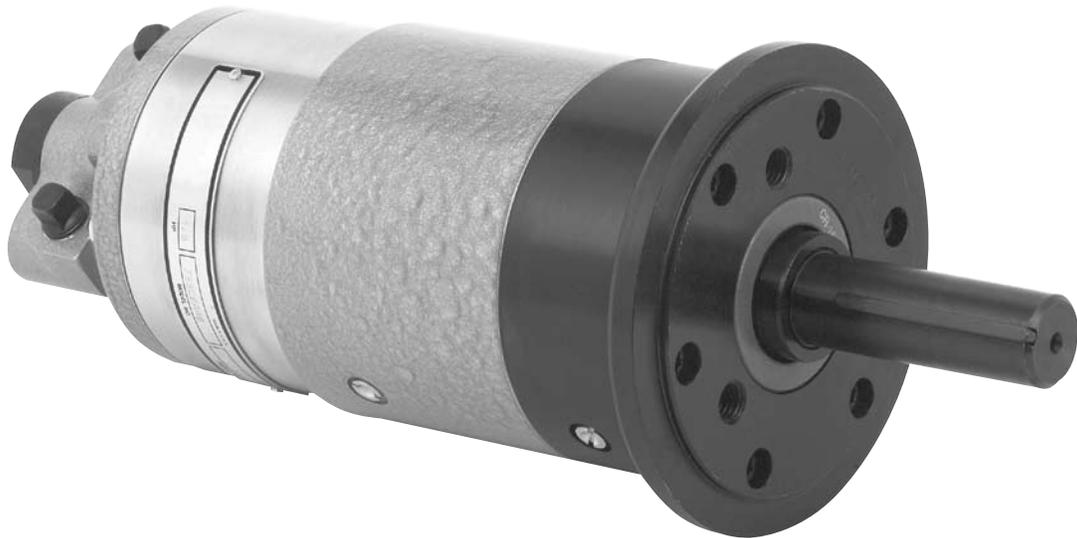


Instruction Manual
PL70-1070EN
01/24/2014

Cleco®

A6R-2218
Reversible Axial Piston Power Motors



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



Zampini Industrial Group
AirToolPro.com
1-800-353-4676

Industrial Air & Electric Tools
We Sell Reliability!
In Business Since 1987
FREE Expert Assistance - Call Now

Cleco®
Nomenclature

Model Number	Maximum Allowable RPM *		Stall Torque		Starting Torque		Weight		Gear Ratio	Maximum Overhung Load @ Stall **	
	@ Max. HP	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg		lbs.	kg
A6R-2218	54	100	370	502	269	365	43	19.5	33.6:1	1000	454

* Note: These motors must be operated with sufficient load to prevent speed from exceeding the maximum allowable free speed.

** Note: All models assume overhung load located at 2.25" (57.15mm) from the face of the motor.

The original language of this manual is English.

Product Safety Information:

Intended Use:

The A6R-2218 is designed 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 Air Motors.

⚠ WARNING

This air motor must not be modified 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.

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

Grease Lubricants:

Part No.	Packaged	Designation
A123771	16 oz. (0.45 kg)	Shell Alvania® EP 00
A123771	16 oz. (0.45 kg)	Shell Gadus S2 V220 00

Air Supply Line:

Parameter	Description
Air Hose	Minimum inside diameter: 3/8" (9,5 mm) Maximum length: 16.4' (5 m)
Working pressure range	58 to 101.5 psi (400 to 700 kPa) Recommended: 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:

Apex Tool Group, LLC or Apex Tool Group GmbH & Co. OHG reserves the right to modify, supplement or improve this document or the product without prior notice. This document may not be reproduced in any way, shape or form, in full or parts thereof, or copied to another natural or machine readable language or to a data carrier, whether electronic, mechanical, optical or otherwise without the express permission of Apex Tool Group, LLC or Apex Tool Group GmbH & Co. OHG

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.

Grease fittings are located on the motor housing and the gear housing for each stage of gearing. The following quantities of A123771 grease are provided during factory assembly and these same amounts must be provided whenever the air motor is disassembled.

- Motor assembly: 6 oz.
- Gearing assembly (each): 2 oz.

