

Parts Manual
45-8064EN
04/08/2011

Cleco®

22 Series
Non-Geared Rotary Vane Power Motors



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



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

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OUTPUT SPEED — R.P.M.		23,000	EXHAUST
RIGHT HAND ROTATION	ROUND HOUSING	22-5900C 22-5940C	SIDE REAR
	MOUNTING HOUSING	22M5940C	REAR
LEFT HAND ROTATION	ROUND HOUSING	22D5900C 22D5940C	SIDE REAR
	MOUNTING HOUSING	22V5940C	REAR

SAFETY INSTRUCTIONS AND WARNING

Cleco Portable and Mountable Tools are air powered. **USE THIS POWER PROPERLY FOR PERSONAL SAFETY.**

ALWAYS COMPLY WITH:

1. General Industry Safety & Health Regulations, Part 1910, OSHA 2206, available from: Sup't. of Documents, Gov't. Printing Office, Washington, D. C. 20402.
2. Safety Code for Portable Air Tools — available from: American National Standards Institute Inc.; 1430 Broadway, New York, New York 10018.
3. State and Local Regulations.

Portions of the above abbreviated below for quick reference to some of the most important regulations. **THESE REGULATIONS ARE NOT ALL INCLUSIVE — STUDY AND COMPLY WITH ALL ABOVE REGULATIONS.**

1. **Tool Speed Check** — Before mounting any abrasive wheel, buffing wheel, wire brush, saw blade, flap wheel, or other product, after all tool repairs and whenever a tool is issued for use, the RPM shall be checked with a tachometer to insure that its actual speed does not exceed rate speed. **GOVERNED TOOLS, IN USE ON THE JOB, SHALL BE CHECKED AT LEAST ONCE EVERY TWENTY HOURS OF USE, OR ONCE WEEKLY, WHICHEVER IS MORE FREQUENT.**
2. **Tool Intent** — Tools shall be used only for purposes intended in their design (refer to product catalog).
3. **Air Supply** — Test and operate tools at 90 PSIG maximum unless tool is marked otherwise. Use recommended air-line filters-regulators-lubricators.
4. **Unusual Sound or Vibration** — If tool vibrates or produces an unusual sound, repair immediately for correction.
5. **Speed Rating of Wheels, etc.** — Speed rating of abrasive wheel, buffing wheel, wire brush, saw blade, flap wheel, or other products used, **must equal or exceed speed rating of tool.**
6. **Mounting of Wheels, etc.** — Each type of wheel, wire brush, saw blade, flap wheel, and other product, has specific mounting procedures and regulations concerning spindles, flanges, blotters, collets, etc., which shall be used. **REFER TO REGULATIONS AND/OR WHEEL MANUFACTURERS' INSTRUCTIONS.**
7. **Wheel Guards** — Select proper guards for application and mount securely and properly. **SEE REGULATIONS.**
8. **Inspection of Wheels, etc.** — Regularly inspect all wheels, etc., and discard cracked, chipped or otherwise damaged units. Redress out-of-balance wheels. **SEE REGULATIONS.**
9. **Operator Protective Equipment** — Wear goggles or face shield at all times tool is in operation. Other protective clothing shall be worn, if necessary, for spark protection deflection. **SEE REGULATIONS.**
10. **Safety Maintenance Program** — Employ a safety program to provide inspection and maintenance of all phases of tool operation and air supply equipment in accordance with "Safety Code for Portable Air Tools."

