



Model Number	Max. Allowable RPM		Stall Torque		Starting Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	@ Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	Kg		lbs.	Kg
A8R-2230	64	125	385	522	285	386	51	23.1	20.3:1	1000	454

\* Note: Assume overhung load located at 2.25" (57.15mm) from face of motor.

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



**Air Supply:**

Connect the motor to an airline with a maximum sustained pressure of 90 psig (6.2 bar). Do not use damaged, frayed or deteriorated hoses. A hose rupture can cause serious injury. Refer to the following chart for minimum airline requirements.

Model	Min. Hose I.D.	Air Inlet
A2 Series	3/8"	3/8" NPTF
B4 Series	3/8"	3/8" NPTF
A6 Series	3/8"	3/8" NPTF
A8 Series	1/2"	1/2" NPTF

**General Maintenance:**

**Important: Provide proper and continuous lubrication to the motor.**

Place a few drops of air tool oil into the air inlet of the motor before attaching the airline.

Before attaching to the motor, blow out the air hose to assure a clean air supply. Make sure the airline filter and lubricator are clean. Use moisture separators to remove water from the airline.

Do not use solvents on the bearings or any parts made of a synthetic material.

Bearings are a press fit. Do not remove unless replacement is necessary.

**Lubrication:**

Fill the airline lubricator with Cleco 500021 light air tool oil, available in one-quart (540397) or one-gallon (533485) quantities. Adjust the lubricator to dispense eight to ten drops of oil per minute.

A high film strength oil is also available in a quantity of one-gallon (536333). *Note: This oil cannot be used in Atomist type lubricators, use only with Economist or serv-oil type lubricators.*

*Lubricate the gearing with Cleco A123771 grease, available in a 16 oz. container.*

**“DO NOT SUBSTITUTE LUBRICANTS!”**

The proper grades of oil and grease are essential to the efficient operation of these air motors. Heavy oil will not flow through a lubricator at a satisfactory rate to insure proper lubrication of the

motor. Greases that are too stiff will channel and fail to lubricate properly and greases that are too 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 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.

Model	Motor	Gearing (each)
A2 Series	2 oz.	2 oz.
B4 Series	3 oz.	2 oz.
A6 Series	6 oz.	2 oz.
A8 Series	12 oz.	4 oz.

During normal operation, the motor will lose a small amount of grease through the exhaust making it necessary to add grease at regular intervals. After each 50 hours of operation add the following amounts of A123771 grease to the Motor Housing.

Model	Motor Housing
A2 Series	1.0 oz.
B4 Series	1.5 oz.
A6 Series	2.0 oz.
A8 Series	2.0 oz.

**CAUTION: Excessive grease in the Motor Housing will cause a loss of motor performance. Not enough grease can 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 the following amounts of A123771 grease into each Gear Housing.

Model	Gear Case (each)
A2 Series	0.5 oz.
B4 Series	0.5 oz.
A6 Series	0.5 oz.
A8 Series	1.0 oz.

**Cleco®**  
Maintenance Guidelines

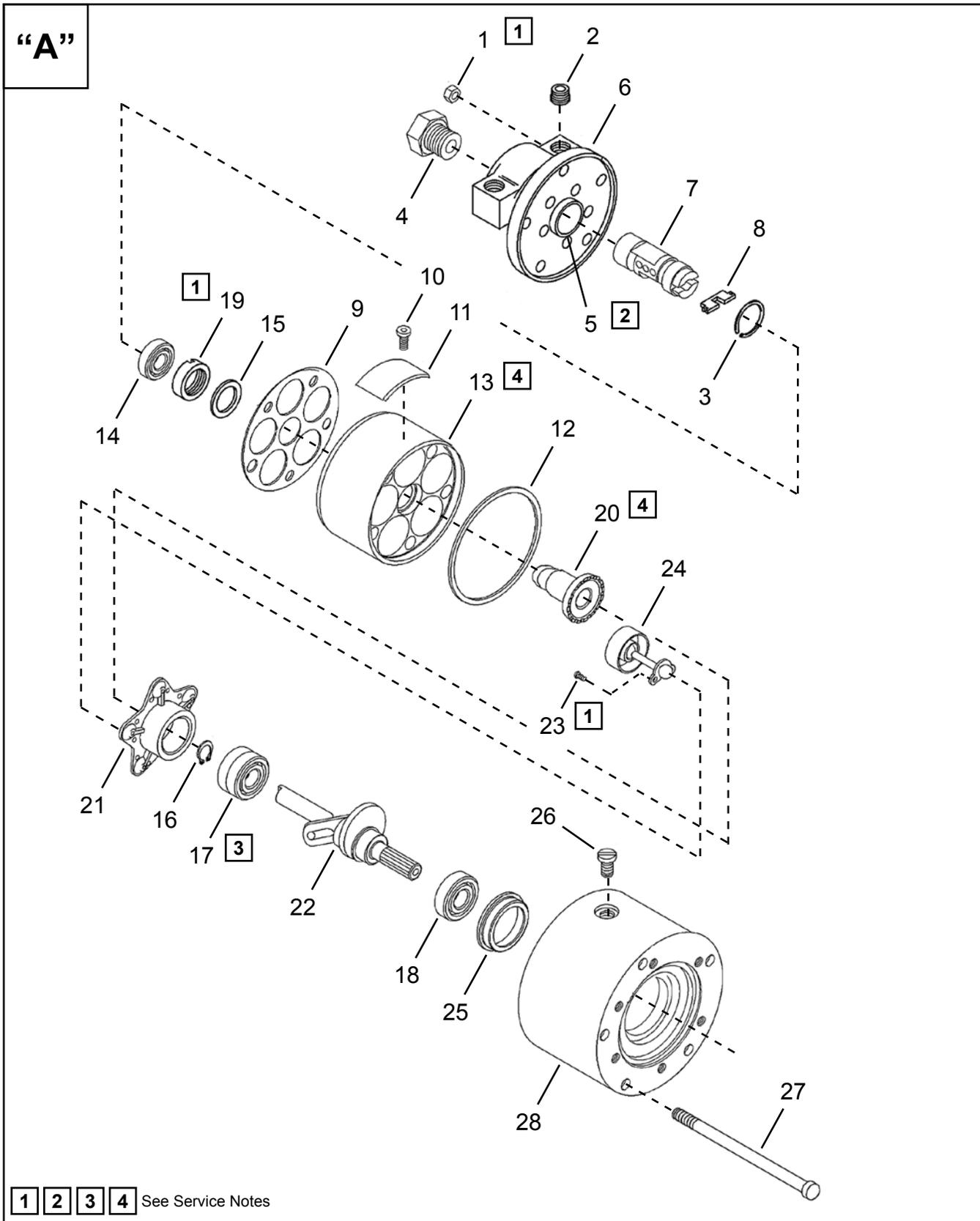
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***CAUTION: Too much grease in the Gear Case will force the seal out of the front housing.***

