

Parts Manual
PL12EN-18EP
05/02/2012

Cleco®

18EA Series

Electronically Controlled Pistol Grip Nutrunner

OMEGA TECHNOLOGIES



For additional product information visit our website at:
<https://dotcotool.com/product-category/cleco-tools/cleco-corded-electric-nutrunners-cleco-air-tools/cleco-18-series-transducer-control-pistol-corded-electric-nutrunners-cleco-corded-electric-nutrunners-cleco-air-tools/>

Language Version:

This Parts Manual is the ***“Original Instructions”*** intended for all persons who will use or repair these tools.

Product Identification:

Refer to the “Model Nomenclature” page in this document.

Noise and Vibration:

Refer to documents CE-1002DC and CE-1002TD.

General Description:

Brushless DC electric transducer controlled pistol grip portable nutrunners.

Intended Use:

These DC electric tools are intended for tightening of threaded joints or running down fasteners. Use only for their designated purpose. Do not use as a hammer, lever or other improper usage that can cause tool damage and operator injury.

Copyright protection:

Apex Tool Group, LLC 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.

Cleco®
Model Nomenclature

PL12EN-18EP
05/02/2012

“A”

18	E	P	X	XX	XX	X
----	---	---	---	----	----	---

Tool Series

18

Motor Style

E = Brushless Electric Motor

Tool Type

P = Pistol Grip

Feature

- = Matrix Tool Connector (Standard)

E = Air LB Connector

Maximum Torque Nm (rounded to nearest Nm)

06 = 6 Nm (Q, D2)

12 = 12 Nm (Q, D3)

17 = 17 Nm (Q, D3)

22 = 22 Nm (D3)

31 = 31 Nm (D3)

Output

D2 = 1/4" Square Drive

D3 = 3/8" Square Drive

Q = 1/4" Hex Slip Chuck

Spindle Type

- = Pin Retainer (Standard)

B = Ball Retainer

“B”

Complete Tool Order Number	Output Description
18EP(E)06D2(B)	1/4" Square Drive
18EP(E)06Q	1/4" Hex Slip Chuck
18EP(E)12D3(B)	3/8" Square Drive
18EP(E)12Q	1/4" Hex Slip Chuck
18EP(E)17D3(B)	3/8" Square Drive
18EP(E)17Q	1/4" Hex Slip Chuck
18EP(E)22D3(B)	3/8" Square Drive
18EP(E)31D3(B)	3/8" Square Drive

TME-200 Series
Controller



m-Pro-400 Series
Controller



Tool Cable

Tool In/Out

m-Pro-400GC
Global Controller



Tool Cable

m-Pro-400-IT
Isolation Transformer
(18EP Models)



Tool Cable

18EPE Models



TME and m-Pro-400 Series Controllers

18EP	18EPE	EN Description
115 VAC	Standard	TMEI-114-15-U
115 VAC	DeviceNet	TMEI-114-15-U-ED
115 VAC	ProfiBus	TMEI-114-15-U-EP
TME-200	m-Pro-400	Controller
PL12()-1300	*	Programming Notes
575708	*	Battery
541683-01	*	Power Cord: 115VAC - USA
541683-02	*	Power Cord: 230VAC - USA
541683-03	*	Power Cord: 230VAC - Europe
542779-XXX	301877-XXX	Extension Cable
542780-XXX	961251-XXX	Swivel Cable
542778-XXX	301866-XXX	Tool Cable

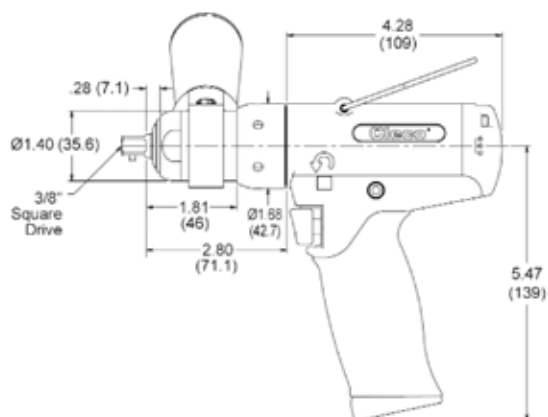
* Note: Contact Apex Tool Group

TME-200 Series Controller

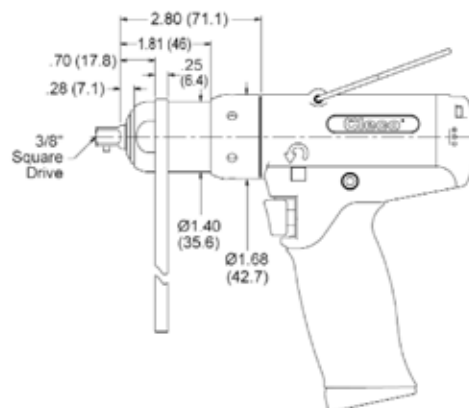
Supply Voltage	EN Order Number
115 VAC	TME-211-15-U
115 VAC	TME-221-15-U
230 VAC	TME-211-30-U
230 VAC	TME-221-30-U

“C”

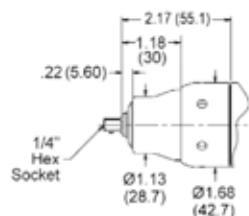
18EP(E)12D3(B)
(Pin Lock Shown)



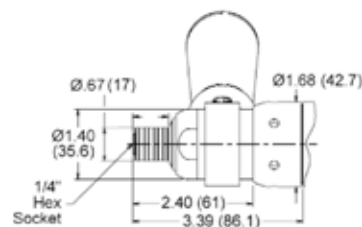
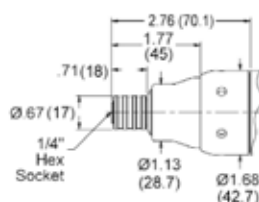
18EP(E)17D3(B)
18EP(E)22D3(B)
18EP(E)31D3(B)
(Pin Lock Shown)



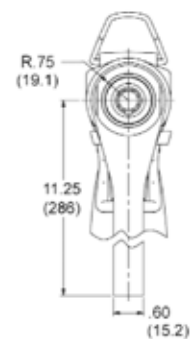
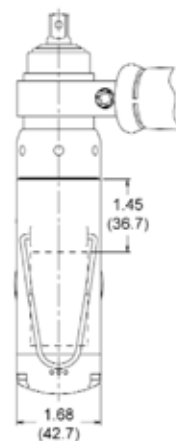
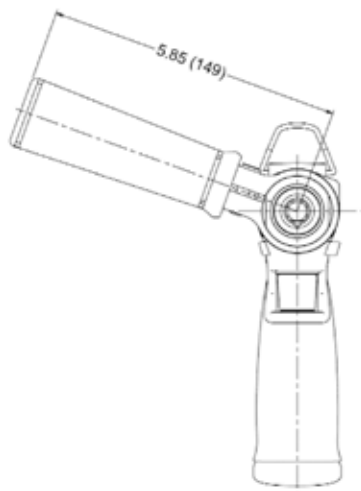
18EP(E)06D2(B)



