

Parts Manual
PL12EN-18ES-PTS
06/15/2012

OMEGA TECHNOLOGIES

Cleco®

18ES Series
Electronically Controlled Inline Nutrunner



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-inline-push-to-start-corded-electric-nutrunners/>

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 inline portable push to start nutrunners.

Intended Use:

These DC electric assembly tools are intended for tightening of threaded joints or running down fasteners. Use only for their designated purpose. Improper usage of these tools can cause tool damage or operator injury.

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Model Nomenclature

“A”

	18	E	S	X	XX	XX	P
<u>Tool Series</u>							
18							
<u>Motor Style</u>							
E = Brushless Electric Motor							
<u>Tool Type</u>							
S = Inline							
<u>Feature</u>							
- = Matrix Tool Connector (Standard)							
E = Air LB Connector							
<u>Maximum Torque Nm (rounded to nearest Nm)</u>							
06 = 6 Nm							
12 = 12 Nm							
<u>Attachment</u>							
Q = 1/4" Hex Slip Chuck							
D3 = 3/8" Square Drive							
<u>Spindle Type</u>							
P = Push To Start							

“B”

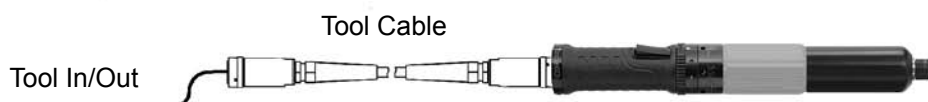
m-Pro-400 Series
Controller



TME-200 Series
Controller



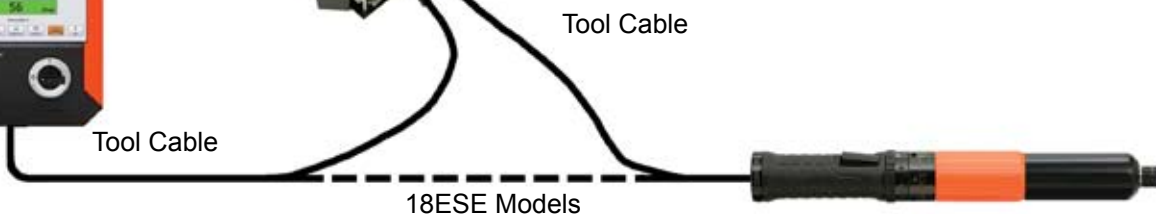
Complete Tool
Order Number
18ES(E)06QP
18ES(E)12QP
18ES(E)06D3P
18ES(E)12D3P



m-Pro-400GC
Global Controller



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



TME and m-Pro-400 Series Controllers

18ES	18ESE	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
544056-XXX	301904-XXX	Swivel Cable
544055-XXX	301903-XXX	Swivel Cable - Right Angle
542778-XXX	301866-XXX	Tool Cable

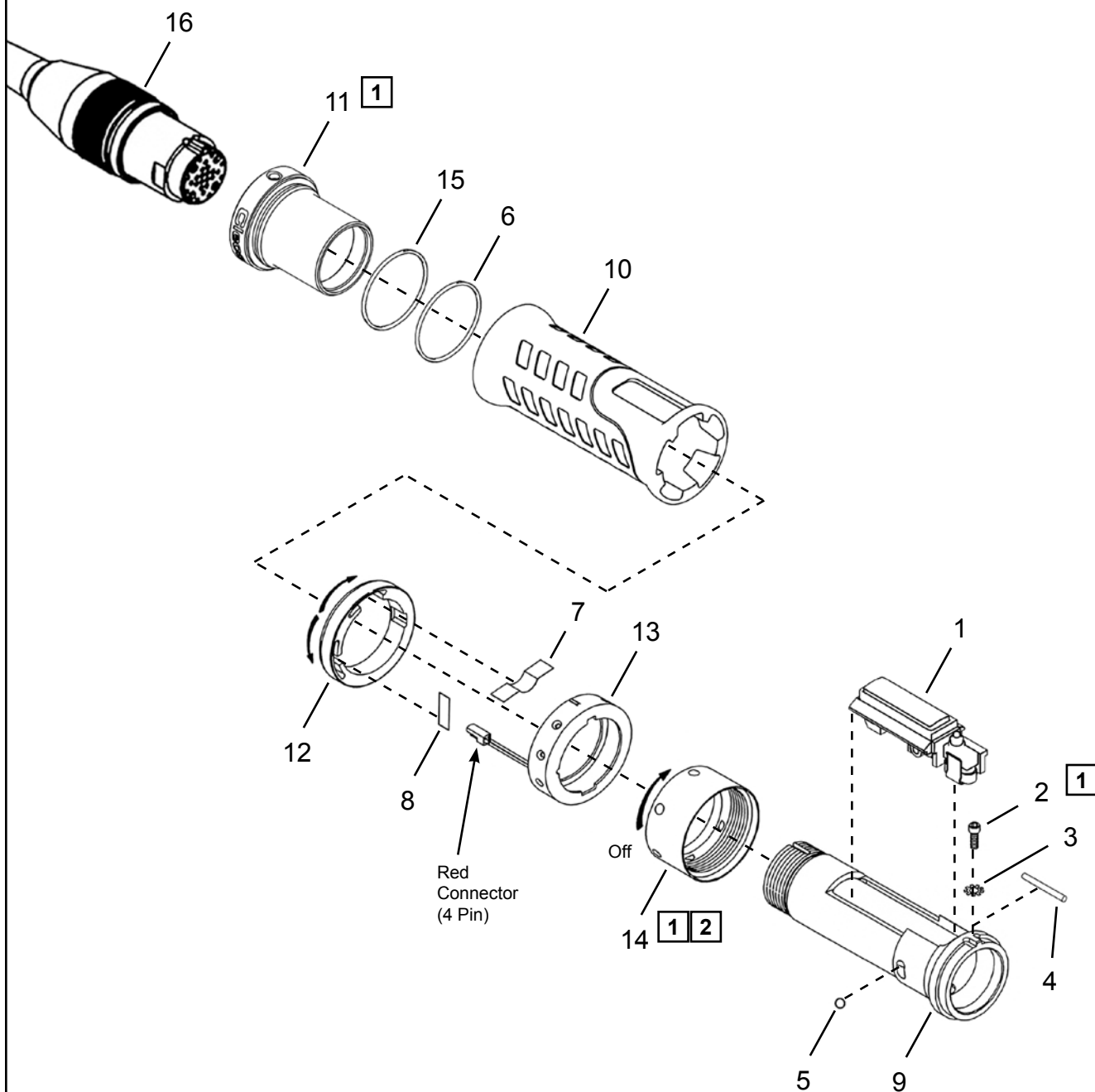
* Note: Contact Apex Tool Group

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

“C1”

