

Parts Manual
PL12-18EA-S
04/07/2014

Cleco®

OMEGA TECHNOLOGIES

18EA Series
Electronically Controlled Floating Spindle 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-right-angle-floating-spindle-corded-electric-nutrunners/>

	18	E	A	X	XX	S	131
Tool Series	18						
Motor Style		E = Brushless Electric Motor					
Tool Type			A = Right Angle				
Feature 1				- = Matrix Tool Connector (Standard) E = Air LB Connector			
Maximum Torque (Rounded to the nearest Nm)					16 = 16 Nm 23 = 23 Nm 30 = 30 Nm		
Termination						S = Retractable Angle Head	
Retainer Shaft							131 = 3/8" Square Drive

The original language of this manual is English.

Product Safety Information:

Intended Use:

An electric assembly tool is to be used only for tightening of threaded joints or running down fasteners.

For additional product safety information refer to Apex Tool Group, LLC or Apex Tool Group GmbH & Co. OHG document CE-2002, General Safety Electric Assembly Tools.

WARNING

The assembly tool 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 and 2004/108/EC). Applied harmonized standards are ISO 12100:2010.

The name, job function and address of the person authorized to compile the technical file.

Mr. Vishnu Irigireddy
Director of Global R&D- Mechanical Engineering
Apex Tool Group
670 Industrial Drive
Lexington, SC 29072

I. V. Vishnu Varadhan

Signature: Vishnu Irigireddy
Date: April 7, 2014

Noise and Vibration:

Model Series	Sound Level dB(A) (ISO15744)	Vibration m/s ² (ISO28927)
18EA16S131	≤ 68	< 2.5
18EAE16S131	≤ 68	< 2.5
18EA23S131	≤ 68	< 2.5
18EAE23S131	≤ 68	< 2.5
18EA30S131	≤ 68	< 2.5
18EAE30S131	≤ 68	< 2.5

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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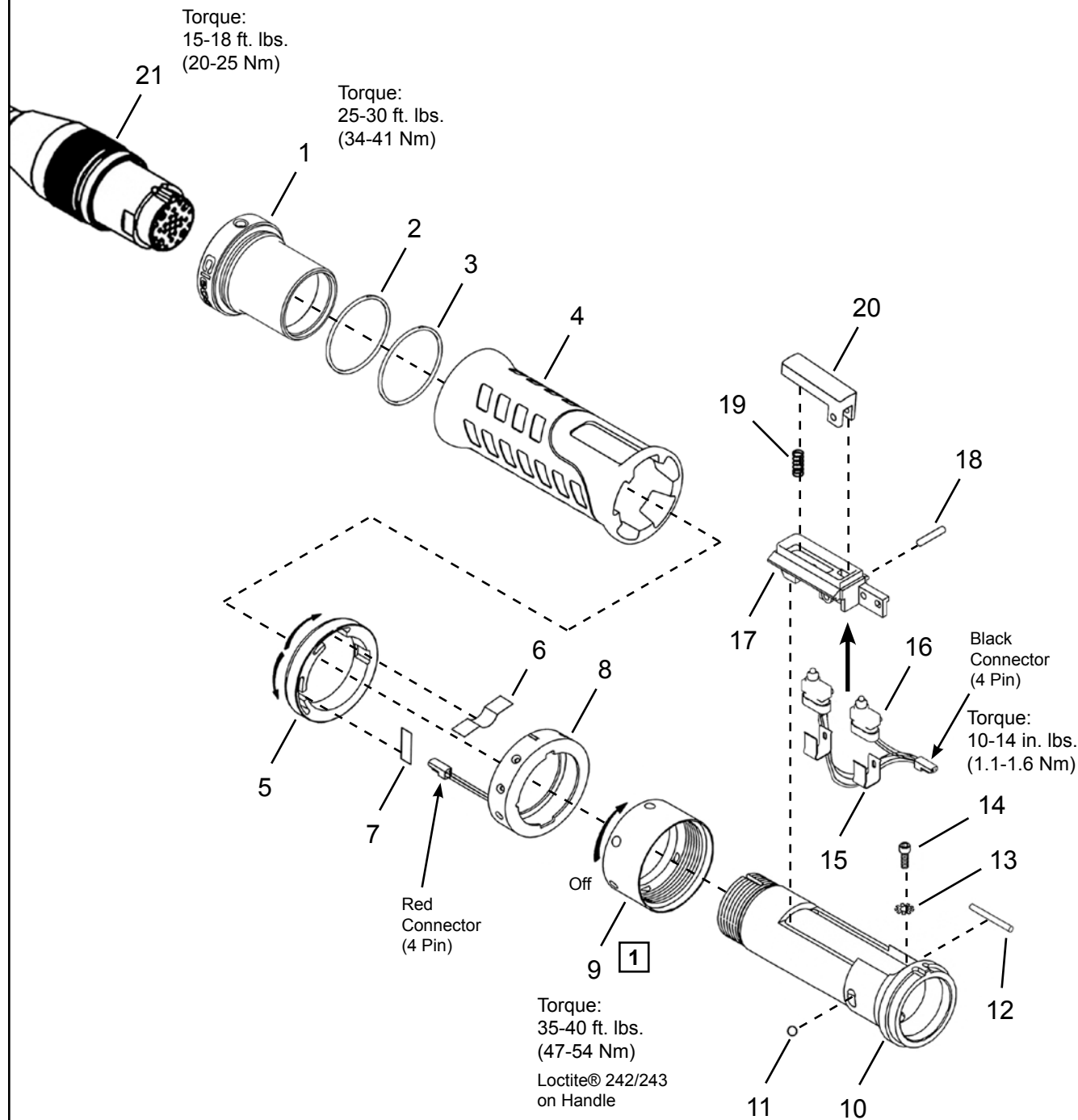
"A"