18EP(E)06Q

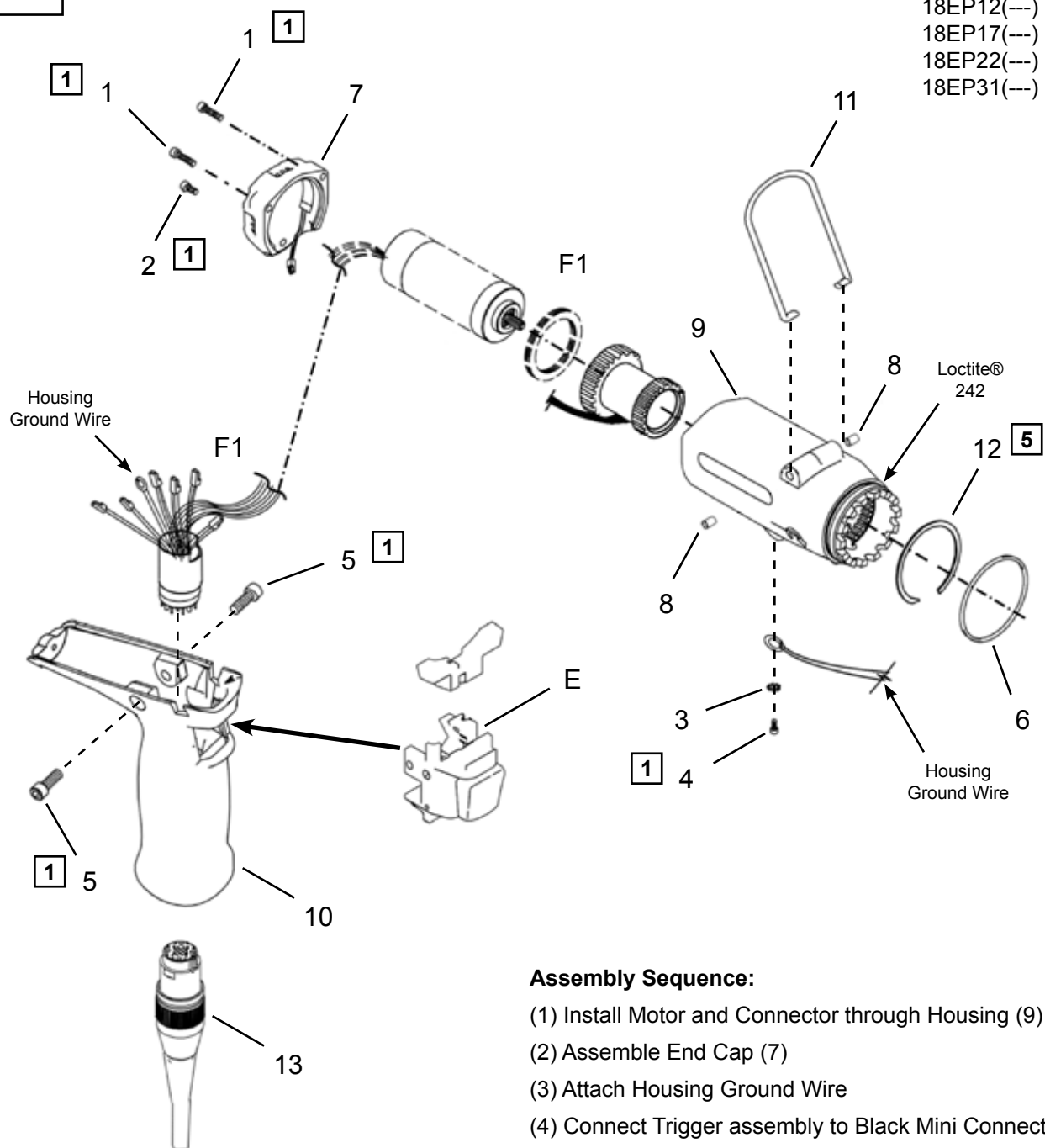


18EP(E)12Q
18EP(E)17Q
18EP(E)22Q



"D1"**Models**

18EP06(---)
 18EP12(---)
 18EP17(---)
 18EP22(---)
 18EP31(---)

**Assembly Sequence:**

- (1) Install Motor and Connector through Housing (9)
- (2) Assemble End Cap (7)
- (3) Attach Housing Ground Wire
- (4) Connect Trigger assembly to Black Mini Connector
- (5) Install Motor Connector into Handle (10)
- (6) Install Trigger assembly into Handle (10)
(See Illustration "E")
- (7) Install Reverse Actuator components into Trigger
(See Illustration "E")

1 **5** See Service Notes

Cleco®
Handle - Matrix Tool Connector

PL12EN-18EP
05/02/2012

Illustration "D1"

Ref	Number	#	X	EN
				Description
1	B121A	2	4	Cap Screw
2	B124R	1	3	Cap Screw
3	W115	1	3	Lock Washer
4	541927	1	3	Screw
5	B122S	2	4	Cap Screw
6	22598	1	3	O-Ring
7	542820	1		Rear Cap
8	931791	2	4	Spring Pin
9	542888	1		Top Handle
10	207337	1		Bottom Handle
11	931962	1	1	Suspension Bail
12	505306	1	1	Retaining Ring
Tool Cable (Optional Length)				
13	542778-1M*	1		1 meter cable
	542778-2M*			2 meter cable
	542778-3M			3 meter cable
	542778-6M			6 meter cable
	542778-8M			8 meter cable
	542778-10M			10 meter cable
	542778-15M			15 meter cable
	542778-50M			50 meter cable
Swivel Cable (Optional Length)				
13	542780-1M*	1		1 meter cable
	542780-2M*			2 meter cable
	542780-3M*			3 meter cable
	542780-6M*			6 meter cable
	542780-8M			8 meter cable
	542780-10M			10 meter cable
	542780-15M			15 meter cable
	542780-50M			50 meter cable
Tool Cable Extension (Optional Length)				
13	542779-3M	1		3 meter cable
	542779-6M			6 meter cable
	542779-8M			8 meter cable
	542779-10m			10 meter cable
	542779-15M			15 meter cable
	542779-50M			50 meter cable

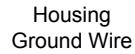
(#) Quantity

(X) Recommended Spare Parts

* Note: Use 542779 Extension Cable

Models

18EPE06(---)
18EPE12(---)
18EPE17(---)
18EPE22(---)
18EPE31(---)



- (1) Install Motor and Connector through Housing (9)
- (2) Assemble End Cap (7)
- (3) Attach Housing Ground Wire
- (4) Connect Trigger assembly to Black Mini Connector
- (5) Install Motor Connector into Handle (10)
- (6) Install Trigger assembly into Handle (10)
(See Illustration "E")
- (7) Install Reverse Actuator components into Trigger
(See Illustration "E")

1 **5** See Service Notes

Cleco®
Handle - Air LB Tool Connector

PL12EN-18EP
05/02/2012

Illustration "D2"

