

Parts Manual
823018EN
03/29/2016

Cleco®

88 Series
Inline and Pistol Grip Screwdrivers



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

Cleco®
Nomenclature

	88	XXX	A	XX	-	X	C	X
<u>Tool Series</u> 88								
<u>Tool Style</u> S = Non-Reversible RS = Reversible TRS = Auto-Reverse								
<u>Torque Control Mechanism</u> A = Clecomatic Clutch								
<u>Handle Configuration</u> -- = Inline (Push-To-Start) L = Lever (Push-To-Start) P = Pistol Grip (Push-To-Start) PT = Pistol Grip (Push and Trigger Start) TP = Pistol Grip (Trigger Start)								
<u>Gear Train Designation</u> 2 5 7								
<u>Generation</u> C = Third								
<u>Output Drive</u> -3 = 3/8" Square Drive Q = Quick Change								

Cleco® Specifications

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88 Series Inline and Pistol Grip Clecomatic Clutch

Model Number	Tool Range (standard spring)				Free Speed (rpm)	Length		Weight		Air Consumption			Termination
	Max Tq		Min Tq			in	mm	lbs	kg	Inlet NPT	Hose I.D.	SCFM	
	in-lb	Nm	in-lb	Nm									
Inline - Push-To-Start - Non-Reversible													
88SA-7CQ	15	1.7	100	11	650	9.1	232	2.5	1.1	1/4	1/4	19	1/4" Hex Quick Change
88SA-7C-3	15	1.7	100	11	650	9.1	232	2.5	1.1	1/4	1/4	19	3/8" Square Drive
88SA-5CQ	15	1.7	170	19	500	9.1	232	2.5	1.1	1/4	1/4	19	1/4" Hex Quick Change
88SA-5C-3	15	1.7	170	19	500	9.1	232	2.5	1.1	1/4	1/4	19	3/8" Square Drive
Inline - Push-To-Start - Push Button Reverse													
88RSA-7CQ	15	1.7	95	10	550	9.5	241	2.6	1.2	1/4	1/4	19	1/4" Hex Quick Change
88RSA-7C-3	15	1.7	95	10	550	9.5	241	2.6	1.2	1/4	1/4	19	3/8" Square Drive
88RSA-5CQ	15	1.7	160	18	400	9.5	241	2.6	1.2	1/4	1/4	19	1/4" Hex Quick Change
88RSA-5C-3	15	1.7	160	18	400	9.5	241	2.6	1.2	1/4	1/4	19	3/8" Square Drive
Inline - Push and Lever Start - Push Button Reverse													
88RSAL-5CQ	15	1.7	160	18	400	11.1	282	3.1	1.4	1/4	1/4	19	1/4" Hex Quick Change
88RSAL-5C-3	15	1.7	160	18	400	11.1	282	3.1	1.4	1/4	1/4	19	3/8" Square Drive
Inline - Push and Lever Start - Auto-Reverse													
88TRSAL-5BQ	15	1.7	160	18	400	11.1	282	3.1	1.4	1/4	1/4	19	1/4" Hex Quick Change
Pistol Grip - Push and Trigger Start - Non-Reversible													
88SAPT-7CQ	15	1.7	100	11	650	9.0	229	3.1	1.4	1/4	1/4	19	1/4" Hex Quick Change
88SAPT-7C-3	15	1.7	100	11	650	9.0	229	3.1	1.4	1/4	1/4	19	3/8" Square Drive
88SAPT-5CQ	15	1.7	170	19	500	9.0	229	3.1	1.4	1/4	1/4	19	1/4" Hex Quick Change
88SAPT-5C-3	15	1.7	170	19	500	9.0	229	3.1	1.4	1/4	1/4	19	3/8" Square Drive
Pistol Grip - Push-To-Start - Sliding Knob Reverse													
88RSAP-7CQ	15	1.7	95	10	550	9.0	229	3.1	1.4	1/4	1/4	19	1/4" Hex Quick Change
88RSAP-7C-3	15	1.7	95	10	550	9.0	229	3.1	1.4	1/4	1/4	19	3/8" Square Drive
88RSAP-5CQ	15	1.7	160	18	400	9.0	229	3.1	1.4	1/4	1/4	19	1/4" Hex Quick Change
88RSAP-5C-3	15	1.7	160	18	400	9.0	229	3.1	1.4	1/4	1/4	19	3/8" Square Drive
Pistol Grip - Push and Trigger Start - Sliding Knob Reverse													
88RSAPT-7CQ	15	1.7	95	10	550	9.0	229	3.1	1.4	1/4	1/4	19	1/4" Hex Quick Change
88RSAPT-7C-3	15	1.7	95	10	550	9.0	229	3.1	1.4	1/4	1/4	19	3/8" Square Drive
88RSAPT-5CQ	15	1.7	160	18	400	9.0	229	3.1	1.4	1/4	1/4	19	1/4" Hex Quick Change
88RSAPT-5C-3	15	1.7	160	18	400	9.0	229	3.1	1.4	1/4	1/4	19	3/8" Square Drive
88RSAPT-2CQ	15	1.7	180	20	200	9.8	248	3.4	1.5	1/4	1/4	19	1/4" Hex Quick Change
88RSAPT-2C-3	15	1.7	180	20	200	9.8	248	3.4	1.5	1/4	1/4	19	3/8" Square Drive
Pistol Grip - Trigger Start - Sliding Knob Reverse													
88RSATP-7CQ	15	1.7	95	10	550	8.9	225	3.1	1.4	1/4	1/4	19	1/4" Hex Quick Change
88RSATP-7C-3	15	1.7	95	10	550	8.9	225	3.1	1.4	1/4	1/4	19	3/8" Square Drive
88RSATP-5CQ	15	1.7	160	18	400	8.9	225	3.1	1.4	1/4	1/4	19	1/4" Hex Quick Change
88RSATP-5C-3	15	1.7	160	18	400	8.9	225	3.1	1.4	1/4	1/4	19	3/8" Square Drive
88RSATP-2CQ	15	1.7	180	20	200	9.6	245	3.4	1.5	1/4	1/4	19	1/4" Hex Quick Change
88RSATP-2C-3	15	1.7	180	20	200	9.6	245	3.4	1.5	1/4	1/4	19	3/8" Square Drive

The original language of this manual is English.

Product Safety Information:

Intended Use:

These screwdrivers are driven by compressed air to assemble or remove threaded fasteners.

For additional product safety information refer to Apex Tool Group, LLC or Apex Tool Group GmbH & Co. OHG document GS-2000, General Safety Air Assembly Tools.



This screwdriver 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.

EC Declaration of Conformity:

We affirm that this machine is in accordance with the following EC regulations (2006/42/EC). Applied harmonized standards are ISO 12100:2010-11.

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: 12/01/2015

Noise and Vibration:

Noise: ≤ 80 dB(A)

Vibration: < 2.5 m/s²

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:

Application of the screwdriver should determine how frequently it is greased. It is recommended that all gearing receive a generous amount of grease after every 40 hours of operation.

Part No.	Packaged	Designation
540450	18 oz. (0.51 kg)	Black Pearl EP-NLGI-0
540395	2 oz. (0.06 kg)	Magnalube-G
513156	16 oz. (0.45 kg)	Magnalube-G
541444	2 oz. (0.06 kg)	Rheolube 363AX-1
541445	16 oz. (0.45 kg)	Rheolube 363AX-1

The clutch housing and clutch assembly must be removed and the grease applied through the hex in the gear carrier.

Air Supply Line:

Parameter	Description
Air Hose	Minimum inside diameter: 1/4" (6.4 mm) Maximum length: 8' (2.5 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.

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Clutch Adjustment:

Remove the clutch housing (left hand thread) from the gear case. Adjust the torque output to the tool by rotating the adjustment nut (202755PT) clockwise to increase torque and counterclockwise to decrease torque.

! CAUTION

If the clutch is adjusted over the maximum power output of the tool, the clutch will not function and the tool will operate like a stall-type tool. Also, if the tool is being operated at its upper torque limits, a drop in air pressure could cause the clutch not to function due to a loss of motor power. The tool will then operate like a stall-type tool. While resisting torque, the operator must remove the tool from the fastener to shut it off.

Operational Check:

Cycle the tool to make certain the clutch is operating properly.

! WARNING

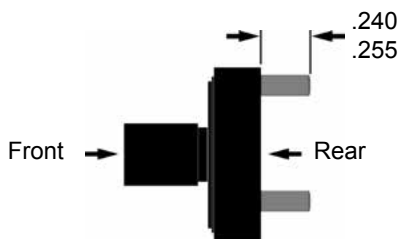
Grip the tool securely and be prepared to counteract stall torque if the clutch is improperly adjusted.

Gearing Service:

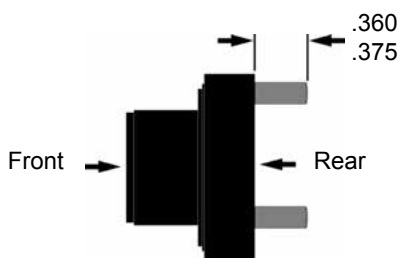
If replacement of the planetary gear pins is necessary, they should be pressed out the rear of the gear carrier.

Install the new planetary gear pins as shown in the following illustrations.

First Reduction Gearing (codes -2, -5, -7)



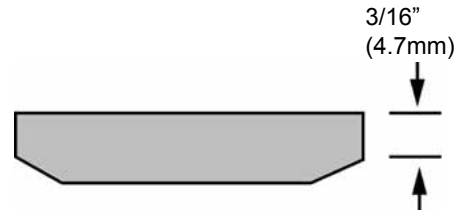
Second Reduction Gearing (code -2)



Motor Service:

If motor disassembly was necessary, clean all parts in a solvent and inspect for excessive wear or damage. It is recommended that all o-rings and seals be replaced each time the tool is disassembled. Replace as necessary with genuine Cleco replacement parts.