Models

18EA16(---)

18EA23(---)

18EA30(---)



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Handle - Matrix Tool Connector

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Illustration "A"

Ref	Number	#	X	EN
				Description
1	207325	1		Connector Sleeve
2	524818	1	3	O-Ring
3	22598	1	3	O-Ring
4	207323	1		Handle Sleeve
5	542938	1		Reverse Ring
6	541033	1	3	Reverse Spring
7	541624	1	3	Forward/Reverse Spring
8	542819	1		Light Ring Assembly
9	541017	1		Handle Retaining Nut
10	541015	1		Handle
11	1091PT	1	3	Steel Ball (3/16")
12	1009089	1	3	Pin
13	W115	1	3	Lock Washer
14	B159V	1	3	Cap Screw (#6-32)
15	207317	2	2	Switch Spring Clip
16	F900571	1	2	Start/Reverse Switch
17	207316	1		Switch Holder
18	541480	1	3	Pin
19	266255	1	3	Switch Spring
20	F900185	1		Switch Actuator
Tool Cable (Optional Length)				
21	542778-1M	1		Cable (1 Meter)
	542778-2M			Cable (2 Meter)
	542778-3M			Cable (3 Meter)
	542778-6M			Cable (6 Meter)
	542778-8M			Cable (8 Meter)
	542778-10M			Cable (10 Meter)
	542778-15M			Cable (15 Meter)
	542778-50M			Cable (50 Meter)
Inline Swivel Cable (Optional Length)				
21	544056-1M	1		Cable (1 Meter)
	544056-2M			Cable (2 Meter)
	544056-3M			Cable (3 Meter)
	544056-6M			Cable (6 Meter)
	544056-8M			Cable (8 Meter)
	544056-10M			Cable (10 Meter)
	544056-15M			Cable (15 Meter)
Angle Swivel Cable (Optional Length)				
21	544055-1M	1		Cable (1 Meter)
	544055-2M			Cable (2 Meter)
	544055-3M			Cable (3 Meter)
	544055-6M			Cable (6 Meter)
	544055-8M			Cable (8 Meter)
	544055-10M			Cable (10 Meter)
	544055-15M			Cable (15 Meter)
Tool Cable Extension (Optional Length)				
21	542779-1M	1		Cable (1 Meter)
	542779-2M			Cable (2 Meter)
	542779-3M			Cable (3 Meter)
	542779-6M			Cable (6 Meter)
	542779-10M			Cable (10 Meter)
	542779-15M			Cable (15 Meter)
	542779-50M			Cable (50 Meter)

(#) Quantity

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

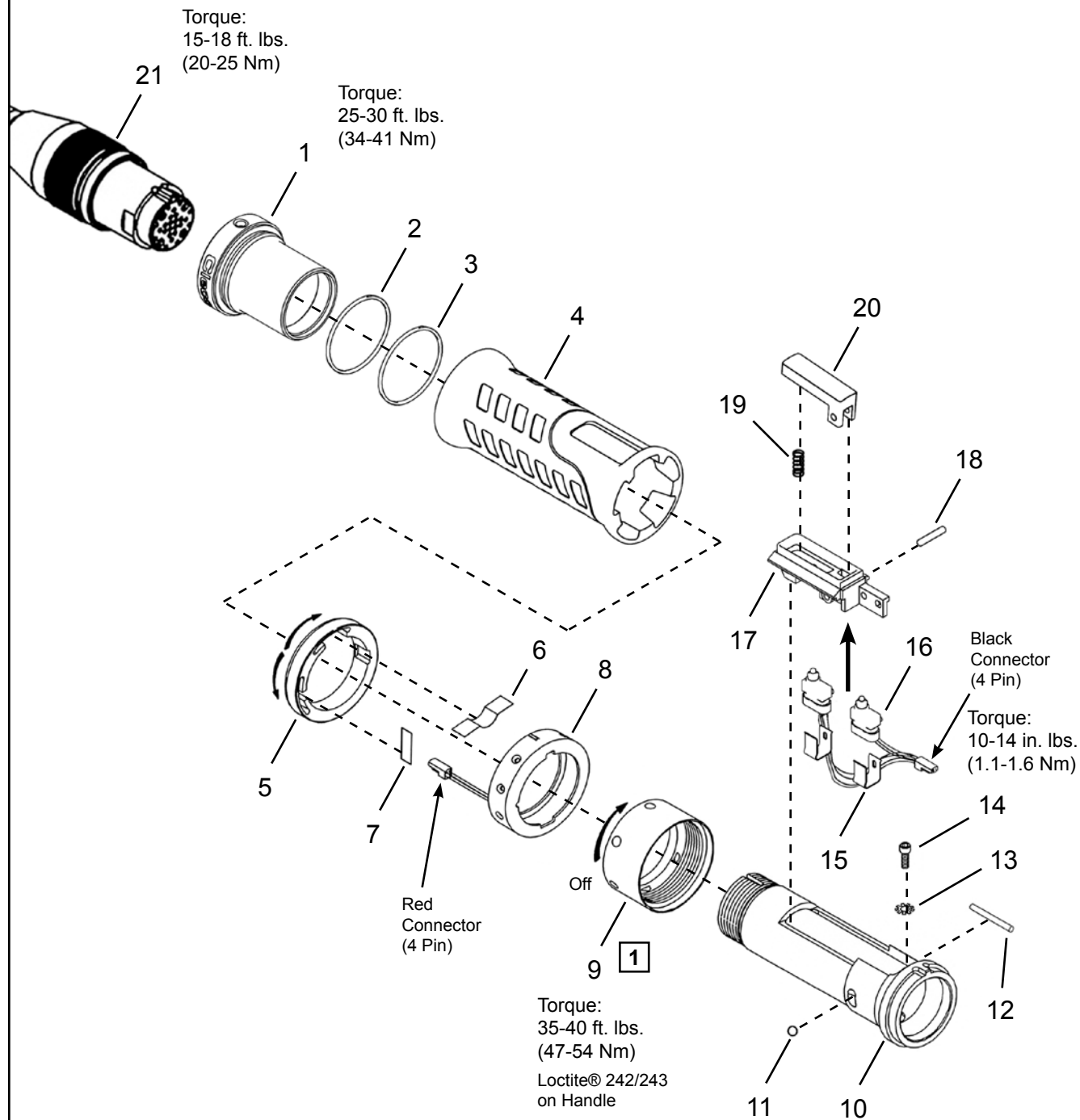
"B"

