

Parts Manual
PL12EN-18EP
05/02/2012

Cleco®

18EA Series
Electronically Controlled Pistol Grip Nutrunner



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

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.

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Cleco®
Model Nomenclature

PL12EN-18EP
05/02/2012

“A”

	18	E	P	X	XX	XX	X
<u>Tool Series</u> 18							
<u>Motor Style</u> E = Brushless Electric Motor							
<u>Tool Type</u> P = Pistol Grip							
<u>Feature</u> - = Matrix Tool Connector (Standard) E = Air LB Connector							
<u>Maximum Torque Nm (rounded to nearest Nm)</u> 06 = 6 Nm (Q, D2) 12 = 12 Nm (Q, D3) 17 = 17 Nm (Q, D3) 22 = 22 Nm (D3) 31 = 31 Nm (D3)							
<u>Output</u> D2 = 1/4" Square Drive D3 = 3/8" Square Drive Q = 1/4" Hex Slip Chuck							
<u>Spindle Type</u> - = 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

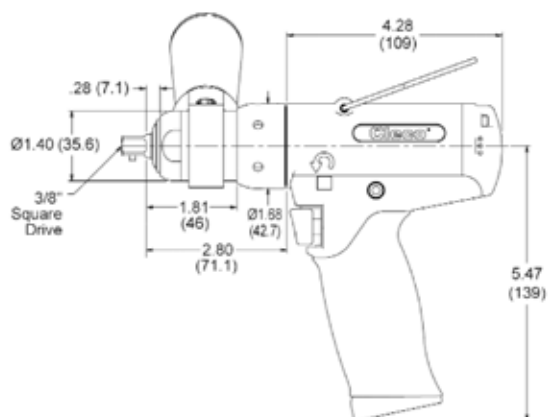
* Note: Contact Apex Tool Group

TME-200 Series Controller

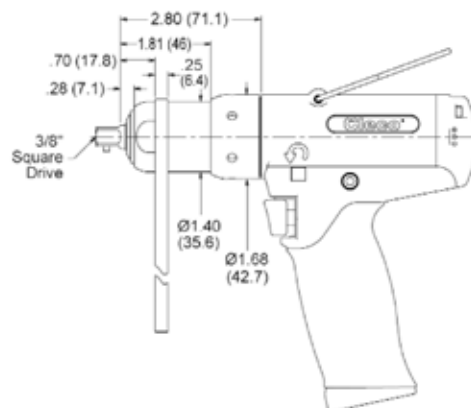
Supply Voltage	EN Order Number
115 VAC	TME-211-15-U
115 VAC	TME-221-15-U
230 VAC	TME-211-30-U
230 VAC	TME-221-30-U

“C”

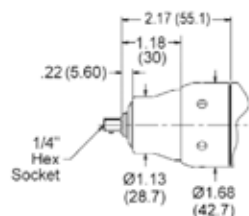
18EP(E)12D3(B)
(Pin Lock Shown)



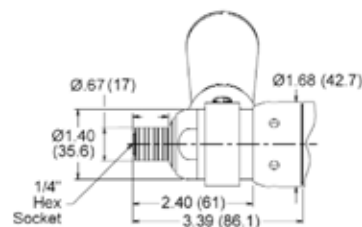
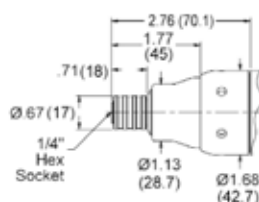
18EP(E)17D3(B)
18EP(E)22D3(B)
18EP(E)31D3(B)
(Pin Lock Shown)



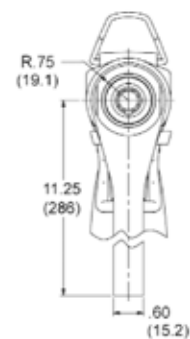
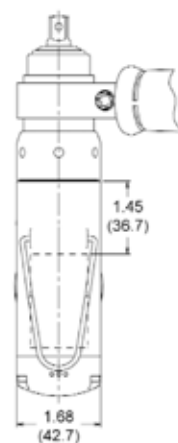
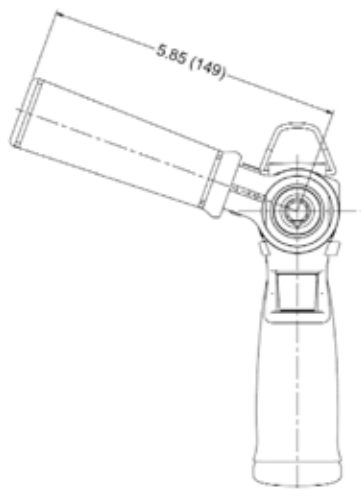
18EP(E)06D2(B)