During normal operation, the motor wil 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 grease to the motor housing.

CAUTION!



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

The gear case will lose grease through the motor. The motor will siphon gear grease, saturated with airline oil, through the exhaust. After 200 hours of operation, add 0.5 oz. of A123771 grease into each gear housing.

CAUTION!



Too much grease in the gear case will force the seal out of the front housing.

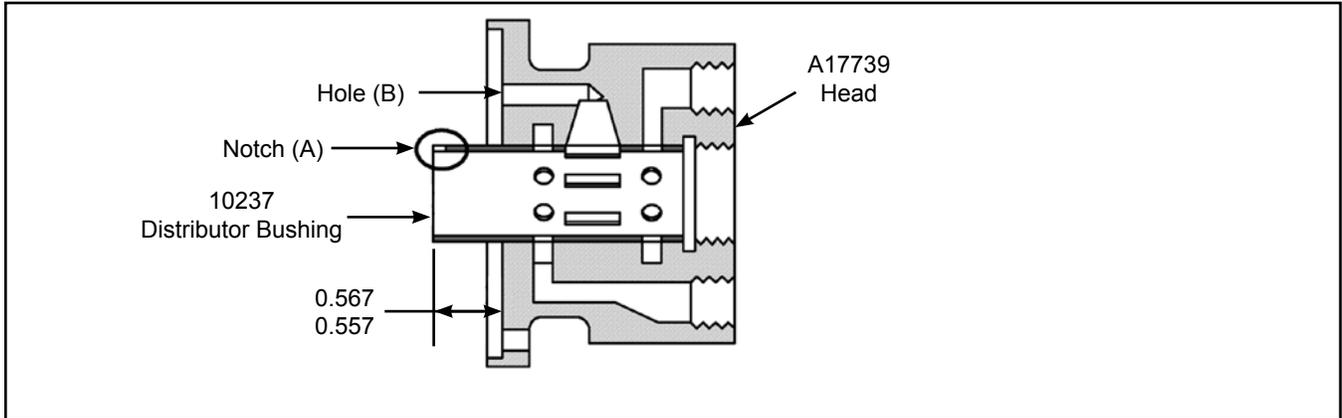
Valving

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

<p>Torque Output Control</p> <p>A) When air enters from this side B) it must exhaust without restrictions. C) Four-Way valve D) Pressure regulator E) Air supply</p>	<p>Control Forward and Reverse Speeds</p> <p>A) Metered flow control (inlet) B) Free (open) flow control (exhaust) C) Four-Way valve D) Air supply</p>

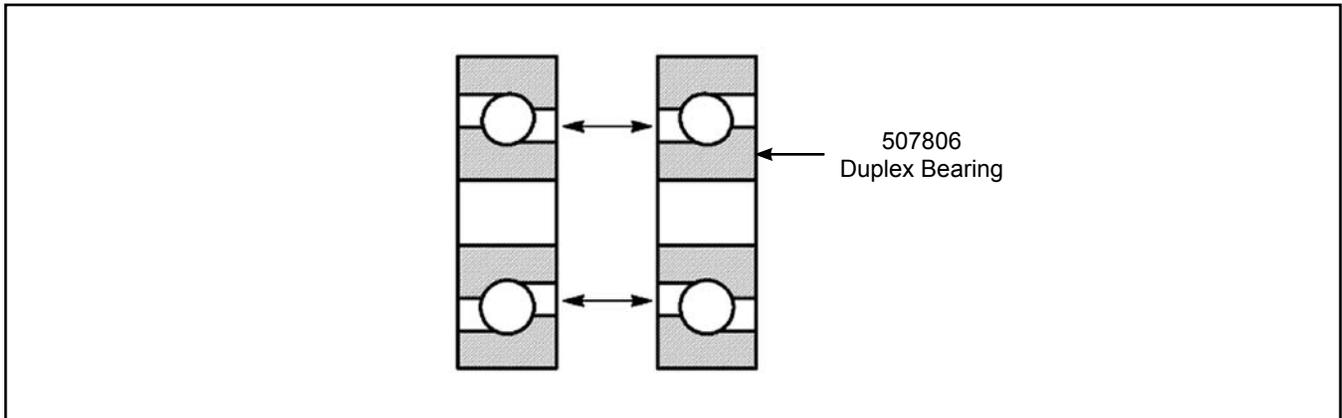
Distributor bushing assembly

Press the new busing into the head to the dimension shown. The notch (A) in the bushing must align with the hole (B) in the head.