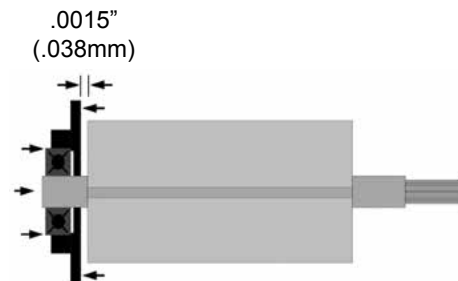
The rotor blades should be replaced every repair cycle or if they measure less than 3/16" (4.7mm) on either end, as shown below.



All gears, gear pins, and open bearings should receive a generous amount of grease before reassembly.

Motor Assembly:

Install the rear rotor bearing (847609) into the rear bearing plate. Pressing on the bearing's inner race, press the bearing plate assembly onto the rotor shaft until there is approximately .0015" (.038mm) clearance between the rear bearing plate and the rotor.



Install the cylinder with the slotted end toward the front bearing plate.

Trip Sizing (non TP models):

Assemble the tool, without the clutch housing, and connect the air supply. Install the clutch housing onto the gear case until air exhausts from the handle. Measure the gap between the clutch housing and the gear case. Remove this amount plus 1/16" from the trip rod..

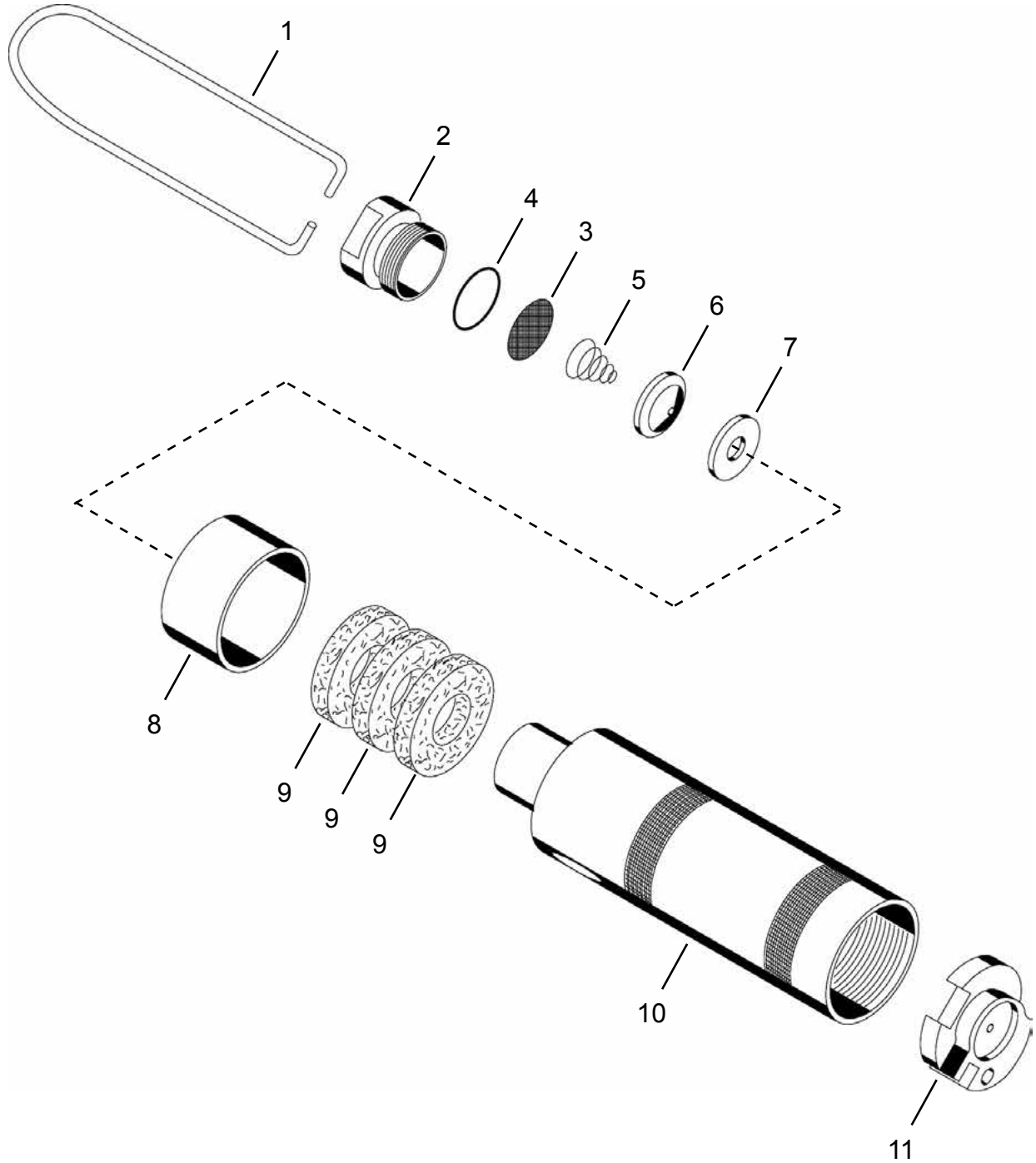
Trip Sizing (TP models):

Assemble the tool, without the clutch housing, and connect the air supply. Install the clutch housing onto the gear case until air exhausts from the handle. Screw the clutch housing 1-3/4 turns more. Measure the gap between the clutch housing and the gear case. Remove this amount from the trip rod.

Cleco®
861705 Inline Handle

Models
88SA series

“A”



Cleco®
861705 Inline Handle

823018EN
03/29/2016

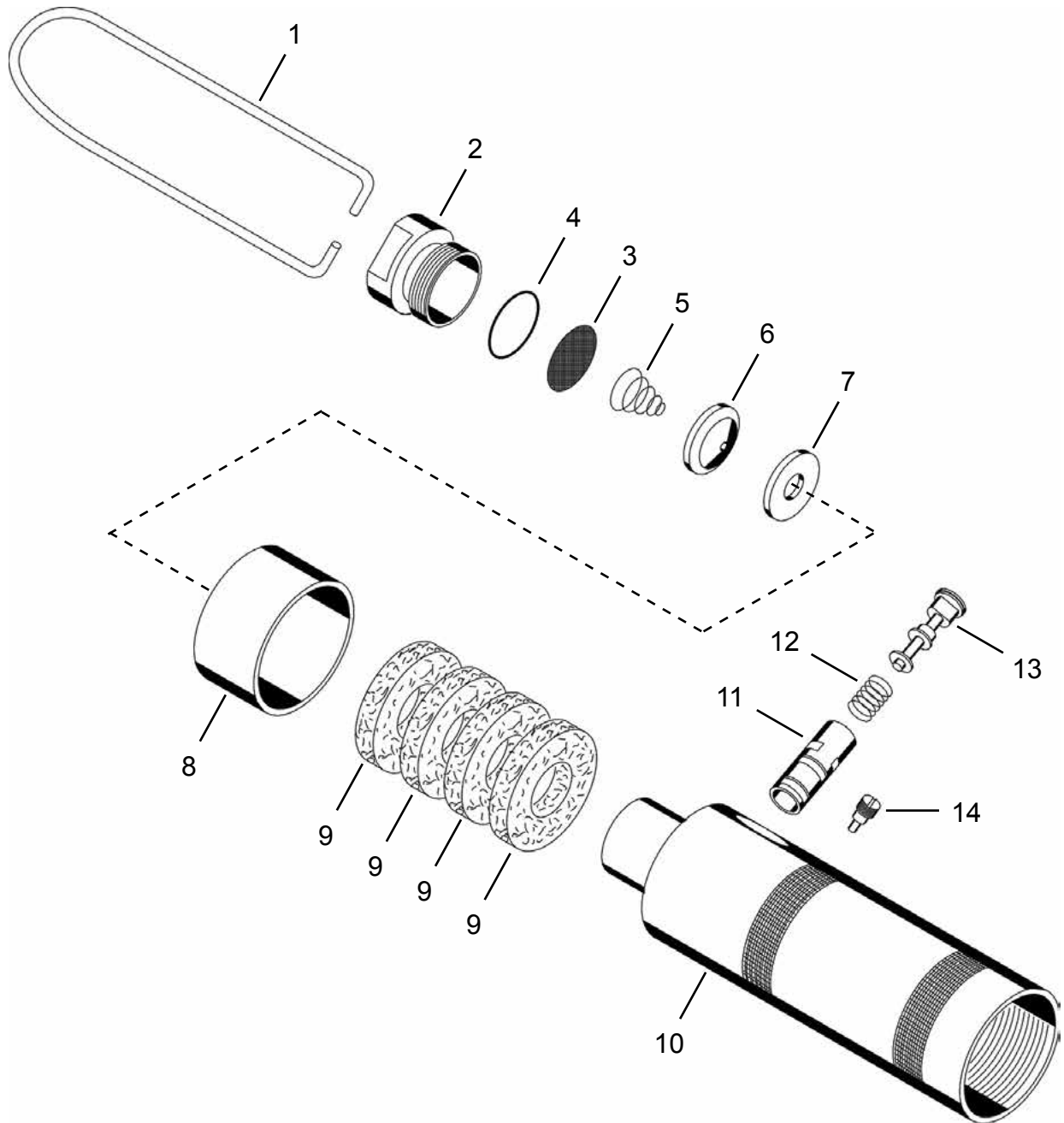
Illustration "A": Push-To-Start Non-Reversible Handle

Ref	Number	#	X	EN
				Description
--	861705	1		Handle Assembly (includes Ref. 1-11)
1	865777	1	2	Suspension Bail
2	867882	1	1	Inlet Bushing (includes Ref. 3)
3	833300PT	1	3	Inlet Screen
4	863454	1	3	O-Ring (9/16" x 11/16")
5	867887	1	3	Shut Off Valve Spring
6	867890	1		Shut Off Valve
7	869201	1	3	Shut Off Valve Seal
8	869844	1		Exhaust Deflector
9	869850	3	6	Muffler
10	869233	1		Housing
11	869234	1		Motor Block

(#) Quantity

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

“B”