18EP(E)06Q



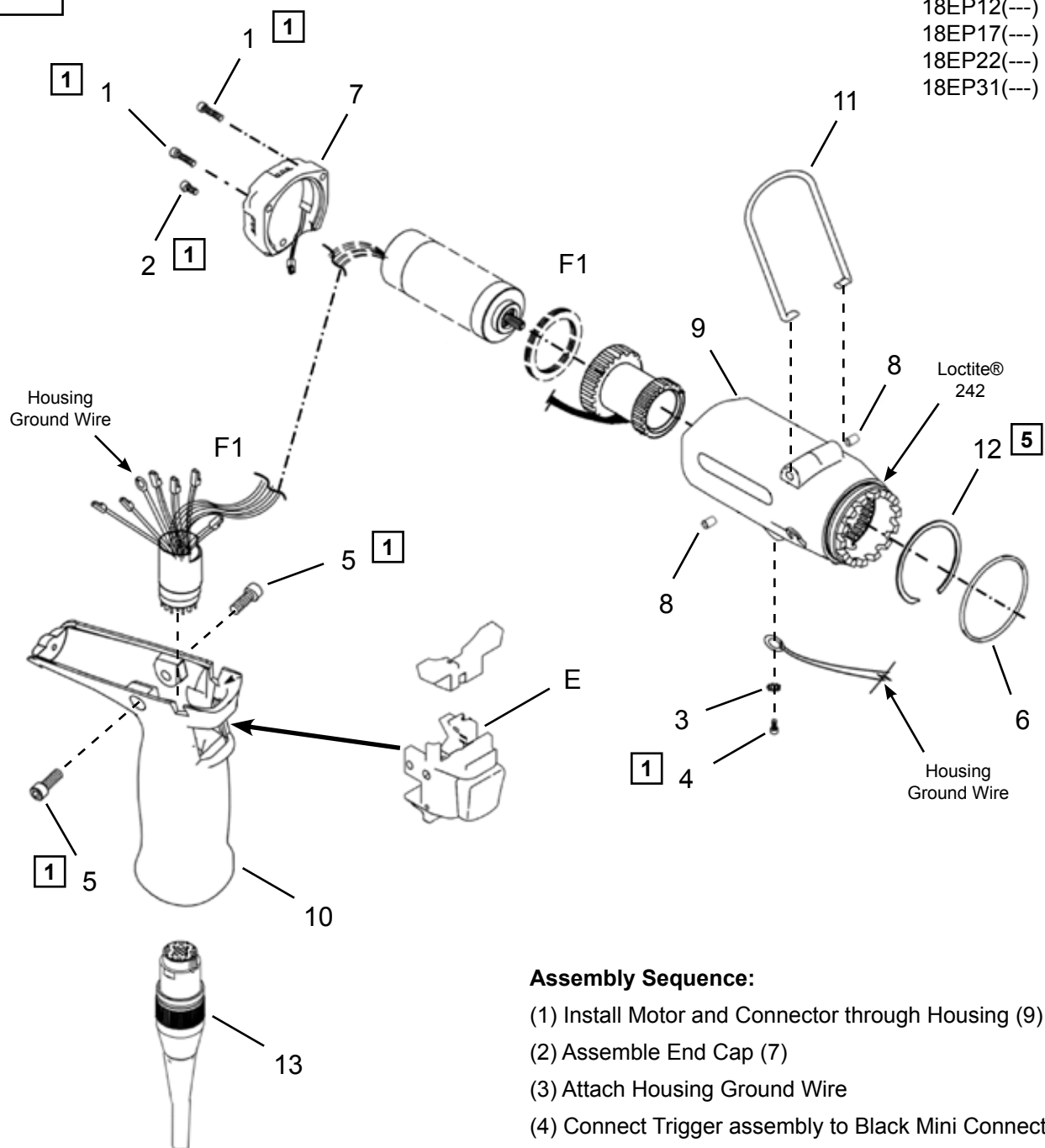
18EP(E)12Q
18EP(E)17Q
18EP(E)22Q



“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

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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

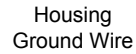
(#) Quantity

(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"

