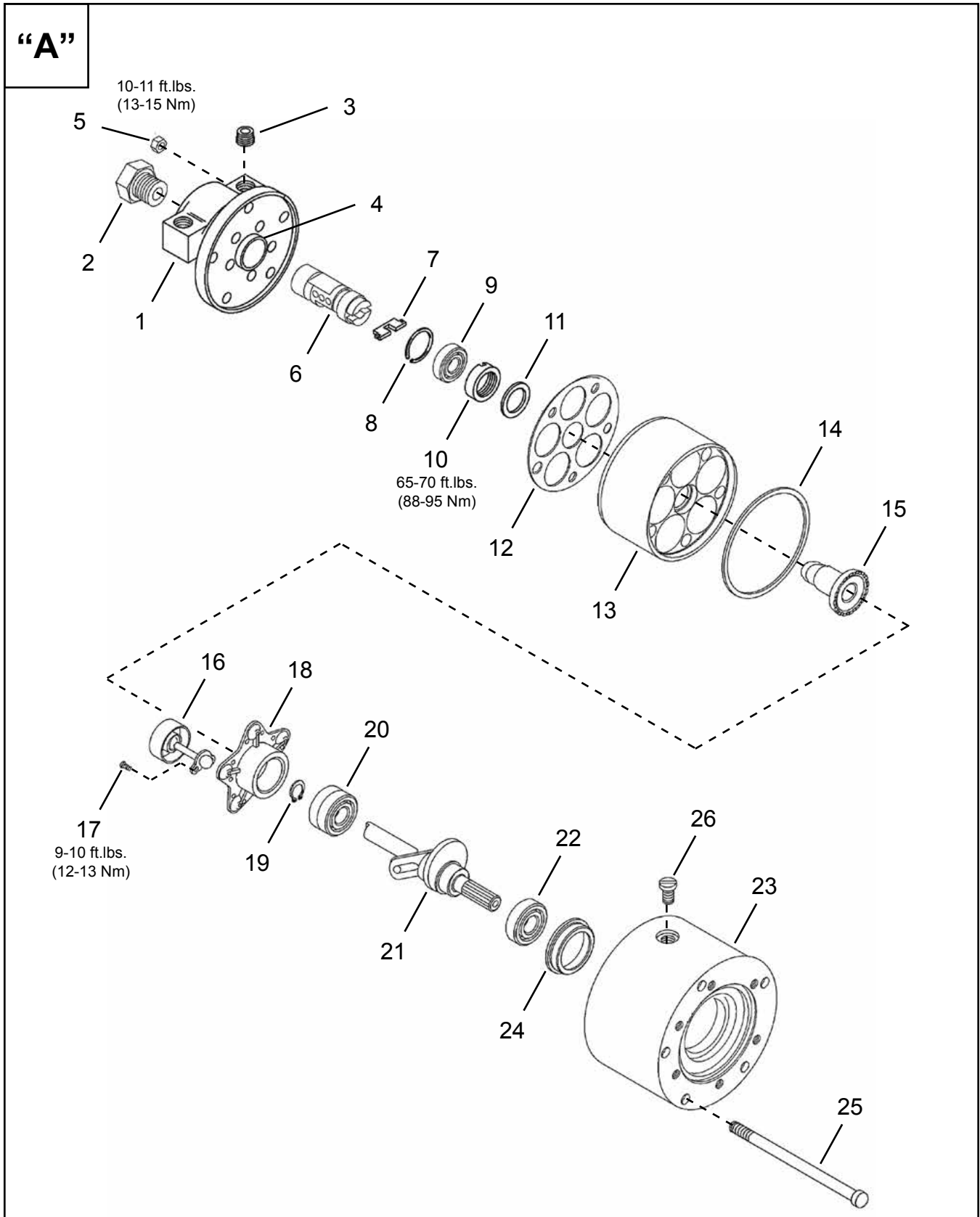
The small diameters of the bearings must face each other when assembled.



### Bevel gear timing mark

Make sure the timing mark on the bevel gear is aligned with the center of a piston chamber before assembling the driveshaft assembly into the cylinder.





**Illustration "A": 507491 Power Unit**

Ref	Number	#	X	EN
				Description
--	507491	1		Power Unit (includes Ref. 1-26)
1	A17738	1		Head Assembly (includes Ref. 2-4)
2	17749	1	1	Reducer Bushing
3	B110E	2	2	Square Head Pipe Plug (1/2-14 NPT)
4	3VR77	1	1	Distributor Bushing
5	C108S	5	10	Head Assembly Nut
6	508321	1		Distributor (includes Ref. 7-8)
7	3V43	1	1	Drive Key
8	3V235	1	3	Distributor Spring
9	OG196	1	2	Ball Bearing
10	3V169	1		Lock Nut
11	3V272	1		Washer
12	10012PT	1	3	Head Gasket
13	A3V1	1		Cylinder
14	10011	1	3	Cylinder Gasket
15	A3V180	1	1	Bevel Gear
--	542241	1		Socket Plate Assembly (includes Ref. 16-18)
16	542240	5	5	Piston Assembly
17	3V188	10	20	Socket Head Cap Screw (12-24 NC-2 x 5/16)
18	507742	1		Socket Plate
19	500741	1	3	Retaining Ring
20	507897	1	2	Duplex Ball Bearing
21	508056	1		Driveshaft
22	22G155	1	2	Ball Bearing
23	526546	1		Rear Housing (includes Ref. 24-25)
24	18364PT	1	1	Rear Housing Bearing Liner
25	526543	5	5	Rear Housing Stud (5/16-24 x 7.81)
26	30775PT	1	1	Flush Type Grease Fitting

(#) Quantity

(X) Recommended Spare Parts (quantity shown based on 1-5 tools in operation)

## Sales & Service Centers

**Note:** All locations may not service all products. Please contact the nearest Sales & Service Center for the appropriate facility to handle your service requirements.

Detroit, Michigan

**Apex Tool Group  
Sales & Service Center**  
2630 Superior Court  
Auburn Hills, MI 48326  
Tel: (248) 393-5640  
Fax: (248) 391-6295

Lexington, South Carolina

**Apex Tool Group**  
670 Industrial Drive  
Lexington, SC 29072  
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