Cleco®
861579 Inline Handle

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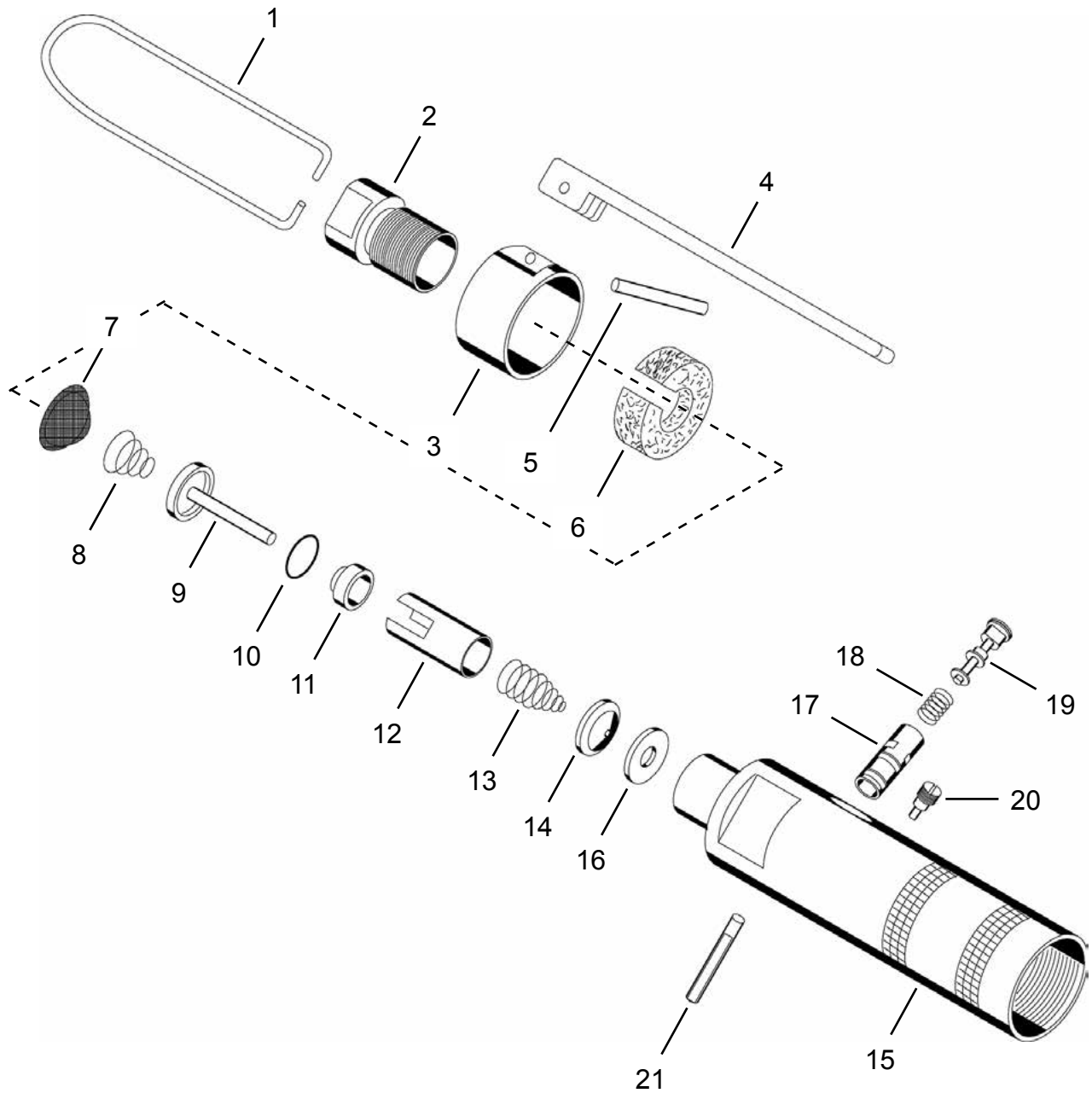
Illustration "B": Push-To-Start Push Button Reverse Handle

Ref	Number	#	X	EN
				Description
--	861579	1		Handle Assembly (includes Ref. 1-14)
1	865777	1	2	Suspension Bail
2	867882	1	1	Inlet Bushing (includes Ref. 3)
3	833300PT	1	3	Inlet Screen
4	863454	1	3	O-Ring (9/16" x 11/16")
5	867887	1	3	Shut Off Valve Spring
6	867890	1		Shut Off Valve
7	869201	1	3	Shut Off Valve Seal
8	869844	1		Exhaust Deflector
9	869850	4	8	Muffler
10	867891	1		Housing (includes Ref. 11)
11	846861	1		Reversing Valve Bushing
12	865770	1	3	Reversing Valve Spring
13	869253	1		Reversing Valve
14	867878	1	1	Valve Retainer Screw

(#) Quantity

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

“C”



Cleco®
201212 Inline Handle

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03/29/2016

Illustration "C": Push and Lever Start - Push Button Reverse Handle

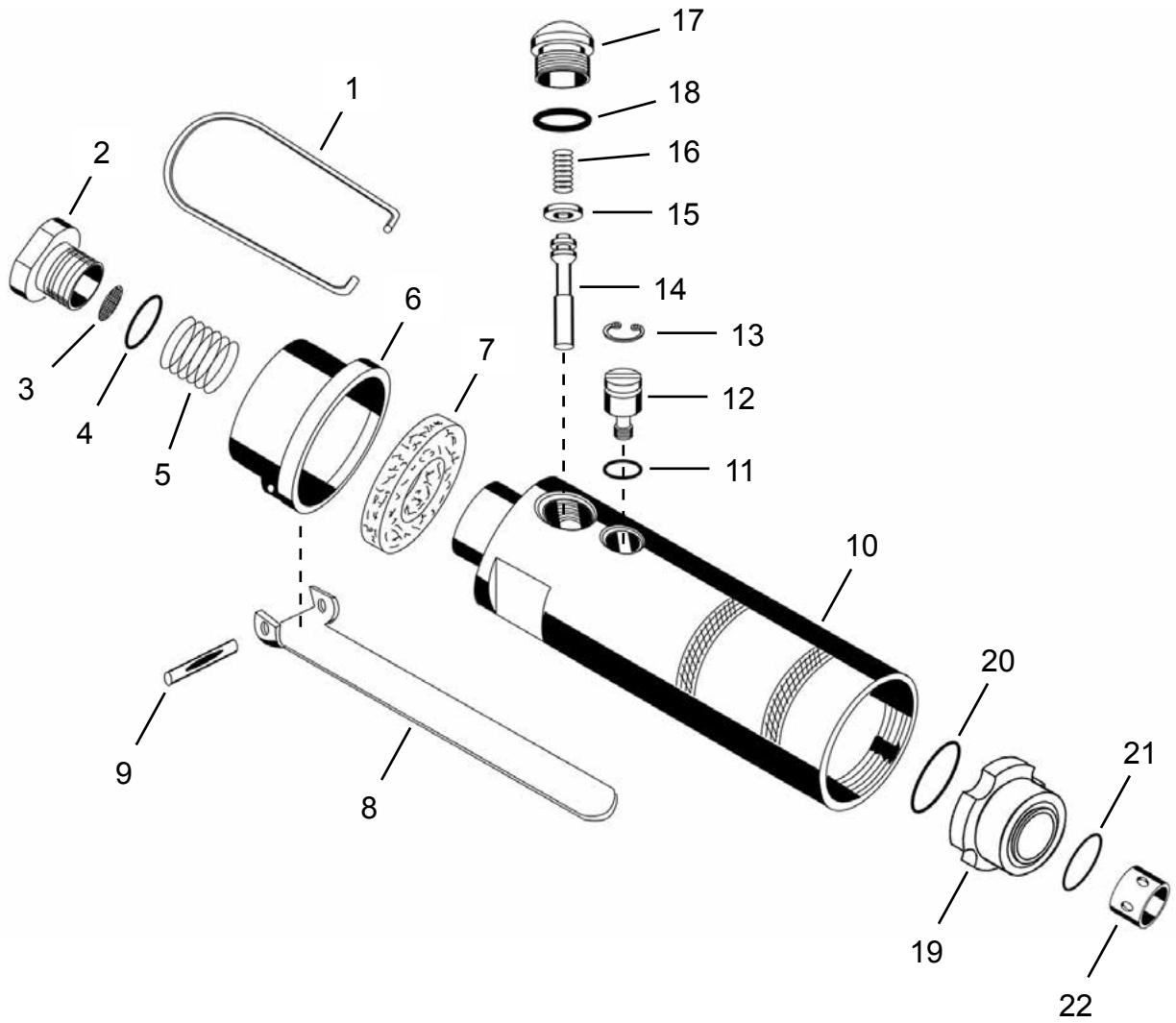
Ref	Number	#	X	EN
				Description
--	201212	1		Handle Assembly (includes Ref. 1-21)
1	412603PT	1	2	Suspension Bail
2	869753	1	1	Inlet Bushing
3	207246	1		Exhaust Deflector
4	867877	1	1	Throttle Lever
5	412985	1	1	Throttle Lever Pin
6	869510	1	3	Muffler
7	203043	1	3	Inlet Screen
8	867007	1	3	Throttle Valve Spring
9	867005	1		Throttle Valve
10	863399	1	3	O-Ring (7/16" x 9/16")
11	867006	1		Valve Seat
12	869754	1		Shut Off Valve Bushing
13	202951	1	3	Shut Off Valve Spring
14	869751	1		Shut Off Valve
15	869747	1		Housing (includes Ref. 16-17)
16	869201	1	3	Shut Off Valve Seal
17	846861	1		Reversing Valve Bushing
18	865770	1	3	Reversing Valve Spring
19	869253	1		Reversing Valve
20	867878	1	1	Valve Retainer Screw
21	869748	1		Throttle Pin

(#) Quantity

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

Models
88TRSAL series

“D”