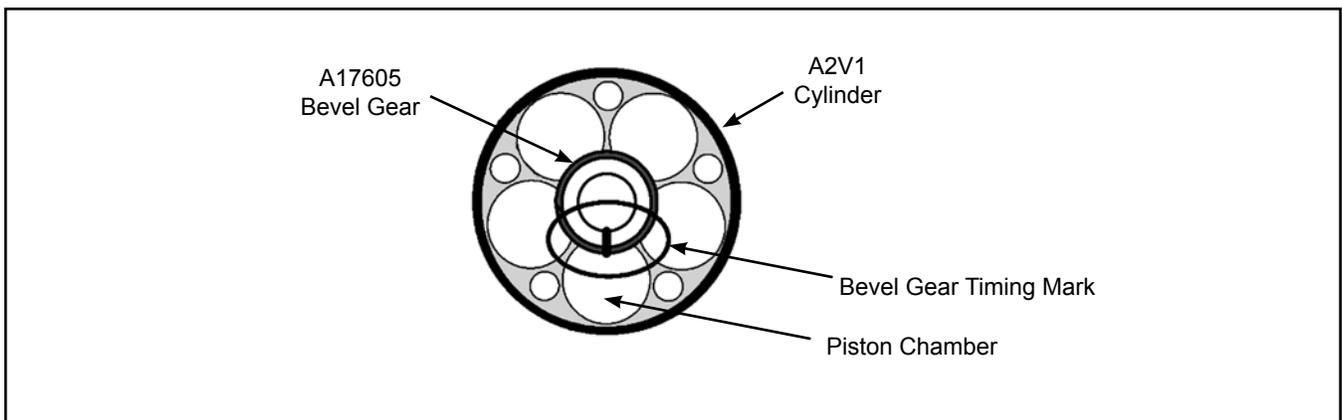
Duplex bearing assembly

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.



“A”