Models
18ES06(---)
18ES12(---)



1 2 See Service Notes

Cleco®
Handle - Matrix Tool Connector

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Illustration "C1"

Ref	Number	#	X	EN
				Description
1	301896	1	3	Switch Assembly
2	B159V	1	3	Cap Screw - #6-32
3	W115	1	3	Lock Washer
4	1009089	1	3	Housing Pin
5	1091PT	1	3	Steel Ball - 3/16"
6	22598	1	3	O-Ring
7	541033	1	2	Reverse Spring
8	541624	1	2	Forward/Reverse Spring
9	541015	1		Handle
10	207323	1		Handle Sleeve
11	207325	1		Connector Sleeve
12	542938	1		Reverse Ring
13	207506	1		Light Ring Assembly
14	541017	1		Handle Retainer Nut
15	524818	1	3	O-Ring
Tool Cable (Optional Length)				
16	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
Inline Swivel Cable (Optional Length)				
16	544056-1M	1		1 meter cable
	544056-2M			2 meter cable
	544056-3M			3 meter cable
	544056-6M			6 meter cable
	544056-8M			8 meter cable
	544056-10M			10 meter cable
	544056-15M			15 meter cable
Angle Swivel Cable (Optional Length)				
16	544055-1M	1		1 meter cable
	544055-2M			2 meter cable
	544055-3M			3 meter cable
	544055-6M			6 meter cable
	544055-8M			8 meter cable
	544055-10M			10 meter cable
	544055-15M			15 meter cable
Tool Cable Extension (Optional Length)				
16	542779-1M	1		1 meter cable
	542779-2M			2 meter cable
	542779-3M			3 meter cable
	542779-6M			6 meter cable
	542779-10M			10 meter cable
	542779-15M			15 meter cable
	542779-50M			50 meter cable

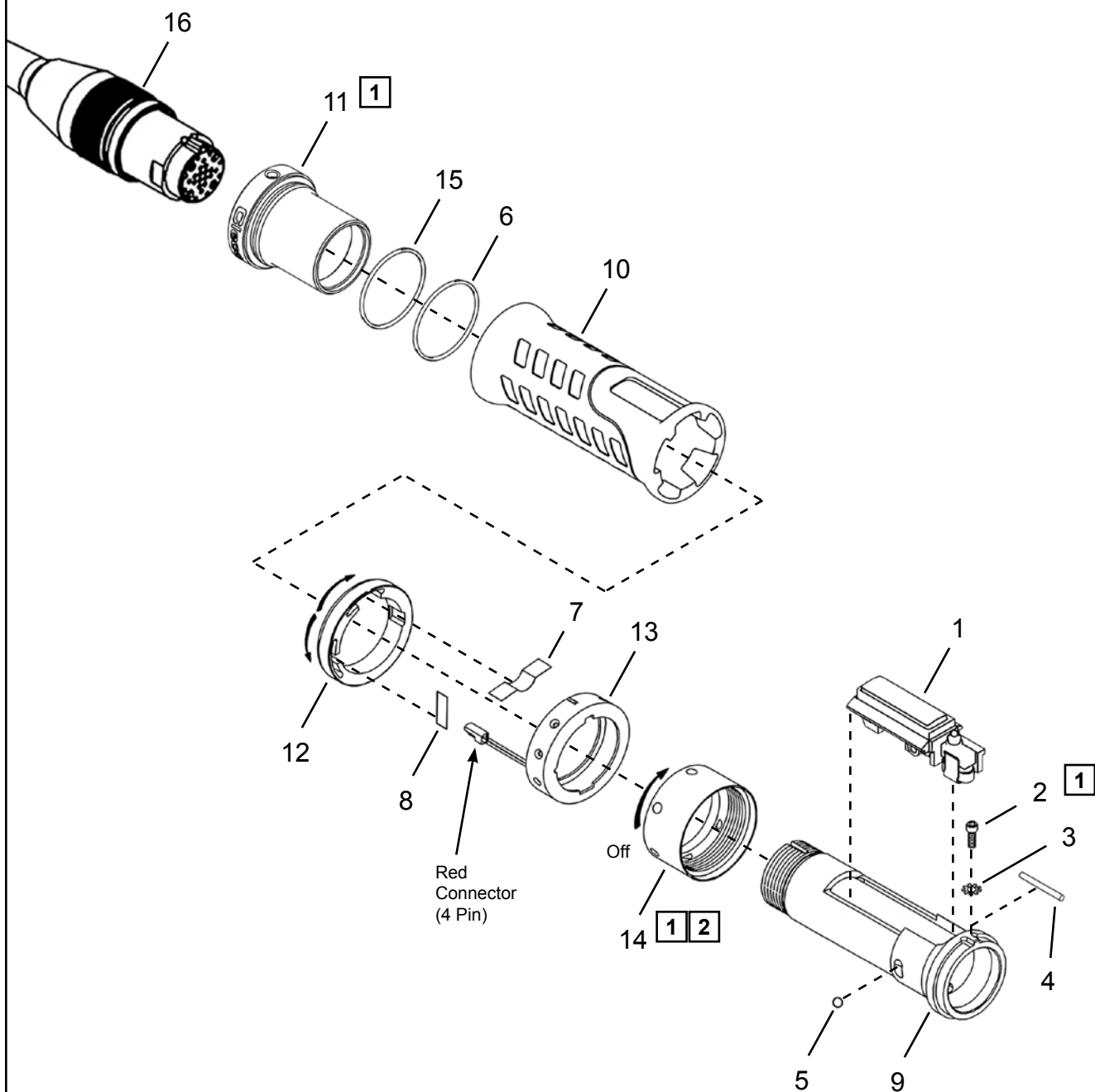
(#) Quantity

(X) Recommended Spare Parts

Cleco®
Handle - Air LB Tool Connector

“C2”