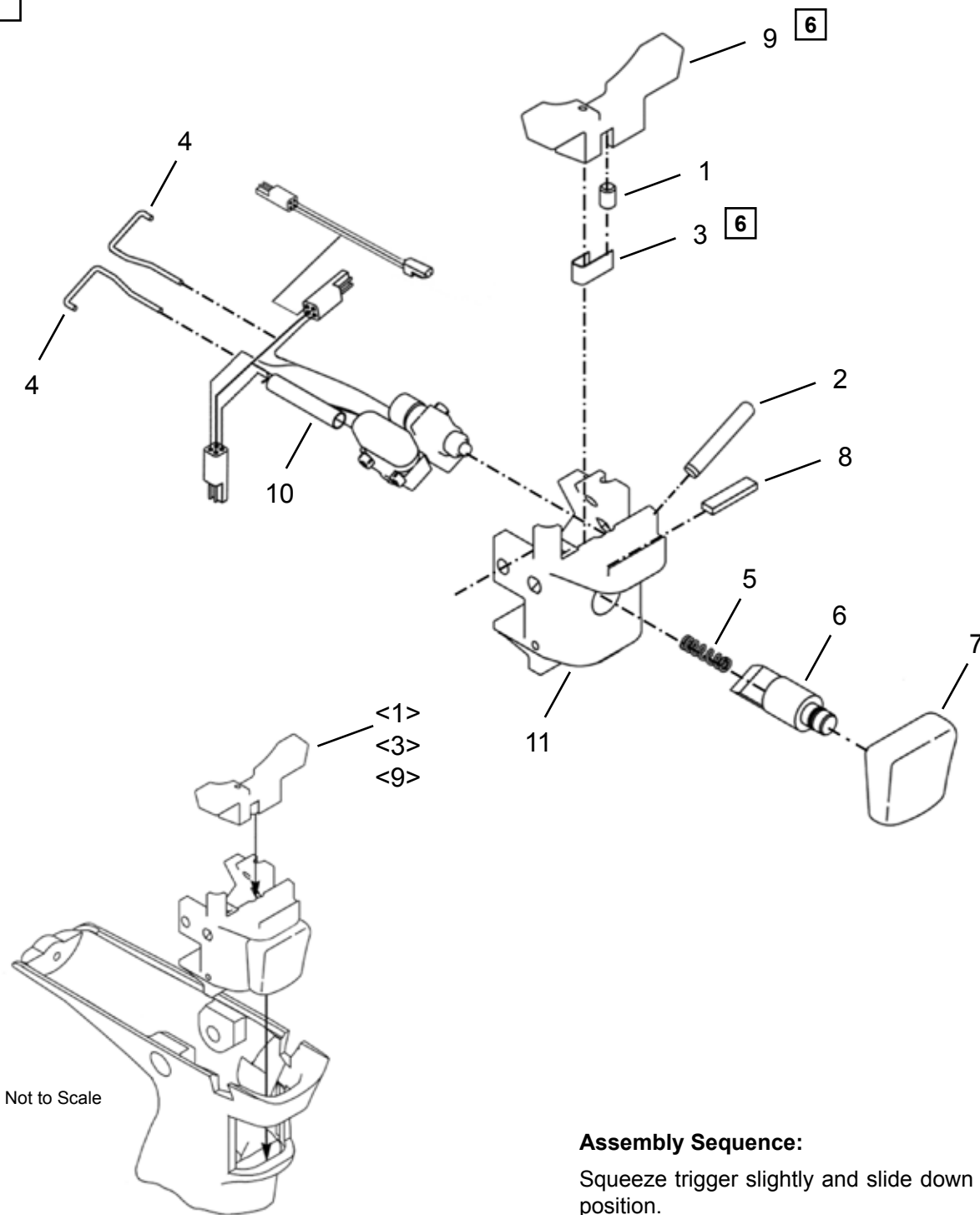
Ref	Number	#	X	EN
				Description
1	B121A	2	4	Cap Screw
2	B124R	1	3	Cap Screw
3	W115	1	3	Lock Washer
4	541927	1	3	Screw
5	B122S	2	4	Cap Screw
6	22598	1	3	O-Ring
7	542820	1		Rear Cap
8	931791	2	4	Spring Pin
9	542888	1		Top Handle
10	207337E	1		Bottom Handle
11	931962	1	1	Suspension Bail
12	505306	1	1	Retaining Ring
Tool Cable (Optional Length)				
13	301866-2M	1		2 meter cable
	301866-3M			3 meter cable
	301866-4M			4 meter cable
	301866-6M			6 meter cable
	301866-8M			8 meter cable
	301866-10M			10 meter cable
	301866-15M			15 meter cable
Swivel Cable (Optional Length)				
13	961251-020	1		2 meter cable
	961251-040			4 meter cable
	961251-080			8 meter cable
	961251-150			15 meter cable
	961252-020			2 meter cable
	961252-040			4 meter cable
	961252-080			8 meter cable
	961252-150			15 meter cable
Tool Cable Extension (Optional Length)				
13	96430-005	1		5 meter cable
	96430-008			8 meter cable
	96430-010			10 meter cable
	96430-020			20 meter cable
	96430-030			30 meter cable
	96430-040			40 meter cable
	96430-050			50 meter cable

(#) Quantity

(X) Recommended Spare Parts

Cleco® Trigger Assembly

"E"



Assembly Sequence:

Squeeze trigger slightly and slide down into position.

Install the reverse actuator and components (1, 3, 9) into the trigger.

6 See Service Notes

Cleco®
Trigger Assembly

PL12EN-18EP
05/02/2012

Illustration "E"

Ref	Number	#	X	EN
				Description
1	1007441	1	3	Detent Pin
2	843280	1	2	Pin
3	207541PT	1		Spring
4	935077	2	3	Spring Clip
5	913365	1	3	Switch Spring
6	207315	1		Trigger Shaft
7	1110038	1		Trigger
8	542088	1	3	Foam Pad
9	207314	1		Reverse Actuator
10	301729	1	2	Start/Reverse Switch
11	207313	1		Switch Housing