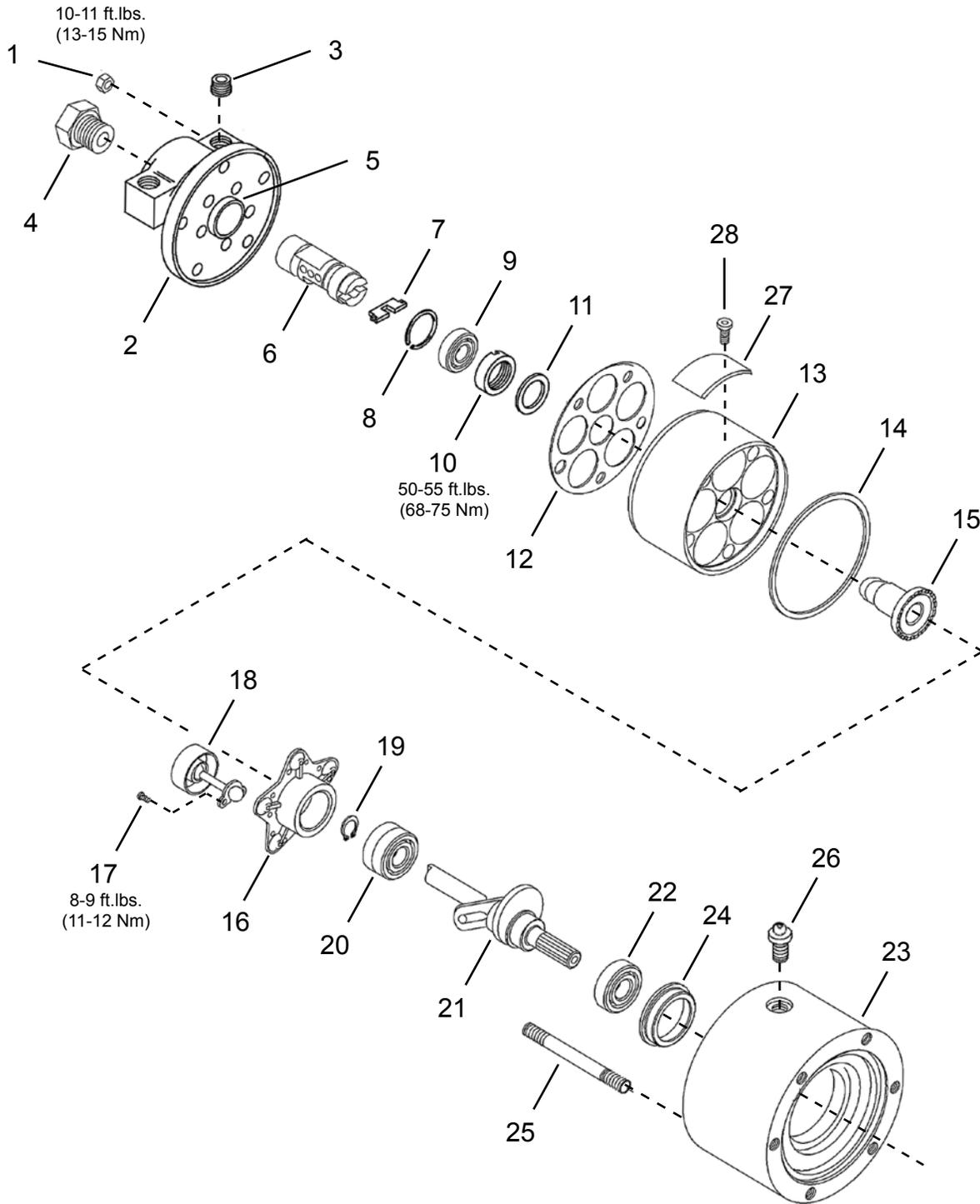


Illustration "A": Power Unit

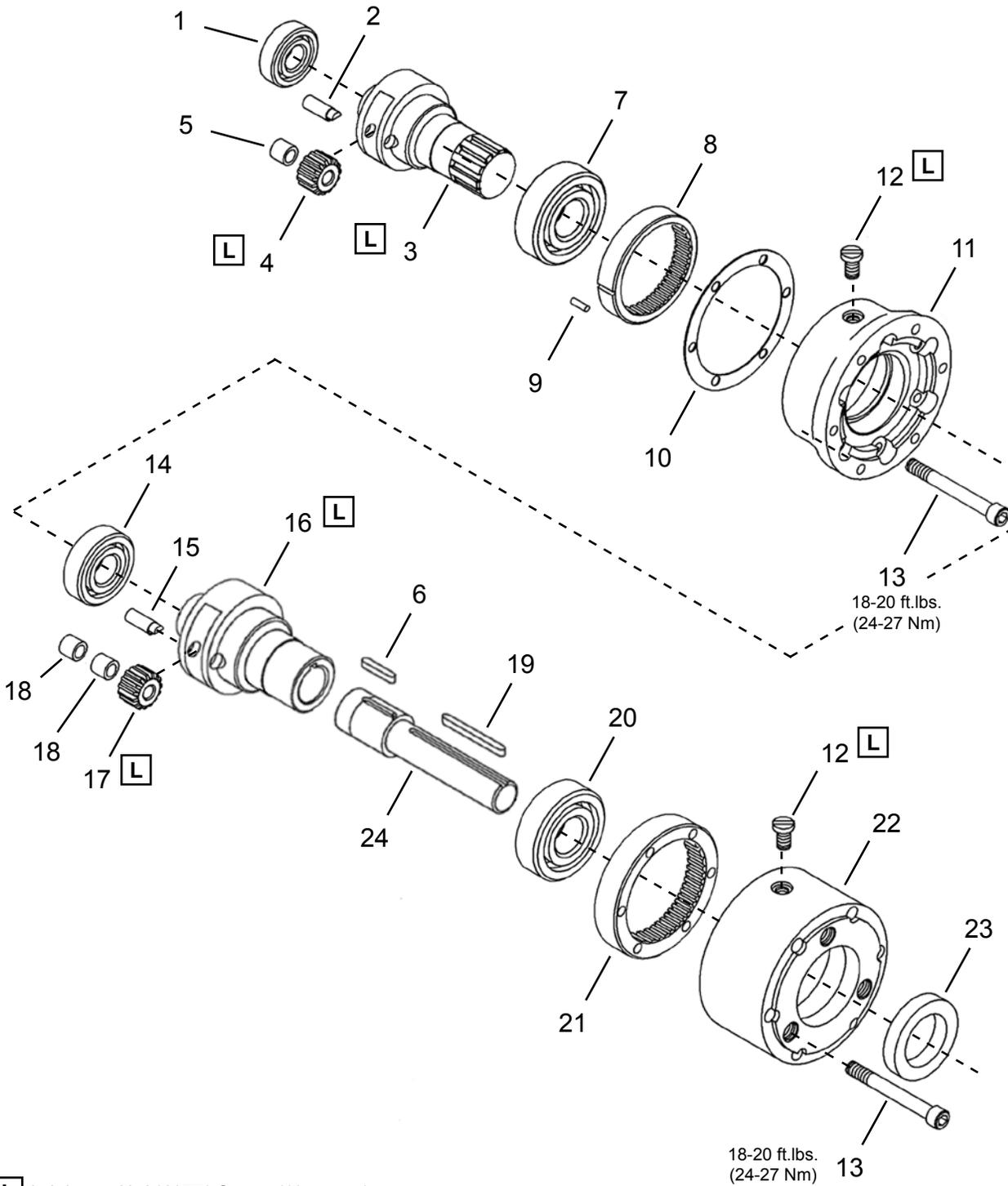
Ref	Number	#	X	EN
				Description
1	C108S	5	10	Head Assembly Nut
2	A17739	1		Head Assembly (includes Ref. 3-5)
3	B112E	2	2	Square Head Pipe Plug (3/8 NPT)
4	17748	1	1	Reducer Bushing
5	10237	1	1	Distributor Bushing
6	A10226	1		Distributor (includes Ref. 7-8)
7	2VR43	1	1	Drive Key
8	800090	1	3	Retaining Ring
9	2V85	1	2	Ball Bearing
10	2V169	1		Lock Nut
11	2V272	1		Washer
12	2V1891	1	3	Head Gasket
13	A2V1	1		Cylinder
14	10027	1	3	Cylinder Gasket
15	A17605	1	1	Bevel Gear
--	533944	1		Socket Plate Assembly (includes Ref. 16-18)
16	507692	1		Socket Plate
17	B135Z	10	20	Socket Head Cap Screw (10-24 NC-2 x 1/4)
18	A2V2	5	5	Piston Assembly
19	800251	1	3	Retaining Ring
20	507806	1	2	Duplex Ball Bearing
21	507808	1		Driveshaft
22	22G155	1	2	Ball Bearing
23	A18317	1		Rear Housing (includes Ref. 24-25)
24	18364PT	1	1	Rear Housing Bearing Liner
25	27401PT	5	5	Rear Housing Stud (5/16-24 x 6.188)
26	RG78	1	1	Grease Fitting
27	530322	1		Nameplate (not included in 507490 power unit)