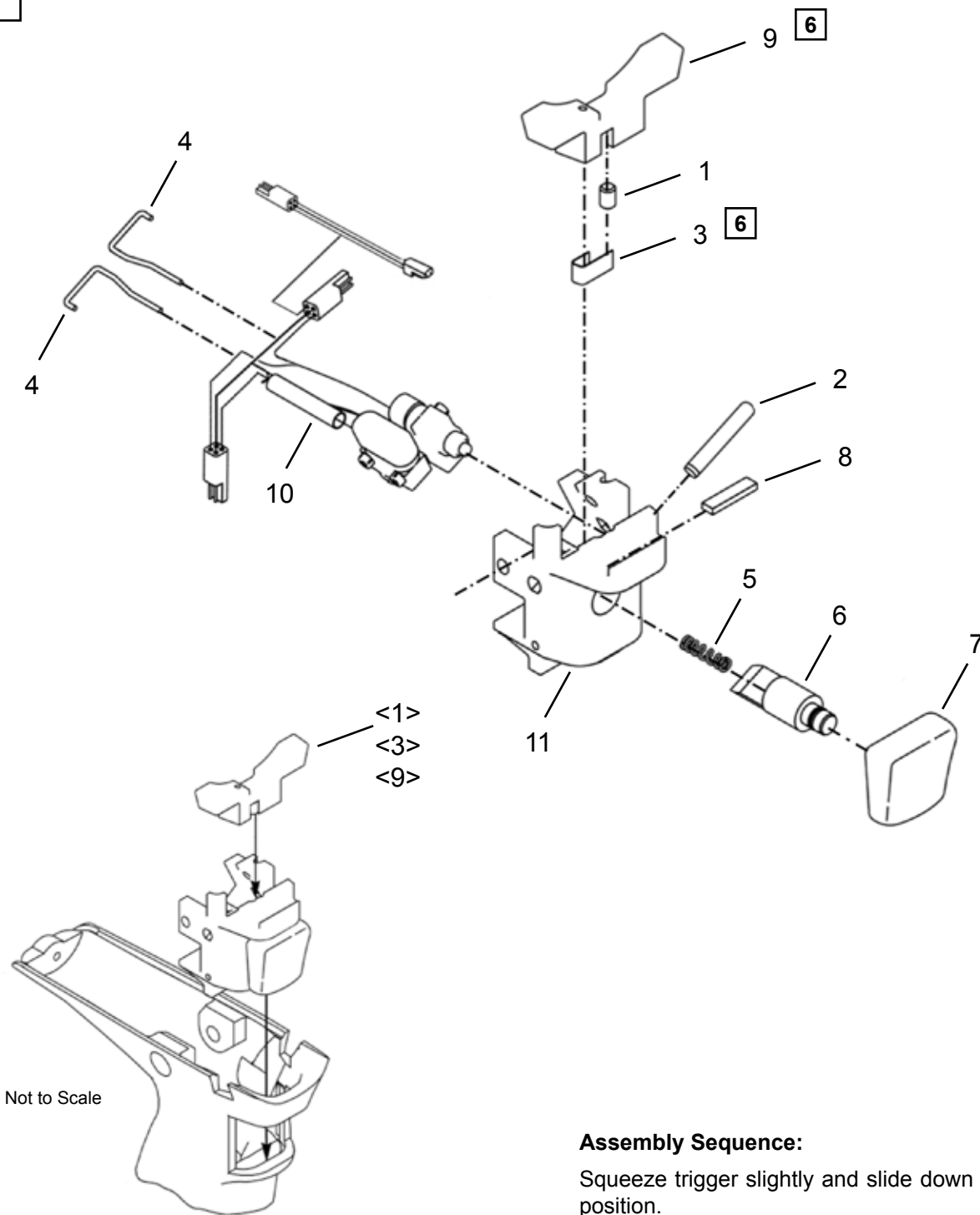
Ref	Number	#	X	EN
				Description
1	B121A	2	4	Cap Screw
2	B124R	1	3	Cap Screw
3	W115	1	3	Lock Washer
4	541927	1	3	Screw
5	B122S	2	4	Cap Screw
6	22598	1	3	O-Ring
7	542820	1		Rear Cap
8	931791	2	4	Spring Pin
9	542888	1		Top Handle
10	207337E	1		Bottom Handle
11	931962	1	1	Suspension Bail
12	505306	1	1	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