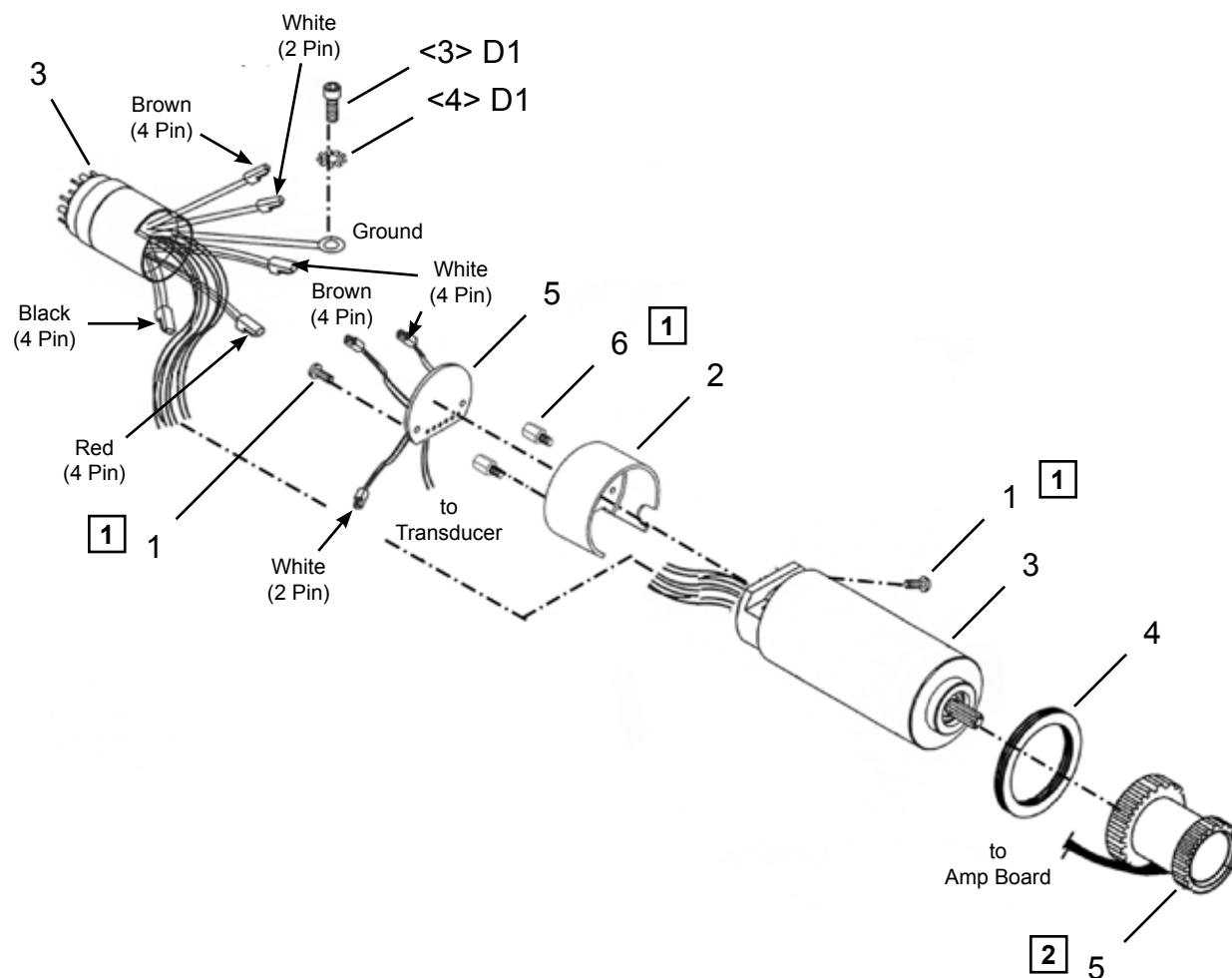
(#) Quantity

(X) Recommended Spare Parts

"F1"

Models

18EP06(---)
18EP12(---)
18EP17(---)
18EP22(---)
18EP31(---)



1 **2** See Service Notes

Cleco®
Motor - Matrix Tool Connector

PL12EN-18EP
05/02/2012

Illustration "F1"

Ref	Number	#	X	EN
				Description
1	17-111	3	6	Pan Head Screw - #4-40 x .19
2	542588	1		Motor Spacer
3	301760	1		Motor Assembly
4	542098	1	2	Wave Washer
5	Table "F1"	1		Transducer Assembly
6	542244	2	2	Stand Off - 5/16"

(#) Quantity

(X) Recommended Spare Parts

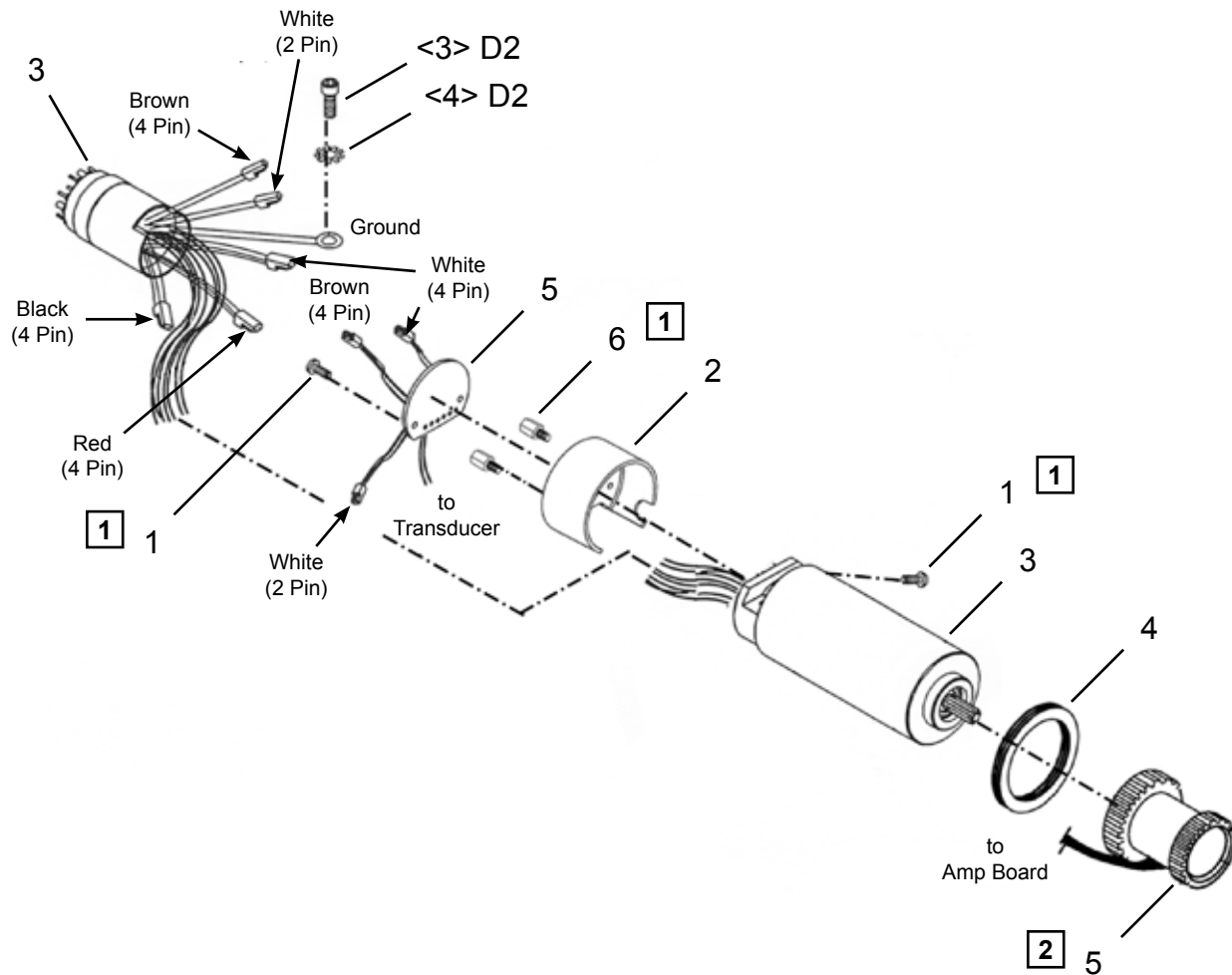
Table "F1"

Ref.	Description	#	18EP06	#	18EP12	#	18EP17	#	18EP22 18EP31
5	Transducer (unprogrammed)	1	542846-6	1	542846-12	1	542846-17	1	542846-31
	Transducer (programmed)	1	542846-6P	1	542846-12P	1	542846-17P	1	542846-31P
	Transducer Capacity		6 Nm		12 Nm		17 Nm		31 Nm

"F2"

Models

18EPE06(---)
18EPE12(---)
18EPE17(---)
18EPE22(---)
18EPE31(---)



1 2 See Service Notes

Cleco®
Motor - Air LB Tool Connector

PL12EN-18EP
05/02/2012

Illustration "F2"

Ref	Number	#	X	EN
				Description
1	17-111	3	6	Pan Head Screw - #4-40 x .19
2	542588	1		Motor Spacer
3	301760E	1		Motor Assembly
4	542098	1	2	Wave Washer
5	Table "F2"	1		Transducer Assembly
6	542244	2	2	Stand Off - 5/16"

