

Parts Manual
PL12-18ES-ZA
04/04/2011

OMEGA TECHNOLOGIES

Cleco®

18ES... 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-inline-floating-spindle-corded-electric-nutrunners-cleco-corded-electric-nutrunners-cleco-air-tools/>

Model Nomenclature

“A”

	18	E	S	X	XX	XX
Series / Serie						
18						
Motor Style / Type						
E = Brushless Electric Motor						
Tool Type / Anzeigen & Steuern						
S = Inline						
Feature 1						
- = Matrix Tool Connector (Standard)						
E = Air LB Connector						
Max Torque NM (Rounded to Nearest Nm)						
06 = 6 Nm						
12 = 12 Nm						
17 = 17 Nm						
Attachment						
ZA = 1/4" Square Drive Floating Spindle						

"B"

Complete Tool	Floating Spindle
Order Number Ordnen Sie Zahl an Commander le Numéro El Número de pedido Ordinare il Numero	Order Number Ordnen Sie Zahl an Commander le Numéro El Número de pedido Ordinare il Numero
18ES(E)06ZA	930300
18ES(E)12ZA	930300
18ES(E)17ZA	930300

TME-200 Series
Controllerm-Pro-400 Series
Controller

Tool Cable

Tool In / Out

18ES	18ESE	EN	DE	FR	ES	IT
		Description	Benennung	Designation	Descripción	Descrizione
TME-200	m-Pro-400	Controller				
PL12()-1300	*	Programming Notes	Programmierenanmerkungen	Notes de programmation	Notas de programación	Note di programmazione
575708	*	Battery	Batterie	Batterie	Batería	Batteria
541683-01	*	Power Cord 115VAC - USA	Anschlußkabel 115VAC - USA	Cordon d'alimentation 115VAC - USA	Cable de potencia 115VAC - USA	Cordone d'alimentazione 115VAC - USA
541683-02	*	Power Cord 230VAC - USA	Anschlußkabel 230VAC - USA	Cordon d'alimentation 230VAC - USA	Cable de potencia 230VAC - USA	Cordone d'alimentazione 230VAC - USA
541683-03	*	Power Cord 230VAC - Europe	Anschlußkabel 230VAC - Europa	Cordon d'alimentation 230VAC - L'Europe	Cable de potencia 230VAC - Europa	Cordone d'alimentazione 230VAC - Europa
542779-XXX	960430-XXX	Extension Cable	Verlängerung Kabel	Câble De Prolongation	Cable De la Extensión	Cavo Di Estensione
544056-XXX	961251-XXX	Swivel Cable	Schwenker-Kabel	Câble De Pivot	Cable Del Eslabón giratorio	Cavo Della Parte girevole
544055-XXX	961252-XXX	Swivel Cable (90°)	Schwenker-Kabel (90°)	Câble De Pivot (90°)	Cable Del Eslabón giratorio (90°)	Cavo Della Parte girevole (90°)
542778-XXX	961250-XXX	Tool Cable	Werkzeug-Kabel	Câble D'Outil	Cable De la Herramienta	Cavo Dell'Attrezzo

(EN) * Note: Contact (Cooper Power Tools)

(DE) * Notiz: Kontakt (Cooper Power Tools)

(FR) * Note: Contact (Cooper Power Tools)

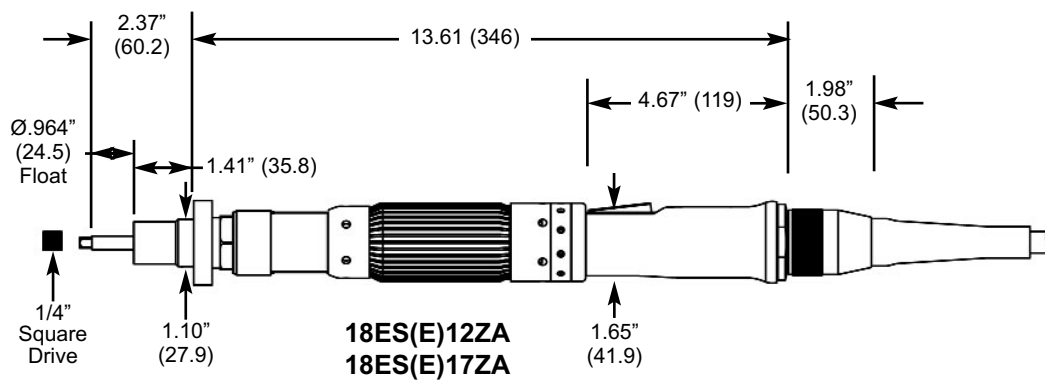
(ES) * Nota: Contato (Cooper Power Tools)