Models
18ESE06(---)
18ESE12(---)



1 2 See Service Notes

Cleco®
Handle - Air LB Tool Connector

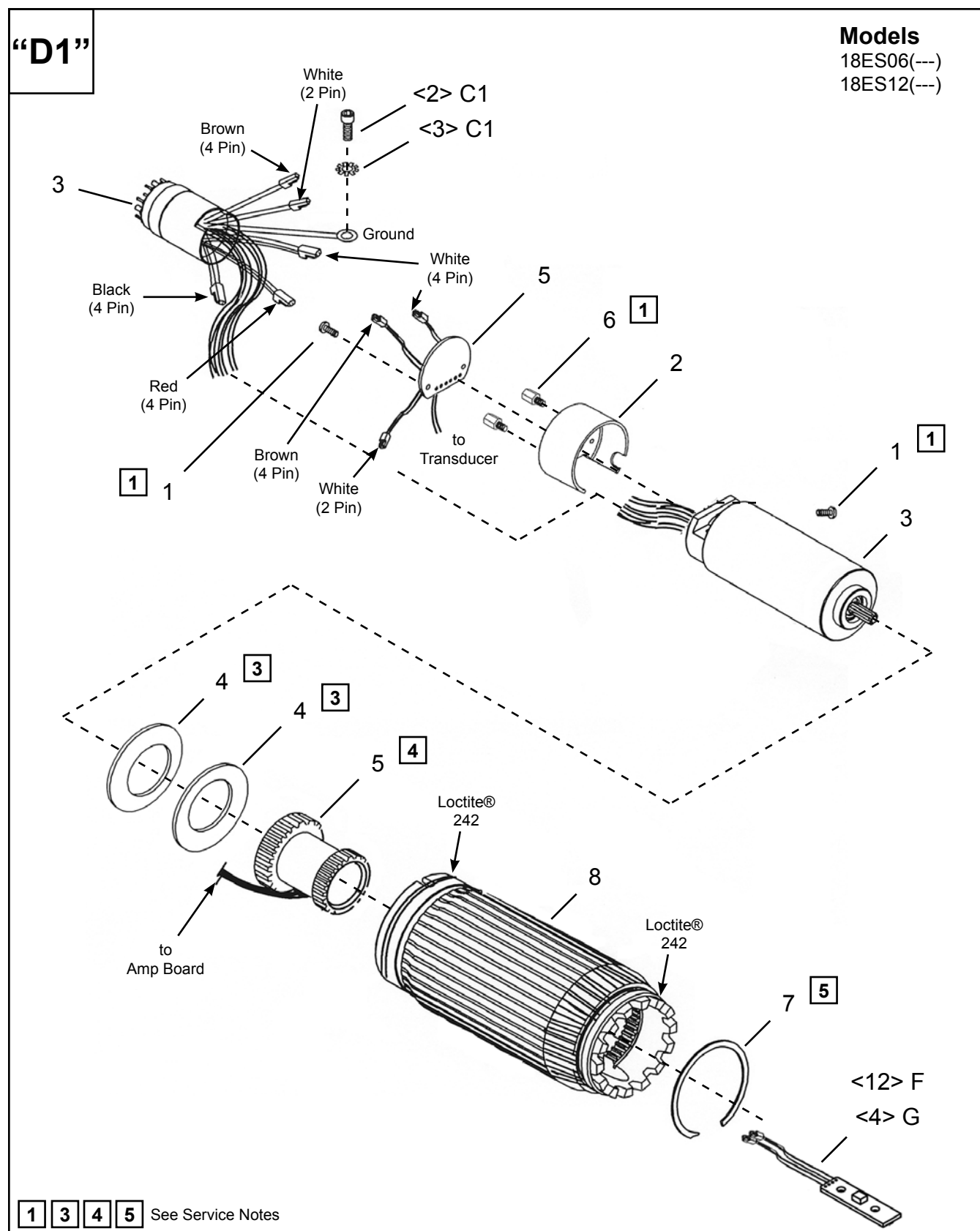
PL12EN-18ES-PTS
06/15/2012

Illustration "C2"

Ref	Number	#	X	EN
				Description
1	301896	1	3	Switch Assembly
2	B159V	1	3	Cap Screw - #6-32
3	W115	1	3	Lock Washer
4	1009089	1	3	Housing Pin
5	1091PT	1	3	Steel Ball - 3/16"
6	22598	1	3	O-Ring
7	541033	1	2	Reverse Spring
8	541624	1	2	Forward/Reverse Spring
9	207322	1		Handle
10	207323	1		Handle Sleeve
11	207325E	1		Connector Sleeve
12	542938	1		Reverse Ring
13	207506	1		Light Ring Assembly
14	541017	1		Handle Retainer Nut
15	524818	1	3	O-Ring
Tool Cable (Optional Length)				
16	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
Inline Swivel Cable (Optional Length)				
16	301904-2M	1		2 meter cable
	301904-3M			3 meter cable
	301904-8M			8 meter cable
	301904-15M			15 meter cable
Angle Swivel Cable (Optional Length)				
16	301903-2M	1		2 meter cable
	301903-3M			3 meter cable
	301903-8M			8 meter cable
	301903-15M			15 meter cable
Tool Cable Extension (Optional Length)				
16	301877-4M	1		4 meter cable
	301877-8M			8 meter cable
	301877-10M			10 meter cable
	301877-20M			20 meter cable
	301877-30M			30 meter cable
	301877-40M			40 meter cable
	301877-50M			50 meter cable

(#) Quantity

(X) Recommended Spare Parts



Cleco®
Motor - Matrix Tool Connector

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Illustration "D1"

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	541009	2	4	Wave Washer
5	Table "D1"	1		Transducer Assembly
6	542244	2	4	Stand Off - 5/16"
7	505306	1	2	Retaining Ring
8	207339	1		Housing