(#) Quantity

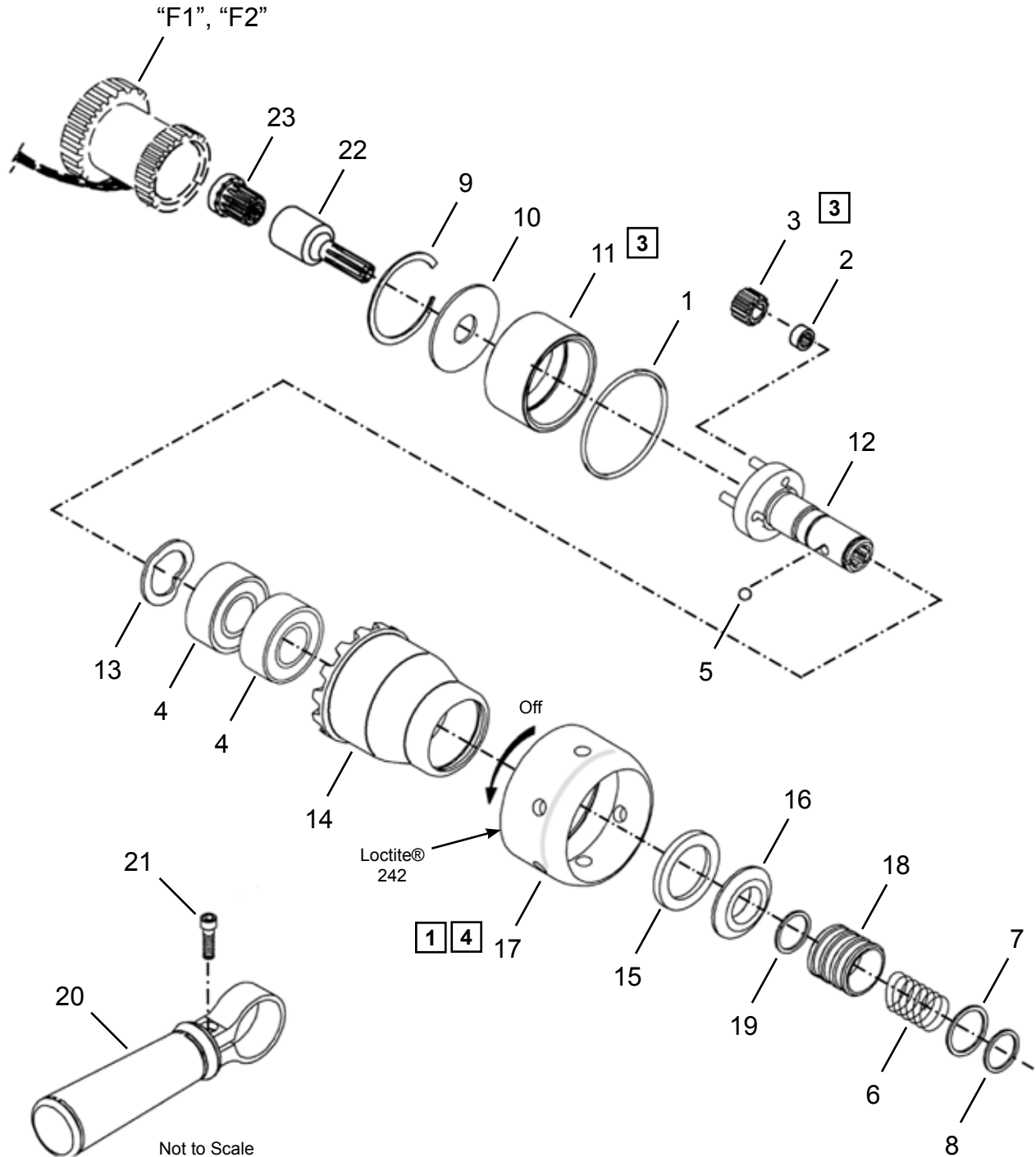
(X) Recommended Spare Parts

Table "F2"

Ref.	Description	#	18EPE06	#	18EPE12	#	18EPE17	#	18EPE22 18EPE31
7	Transducer (unprogrammed)	1	542846-6	1	542846-12	1	542846-17	1	542846-31
	Transducer (programmed)	1	542846-6P	1	542846-12P	1	542846-17P	1	542846-31P
	Transducer Capacity		6 Nm		12 Nm		17 Nm		31 Nm

"G"

Model
18EP(E)06Q



1 **3** **4** See Service Notes

Cleco®
Single Stage Gearing

PL12EN-18EP
05/02/2012

Illustration "G"

Ref	Number	#	X	EN
				Description
1	1011732	1	3	O-Ring
2	541487	3	6	Needle Bearing
3	541893	3	6	Planet Gear (21T)
4	542089	2	4	Ball Bearing
5	844265	1	3	Steel Ball (1/8")
6	540842	1	3	Spring
7	540800	1	3	Washer
8	503009	1	3	Retaining Ring
9	800116	1	3	Retaining Ring
10	541887	1		Washer
11	542090	1		Ring Gear (52T)
12	542092	1		Output Spindle
13	1019356	1	2	Wave Washer
14	542091	1		Gear Case
15	542076	1	2	Retaining Ring
16	541914	1	2	Spindle Washer
17	541904	1		Front Nut
18	536592	1		Sleeve
19	800135	1	3	Retaining Ring
20	542220	1		Dead Handle
21	541802	1		Screw
22	541898	1	2	Extension Pinion
23	541044	1	2	Pinion Adapter