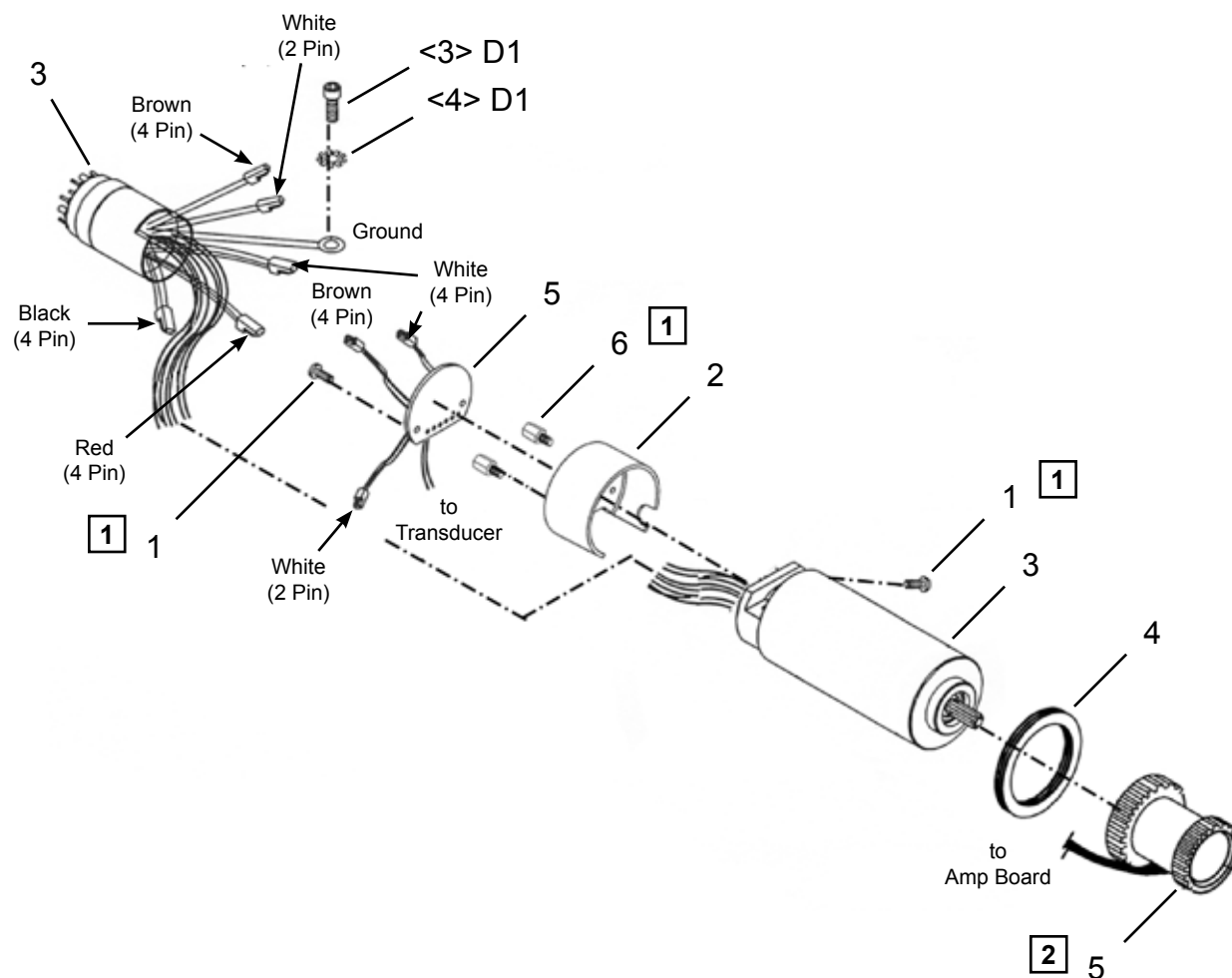
(#) Quantity

(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

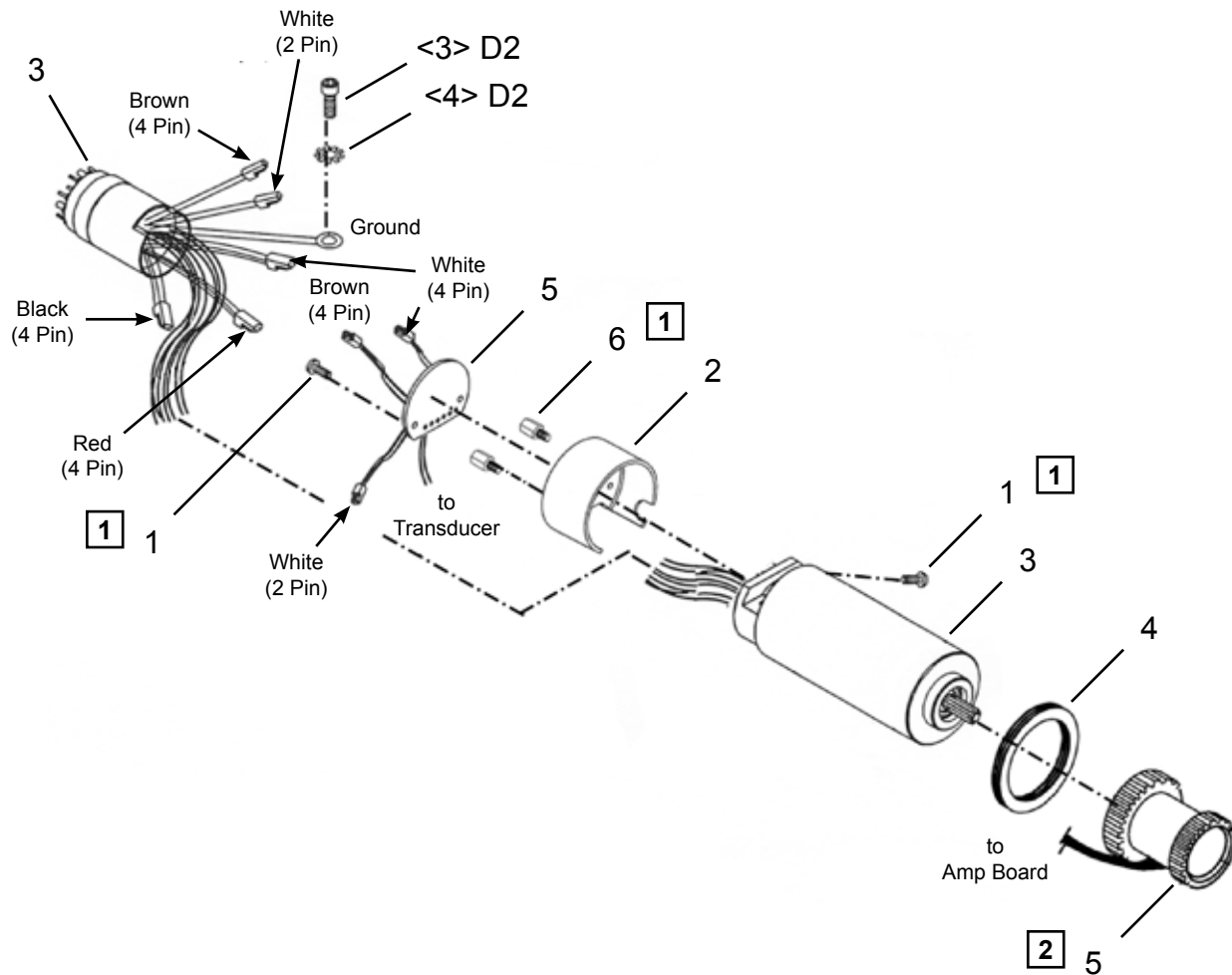
Table "F1"