(IT) * Nota: Contacto (Cooper Power Tools)

TME-200 Series Controller

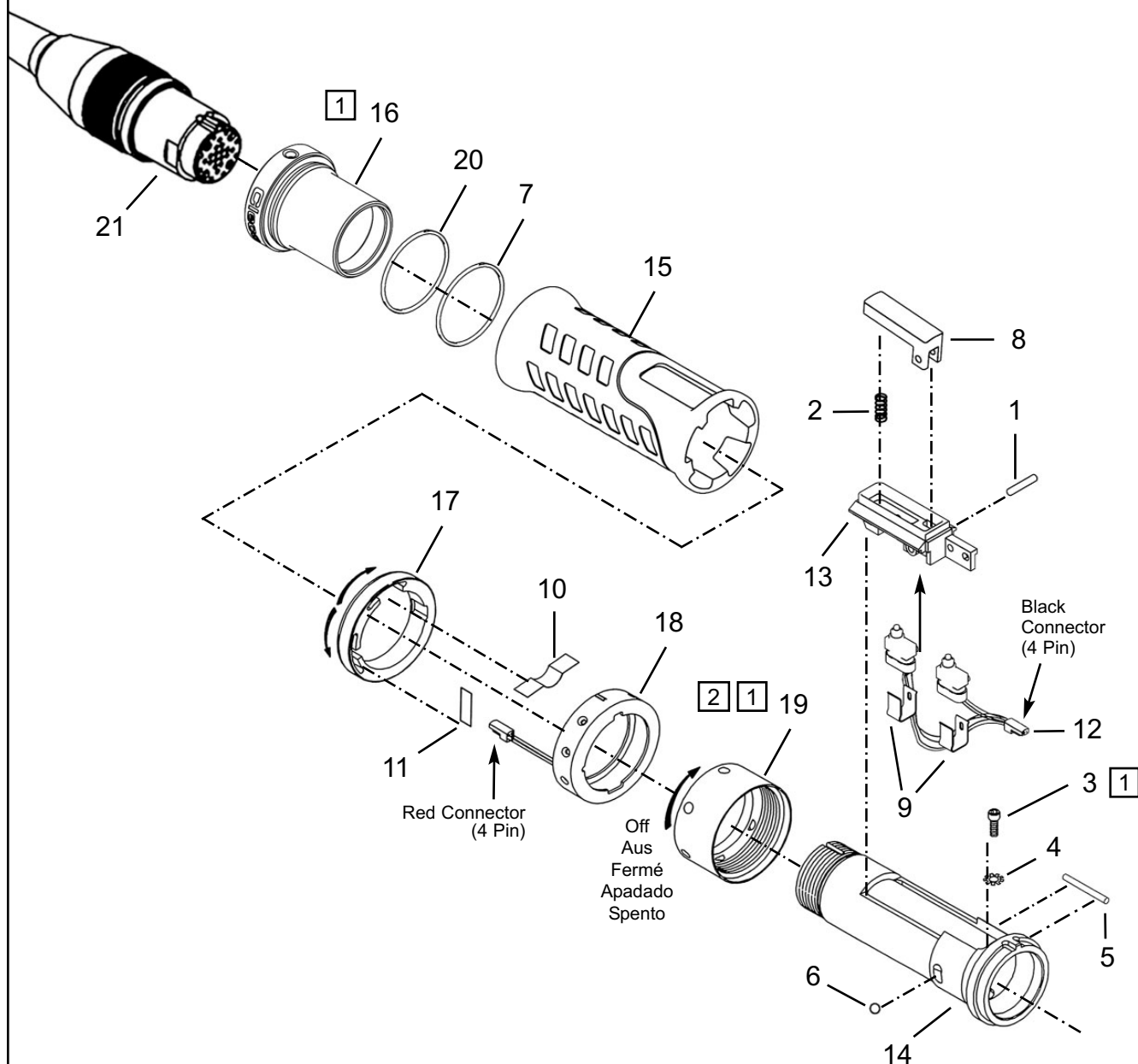
Supply Voltage	EN	DE	PT	ES
	Order Number	Bestell-Nr.	Order Number	Referencia
115 VAC	TME-211-15-U	TME-211-15-D	TME-211-15-P	TME-211-15-S
115 VAC	TME-221-15-U	TME-221-15-D	TME-221-15-P	TME-221-15-S
230 VAC	TME-211-30-U	TME-211-30-D	TME-211-30-P	TME-211-30-S
230 VAC	TME-221-30-U	TME-221-30-D	TME-221-30-P	TME-221-30-S