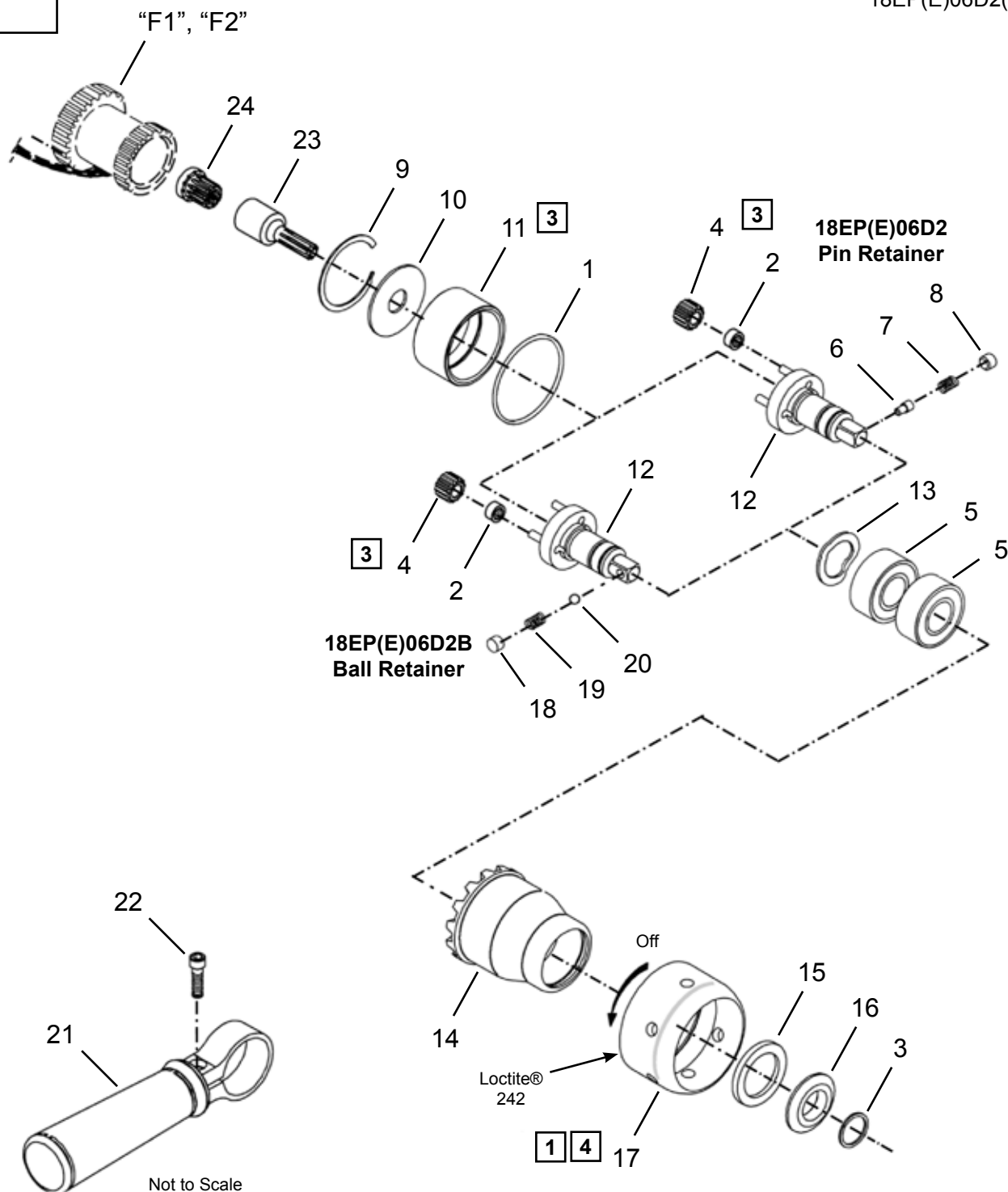
(#) Quantity

(X) Recommended Spare Parts

(T) Teeth

Model
18EP(E)06D2(B)

"H"



1 3 4 See Service Notes

Cleco®
Single Stage Gearing

PL12EN-18EP
05/02/2012

Illustration "H"

Ref	Number	#	X	EN
				Description
1	1011732	1	3	O-Ring
2	541487	3	6	Needle Bearing
3	800216	1	3	Retaining Ring
4	541893	3	6	Planet Gear (21T)
5	542089	2	4	Ball Bearing
6	23569	1	3	Button
7	27722	1	3	Spring
8	26989	1	3	Plug
9	800116	1	3	Retaining Ring
10	541887	1		Washer
11	542090	1		Ring Gear (52T)
12	Table "H"	1		Output Spindle
13	1019356	1	2	Wave Washer
14	542091	1		Gear Case
15	542076	1	2	Retaining Ring
16	541919	1	2	Spindle Washer
17	541904	1		Front Nut
18	LB-252	1	3	Bushing
19	WS-252	1	3	Spring
20	94010006	1	3	Ball
21	542220	1		Dead Handle
22	541802	1		Screw
23	541898	1	2	Extension Pinion
24	541044	1	2	Pinion Adapter

(#) Quantity

(X) Recommended Spare Parts

(T) Teeth

Table "H"

Ref.	Description	#	18EP(E)06D2	#	18EP(E)06D2B
12	Output Spindle	1	542093	1	543423

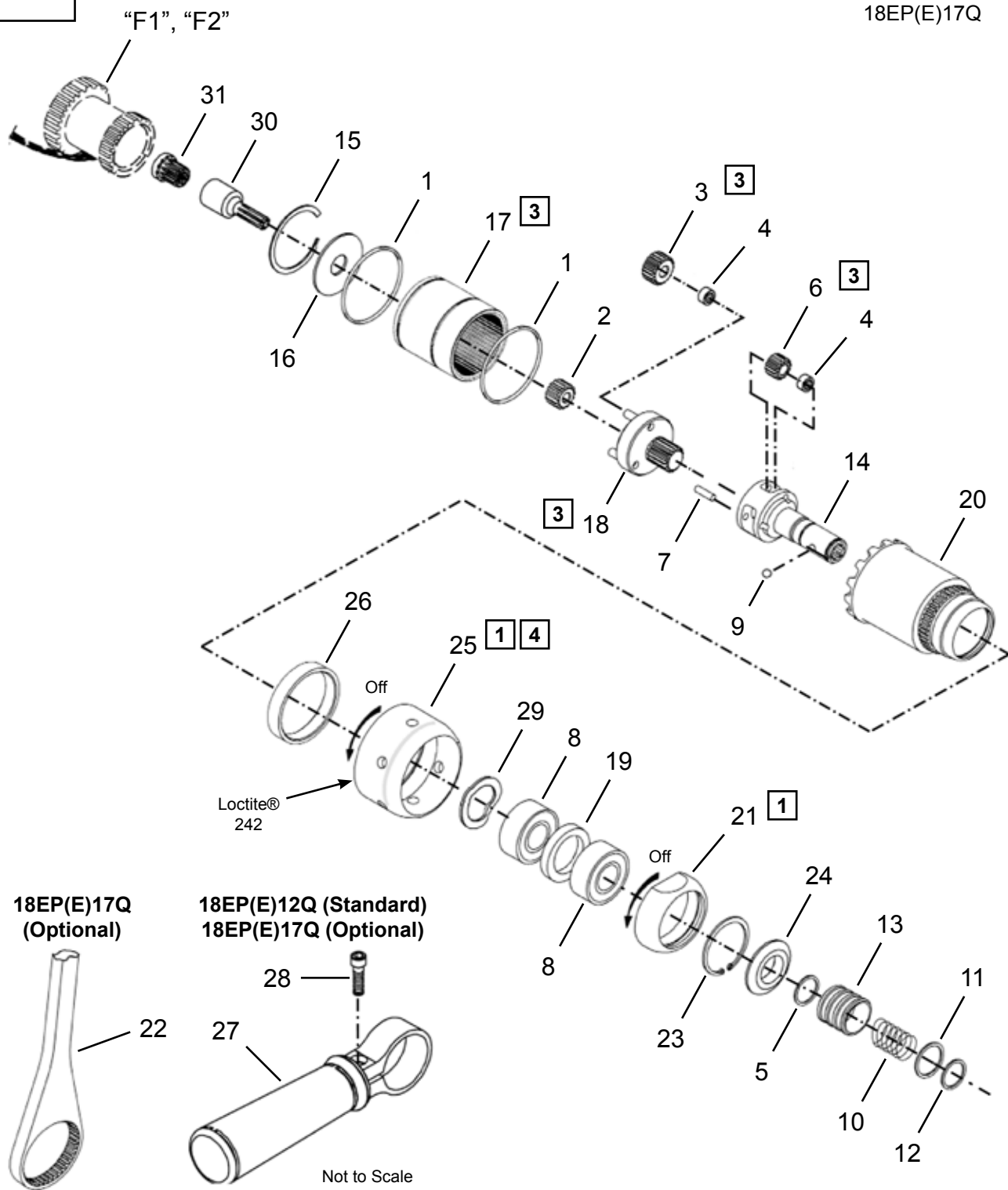
Cleco®
Double Stage Gearing

"1"

Models

18EP(E)12Q

18EP(E)17Q



1 3 4 See Service Notes

Cleco®
Double Stage Gearing

PL12EN-18EP
05/02/2012

Illustration "I"