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
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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

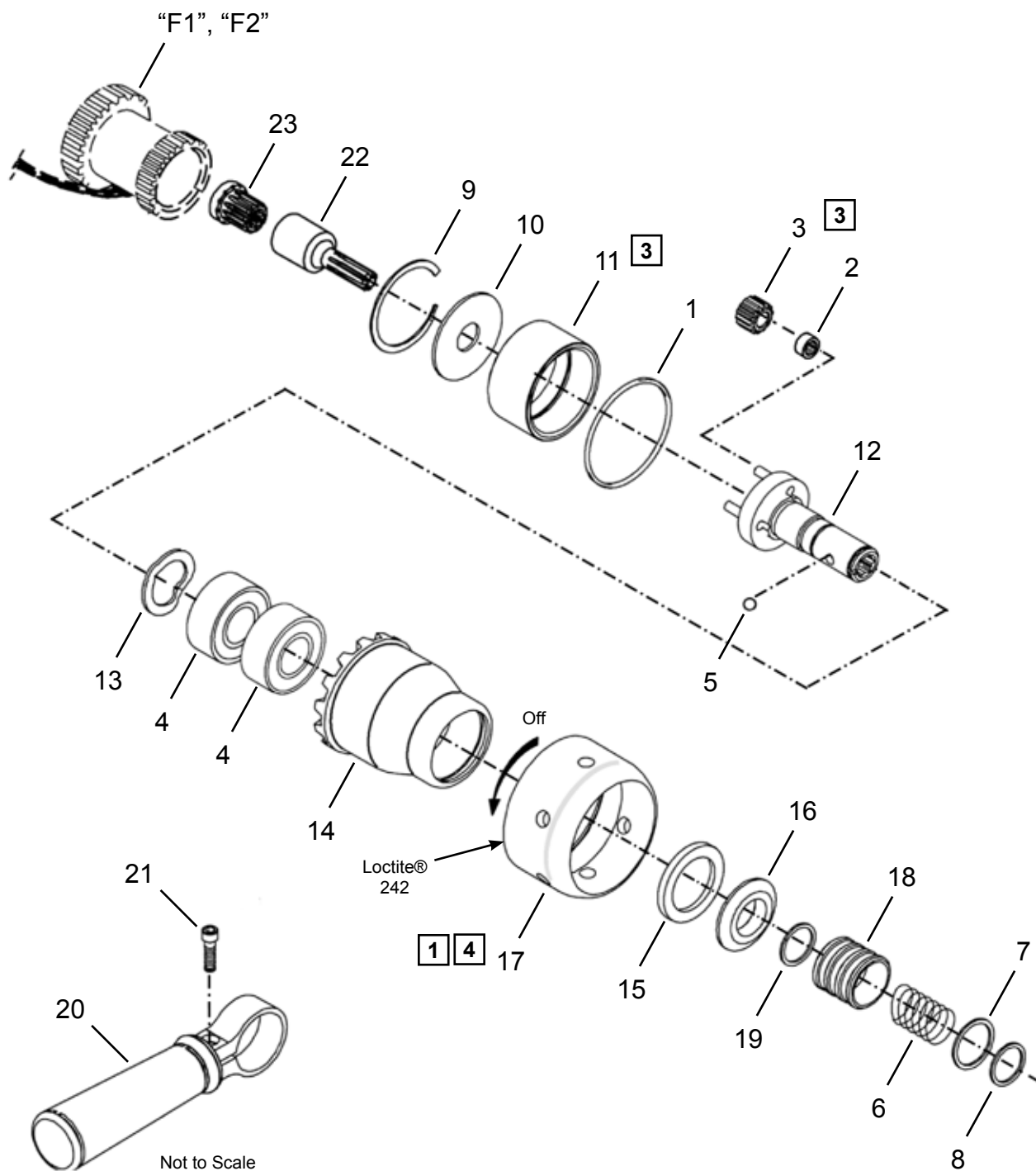
(X) Recommended Spare Parts

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

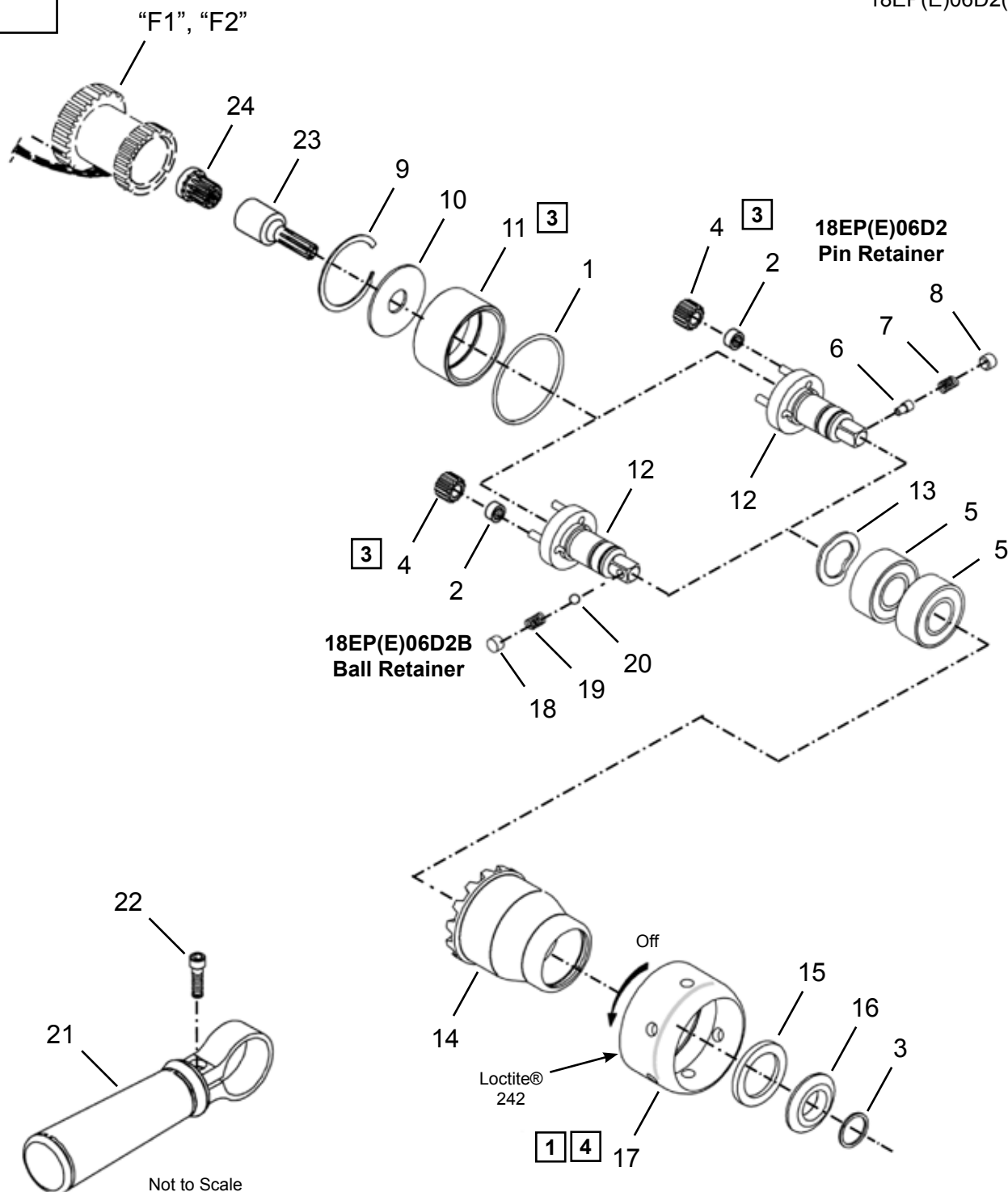
(X) Recommended Spare Parts

(T) Teeth

Cleco®
Single Stage Gearing