Models

18EAE16(----)

18EAE23(----)

18EAE30(----)



Cleco®
Handle - Air LB Connector

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04/07/2014

Illustration "B"

Ref	Number	#	X	EN
				Description
1	207325E	1		Connector Sleeve
2	524818	1	3	O-Ring
3	22598	1	3	O-Ring
4	207323	1		Handle Sleeve
5	542938	1		Reverse Ring
6	541033	1	3	Reverse Spring
7	541624	1	3	Forward/Reverse Spring
8	542819	1		Light Ring Assembly
9	541017	1		Handle Retaining Nut
10	207322	1		Handle
11	1091PT	1	3	Steel Ball (3/16")
12	1009089	1	3	Pin
13	W115	1	3	Lock Washer
14	B159V	1	3	Cap Screw (#6-32)
15	207317	2	2	Switch Spring Clip
16	F900571	1	2	Start/Reverse Switch
17	207316	1		Switch Holder
18	541480	1	3	Pin
19	266255	1	3	Switch Spring
20	F900185	1		Switch Actuator
Tool Cable (Optional Length)				
21	961250-020	1		Cable (2 Meter)
	961250-030			Cable (3 Meter)
	961250-040			Cable (4 Meter)
	961250-060			Cable (6 Meter)
	961250-080			Cable (8 Meter)
	961250-100			Cable (10 Meter)
	961250-150			Cable (15 Meter)
Inline Swivel Cable (Optional Length)				
21	961251-020	1		Cable (2 Meter)
	961251-040			Cable (4 Meter)
	961251-080			Cable (8 Meter)
	961251-150			Cable (15 Meter)
Angle Swivel Cable (Optional Length)				
21	961252-020	1		Cable (2 Meter)
	961252-040			Cable (4 Meter)
	961252-080			Cable (8 Meter)
	961252-150			Cable (15 Meter)
Tool Cable Extension (Optional Length)				
21	960430-005	1		Cable (5 Meter)
	960430-008			Cable (8 Meter)
	960430-010			Cable (10 Meter)
	960430-020			Cable (20 Meter)
	960430-030			Cable (30 Meter)
	960430-040			Cable (40 Meter)
	960430-050			Cable (50 Meter)

(#) Quantity

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

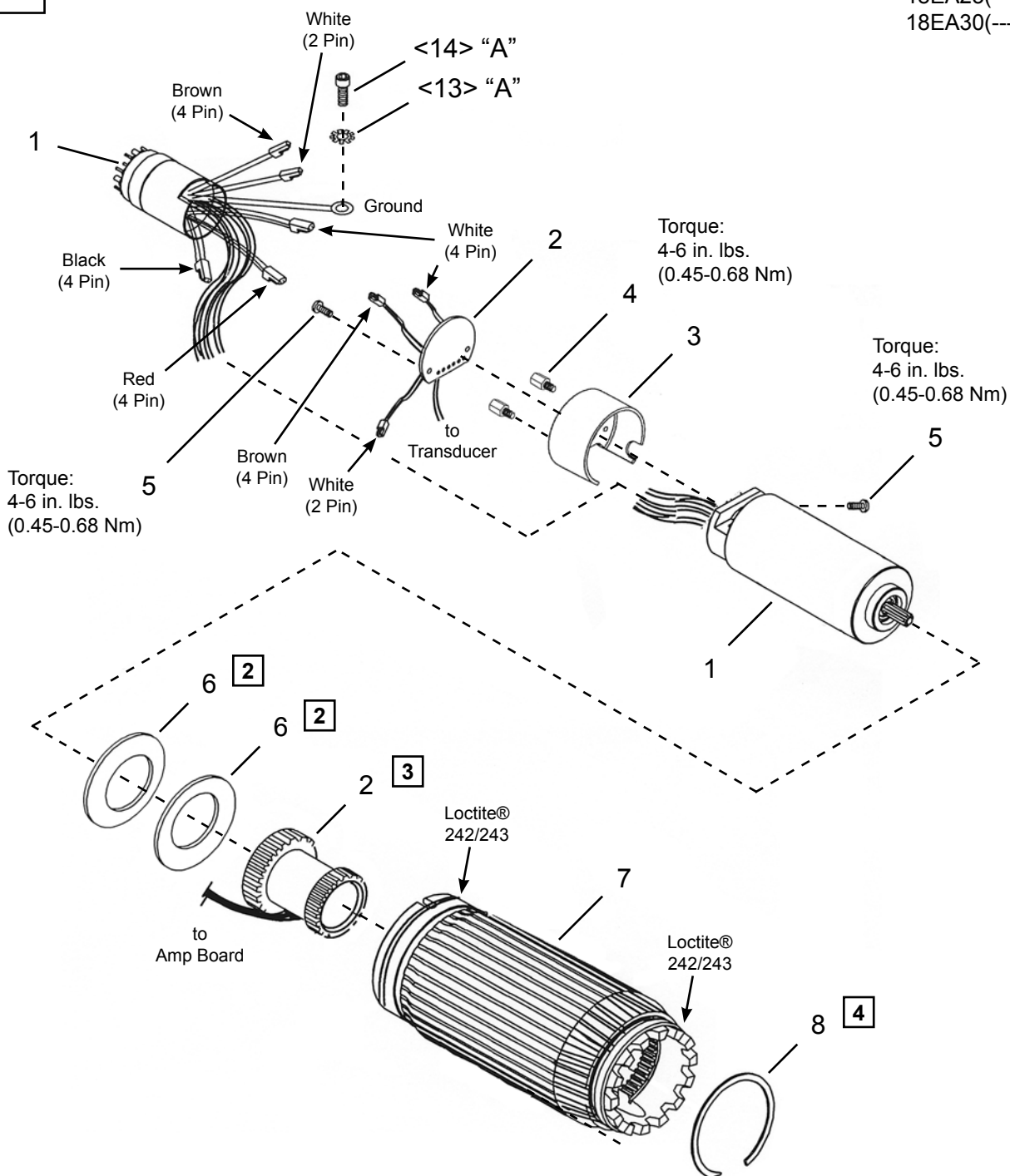
"C"