Cleco®
201357 Inline Handle

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03/29/2016

Illustration "D": Push and Lever Start - Auto-Reverse Handle

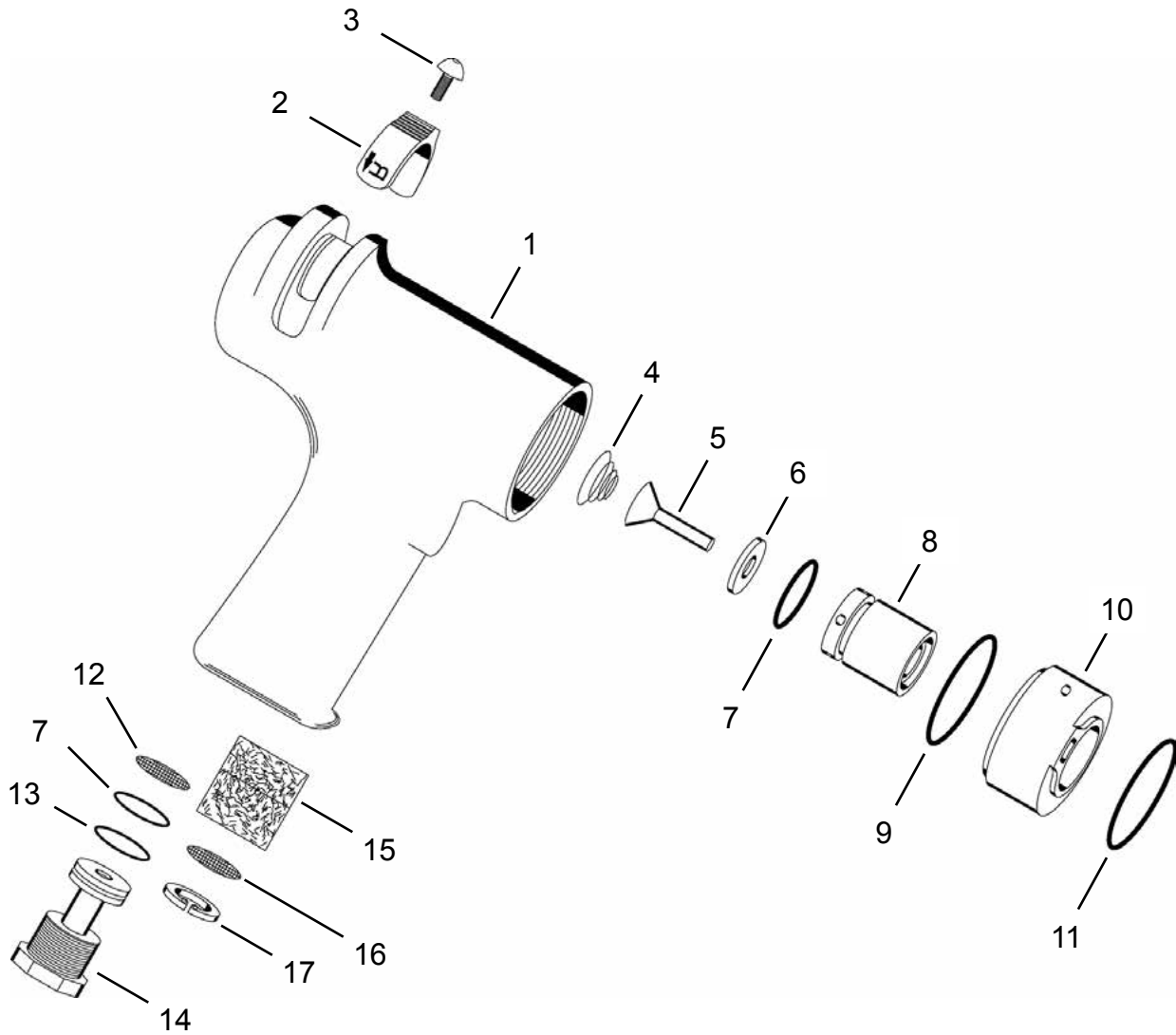
Ref	Number	#	X	EN
				Description
--	201357	1		Handle Assembly (includes Ref. 1-18)
1	412603PT	1	2	Suspension Bail
2	867882	1	1	Inlet Bushing (includes Ref. 3)
3	833300PT	1	3	Air Inlet Screen
4	863454	1	3	O-Ring
5	865728	1	3	Air Inlet Spring
6	207246	1		Exhaust Deflector
7	869510	1	3	Muffler
8	867877	1	1	Throttle Lever
9	412985	1	1	Throttle Lever Pin
10	203186	1		Motor Housing
11	864271	1	2	Retaining Ring
12	203036PT	1		Flow Valve
13	844306	1	3	O-Ring
14	869036	1		Throttle Valve (includes Ref. 15)
15	847426	1	3	Throttle Valve Seal
16	844060	1	3	Throttle Valve Spring
17	832207	1		Throttle Valve Cap (includes Ref. 18)
18	844307	1	3	O-Ring
19	204565PT	1		Valve Spacer
20	863009	1	3	O-Ring
21	847445	1	3	O-Ring
22	201776	1		Auto-Reverse Valve Assembly (includes Ref. 23-28)
23	204554	1		Insert (not shown)
24	204555	1		Valve (not shown)
25	204556PT	1	3	O-Ring (not shown)
26	204557	1		Spool Stop (not shown)
27	204558	1		Pin (not shown)
28	204559PT	1		Washer (not shown)

(#) Quantity

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

“E”

Models
88RSAP series



Cleco®
201190 Pistol Grip Handle

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03/29/2016

Illustration "E": Push-To-Start - Sliding Knob Reverse Handle

Ref	Number	#	X	EN
				Description
--	201190	1		Handle Assembly (includes Ref. 1-17 except Ref. 11)
1	202771PT	1		Housing
2	869852	1		Reversing Knob
3	613749	1	1	Reversing Knob Screw
4	867887	1	3	Shut Off Valve Spring
5	867901	1		Shut Off Valve
6	867889	1	3	Shut Off Valve Seal
7	847272	2	6	O-Ring (5/8" x 3/4")
8	867899	1		Shut Off Valve Housing
9	867926	1	3	O-Ring (1-3/16" x 1-5/16")
10	867898	1		Reversing Valve
11	617290	1	3	O-Ring (1-1/2" x 5/16") (not included in handle assembly)
12	412775	1	3	Inlet Screen
13	847411	1	3	O-Ring (11/16" x 13/16")
14	867929	1	1	Inlet Bushing
15	932224	1	3	Filter
16	833303	1	3	Muffler Screen
17	847033	1	1	Retaining Ring

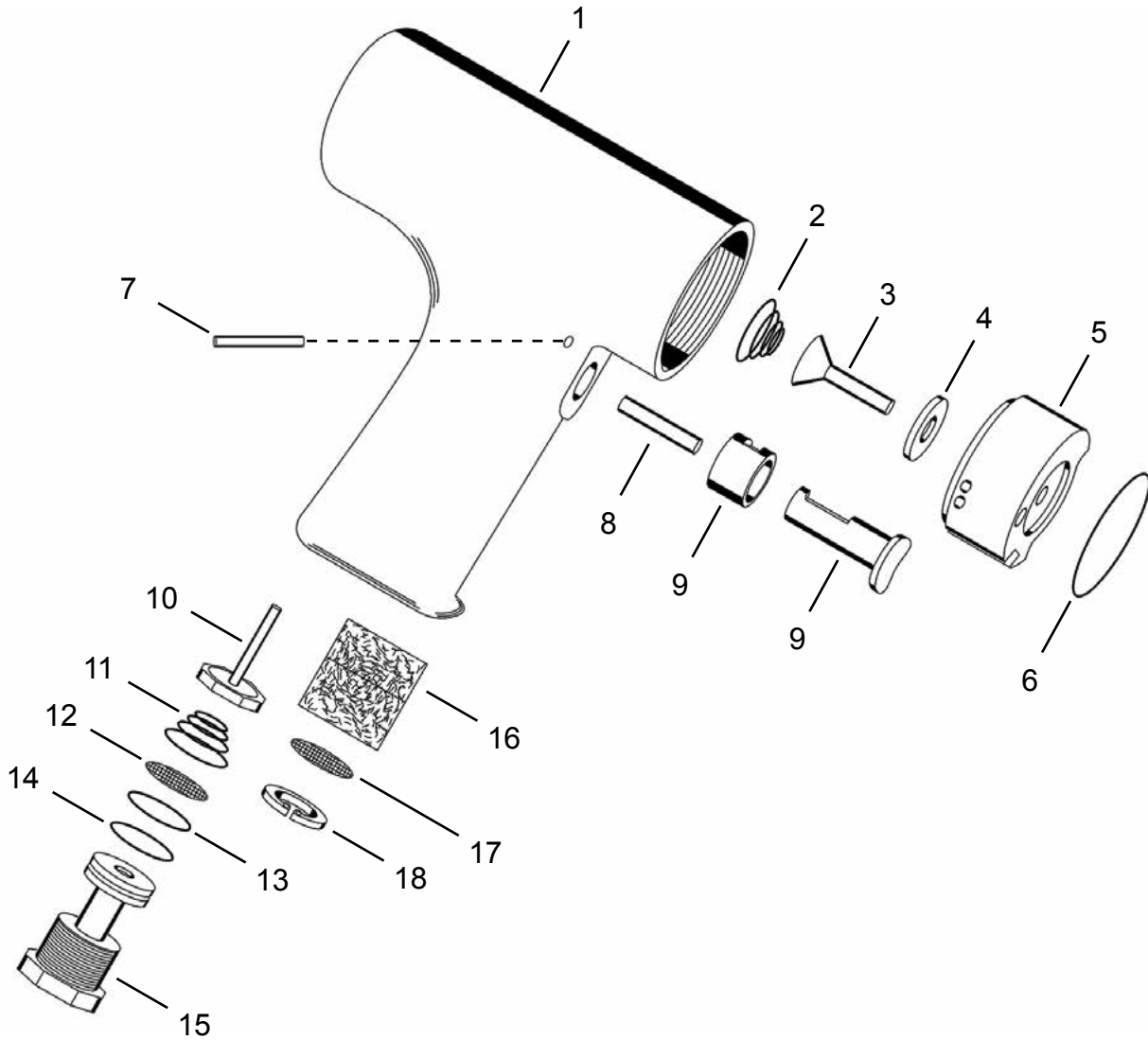
(#) Quantity

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

Cleco®
861707 Pistol Grip Handle

“F”