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

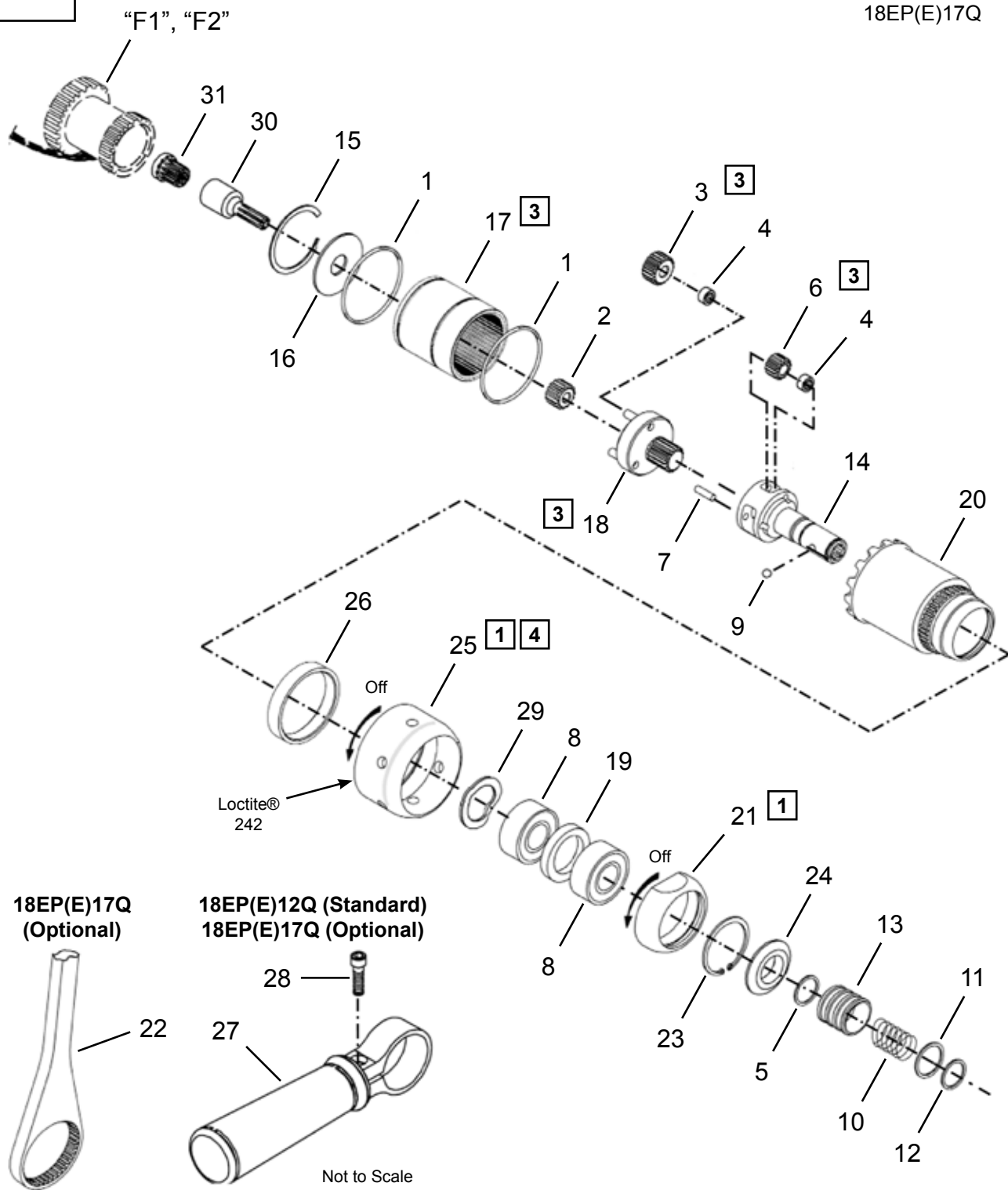
Cleco®
Double Stage Gearing

"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

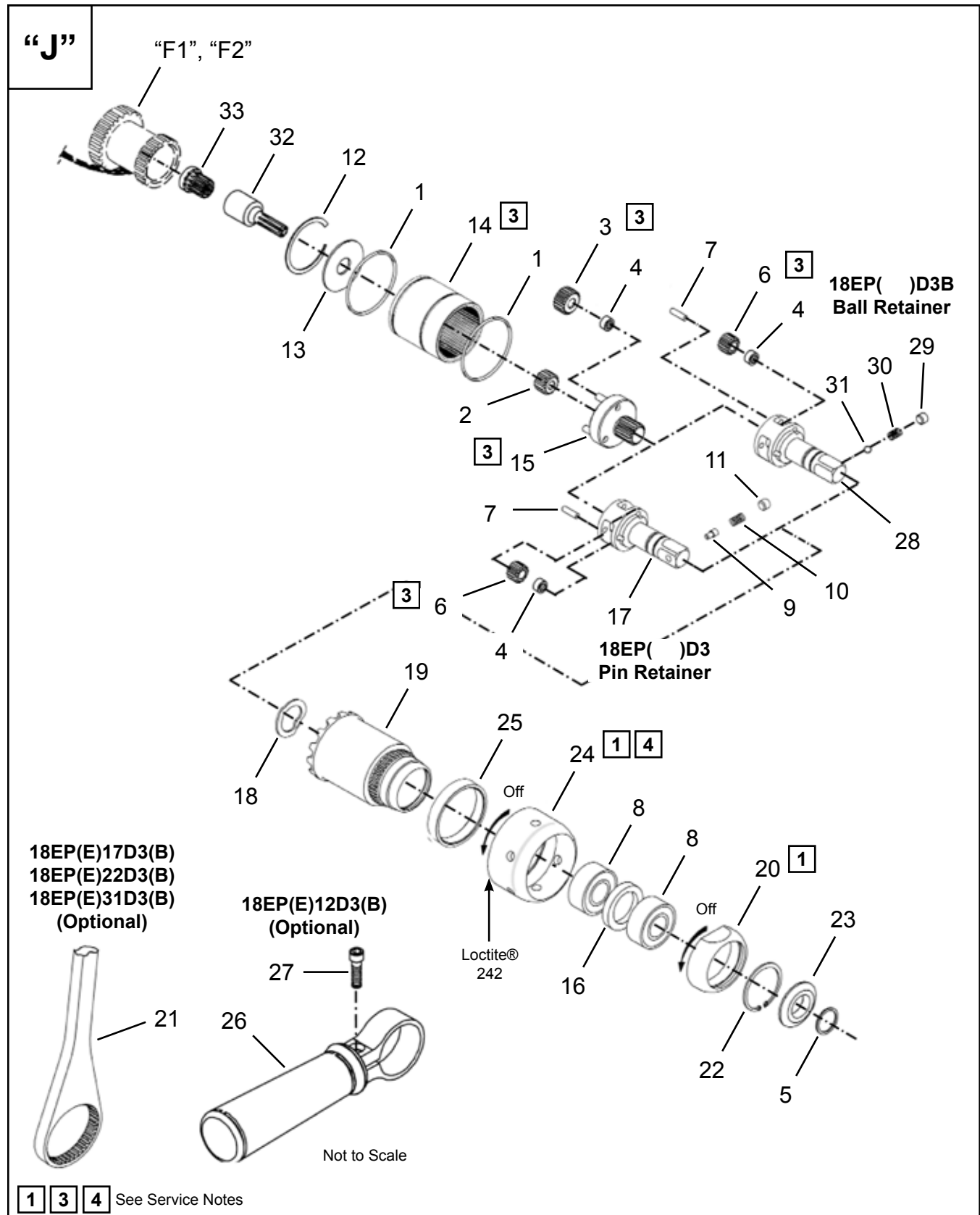
(T) Teeth

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

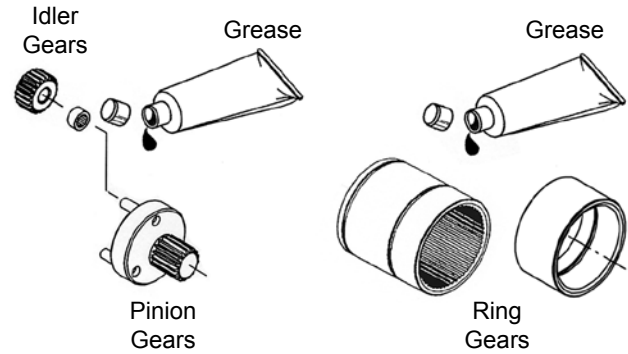
(T) Teeth

1 Tightening Torque

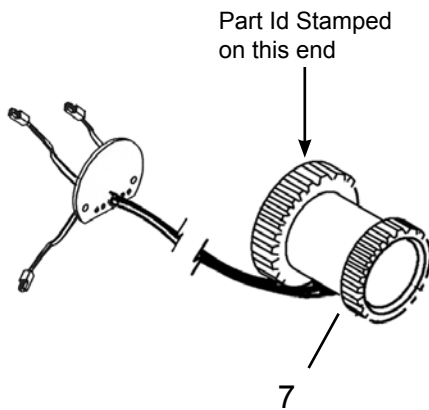
Illustration	Reference	Tightening torque	