Models

18EA16(----)

18EA23(----)

18EA30(----)



2 3 4 See Service Notes

Cleco®
Motor - Matrix Tool Connector

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Illustration "C"

Ref	Number	#	X	EN
				Description
1	301760	1		Motor Assembly
2	Table "C"	1		Transducer Assembly
3	542588	1		Motor Spacer
4	542244	2	2	Stand Off (5/16")
5	17-111	3	6	Pan Head Screw (#4-40)
6	541009	2	2	Wave Washer
7	207339	1		Housing
8	505306	1	2	Retaining Ring

(#) Quantity

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

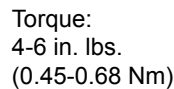
Table "C"

Ref.	Description	#	18EA16	#	18EA23	#	18EA30
2	Transducer (unprogrammed)	1	542846-12	1	542846-17	1	542846-31
	Transducer (programmed)	1	542846-12P	1	542846-17P	1	542846-31P
	Transducer Capacity		12 Nm		17 Nm		31 Nm

Models

18EAE23(----)

18EAE30(----)



Torque:
4-6 in. lbs.
(0.45-0.68 Nm)

Torque:
4-6 in. lbs.
(0.45-0.68 Nm)

Loctite®
242/243

Loctite®
242/243

to
Amp Board

2 **3** **4** See Service Notes

Cleco®
Motor - Air LB Connector

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04/07/2014

Illustration "D"

Ref	Number	#	X	EN
				Description
1	301760E	1		Motor Assembly
2	Table "D"	1		Transducer Assembly
3	542588	1		Motor Spacer
4	542244	2	2	Stand Off (5/16")
5	17-111	3	6	Pan Head Screw (#4-40)
6	541009	2	2	Wave Washer
7	207339	1		Housing
8	505306	1	2	Retaining Ring