Ref	Number	#	X	EN
				Description
1	542724	2	6	O-Ring
2	541899	1	3	Slip On Gear
3	541894	3	6	Planet Gear (17T)
4	541487	6	12	Needle Bearing
5	800135	1	3	Retaining Ring
6	Table "I"	3	6	Planet Gear
7	541888	3	6	Planet Pin
8	542089	2	4	Ball Bearing
9	844265	1	3	Steel Ball (1/8")
10	540842	1	3	Spring
11	540800	1	3	Washer
12	503009	1	3	Retaining Ring
13	536592	1		Sleeve
14	Table "I"	1		Output Spindle
15	800116	1	2	Retaining Ring
16	541887	1		Washer
17	542722	1		Ring Gear (52T)
18	Table "I"	1		Idler Plate
19	541775	1		Bearing Spacer
20	542723	1		Gear Case
21	542097	1		Retaining Nut
22	Table "I"	1		Reaction Bar
23	542076	1	2	Retaining Ring
24	541914	1		Spindle Washer
25	541904	1		Front Nut
26	542134	1		Spline Guard
27	Table "I"	1		Dead Handle
28	541802	1		Cap Screw
29	1019356	1	2	Wave Washer
30	541898	1	2	Extension Pinion
31	541044	1	2	Pinion Adapter

(#) Quantity

(X) Recommended Spare Parts

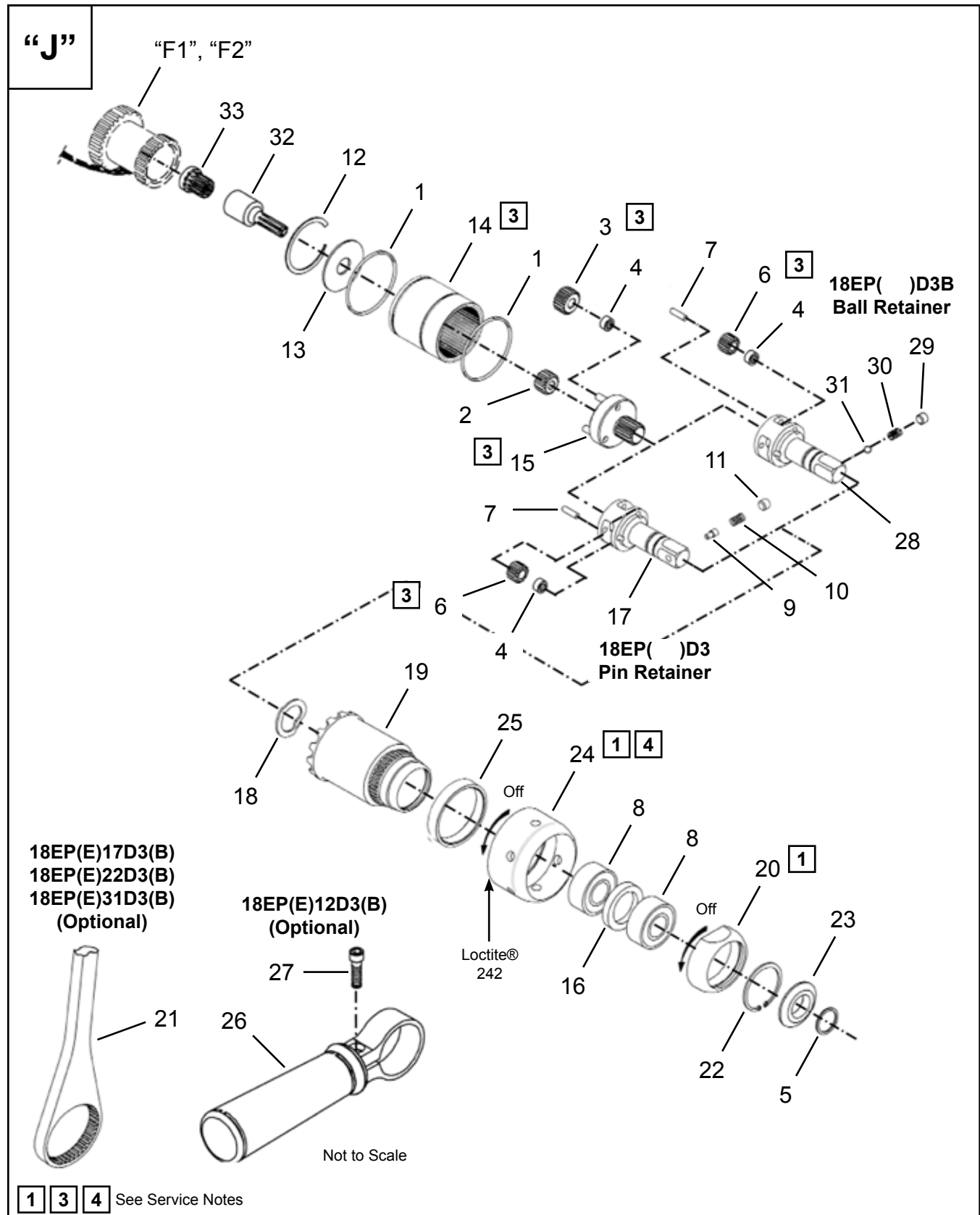
(T) Teeth

Table "I"

Ref.	Description	#	18EP(E)12Q	#	18EP(E)17Q
6	Planet Gear	3	541894 (17T)	3	541897 (20T)
14	Output Spindle	1	541902	1	541926
18	Idler Plate	1	542230	1	542233
22	Reaction Bar		-----	1	542127
27	Dead Handle	1	542220		-----

(T) Teeth

Cleco®
Double Stage Gearing



Cleco®
Double Stage Gearing

PL12EN-18EP
05/02/2012

Illustration "J"

Ref	Number	#	X	EN
				Description
1	542724	2	6	O-Ring
2	Table "J"	1	3	Slip On Gear
3	Table "J"	3	6	Planet Gear
4	541487	6	12	Needle Bearing
5	800216	1	3	Retaining Ring
6	Table "J"	3	6	Planet Gear
7	541888	3	6	Planet Pin
8	542089	2	4	Ball Bearing
9	24499	1	3	Button
10	9D6481	1	3	Spring
11	26989	1	3	Plug
12	800116	1	3	Retaining Ring
13	541887	1		Washer
14	542722	1		Ring Gear (52T)
15	Table "J"	1		Idler Plate
16	541775	1		Bearing Spacer
17	Table "J"	1		Output Spindle (Pin)
18	1019356	1	2	Wave Washer
19	542723	1		Gear Case
20	542097	1		Retaining Nut
21	Table "J"	1		Reaction Bar
22	542076	1	2	Retaining Ring
23	941919	1		Spindle Washer
24	541904	1		Front Nut
25	542134	1		Spline Guard
26	Table "J"	1		Dead Handle
27	541802	1		Cap Screw
28	Table "J"	1		Output Spindle (Ball)
29	LB-370	1	3	Bushing
30	WS-371	1	3	Spring
31	1091PT	1	3	Ball (3/16")
32	541898	1	2	Extension Pinion
33	541044	1	2	Pinion Adapter

(#) Quantity

(X) Recommended Spare Parts

(T) Teeth

Table "J"