EN: Dimensions
DE: Abmessugen
FR: Dimensions
ES: Dimensión
IT: Dimensioni
Inches (mm)



18ES17

“D1”



1 2 See Service Notes

Handle - Matrix Tool Connector

Illustration, Abbildung, Illustration, Ilustración, Illustrazione "D1"

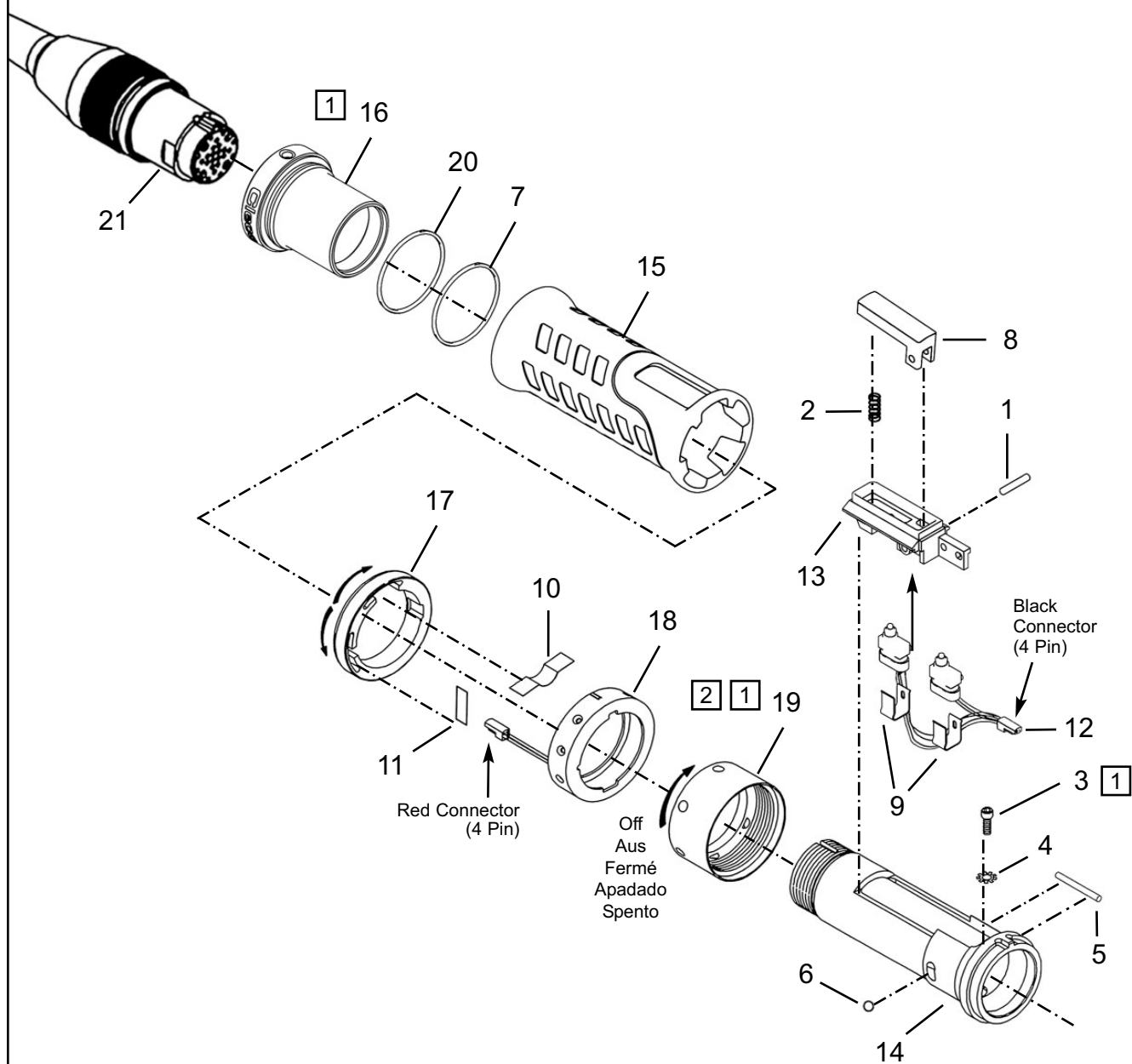
Ref	Number	#	X	EN	DE	FR	ES	IT
				Description	Benennung	Designation	Descripción	Descrizione
1	541480	1	3	Pin	Stift	Goupille cylindrique	Pasador	Spina
2	266255	1	3	Switch Spring	Druckfeder	Ressort	Resorte	Molla
3	B159V	1	3	Cap Screw #6-32	Schraube	Vis	Tornillo	Vite
4	W115	1	3	Lock Washer	Scheibe	Rondelle	Arandela	Rondella
5	1009089	1	3	Pin	Stift	Goupille cylindrique	Pasador	Spina
6	1091	1	3	Steel Ball, 3/16"	Stahlkugel	Bloom d'acier	Bola de acero	Sfera in acciaio
7	22598	1	3	O-Ring	O-Ring	Joint torique	Anillo "O"	Anello ad O
8	F900185	1		Switch Actuator	Hebel	Lever	Palanca	Leva
9	207317	2	2	Switch Spring Clip	Klipp	Agrafe	Presilla	Graffa
10	541033	1	2	Reverse Spring	Druckfeder	Ressort	Resorte	Molla
11	541624	1	2	Fwd/Rev Spring	Druckfeder	Ressort	Resorte	Molla
12	F900571	1	2	Start/Rev Switch	Schalter	Interrupteur	Interruptor	Interruttore
13	207316	1		Switch Holder	Schaltergehäuse	Anneau de fixation	Anillo de retención	Anello di fissaggio
14	541015	1		Handle	Handgriff	Poignée	Manija	Impugnatura
15	207323	1		Handle Sleeve	Hülse	Douille	Manguito	Manicotto
16	207325	1		Connector Sleeve	Hülse	Douille	Manguito	Manicotto
17	542938	1		Reverse Ring	Umschaltring	Anneau de renversement	Anillo de inversión	Anello di reversibilità
18	542819	1		Light Ring Asm.	LED-Ring kpl.	Bague	Anillo	Anello