Models
88SAPT series



Cleco®
861707 Pistol Grip Handle

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Illustration "F": Push and Trigger Start - Non-Reversible Handle

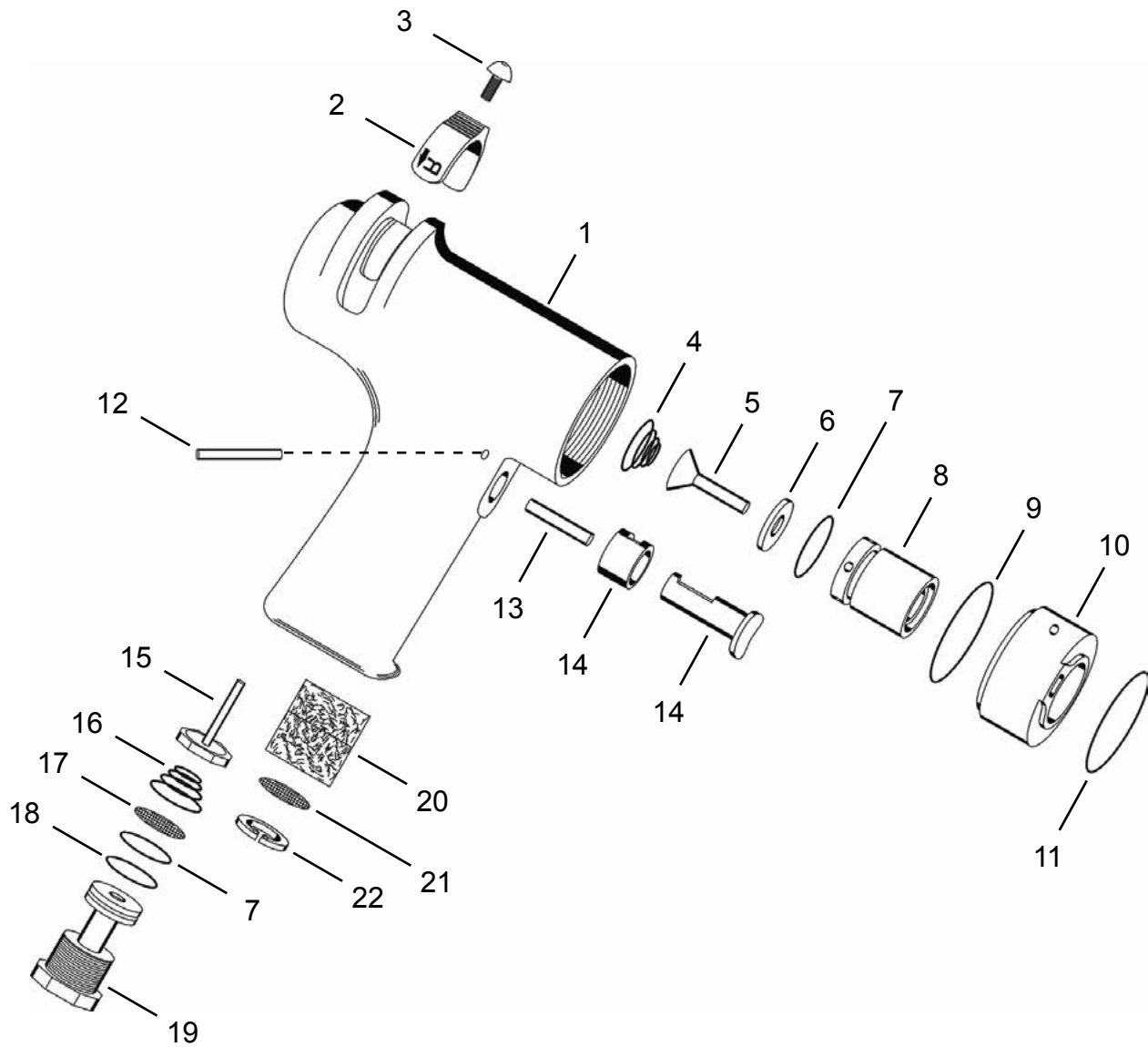
Ref	Number	#	X	EN
				Description
--	861707	1		Handle Assembly (includes Ref. 1-18 except Ref. 6)
1	869237	1		Housing
2	867887	1	3	Shut Off Valve Spring
3	867901	1		Shut Off Valve
4	867889	1	3	Shut Off Valve Seal
5	869236	1		Motor Block
6	617290	1	3	O-Ring (1-1/2" x 5/16") (not included in handle assembly)
7	844787	1	1	Trigger Pin
8	867939	1		Throttle Link Pin
9	201905	1		Trigger Assembly
10	869350	1		Throttle Valve
11	202951	1	3	Throttle Valve Spring
12	412775	1	3	Inlet Screen
13	847272	1	3	O-Ring (5/8" x 3/4")
14	847411	1	3	O-Ring (11/16" x 13/16")
15	867929	1	1	Inlet Bushing
16	932224	1	3	Filter
17	833303	1	3	Muffler Screen
18	847033	1	1	Retaining Ring

(#) Quantity

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

“G”

Models
88RSAPT series
88RSATP series



201189 and 201458 Pistol Grip Handles

Illustration "G": Push and Trigger Start & Trigger Start - Sliding Knob Reverse Handle

Ref	Number	#	X	EN	
				Description	
--	Table "G"	1		Handle Assembly (includes Ref. 1-22 except Ref. 11)	
1	202773PT	1		Housing	
2	869852	1		Reversing Knob	
3	613749	1	1	Reversing Knob Screw	
4	Table "G"	1	3	Shut Off Valve Spring	
5	867901	1		Shut Off Valve	
6	867889	1	3	Shut Off Valve Seal	
7	847272	2	6	O-Ring (5/8" x 3/4")	
8	867899	1		Shut Off Valve Housing	
9	867926	1	3	O-Ring (1-3/16" x 1-5/16")	
10	867898	1		Reversing Valve	
11	617290	1	3	O-Ring (1-1/2" x 5/16") (not included in housing assembly)	
12	844787	1	1	Trigger Pin	
13	867939	1		Throttle Link Pin	
14	201905	1		Trigger Assembly	
15	869350	1		Throttle Valve	
16	202951	1	3	Throttle Valve Spring	
17	412775	1	3	Inlet Screen	
18	847411	1	3	O-Ring (11/16" x 13/16")	
19	867929	1	1	Inlet Bushing	
20	932224	1	3	Filter	
21	833303	1	3	Muffler Screen	
22	847033	1	1	Retaining Ring	

(#) Quantity

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

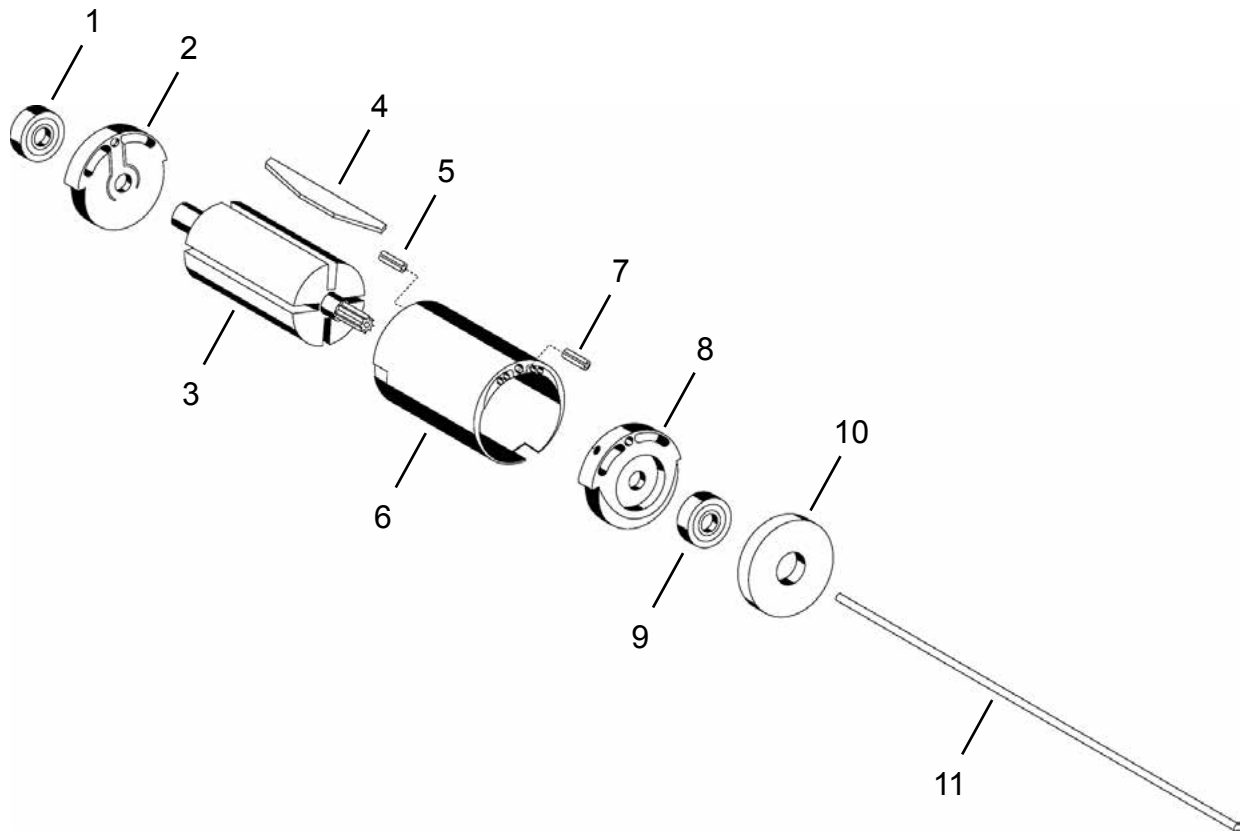
Table "G"

Ref.	Description	#	88RSAPT	#	88RSATP
--	Handle Assemblby	1	201189	1	201458
4	Shut Off Valve Spring	1	867887	1	869682

Cleco®
Motor Assembly - Inline Models

“H”