Ref.	Description	#	18EP(E)12D3(B)	#	18EP(E)17D3(B)	#	18EP(E)22D3(B)	#	18EP(E)31D3(B)
2	Slip On Gear	1	541899 (17T)	1	541899 (17T)		-----		-----
3	Planet Gear	3	541894 (17T)	3	541894 (17T)	3	541893 (21T)	3	541893 (21T)
6	Planet Gear	3	541894 (17T)	3	541897 (20T)	3	541894 (17T)	3	541897 (20T)
15	Idler Plate	1	542230	1	542233	1	542231	1	542232
17	Output Spindle (Pin)	1	541916	1	541917	1	541916	1	541917
21	Reaction Bar		-----	1	542127	1	542127	1	542127
26	Dead Handle	1	542220		-----		-----		-----
28	Output Spindle (Ball)	1	543424	1	543425	1	543424	1	543425

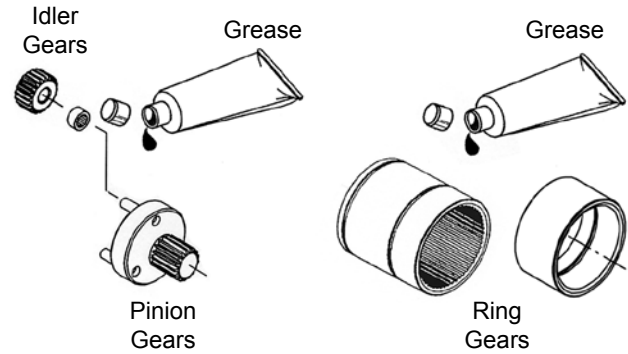
(T) Teeth

1 Tightening Torque

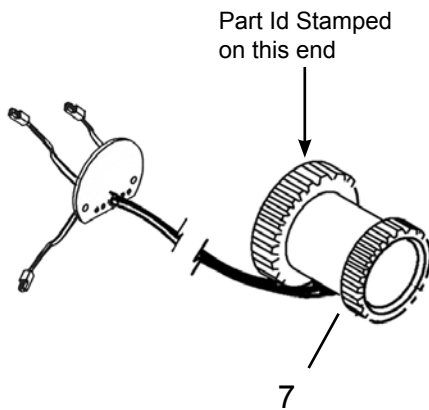
Illustration	Reference	Tightening torque	
		Ft-Lbs (in-lbs)	Nm
D1, D2	1	(10-14)	1.1-1.6
	2	(10-14)	1.1-1.6
	4	(10-14)	1.1-1.6
	5	(50-55)	5.6-6.2
F1, F2	1	(4-6)	0.45-0.68
	6	(4-6)	0.45-0.68
G	17	35-40	47-54
H	17	35-40	47-54
I	21	30-35	41-47
	25	35-40	47-54
J	20	30-35	41-47
	24	35-40	47-54

3 Gear Train Lubrication

541444 - 2 oz. (56 g)
541445 - 1 pound (0.45 kg)

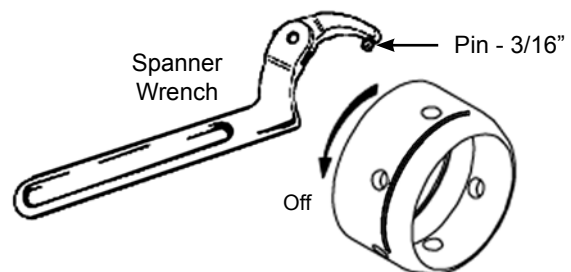


2 Transducer Identification

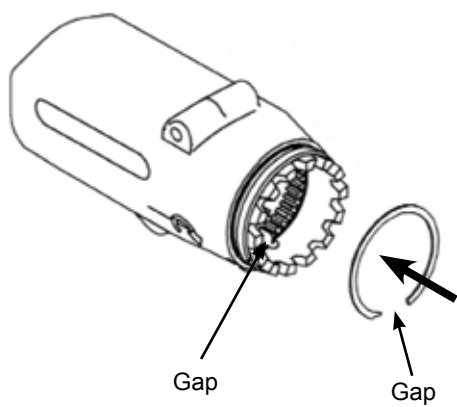


Transducers are not interchangeable, check part number.

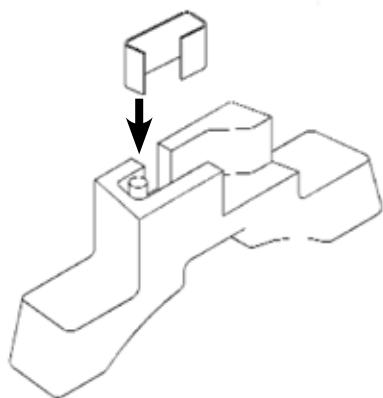
4 Spanner Wrench



5 Retaining Ring Assembly



6 Spring Assembly



Cleco®
Tool Memory Parameters

18EP(E) Tool Memory Parameters

Model Number	Max Speed [RPM]	Max Torque [Nm]	Torque Cal [Nm]	Transducer Type	Angle Cal [PPD]	Static Current Factor [Nm/A]
18EP(E)06D2	4000	1.7 - 5.7	6.9796	542846-6	21.3333	0.5320
18EP(E)06Q	4000	1.7 - 5.7	6.9796	542846-6	21.3333	0.5320
18EP(E)12D3	1825	3.6 - 11.9	12.8653	542846-12	46.8595	1.1090
18EP(E)12Q	1825	3.6 - 11.9	12.8653	542846-12	46.8595	1.1090
18EP(E)17D3	1300	5 - 17	17.8509	542846-17	66.1219	1.5650
18EP(E)17Q	1300	5 - 17	17.8509	542846-17	66.1219	1.5650
18EP(E)22D3	985	6.6 - 22	32.1710	542846-31	86.5882	2.0490
18EP(E)31D3	700	6 - 31	31.8208	542846-31	122.1818	2.8920

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.

Dallas, TX
**Apex Tool Group
Sales & Service Center**
1470 Post & Paddock
Grand Prairie, TX 75050
Tel: 972-641-9563
Fax: 972-641-9674

Detroit, MI
**Apex Tool Group
Sales & Service Center**
2630 Superior Court
Auburn Hills, MI 48326
Tel: 248-391-3700
Fax: 248-391-7824

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

Los Angeles, CA
**Apex Tool Group
Sales & Service Center**
15503 Blackburn Avenue
Norwalk, CA 90650
Tel: 562-623-4457
Fax: 562-802-1718

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

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

Canada
**Apex Tool Group
Sales & Service Center**
5925 McLaughlin Road
Mississauga, Ont. L5R 1B8
Canada
Tel: 905-501-4785
Fax: 905-501-4786

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

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 SAS
25 rue Maurice Chevalier
77330 Ozoir-La-Ferrière
France
Tel: +33 1 6443 2200
Fax: +33 1 6443 1717

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

Mexico
**Cooper Tools
de México S.A. de C.V.**
a company of
Apex Tool Group, LLC
Vialidad El Pueblito #103
Parque Industrial Querétaro
Querétaro, QRO 76220
Mexico
Tel: +52 (442) 211-3800
Fax: +52 (442) 103-0443

Brazil
Cooper Tools Industrial Ltda.
a company of
Apex Tool Group, LLC
Av. Liberdade, 4055
Zona Industrial - Iporanga
18087-170 Sorocaba
SP Brazil
Tel: +55 15 2383929
Fax: +55 15 2383260

Hungary
Cooper Tools Hungaria Kft.
a company of
Apex Tool Group, LLC
Berkenyefa sor 7
Pf: 640
9027 Győr
Hungary
Tel: +36 96 66 1383
Fax: +36 96 66 1135

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

Cleco®