28	534820	2		Drive Screw (not included in 507490 power unit)

(#) Quantity

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

Cleco® Double Stage Gearing

“B”



Cleco®
Double Stage Gearing

PL70-1070EN
01/24/2014

Illustration "B": Double Stage Gearing Assembly

Ref	Number	#	X	EN
				Description
1	525424	1	2	Ball Bearing
2	10032	2	4	Planetary Gear Pin
3	30060	1		Gear Cage
4	540766	2	4	Planetary Gear (19T) (includes Ref. 5)
5	845845	2	4	Planetary Gear Needle Bearing
6	30071PT	1	3	Output Spindle Key
7	30075	1	2	Ball Bearing
8	10019	1		Ring Gear
9	DP120PT	1	2	Ring Gear Pin
10	10026	1	3	Center Housing Gasket
11	30062PT	1		Center Housing
12	30775PT	2	2	Flush Type Grease Fitting
13	B127D	12	12	Socket Head Cap Screw (5/16-18 x 3)
14	30076PT	1	2	Ball Bearing
15	30058PT	2	4	Planetary Gear Pin
16	30059	1		Output Gear Cage
17	A30061	2	4	Planetary Gear (21T) (includes Ref. 18)
18	11700	4	8	Planetary Gear Needle Bearing
19	30072PT	1	3	Output Spindle Key
20	30063PT	1	2	Ball Bearing
21	30056PT	1		Ring Gear
22	30049	1		Front Housing
23	30057PT	1	3	Oil Seal
24	30053PT	1		Output Spindle