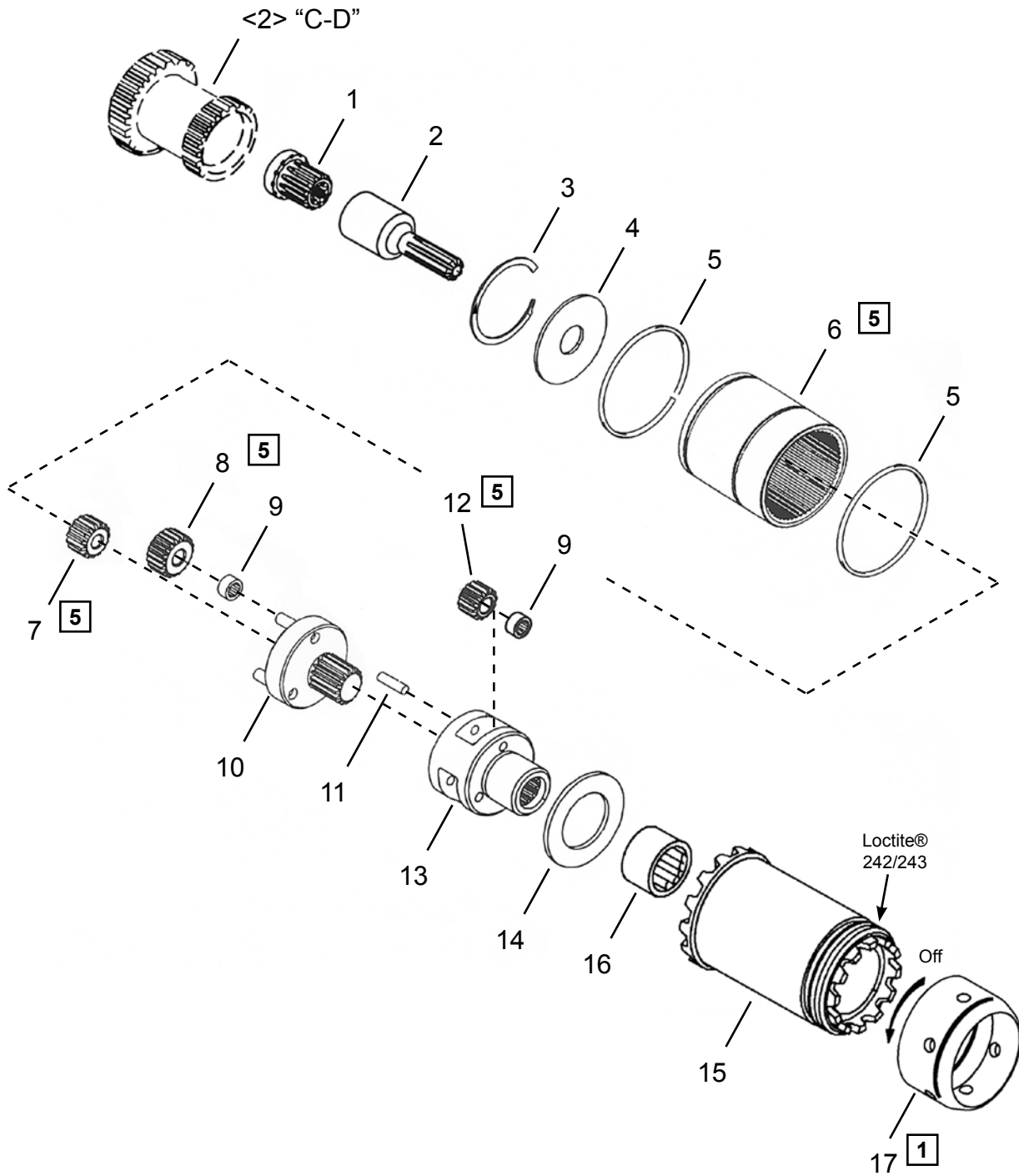
(#) Quantity

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

Table "D"

Ref.	Description	#	18EAE16	#	18EAE23	#	18EAE30
2	Transducer (unprogrammed)	1	542846-12	1	542846-17	1	542846-31
	Transducer (programmed)	1	542846-12P	1	542846-17P	1	542846-31P
	Transducer Capacity		12 Nm		17 Nm		31 Nm

"E"



1 **5** See Service Notes

Torque:
30-35 ft. lbs.
(41-47 Nm)

Cleco®
Double Stage Gearing

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Illustration "E"

Ref	Number	#	X	EN
				Description
1	541044	1	2	Pinion Adapter
2	541898	1	2	Extension Pinion
3	8000116	1	2	Retaining Ring
4	541887	1	2	Washer
5	542724	2	6	O-Ring
6	542722	1		Ring Gear
7	Table "E"	1	2	Slip On Gear
8	Table "E"	3	6	Planetary Gear
9	203749	6	12	Planetary Gear Needle Bearing
10	Table "E"	1		Planetary Carrier Assembly
11	541888	3	6	Planetary Gear Pin
12	Table "E"	3	6	Planetary Gear
13	Table "E"	1		Planetary Gear Cage
14	502983	1		Thrust Washer
15	542829	1		Angle Head Adapter (includes Ref. 16)
16	500528	1	2	Needle Bearing
17	541904	1		Front Nut

(#) Quantity

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

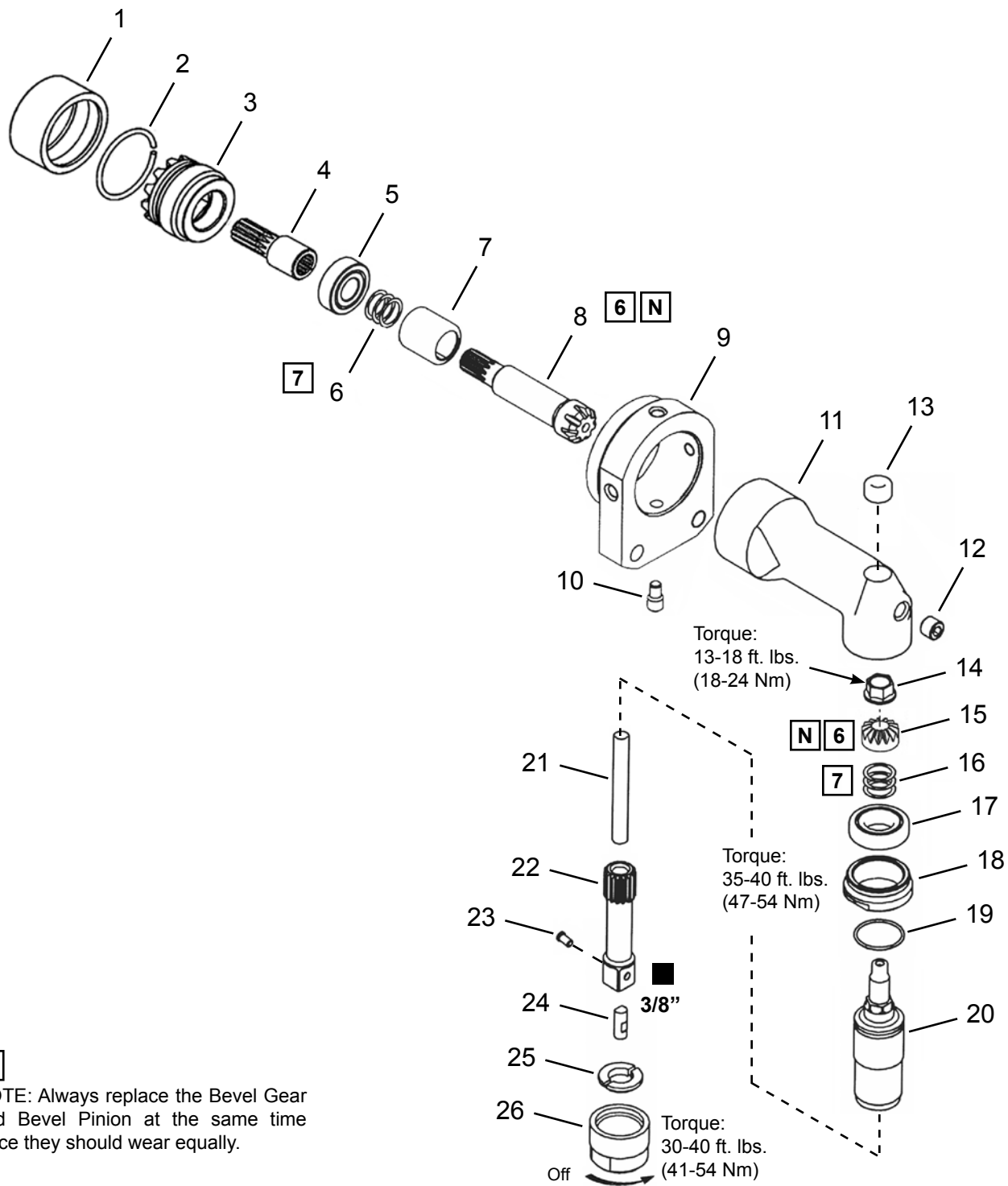
Table "E"