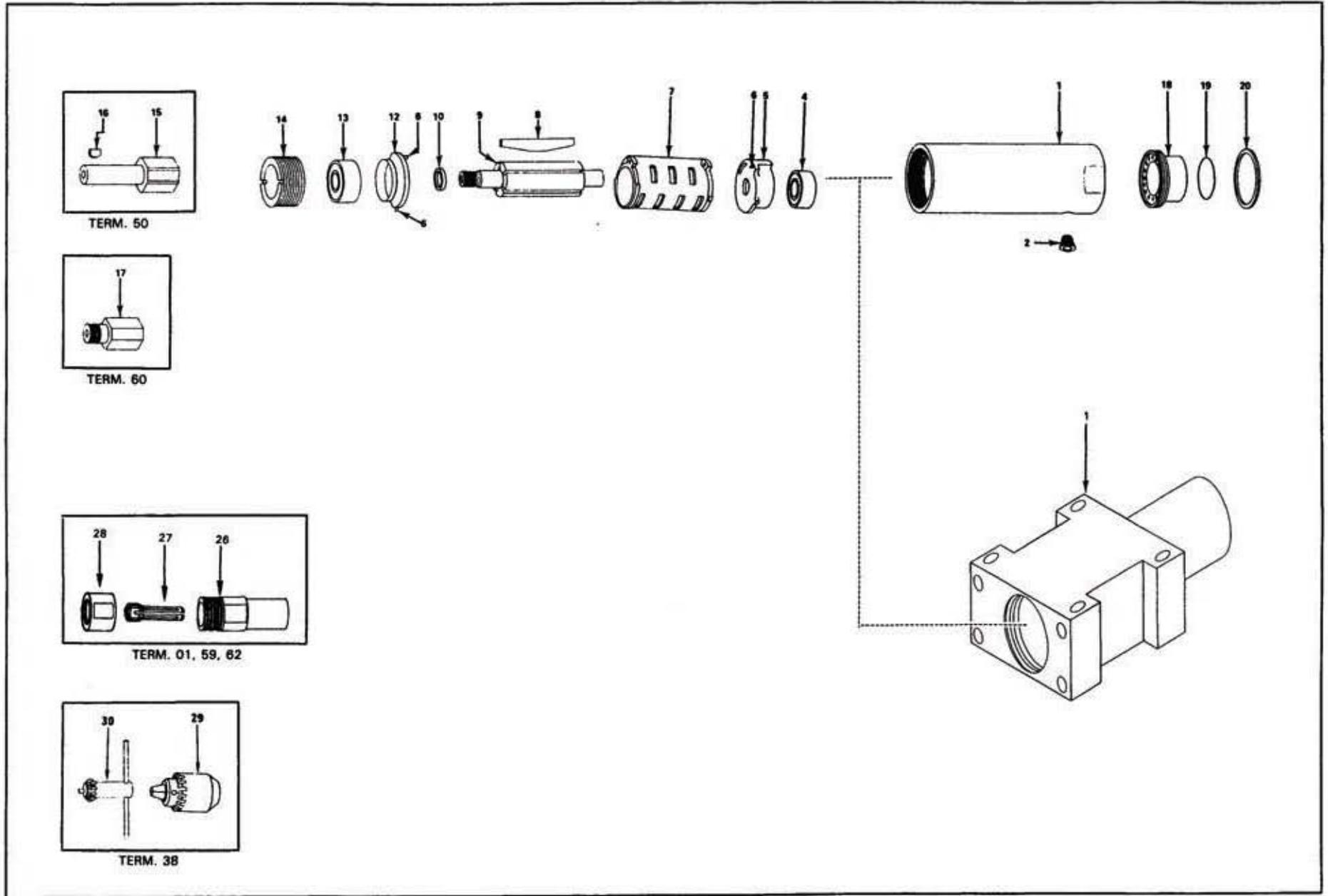
WARNING!! FAILURE TO COMPLY WITH ALL SAFETY REGULATIONS MAY RESULT IN SERIOUS INJURY.



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EXPLODED VIEW



NOTE: ALL NUMBERS IN ABOVE DRAWING AND IN DISASSEMBLY AND ASSEMBLY INSTRUCTIONS ARE INDEX NUMBERS ONLY. REFER TO PARTS LIST FOR PART NUMBERS WHEN ORDERING.

PARTS LIST

INDEX	DESCRIPTION	PART NUMBERS ARE LISTED BELOW MODEL NUMBERS					
		22-5900C	22-5940C	22D5900C	22D5940C	22M5940C	22V5940C
1	MOTOR HOUSING	2869	2516	2869	2516	8037	8037
2	PIPE PLUG	2957	2957	2957	2957	2957	2957
4	BALL BEARING	538	538	538	538	538	538
5	BEARING PLATE w/Index 6	7003	7148	7194	7198	7148	7198
6	PIN (2 or 3 req'd)	1041 (2)	1041 (3)	1041 (2)	1041 (3)	1041 (3)	1041 (3)
7	CYLINDER	2255A	2255A	2519	2519	2255A	2519
8	BLADE (4 Req'd)	2253	2253	2253	2253	2253	2253
9	ROTOR w/Index 10	7654	7654	7654	7654	7654	7654
10	SPACER	2017	2017	2017	2017	2017	2017
12	BEARING PLATE w/Index 6	2256	2651	2454	2518	2651	2518
13	BALL BEARING	500	500	500	500	500	500
18	MUFFLER		2685		2685	2685	2685
19	"O" RING		1838		1838	1838	1838
20	RETAINING RING		2690		2690	2690	2690
21	SHIM PACKET	2488	2488	2488	2488	2488	2488

TERMINATION PARTS LIST

TERMINATION NO.	APPLICATION	INDEX NO.	DESCRIPTION	PART NO.	FOR USE ON THE FOLLOWING MODELS ONLY:
01	200 SERIES COLLET ASSEMBLY	26	CHUCK BODY	2054	
		27	COLLET (1/4")	208	
		28	CAP	2058	
		14	LOCK RING	2445	
			WRENCH (9/16")	14-0809	
			WRENCH (3/4")	14-0812	
38	JACOBS CHUCK 1/4" MAX	14	LOCK RING	2000	
		17	ADAPTER	2111	
		29	CHUCK w/INDEX 30	14-2545	
		30	KEY	14-2548	
50	1/2" KEYED SPINDLE	16	KEY (2)	613	
		14	LOCK RING	2000	
		15	ADAPTER	2112	
59	100 SERIES COLLET ASSEMBLY	27	COLLET (1/2")	116	FOR USE ON MODEL 22-5940C ONLY.
		14	LOCK RING	2445	
		26	CHUCK BODY	2774	
		28	CAP	2775	
			WRENCH (3/4")	14-0812	
	WRENCH (7/8")	14-0814			
60	1/2"-20 EXTERNAL THREADED SPINDLE	14	LOCK RING	2000	
		17	ADAPTER	2111	
			WRENCH (3/4")	14-0812	
62	"K" SERIES COLLET ASSEMBLY	27	COLLET (1/2")	126	
		26	CHUCK BODY	2337	
		14	LOCK RING	2445	
		28	CAP	4255	
			WRENCH (7/8")	14-0814	
	WRENCH (1-1/8")	14-0818			