Models
88SA series
88RSA series
88RSAL series
88TRSAL series



Motor Assembly - Inline Models

Illustration "H": Inline Motor Assembly

Ref	Number	#	X	EN	
				Description	
1	847609	1	2	Ball Bearing	
2	Table "H1"	1		Rear Bearing Plate	
3	Table "H2"	1		Rotor	
4	863738	4	12	Rotor Blade	
5	Table "H1"	1	2	Rear Cylinder Pin	
6	Table "H1"	1		Cylinder	
7	844234	1	2	Front Cylinder Pin	
8	Table "H2"	1		Front Bearing Plate	
9	Table "H2"	1	2	Ball Bearing	
10	Table "H2"	1		Spacer	
11	202768PT	1	1	Trip Rod	

(#) Quantity

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

Table "H1"

Ref.	Description	#	88SA	#	88RSA 88RSAL	#	88TRSAL
2	Rear Bearing Plate	1	867854	1	867937	1	867937
5	Rear Cylinder Pin	1	833718	1	812167	1	833718
6	Cylinder	1	867853	1	867936	1	867936

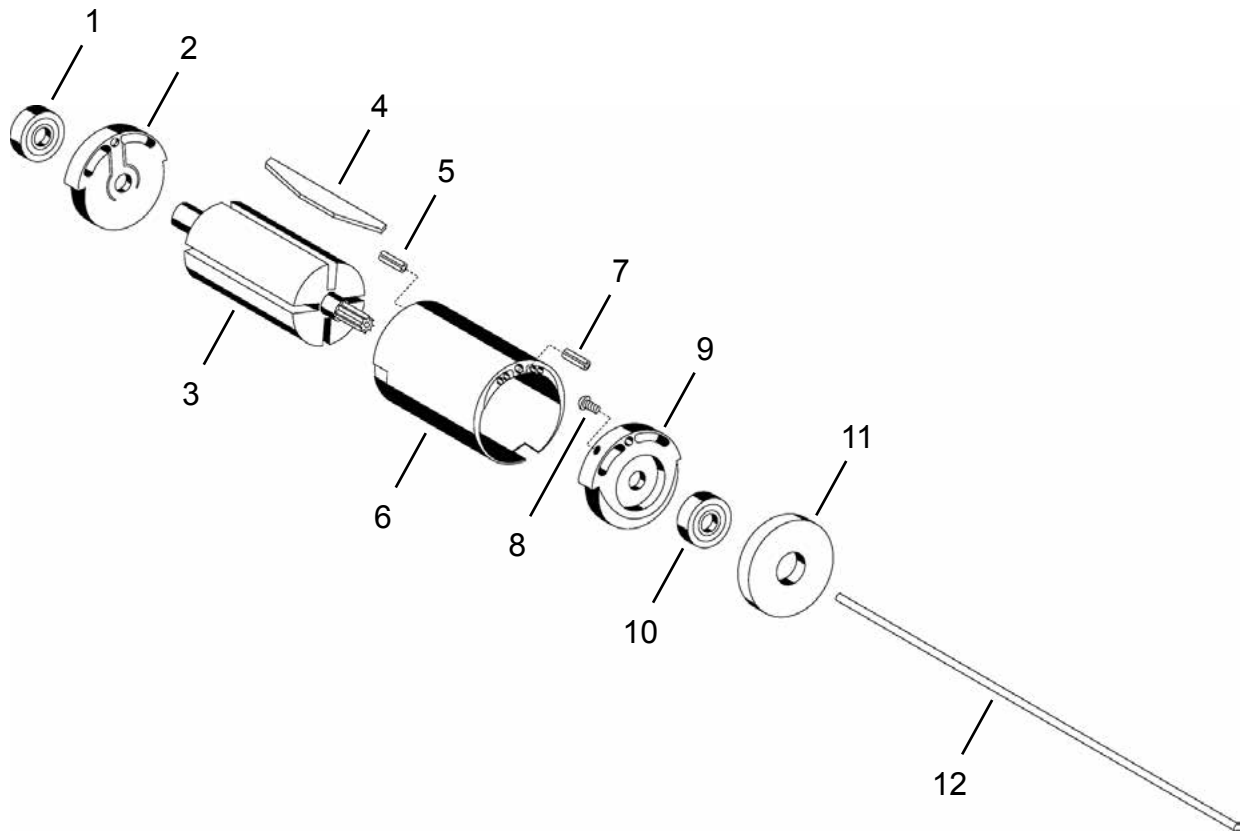
Table "H2"

Ref.	Description	#	Speed Code -7	#	Speed Code -5	#	Speed Code -2
3	Rotor	1	869178	1	867885	1	867885
8	Front Bearing Plate	1	869179	1	867855	1	867855
9	Ball Bearing	1	847095	1	847609	1	847609
10	Spacer	1	869180	1	867873	1	867873

Cleco®
Motor Assembly - Pistol Grip Models

“1”

Models
88SAPT series
88RSAP series
88RSAPT series
88RSATP series



Motor Assembly - Pistol Grip Models

Illustration "I": Pistol Grip Motor Assembly

Ref	Number	#	X	EN	
				Description	
1	847609	1	2	Ball Bearing	
2	Table "I1"	1		Rear Bearing Plate	
3	Table "I2"	1		Rotor	
4	863738	4	12	Rotor Blade	
5	Table "I1"	1	2	Rear Cylinder Pin	
6	Table "I1"	1		Cylinder	
7	844234	1	2	Front Cylinder Pin	
8	847603	1	1	Alignment Pin	
9	Table "I2"	1		Front Bearing Plate	
10	Table "I2"	1	2	Ball Bearing	
11	Table "I2"	1		Spacer	
12	202765PT	1	1	Trip Rod	

(#) Quantity

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

Table "I1"

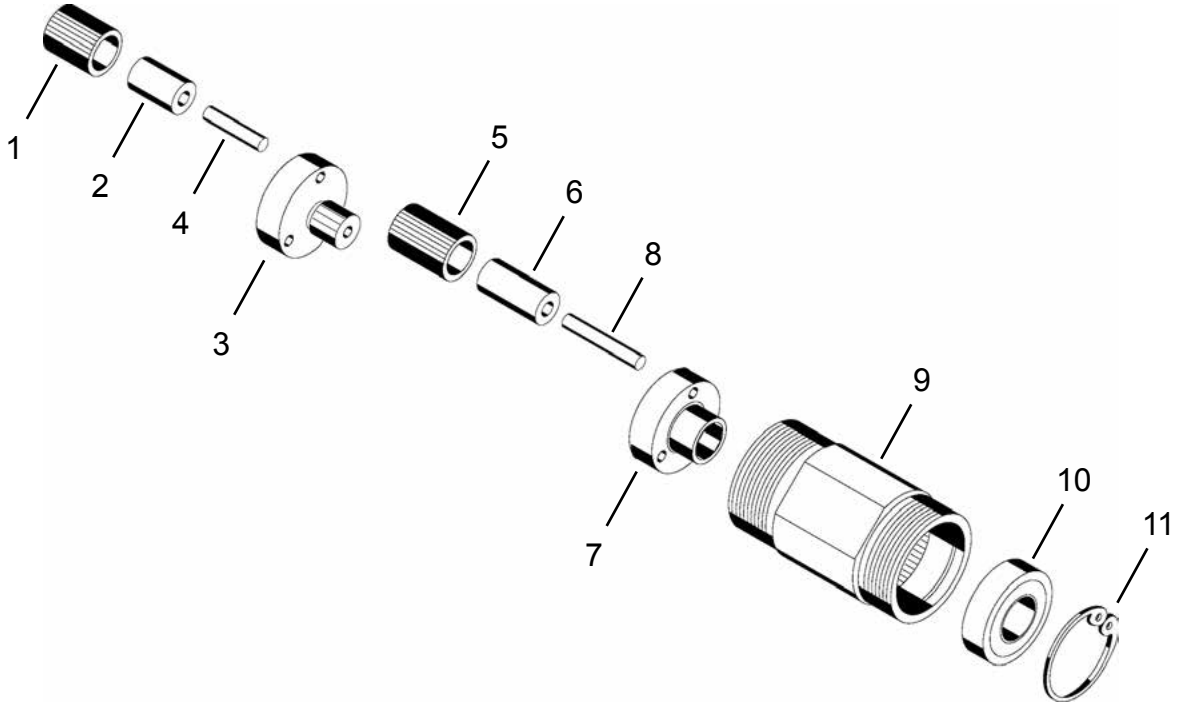
Ref.	Description	#	88SAPT	#	88RSAP	#	88RSAPT	#	88RSATP
2	Rear Bearing Plate	1	867854	1	867937	1	867937	1	867937
5	Rear Cylinder Pin	1	833718	1	844234	1	844234	1	844234
6	Cylinder	1	867853	1	867936	1	867936	1	867936

Table "I2"

Ref.	Description	#	Speed Code -7	#	Speed Code -5	#	Speed Code -2
3	Rotor	1	869178	1	867885	1	867885
9	Front Bearing Plate	1	869179	1	867935	1	867935
10	Ball Bearing	1	847095	1	847609	1	847609
11	Spacer	1	869180	1	867873	1	867873