Ref.	Description	#	18EA16 18EAE16	#	18EA23 18EAE23	#	18EA30 18EAE30
7	Slip On Gear	1	541899	1	541899		-----
8	Planetary Gear	3	541894 (17T)	3	541894 (17T)	3	541893 (21T)
10	Planetary Carrier Assembly	1	542230	1	542233	1	542231
12	Planetary Gear	3	541894 (17T)	3	541897 (20T)	3	541894 (17T)
13	Planetary Gear Cage	1	542079	1	542099	1	542079

(T) Teeth

S131 Right Angle Retractable Spindle

"F"



S131 Right Angle Retractable Spindle

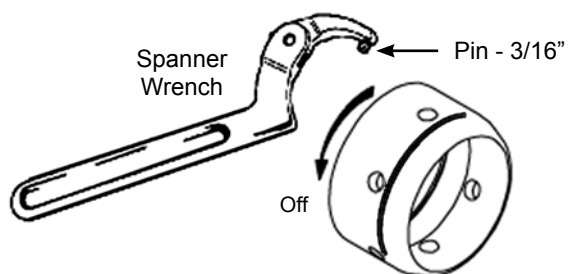
Illustration "F"

Ref	Number	#	X	EN
				Description
1	543112	1		Front Nut
2	543115	1	3	Retaining Ring
3	543114	1		Notched Adapter
4	543113	1	1	Pinion Gear Adapter
5	92100006	1	2	Ball Bearing
6	57019146	1	AR	Shim (.005")
	57019145	1	AR	Shim (.003")
	57019144	1	AR	Shim (.002")
7	92000024	1	2	Needle Bearing
8	57017141	1	1	Pinion Gear
9	57217102	1		Mounting Plate
10	57218103	1	2	Retainer Screw
11	54848104	1		Angle Housing (includes Ref. 12)
12	12601432	1	2	Pipe Plug
13	202198	1	2	Needle Bearing
14	93190025	1	1	Flange Nut
15	57017142	1	1	Bevel Gear
16	57019152	1	AR	Shim (.005")
	57019151	1	AR	Shim (.003")
	57019150	1	AR	Shim (.002")
17	92100092	1	2	Ball Bearing
18	57018166	1		Flanged Nut
19	93040022	1	3	O-Ring
20	57017240	1		Spindle Extension
21	94070221	1	3	Spring
22	57017241	1		Sliding Spindle (includes Ref. 23-24)
23	8431048	1	3	Locking Pin
24	8431047	1	1	Retainer
25	57019236	1		Split Retainer
26	57018237	1		Retaining Cap

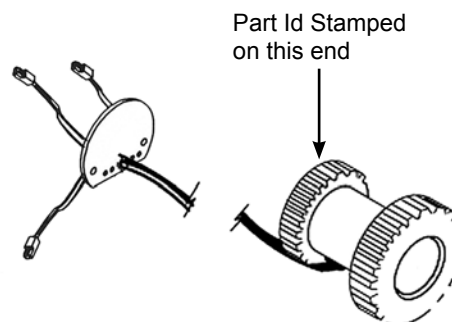
(#) Quantity

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

1 Spanner Wrench

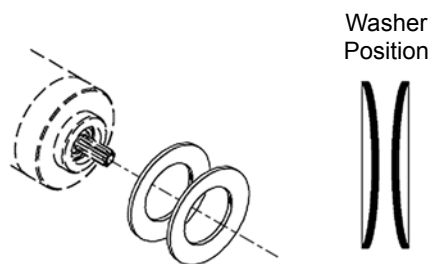


3 Transducer Identification

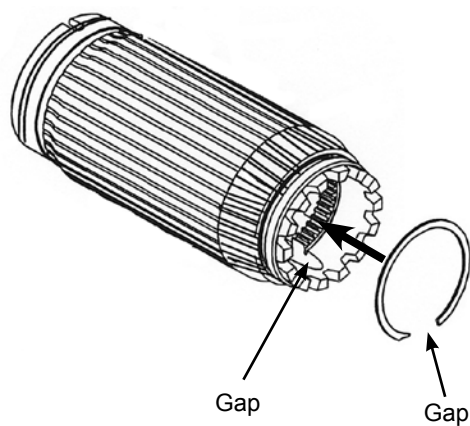


Transducers are not interchangeable, check part number.