(#) Quantity

(X) Recommended Spare Parts

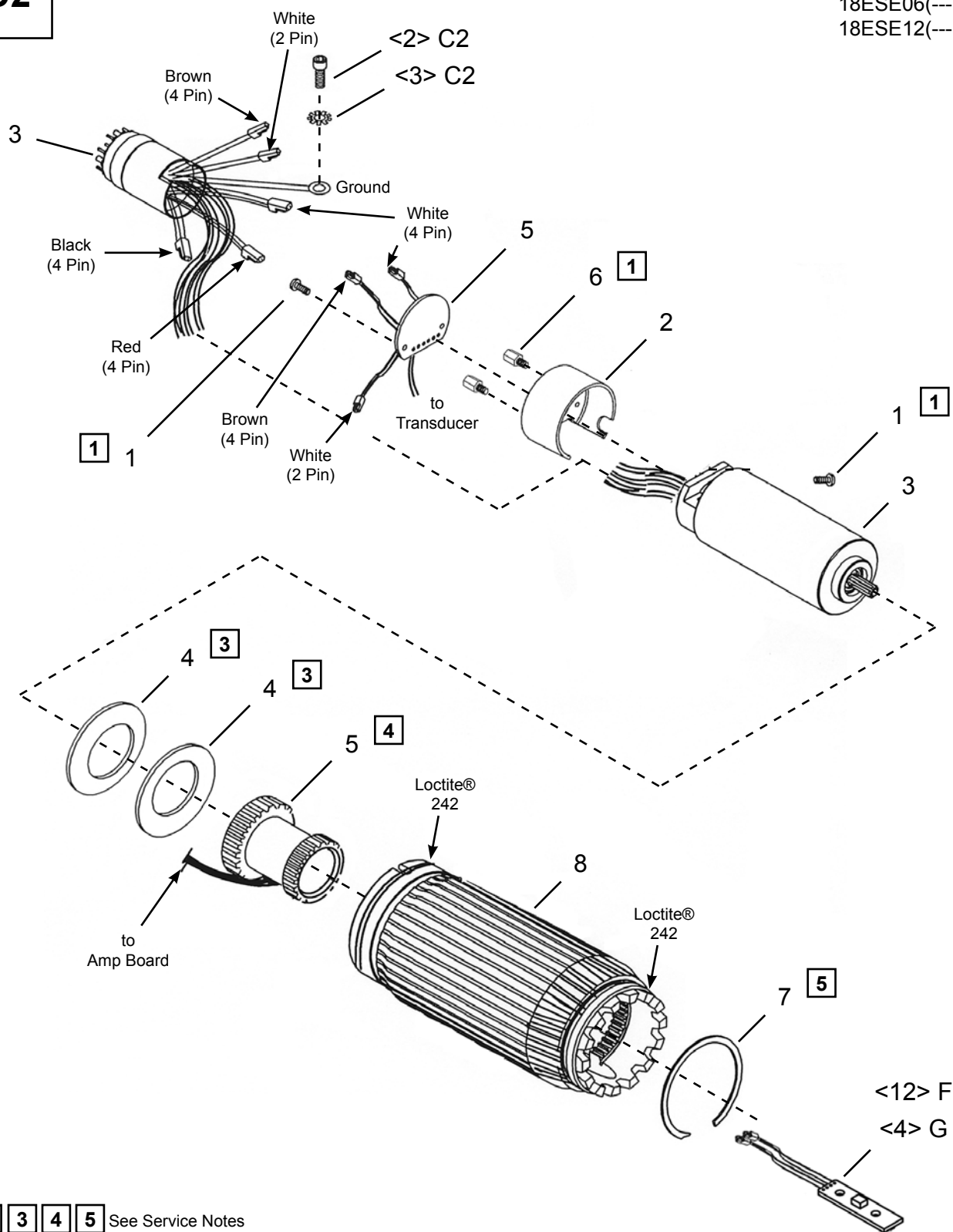
Table "D1"

Ref.	Description	#	18ES06	#	18ES12
7	Transducer (unprogrammed)	1	542846-6	1	542846-12
	Transducer (programmed)	1	542846-6P	1	542846-12P
	Transducer Capacity		6 Nm		12 Nm

Cleco®
Motor - Air LB Tool Connector

"D2"

Models
18ESE06(---)
18ESE12(---)



1 3 4 5 See Service Notes

Cleco®
Motor - Air LB Tool Connector

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Illustration "D2"

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	541009	2	4	Wave Washer
5	Table "D2"	1		Transducer Assembly
6	542244	2	4	Stand Off - 5/16"
7	505306	1	2	Retaining Ring
8	207339	1		Housing