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INSTALLATION: Air pressure of 90 pounds per square inch is recommended for best performance. Pippings, fittings, and hose should be of size adequate to maintain this pressure at the tool, while the tool is in operation. An airline oiler and filter should be used. The hose should be blown out to remove dirt particles and sludge before attaching it to the tool.

LUBRICATION: The motor must be lubricated and free of moisture. An air line oiler and filter such as Cleco No. 45-0320 will take care of the complete lubrication of the tool. We recommend a high grade spindle oil such as SAE No. 5 or Cleco Oil No. 45-0918, using two or three drops of oil per minute.

LOSS OF POWER: Seldom is it necessary to disassemble this tool for loss of power. First, check air line pressure. It should be 90 PSI at or near the tool, while the tool is running. Check the size of the hose and fittings to be certain they are not causing air restrictions. Make certain the hose and fittings are not plugged with rust, dirt or scale.

SERVICE INSTRUCTIONS: Do not squeeze tool or parts in vise except as specified in assembly or disassembly instructions. Bearings are of the shield type. Care must be used in their assembly and disassembly. Push only on inner race of bearings. (CAUTION: Bearings are lubricated by the bearing manufacturer for the life of the bearing. DO NOT CLEAN WITH SOLVENT.)

TO DISASSEMBLE:

Place tool in vise, clamping only on flats at rear of Motor Housing (1). To remove motor, unthread Lock Ring (14) and pull motor out. To disassemble the motor, remove Rear Bearing Plate (5) and Bearing (4) by holding the motor in one hand and tapping the rear of Rotor (9) with a brass drive punch. Unthread Adapter (15) or (17) by holding the rotor in soft vise jaws. The Front Bearing Plate (12) and Bearing (13) now can be pressed off.

CAUTION: Do not lose spacer (10).

TO ASSEMBLE:

(All parts should be thoroughly cleaned before assembly)

1) Make sure Pins (6) are pressed into Bearing Plates (5) and (12). To correct for bearing tolerances, it is necessary to use shims to maintain correct clearances between the ends of the rotor and the bearing plates. Shim Packet (21) contains a .001" shim and a .002" shim. Insert the .002" shim in Bearing Plate (12). Insert Bearing (13), into Bearing Plate (12). Assemble Spacer (10) onto threaded end of Rotor (9). Assemble Front Bearing Plate (12) onto rotor by pressing on the inner race of Bearing (13) while supporting rotor on opposite end. Thread Adapter (15) or (17) or Chuck Body (26) onto rotor tightly by holding the rotor between soft vise jaws. Now, hold rotor in left hand and bearing plate in right hand. Apply an outward (pulling) pressure and observe the spacing between end of rotor and bearing plate. This should be from flush, not rubbing, to .002" maximum. If the rotor rubs the bearing plate, reduce the spacing between the bearing and the bearing plate by removing the .002" shim entirely or by substituting the .001" shim for the .002" shim. However, if there was more than .002" spacing between the end of rotor and bearing plate, add .001" shim between the bearing and bearing plate.

NOTE: On left hand rotation tools at final assembly of Adapter (15) or (17) or Chuck Body (26) and Rotor (9) thoroughly clean rotor threads and apply one drop of Loctite to thread for added protection.

2) Assemble Cylinder (7) onto Bearing Plate (12) with locating hole and air intake holes facing toward rear end of rotor. Insert Blades (8). Support assembly squarely on the face of termination. Place Bearing (4) in Rear Bearing Plate (5) and press onto rotor, pressing on the inner race of Bearing (4) just enough to bring the bearing plate against the cylinder. There should be a slight drag between bearing plates and cylinder when these are moved with the fingers. Position cylinder until motor turns finger free.

3) Insert motor into Housing (1). For rear exhaust tool, make sure that Locating Pin (6) in Front Bearing Plate (12) enters slot cut into housing. Thread Lock Ring (14) into housing, locking motor firmly in place. Check assembly by spinning Adapter (15) or (17). It must spin finger free. If not, loosen Lock Ring (14) and tap housing gently with a plastic mallet to properly position cylinder; then retighten lock ring. If motor is still not free, remove motor from housing and recheck snugness and alignment of cylinder between bearing and bearing plates.

IMPORTANT: LOCK RING (14) MUST BE TIGHT — DO NOT LOOSEN THIS LOCK RING FOR THE PURPOSE OF "FREEING UP" THE MOTOR.



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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.

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Sales & Service Center**
1470 Post & Paddock
Grand Prairie, TX 75050
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Sales & Service Center**
2630 Superior Court
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670 Industrial Drive
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