**Inspection:**

Thoroughly inspect the air motor every 500 hours of operation or every six months, whichever come first. Inspect immediately if you detect unusual motor or gearing noise. This is usually an indication of low lubricant levels. Replace worn parts using only genuine Cleo replacement parts manufactured by Apex Tool Group.





**Illustration "A"**

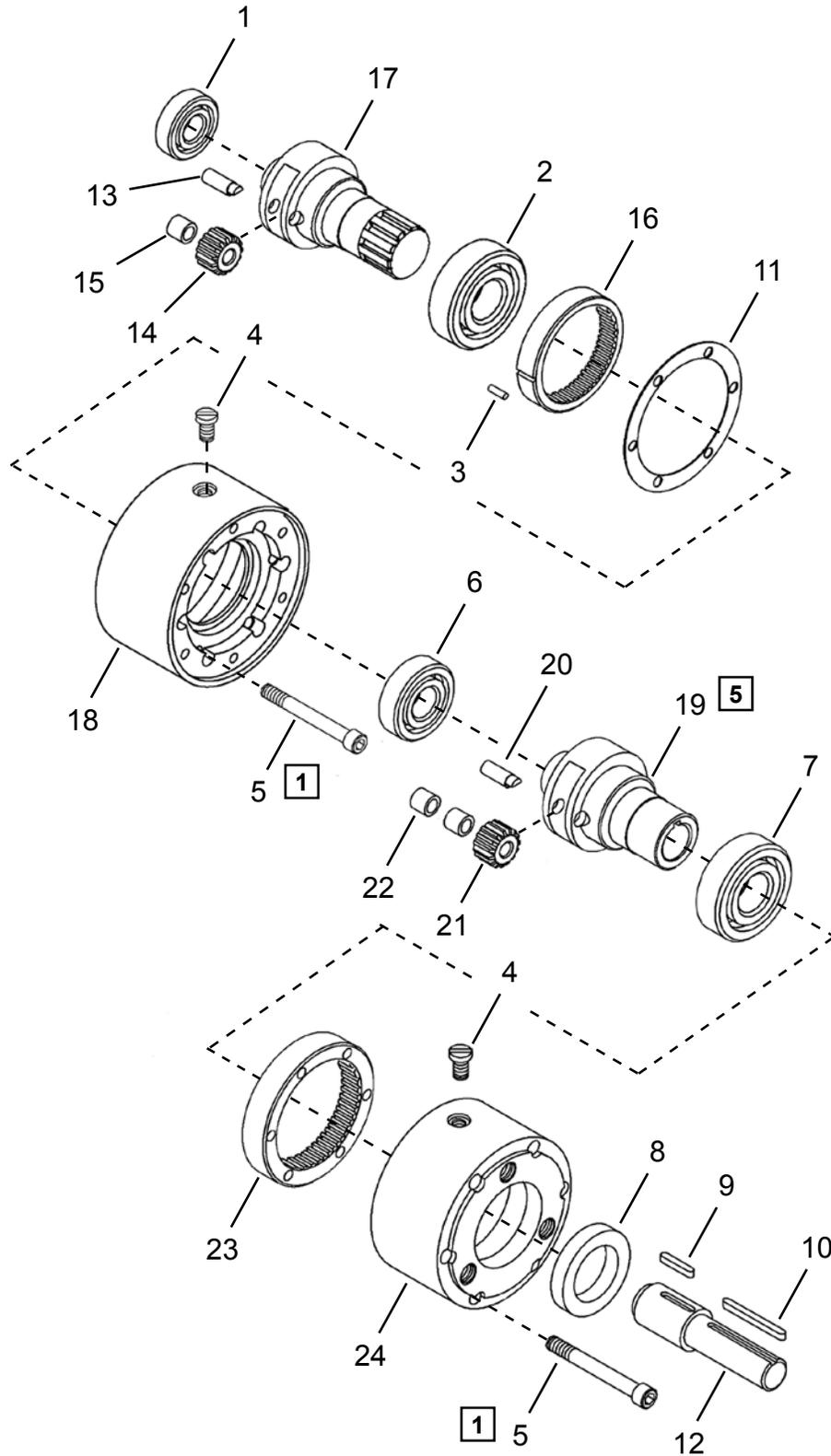
Ref	Number	#	X	EN
				Description
1	C108S	5	10	Nut
2	B110E	2	2	Pipe Plug
3	#V235	1	3	Spring
4	17749	1	1	Reducing Fitting
5	3VR77	1		Bushing
6	A17738	1		Head Assembly (includes Ref. 2, 4, 5)
7	508321	1		Distributor (includes Ref. 3, 8)
8	3V43	1	1	Key
9	10012PT	1	3	Gasket
10	534820	2	4	Drive Screw
11	530322	1		Nameplate
12	10011	1	3	Gasket
13	A3V1	1		Cylinder
14	OG196	1	2	Bearing
15	3V272	1	1	Washer
16	500741	1	3	Retaining Ring
17	507897	1	2	Bearing
18	22G155	1	2	Bearing
19	3V169	1	2	Lock Nut
20	A3V180	1		Bevel Gear
--	542241	1		Socket Plate Assembly (includes Ref. 21, 23, 24)
21	507742	1		Socket Plate
22	508056	1		Driveshaft
23	3V188	10	20	Screw
24	542240	5	5	Piston
25	18364PT	1		Bearing Liner
26	RG78	1		Grease Fitting
27	526543	5	5	Stud
28	526546	1		Rear Housing (incudes Ref. 25, 27)