(#) Quantity

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





Zampini Industrial Group
AirToolPro.com
1-800-353-4676

Industrial Air & Electric Tools
We Sell Reliability!
In Business Since 1987
FREE Expert Assistance - Call Now



Zampini Industrial Group
AirToolPro.com
1-800-353-4676

Industrial Air & Electric Tools
We Sell Reliability!
In Business Since 1987
FREE Expert Assistance - Call Now

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

Houston, Texas

**Apex Tool Group
Sales & Service Center**
6550 West Sam Houston
Parkway North, Suite 200
Houston, TX 77041
Tel: (713) 849-2364
Fax: (713) 849-2047

Lexington, South Carolina

Apex Tool Group
670 Industrial Drive
Lexington, SC 29072
Tel: (800) 845-5629
Tel: (803) 951-7544
Fax: (803) 358-7681

Los Angeles, California

**Apex Tool Group
Sales & Service Center**
6881 Stanton Avenue
Unit B
Buena Park, CA 90621
Tel: (714) 994-1491
Fax: (714) 994-9576

Seattle, Washington

**Apex Tool Group
Sales & Service Center**
2865 152nd Avenue N.E.
Redmond, WA 98052
Tel: (425) 497-0476
Fax: (425) 497-0496

York, Pennsylvania

**Apex Tool Group
Sales & Service Center**
3990 East Market Street
York, PA 17402
Tel: (717) 755-2933
Fax: (717) 757-5063

Brazil

**Apex Tool Group
Sales & Service Center**
Av. Liberdade, 4055
Zona Industrial - Iporanga
18087-170 Sorocaba
SP Brazil
Tel: +55 15 2383929
Fax: +55 15 2383260

Canada

**Apex Tool Group
Sales & Service Center**
7631 Bath Road
Mississauga, Ont. L4T
3T1
Canada
Tel: (866) 691-6212
Tel: (905) 673-4400

China

Cooper (China) Co., Ltd.
an Apex Tool Group, LLC
company
955 Sheng Li Road,
Heqing Pudong, Shanghai
China 201201
Tel: +86-21-28994176
Fax: +86-21-51118446

England

**Apex Tool Group
GmbH & Co. OHG**
C/O Spline Gauges
Piccadilly, Tamworth
Staffordshire B78 2ER
United Kingdom
Tel: +44 1827 8741 28
Fax: +44 1827 8741 28

France

Apex Tool Group S.N.C.
25 rue Maurice Chevalier
B.P. 28
77831 Ozoir-La-Ferrière
Cedex, France
Tel: +33 1 64 43 22 00
Fax: +33 1 64 43 17 17

Germany

**Apex Tool Group
GmbH & Co. OHG**
Industriestraße 1
73463 Westhausen
Germany
Tel: +49 (0) 73 63 81 0
Fax: +49 (0) 73 63 81 222

Hungary

**Apex Tool Group
Hungaria Kft**
Platánfa u.2
9027 Győr
Hungary
Tel: +36 96 66 1383
Fax: +36 96 66 1135

India

**Apex Power Tools India
Private Limited**
Gala No. 1, Plot No. 5
S. No. 234, 235 & 245
Indialand Global
Industrial Park
Taluka-Mulsi, Phase I
Hinjawadi, Pune 411057
Maharashtra, India

Mexico

**Apex Tool Group México
S. de R.L. de C.V.**
Vialidad El Pueblito #103
Parque Industrial Querétaro
Querétaro, QRO 76220
Mexico
Tel: +52 (442) 211-3800
Fax: +52 (442) 103-0443

Apex Tool Group, LLC
1000 Lufkin Road
Apex, NC 27539
Phone: 919-387-0099
Fax: 919-387-2614
www.apextoolgroup.com

Cleco®