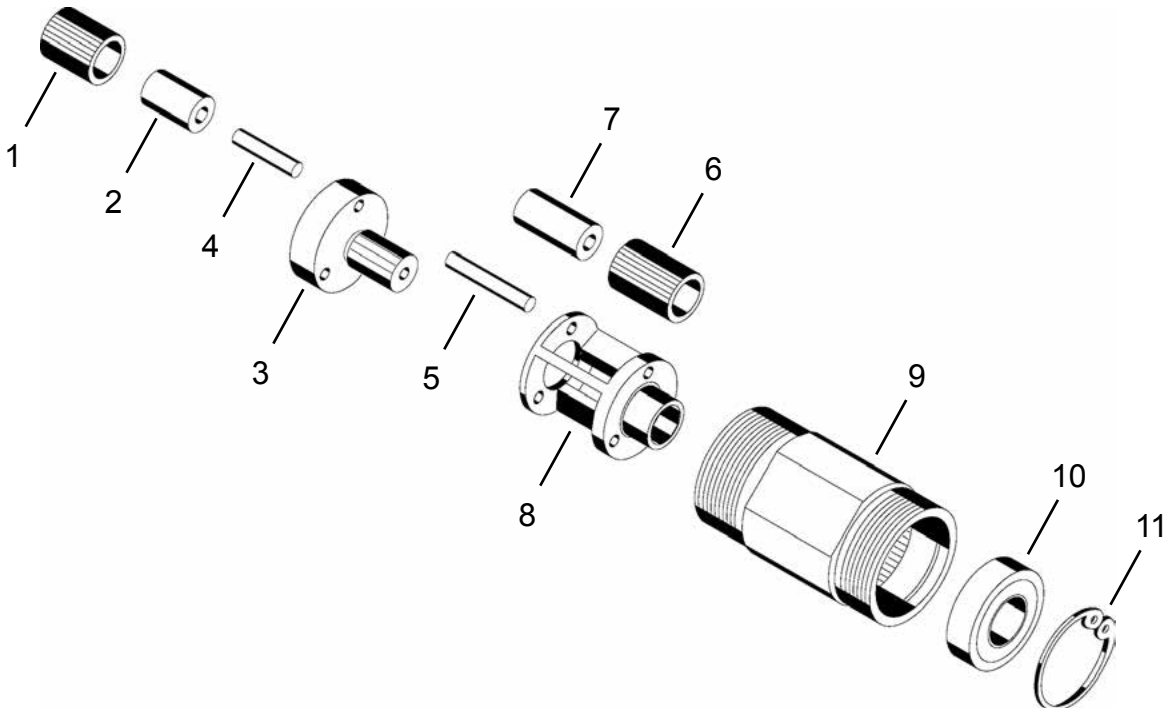
“J”

861719 Gearing Assembly: Code -7



“K”

201325PT Gearing Assembly: Code -5



Gearing Assemblies - Speed Codes -7, -5

Illustration "J": 861719 Gearing Assembly

Ref	Number	#	X	EN
				Description
--	861719	1		Gearing Assembly (speed code -7)
1	869258	3	6	Planetary Gear (17T) (includes Ref. 2)
2	867921	3	6	Planetary Gear Bearing
3	869259	1		Planetary Gear Carrier (includes Ref. 4)
4	867922	3		Planetary Gear Pin
5	867904	3	6	Planetary Gear (15T) (includes Ref. 6)
6	203062PT	3	6	Planetary Gear Bushing
7	867906	1		Planetary Gear Carrier (includes Ref. 8)
8	823128	3		Planetary Gear Pin
9	867907	1		Gear Case
10	847147	1	2	Ball Bearing
11	844364	1		Retaining Ring

(#) Quantity

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

(T) Teeth

Illustration "K": 201325PT Gearing Assembly

Ref	Number	#	X	EN
				Description
--	201325PT	1		Gearing Assembly (speed code -5)
1	869254	3	6	Planetary Gear (19T) (includes Ref. 2)
2	867921	3	6	Planetary Gear Bearing
3	869256	1		Planetary Gear Carrier (includes Ref. 4)
4	867922	3		Planetary Gear Pin
5	832125PT	3	6	Planetary Gear Pin
6	203143PT	3	6	Planetary Gear (15T) (includes Ref. 7)
7	203062PT	3	6	Planetary Gear Bushing
8	203144	1		Planetary Gear Cage
9	867907	1		Gear Case
10	847147	1	2	Ball Bearing
11	844364	1		Retaining Ring

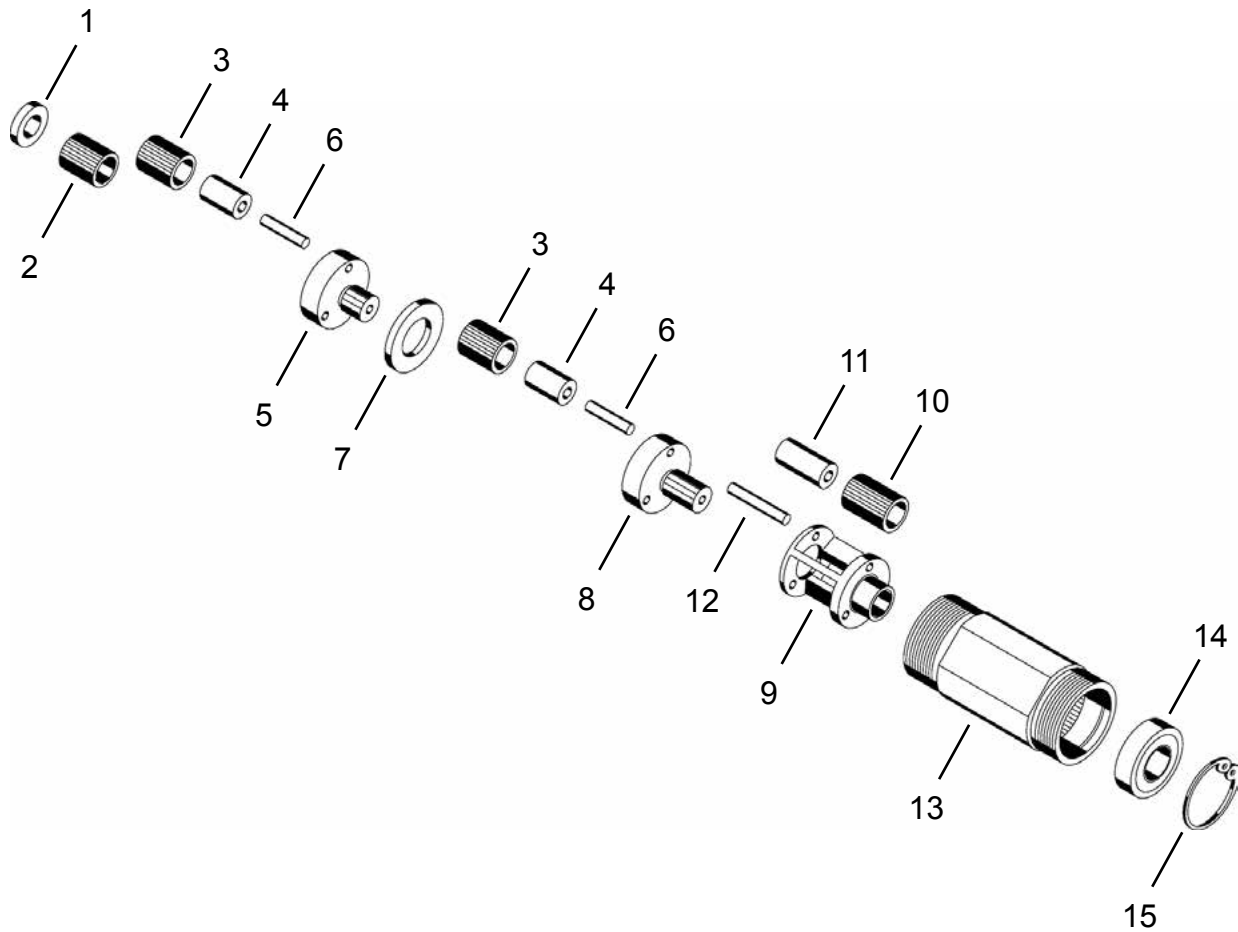
(#) Quantity

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

(T) Teeth

“L”

201393 Gearing Assembly: Code -2



Gearing Assembly - Speed Code -2

Illustration "L": 201393 Gearing Assembly

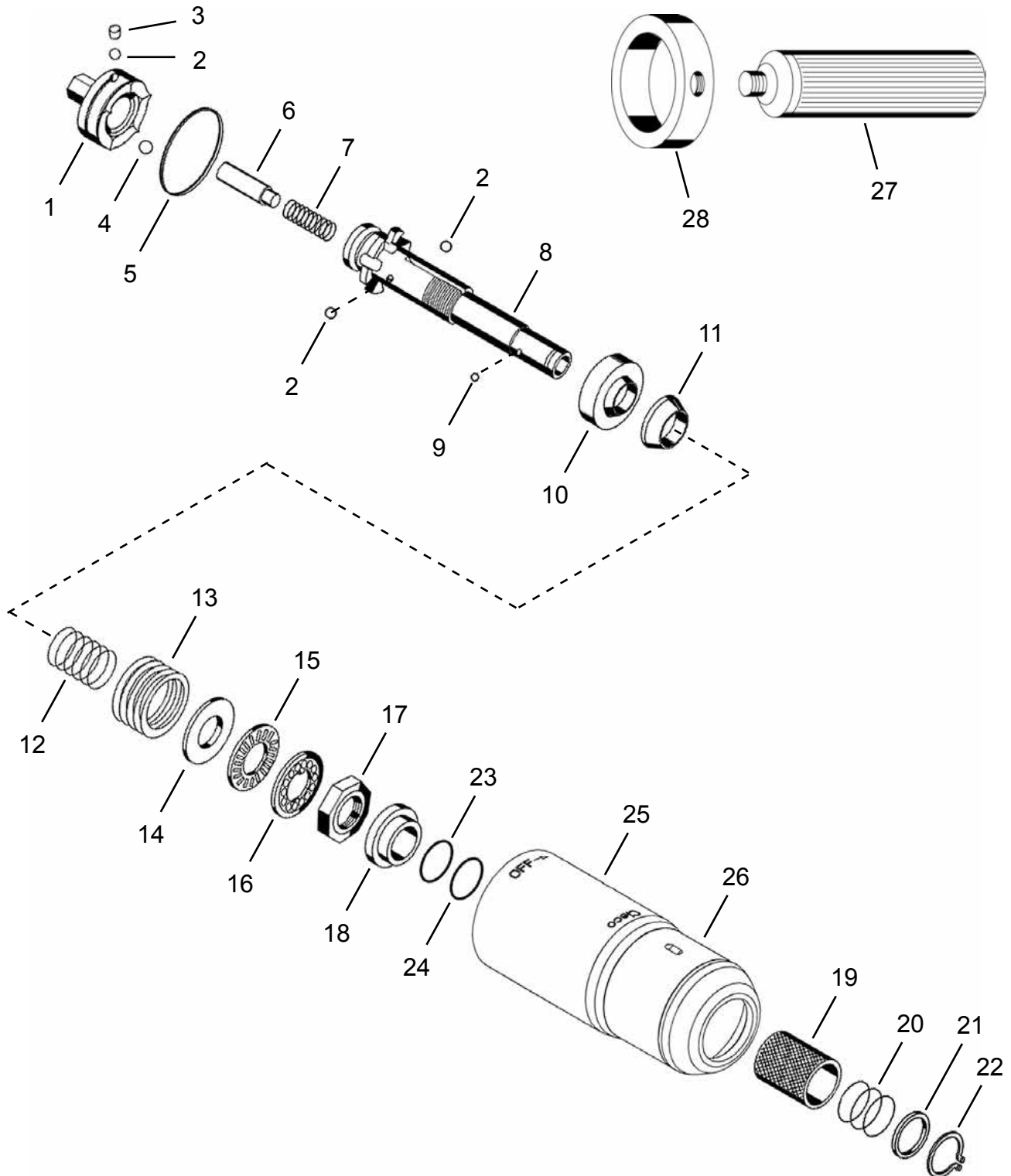
Ref	Number	#	X	EN
				Description
--	201393	1		Gearing Assembly (speed code -2)
1	869584	1		Pinion Spacer
2	867902	1	2	Pinion Gear (15T)
3	867903	6	12	Planetary Gear (15T) (includes 3 Ref. 4)
4	867925	6	12	Planetary Gear Bushing
5	867905	1		Planetary Gear Carrier (includes 3 Ref. 6)
6	884125	6	12	Planetary Gear Pin
7	865576	1		Thrust Race
8	202261	1		Planetary Gear Carrier (includes 3 Ref. 6)
9	203144	1		Planetary Gear Cage
10	203143PT	3	6	Planetary Gear (15T) (includes Ref. 11)
11	203062PT	3	6	Planetary Gear Bushing
12	832125PT	3	6	Planetary Gear Pin
13	202263	1		Gear Case
14	847147	1	2	Ball Bearing
15	844364	1		Retaining Ring