(#) Quantity

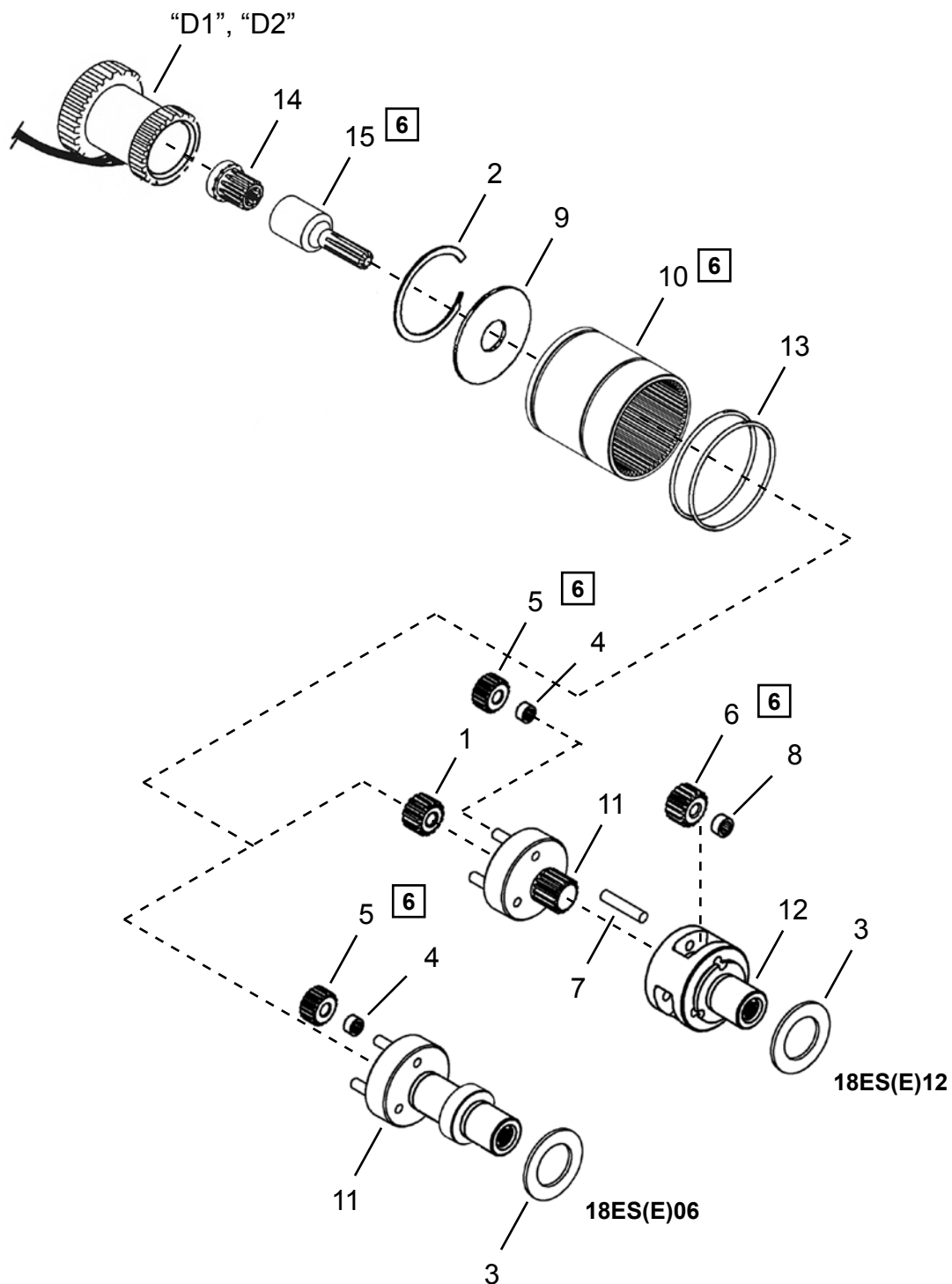
(X) Recommended Spare Parts

Table "D2"

Ref.	Description	#	18ESE06	#	18ESE12
7	Transducer (unprogrammed)	1	542846-6	1	542846-12
	Transducer (programmed)	1	542846-6P	1	542846-12P
	Transducer Capacity		6 Nm		12 Nm

Cleco®
Gearing Assembly

“E”



6 See Service Notes

Cleco®
Gearing Assembly

PL12EN-18ES-PTS
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Illustration "E"

Ref	Number	#	X	EN
				Description
1	Table "E"	1	3	Slip-On Gear
2	800116	1	2	Retaining Ring
3	502983	1	2	Thrust Washer
4	541487	3	6	Needle Bearing
5	Table "E"	3	6	Planet Gear
6	Table "E"	3	6	Planet Gear
7	Table "E"	3	6	Planet Pin
8	Table "E"	3	6	Needle Bearing
9	541887	1	2	Washer
10	542722	1		Ring Gear
11	Table "E"	1		Planet Carrier
12	Table "E"	1		Planet Cage
13	542724	2	6	O-Ring
14	541044	1	2	Pinion Adapter
15	541898	1	2	Extension Pinion

(#) Quantity

(X) Recommended Spare Parts

Table "E"

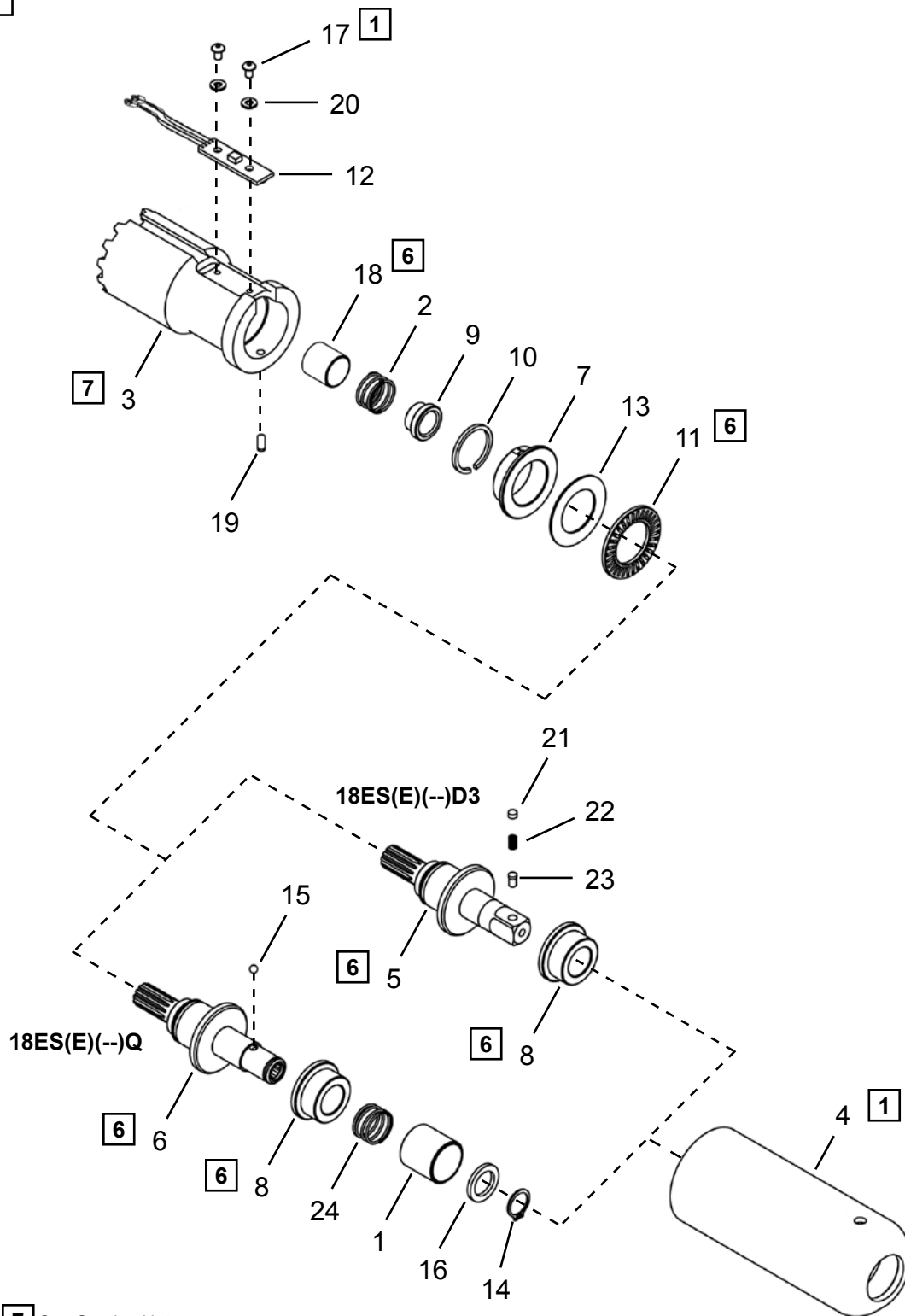
Ref.	Description	#	18ES(E)06	#	18ES(E)12
1	Slip-On Gear		-----	1	541899 (17T)
5	Planet Gear	3	541893 (21T)	3	541894 (17T)
6	Planet Gear		-----	3	541894 (17T)
7	Planet Pin		-----	3	541888
8	Needle Bearing		-----	3	541487
11	Planet Carrier	1	207504	1	542230
12	Planet Cage		-----	1	542079