(#) Quantity

(X) Recommended Spare Parts

# Cleco® Double Gearing Assembly

**"B"**



**1** **5** See Service Notes

**Cleco®**  
Double Gearing Assembly

**PL70-A8-2230**  
01/19/2011

**Illustration "B"**

Ref	Number	#	X	EN
				Description
1	525424	1	2	Bearing
2	30075	1	2	Bearing
3	DP120PT	1	2	Pin
4	RG78	2		Grease Fitting
5	B127D	12	12	Screw
6	30076PT	1	2	Bearing
7	30063PT	1	2	Bearing
8	30057PT	1	3	Oil Seal
9	30071PT	1	3	Key
10	30072PT	1	3	Key
11	10010	1	3	Gasket
12	30053PT	1		Spindle
13	10032	2	4	Pin
14	540766	2	4	Idler Gear (includes Ref. 15)
15	800160	2	4	Bearing
16	10019	1		Ring Gear
17	30739PT	1		Gear Cage
18	30050	1		Center Housing
19	30051	1		Gear Cage
20	30058PT	2	4	Pin
21	A30055	2	4	Idler Gear (includes Ref. 22)
22	11700	4	8	Bearing
23	30056PT	1		Ring Gear
24	30049	1		Front Housing

(#) Quantity

(X) Recommended Spare Parts



**1 Illustrations "A, B"**

Illustration	Reference	Tightening torque	
		Ft-Lbs (in-lbs)	Nm
A	1	10-11	13-15
	19	65-70	88-95
	24	9-10	12-13
B	5	18-20	24-27

**2 Illustration "A"**

**IMPORTANT:** Press the new bushing into the head as shown. Notch "A" in the bushing must line up with hole "B" in the head.

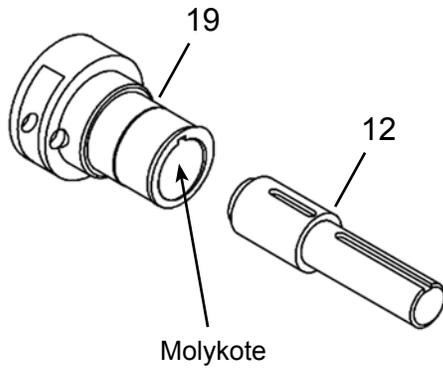
**3 Illustration "A"**

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

**4 Illustration "A"**

**IMPORTANT:** Make sure the timing mark on the bevel gear is pointing at the center of a piston cylinder before assembling the driveshaft assembly into the cylinder.

**5** Illustration "B"



**IMPORTANT:** Use a small amount of Molykote to lubricate the inside of the gear cage before pressing the spindle into the cage. If the spindle is not pressed in perpendicular to the base of the gear cage it can cause damage to the gear cage and spindle.



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