(#) Quantity

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

(T) Teeth

“M” 201384PT Clecomatic Clutch - Quick Change Chuck (Q models)



Cleco®
Clecomatic Clutch - Quick Change

823018EN
03/29/2016

Illustration "M": 201384PT Quick Change Chuck Clutch Assembly

Ref	Number	#	X	EN
				Description
--	201384PT	1		Clutch Assembly (includes Ref. 1-22)
1	203270PT	1		Clutch Cam
2	842161	15	45	Steel Ball (3/16")
3	202748PT	1	1	Ball Plug
4	844077	5	15	Steel Ball (5/16")
5	202749PT	1	1	Retainer Ring
6	202745PT	1		Trip Plunger
7	202746PT	1	3	Reset Spring
8	202744PT	1		Clutch Spindle (Quick Change)
9	844265	1	3	Steel Ball (1/8")
10	203272PT	1		Ball Retainer
11	203271PT	1		Release Sleeve
12	202752PT	1	3	Release Spring
13	Table "M"	1	1	Torque Spring (Standard: Yellow)
14	202753PT	1		Thrust Race
15	847596	1	2	Thrust Bearing
16	202754PT	1		Adjustment Plate
17	202755PT	1		Adjustment Nut
18	202756PT	1		Spindle Bushing
19	202833PT	1		Release Collar
20	202842PT	1	3	Release Collar Spring
21	864249	1	1	Release Collar Washer
22	833688	1	1	Retaining Ring
23	844315	1	3	O-Ring (3/4" x 1") (88RSATP models only)
24	863009	1	3	O-Ring (3/4" x 7/8") (88RSATP models only)
25	207241	1		Clutch Housing (includes Ref. 26)
26	204867	1		Adjustment Cover
--	861006PT	1		Support Handle Assembly (includes Ref. 27-28)
27	881393	1		Support Handle
28	869304	1		Support Handle Ring

(#) Quantity

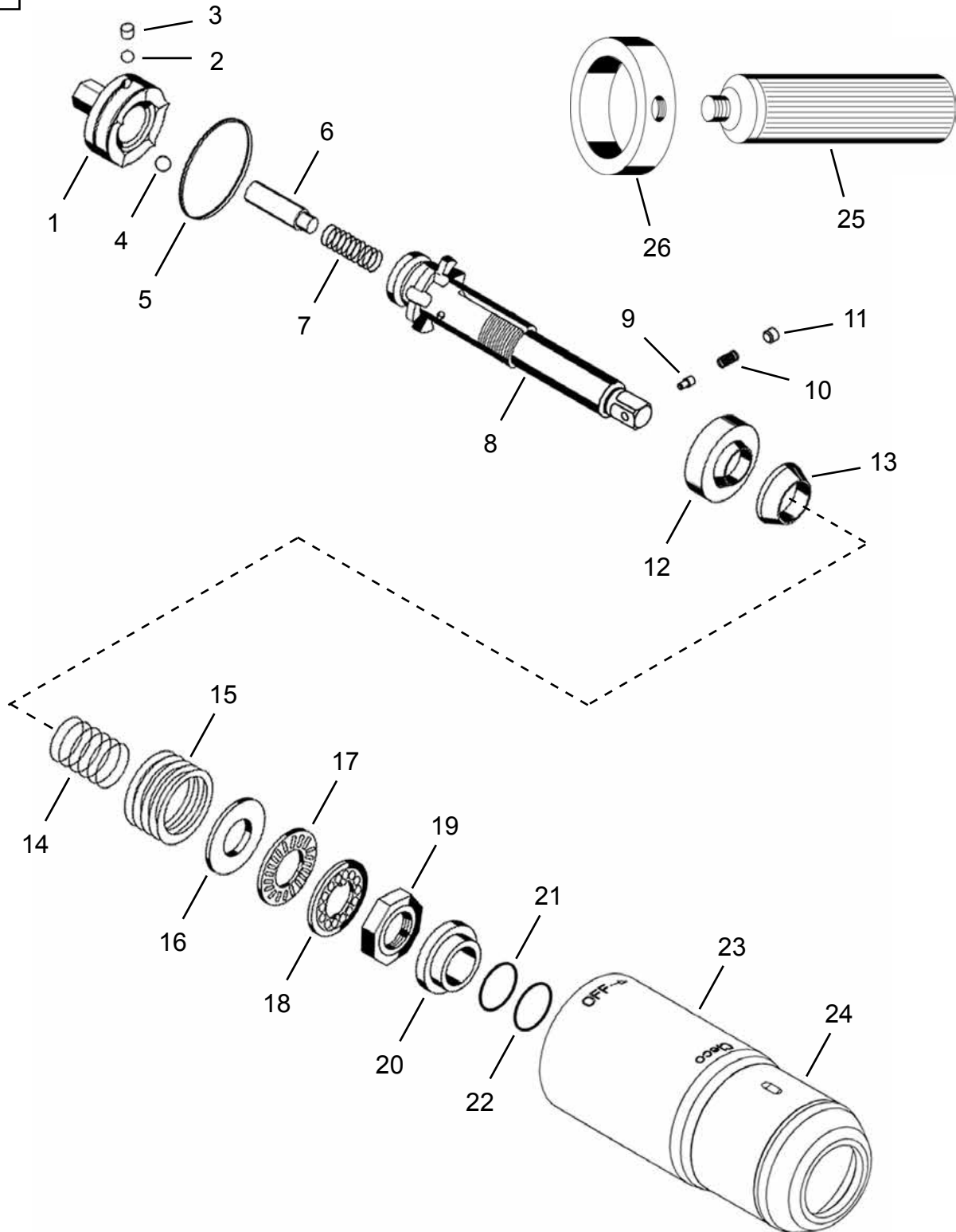
(X) Recommended Spare Parts (quantity shown based on 1-5 tools in operation)

Table "M"

Part Number	Torque Spring		Color
	Torque Range		
	in. lbs.	Nm	
202822	15-55	2-6	Green
869306	35-160	4-18	Yellow *
869305	60-180	7-20	Red

* Standard Torque Spring

“N” 201386 Clecomatic Clutch - 3/8” Square Drive (-3 models)



Cleco®
Clecomatic Clutch - Square Drive

823018EN
03/29/2016

Illustration "N": 201386 Square Drive Clutch Assembly

Ref	Number	#	X	EN
				Description
--	201386	1		Clutch Assembly (includes Ref. 1-20)
1	203270PT	1		Clutch Cam
2	842161	15	45	Steel Ball (3/16")
3	202748PT	1	1	Ball Plug
4	844077	5	15	Steel Ball (5/16")
5	202749PT	1	1	Retainer Ring
6	202745PT	1		Trip Plunger
7	202746PT	1	3	Reset Spring
8	202789	1		Clutch Spindle (3/8" Square Drive) (includes Ref. 9-11)
9	844013	1	3	Spring Retainer
10	844014	1	3	Spring
11	844016	1	3	Socket Lock Pin
12	203272PT	1		Ball Retainer
13	203271PT	1		Release Sleeve
14	202752PT	1	3	Release Spring
15	Table "N"	1	1	Torque Spring (Standard: Yellow)
16	202753PT	1		Thrust Race
17	847596	1	2	Thrust Bearing
18	202754PT	1		Adjustment Plate
19	202755PT	1		Adjustment Nut
20	202756PT	1		Spindle Bushing
21	844315	1	3	O-Ring (3/4" x 1") (88RSATP models only)
22	863009	1	3	O-Ring (3/4" x 7/8") (88RSATP models only)
23	207241	1		Clutch Housing (includes Ref. 24)
24	204867	1		Adjustment Cover
--	861006PT	1		Support Handle Assembly (includes Ref. 25-26)
25	881393	1		Support Handle
26	869304	1		Support Handle Ring

(#) Quantity

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

Table "N"

Part Number	Torque Spring		Color
	Torque Range		
	in. lbs.	Nm	
202822	15-55	2-6	Green
869306	35-160	4-18	Yellow *
869305	60-180	7-20	Red

* Standard Torque Spring

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