(T) Teeth

Cleco®
Output Assembly (Initial Configuration *)

"F"

* Initial Configuration: Release date through June 30, 2012



1 6 7 See Service Notes

Output Assembly (Initial Configuration *)

Illustration "F"

Ref	Number	#	X	EN
				Description
1	202833	1		Release Collar
2	202842	1	3	Spring
3	207496	1		Housing (includes Ref. 18-19)
4	Table "F"	1		Gear Case Nut
5	Table "F"	1		Output Spindle (D3) (includes Ref. 21-23)
6	Table "F"	1		Output Spindle (Q)
7	Table "F"	1		Magnetic Actuator
8	207502	1		Spindle Bushing
9	207503	1		Guide Spring
10	250494	1	2	Retaining Ring
11	259144	1	3	Thrust Bearing
12	301893	1		PC Board Assembly
13	502980	1	2	Thrust Race
14	833688	1	3	Retaining Ring
15	844265	1	3	Steel Ball (1/8")
16	864249	1		Washer
17	1012593	2	4	BHC Screw
18	500528	1	3	Needle Bearing
19	92510015	1	2	Dowel Pin
20	542942-8	2	4	Nylon Washer
21	26989PT	1	3	Plug
22	9D6481	1	3	Spring
23	24499	1	3	Button Retainer
24	202842	1	3	Spring

(#) Quantity

(X) Recommended Spare Parts

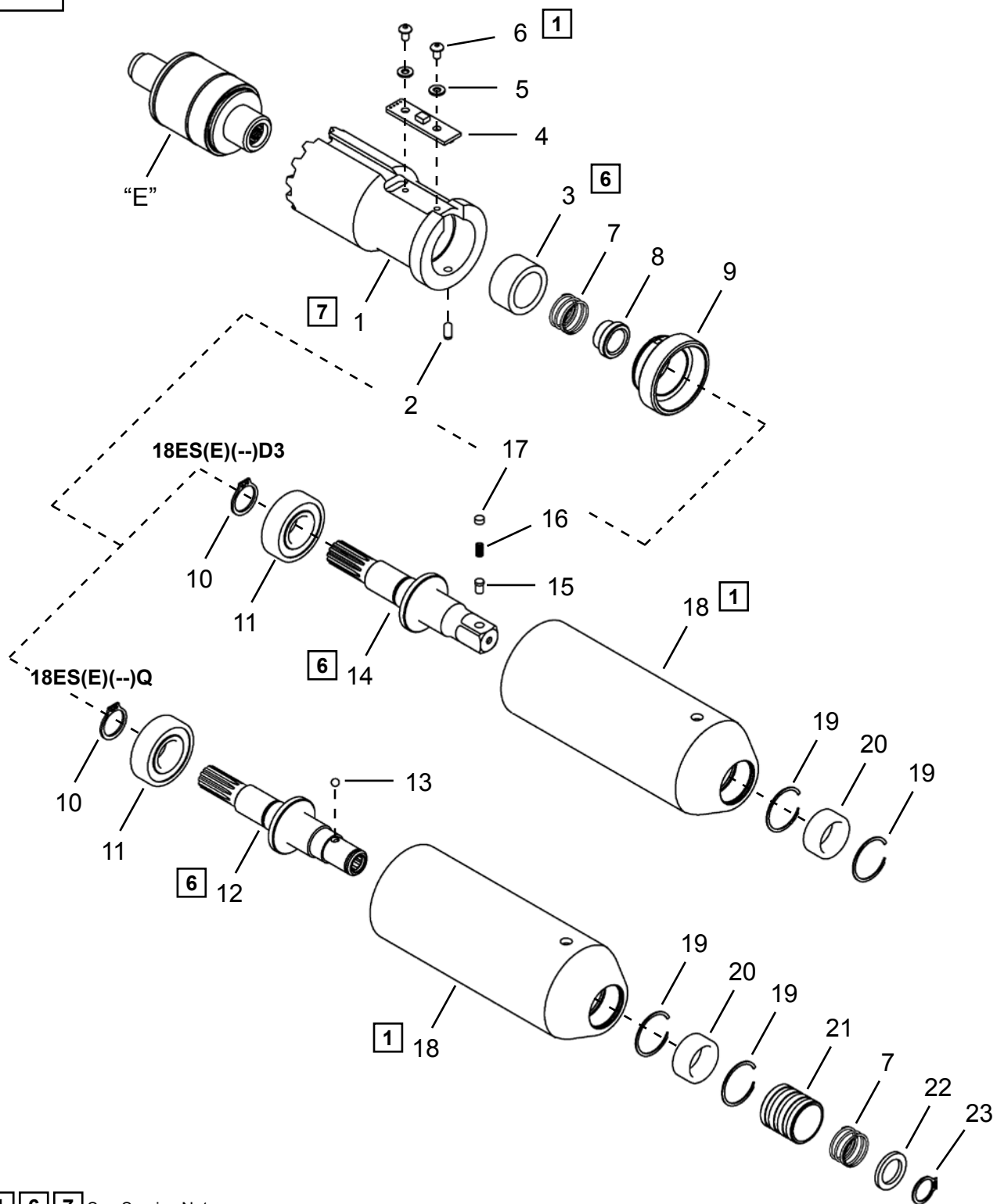
Table "F"