2 Washer Assembly

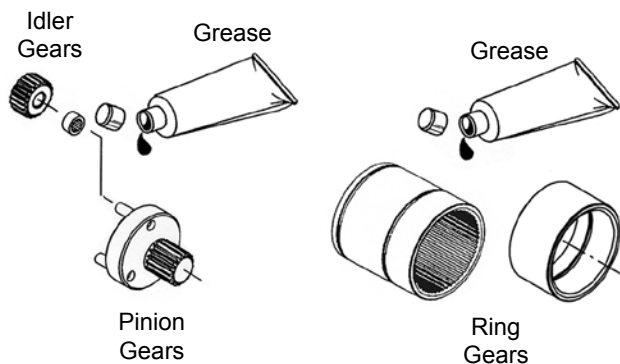


4 Retaining Ring Assembly



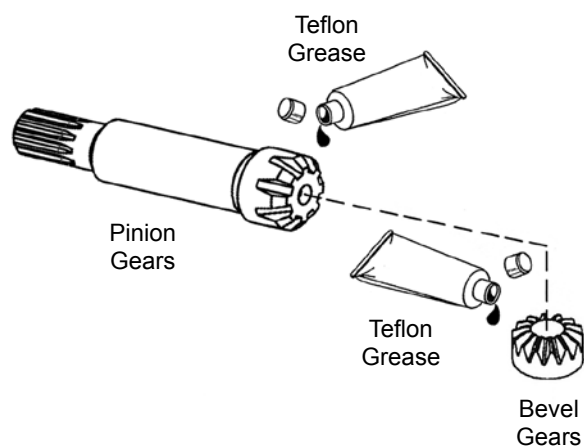
5 Gear Train Lubrication

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

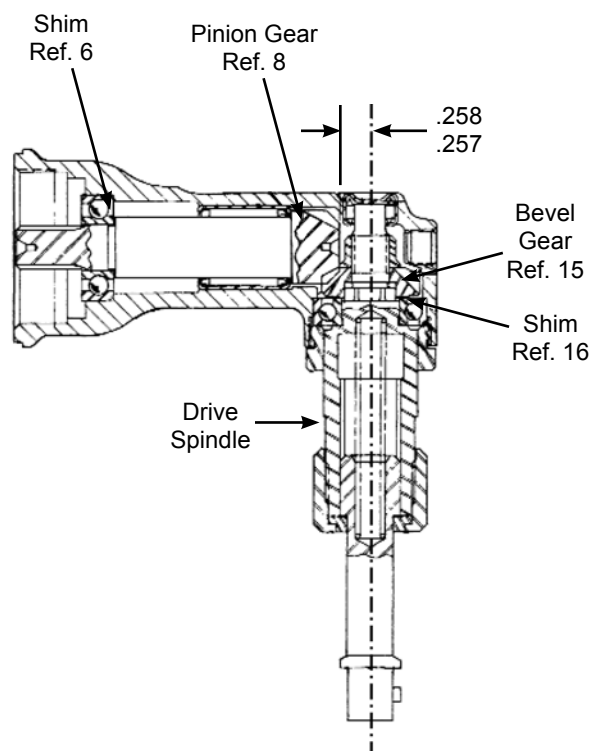


6 Angle Head Lubrication

544076 - 2 oz. (56 g)
544077 - 1 pound (0.45 kg)



7 Shim Assembly



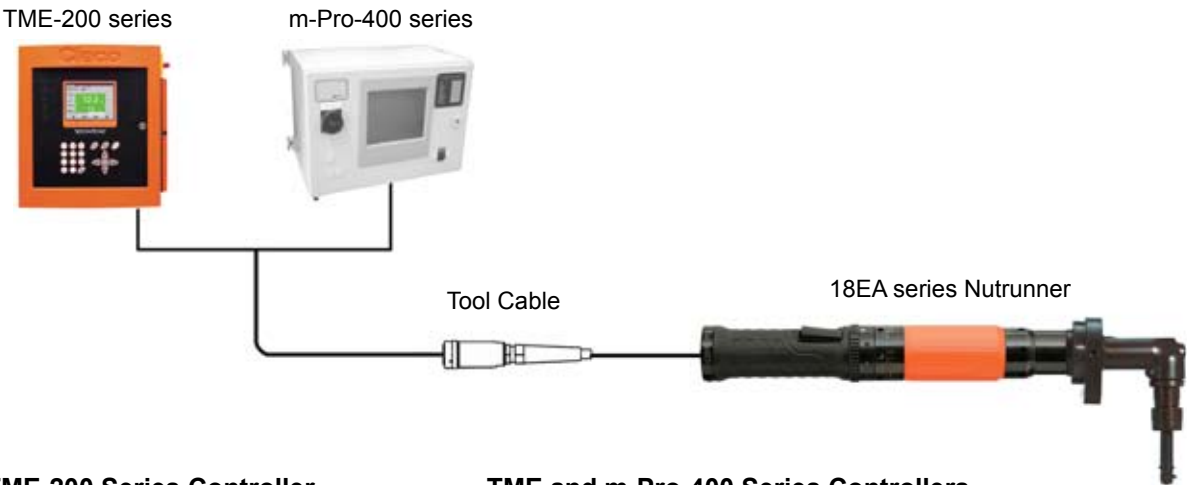
Pinion Gear (Ref. 8):

Use Shim (Ref. 6) to obtain .257/.258 dimension

Bevel Gear (Ref. 15):