		Ft-Lbs (in-lbs)	Nm
D1, D2	1	(10-14)	1.1-1.6
	2	(10-14)	1.1-1.6
	4	(10-14)	1.1-1.6
	5	(50-55)	5.6-6.2
F1, F2	1	(4-6)	0.45-0.68
	6	(4-6)	0.45-0.68
G	17	35-40	47-54
H	17	35-40	47-54
I	21	30-35	41-47
	25	35-40	47-54
J	20	30-35	41-47
	24	35-40	47-54

3 Gear Train Lubrication

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

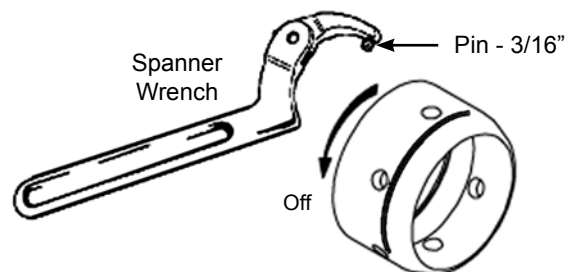


2 Transducer Identification

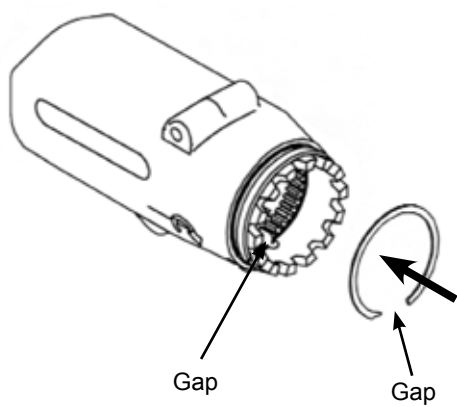


Transducers are not interchangeable, check part number.

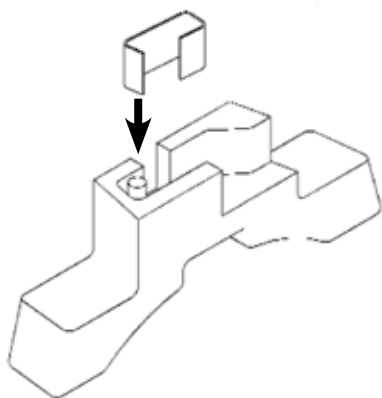
4 Spanner Wrench



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

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**Apex Tool Group
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Mississauga, Ont. L5R 1B8
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