Original replacement parts will be available until inventory is depleted. A conversion kit must be ordered if any original replacement part is not available. Original replacement parts and kit parts can not be used in the same assembly. Contact Apex Tool Group customer service for availability: (800) 845-5629				
Original Replacement Parts			Conversion Kits	
Ref.	Part Number	Description	18ES(E)(--QP	18ES(E)(--D3P
4	207497	Gear Case Nut	302031PT	302032PT
5	207498	Output Spindle (D3)	-----	302032PT
6	207500	Output Spindle (Q)	302031PT	-----
7	207501	Magnetic Actuator	302031PT	302032PT

Cleco®
Output Assembly (Current Configuration *)

"G"

* Current Configuration: Beginning July 1, 2012



1 6 7 See Service Notes

Cleco®
Output Assembly (Current Configuration *)

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06/15/2012

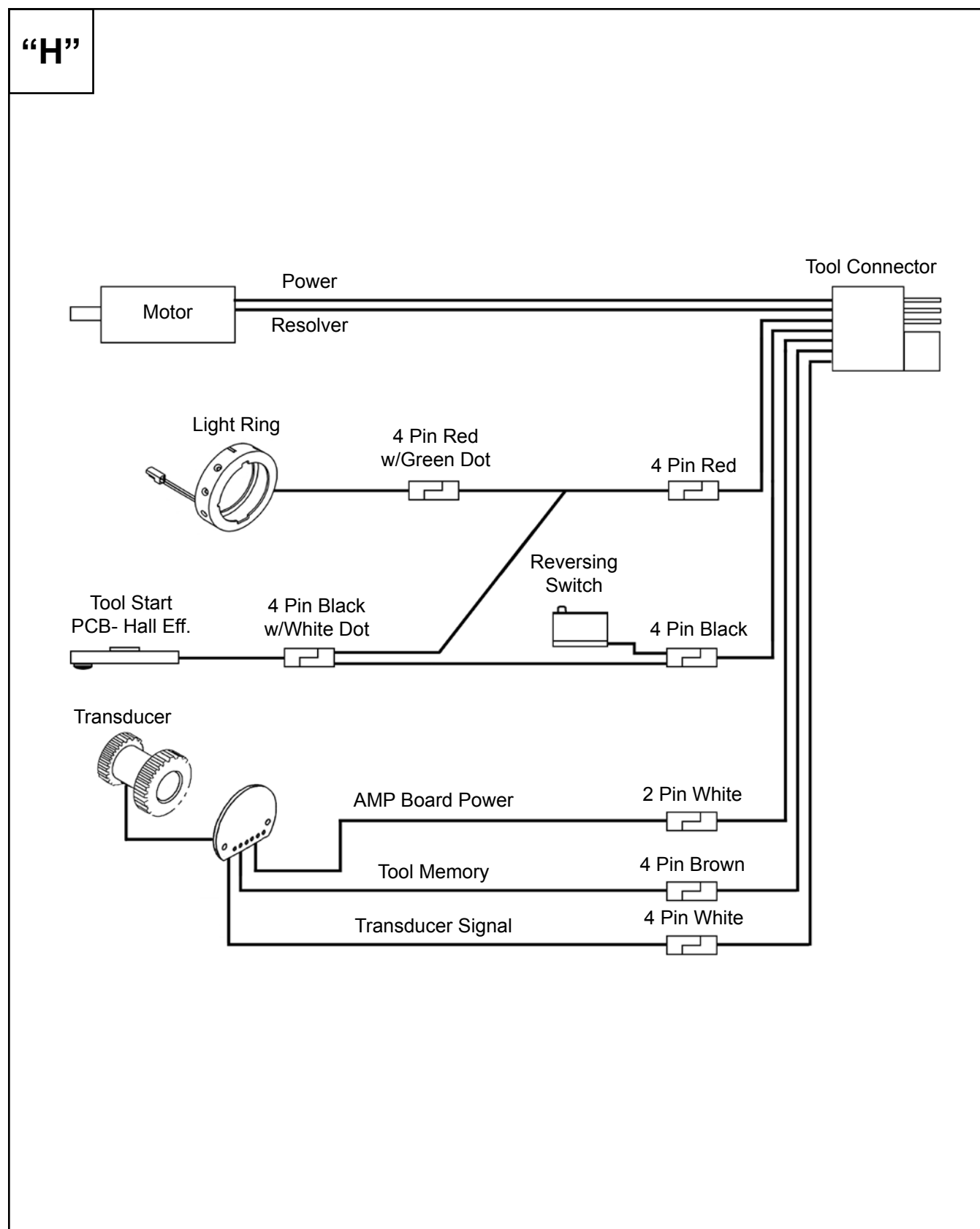
Illustration "G"

Ref	Number	#	X	EN
				Description
1	207496	1		Housing (includes Ref. 2-3)
2	92510015	1	2	Dowel Pin
3	500528	1	3	Needle Bearing
4	301893	1		PC Board Assembly
5	542942-8	2	4	Nylon Washer
6	1012593	2	4	BHC Screw
7	202842PT	1	3	Spring (D3)
	202842PT	2	6	Spring (Q)
8	207503	1		Spring Guide
9	207708PT	1		Magnetic Actuator
10	1007964	1	2	Retaining Ring
11	619053	1	2	Ball Bearing
12	207706PT	1		Output Spindle (Q)
13	844265	1	3	Steel Ball (Q)
14	207707PT	1		Output Spindle (D3) (includes Ref. 15-17)
15	24499	1	3	Retainer Button (D3)
16	9D6481	1	3	Spring (D3)
17	26989PT	1	3	Plug (D3)
18	207709PT	1		Gear Case Nut
19	612928	2	4	Retaining Ring
20	864202	1	2	Needle Bearing
21	202833PT	1		Release Collar
22	864249	1	1	Washer
23	833688	1	2	Retaining Ring