Use Shim (Ref. 16) to obtain .002/.004 backlash after running gears under load

TME-200 or m-Pro-400 series controllers



TME-200 Series Controller

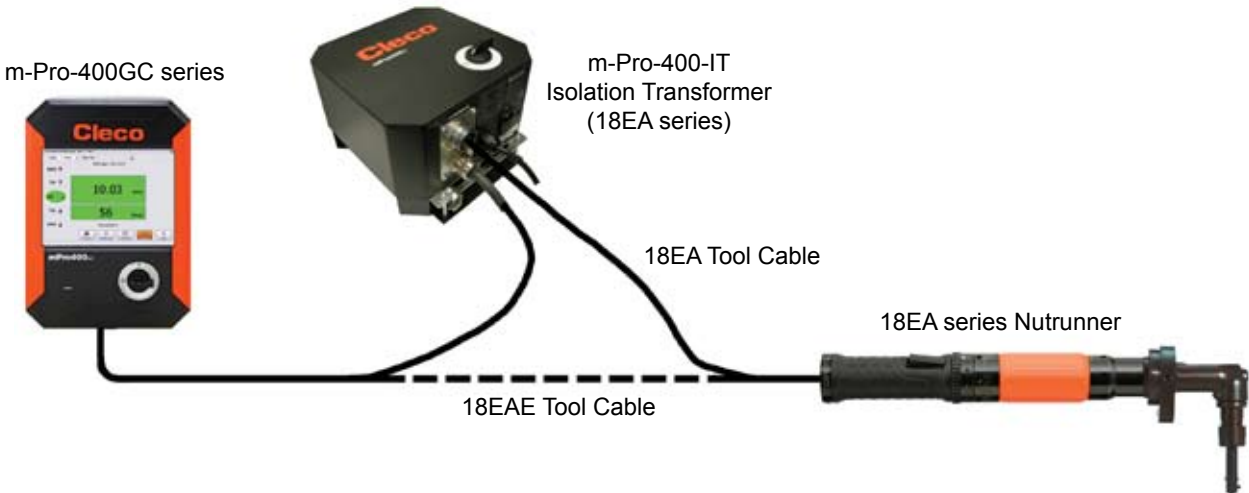
Supply Voltage	EN
	Order Number
115 VAC	TME-211-15-U
115 VAC	TME-221-15-U
230 VAC	TME-211-30-U
230 VAC	TME-221-30-U

TME and m-Pro-400 Series Controllers

18EA	18EAE	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

m-Pro-400GC series global controller



Specifications:

Right Angle DC Electric Floating Spindle Nutrunner

Model Number	Tool Range				Max. Speed (rpm)	Length		Weight		Head Height		Side to Center		Ouput Drive Size
	Max Tq		Min Tq			in	mm	lbs	kg	in	mm	in	mm	
	ft-lb	Nm	ft-lb	Nm										
18EA16S131	11.8	16	3.7	5.1	1225	16.0	406	4.4	2.0	2.77	70	0.55	14	3/8"
18EAE16S131	11.8	16	3.7	5.1	1225	16.0	406	4.4	2.0	2.77	70	0.55	14	3/8"
18EA23S131	16.9	23	5.3	7.2	860	16.0	406	4.4	2.0	2.77	70	0.55	14	3/8"
18EAE23S131	16.9	23	5.3	7.2	860	16.0	406	4.4	2.0	2.77	70	0.55	14	3/8"
18EA30S131	22.1	30	4.4	6.0	655	16.0	406	4.4	2.0	2.77	70	0.55	14	3/8"
18EAE30S131	22.1	30	4.4	6.0	655	16.0	406	4.4	2.0	2.77	70	0.55	14	3/8"

Tool Memory:

Model Number	Max Speed [RPM]	Max Torque [Nm]	Torque Cal [Nm]	Transducer Type	Angle Cal [PPD]	Static Current Factor [Nm/A]
18EA16S131	1225	16	17.7541	542846-12	70.2893	1.5306
18EAE16S131	1225	16	17.7541	542846-12	70.2893	1.5306
18EA23S131	860	23	24.6342	542846-17	99.1829	2.1598
18EAE23S131	860	23	24.6342	542846-17	99.1829	2.1598
18EA30S131	655	30	44.3960	542846-31	129.8824	2.8283
18EAE30S131	655	30	44.3960	542846-31	129.8824	2.8283

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.

Detroit, Michigan

**Apex Tool Group
Sales & Service Center**
2630 Superior Court
Auburn Hills, MI 48326
Tel: (248) 393-5640
Fax: (248) 391-6295

Houston, Texas

**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, South Carolina

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

Los Angeles, California

**Apex Tool Group
Sales & Service Center**
6881 Stanton Avenue
Unit B
Buena Park, CA 90621
Tel: (714) 994-1491
Fax: (714) 994-9576

Seattle, Washington

**Apex Tool Group
Sales & Service Center**
2865 152nd Avenue N.E
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Tel: (425) 497-0476
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York, Pennsylvania

**Apex Tool Group
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3990 East Market Street
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Brazil

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Av. Liberdade, 4055
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Canada

**Apex Tool Group
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7631 Bath Road
Mississauga
Ontario L4T 3T1
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Tel: (905) 673-4400

China

**Apex Power Tool Trading
(Shanghai) Co., Ltd**
Building A8, No. 38
Dongsheng Road
Pudong, Shanghai
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Piccadilly, Tamworth
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9027 Győr
Hungary
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Fax: +36 96 66 1135

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Maharashtra, India
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Mexico

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Querétaro, QRO 76220
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