(#) Quantity

(X) Recommended Spare Parts

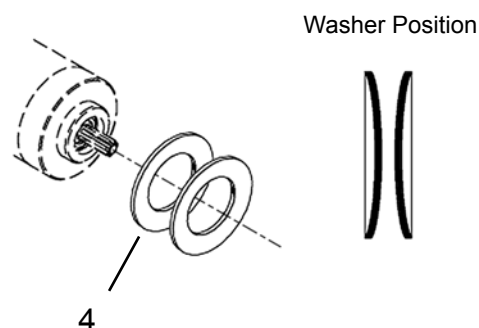
Cleco®
18ES(E) Wiring Diagram



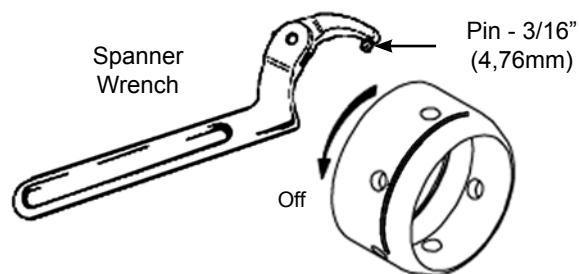
1 Tightening Torque

Illustration	Reference	Tightening torque	
		Ft-Lbs (in-lbs)	Nm
C1, C2	2	(10-14)	1.1-1.6
	11	25-30	34-41
	14	35-40	47-54
D1, D2	1	(4-6)	0.45-0.68
	6	(4-6)	0.45-0.68
F	4	40-50	54-68
	17	(4-6)	0.45-0.68
G	6	(4-6)	0.45-0.68
	18	40-50	54-68

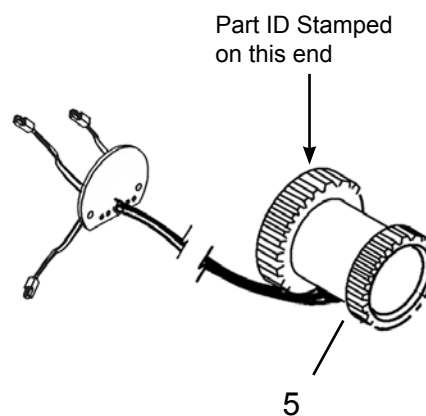
3 Washer Assembly



2 Spanner Wrench

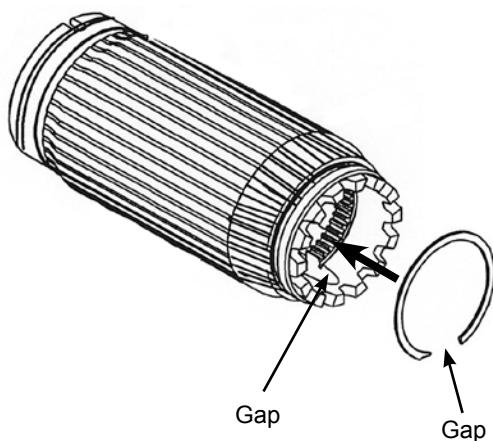


4 Transducer Identification

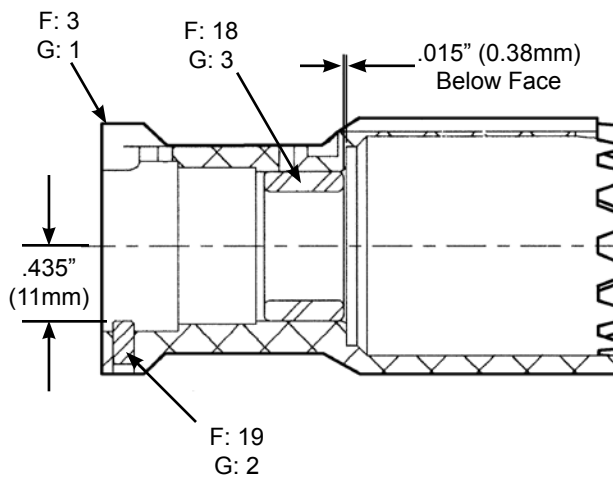


Transducers are not interchangeable, check part number.

5 Retaining Ring Assembly

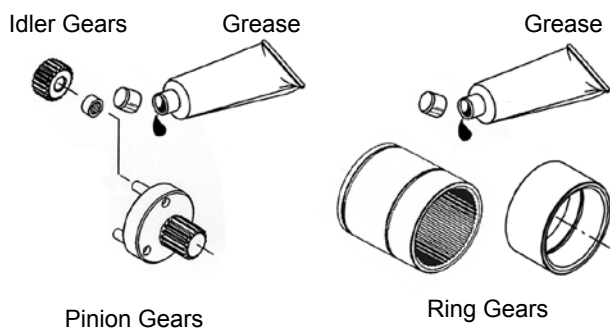


7 Housing Assembly



6 Gear Train Lubrication

541444 - 2 oz. (56 g)
541445 - 1 pound (0,45 kg)



Cleco®
Tool Memory Parameters

PL12EN-18ES-PTS
06/15/2012

Model Number	Max Speed [RPM]	Max Torque [Nm]	Torque Cal [Nm]	Transducer Type	Angle Cal [PPD]	Static Current Factor [Nm/A]
18ES(E)06QP	4000	6	6.9796	542846-6	21.3333	0.5315
18ES(E)06D3P	4000	6	6.9796	542846-6	21.3333	0.5315
18ES(E)12QP	1825	12	12.8653	542846-12	46.8595	1.1091
18ES(E)12D3P	1825	12	12.8653	542846-12	46.8595	1.1091

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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