19	541017	1		Handle Ret. Nut	Gewinding	Ecrou de retenue	Tuerca de retención	Dado di fissaggio
20	524818	1	3	O-Ring	O-Ring	Joint torique	Anillo "O"	Anello ad O
Tool Cable (Optional Length)								
21	542778-1M	1		1 meter cable	Kabel	Câble	Cable	Cavo
	542778-2M			2 meter cable	Kabel	Câble	Cable	Cavo
	542778-3M			3 meter cable	Kabel	Câble	Cable	Cavo
	542778-6M			6 meter cable	Kabel	Câble	Cable	Cavo
	542778-8M			8 meter cable	Kabel	Câble	Cable	Cavo
	542778-10M			10 meter cable	Kabel	Câble	Cable	Cavo
	542778-15M			15 meter cable	Kabel	Câble	Cable	Cavo
	542778-50M			50 meter cable	Kabel	Câble	Cable	Cavo
Inline Swivel Cable (Optional Length)								
21	544056-1M	1		1 meter cable	Kabel	Câble	Cable	Cavo
	544056-2M			2 meter cable	Kabel	Câble	Cable	Cavo
	544056-3M			3 meter cable	Kabel	Câble	Cable	Cavo
	544056-6M			6 meter cable	Kabel	Câble	Cable	Cavo
	544056-8M			8 meter cable	Kabel	Câble	Cable	Cavo
	544056-10M			10 meter cable	Kabel	Câble	Cable	Cavo
	544056-15M			15 meter cable	Kabel	Câble	Cable	Cavo
Angle Swivel Cable (Optional Length)								
21	544055-1M	1		1 meter cable	Kabel	Câble	Cable	Cavo
	544055-2M			2 meter cable	Kabel	Câble	Cable	Cavo
	544055-3M			3 meter cable	Kabel	Câble	Cable	Cavo
	544055-6M			6 meter cable	Kabel	Câble	Cable	Cavo
	544055-8M			8 meter cable	Kabel	Câble	Cable	Cavo
	544055-10M			10 meter cable	Kabel	Câble	Cable	Cavo
	544055-15M			15 meter cable	Kabel	Câble	Cable	Cavo
Tool Cable Extention (Optional Length)								
21	542779-1M	1		1 meter cable	Kabel	Câble	Cable	Cavo
	542779-2M			2 meter cable	Kabel	Câble	Cable	Cavo
	542779-3M			3 meter cable	Kabel	Câble	Cable	Cavo
	542779-6M			6 meter cable	Kabel	Câble	Cable	Cavo
	542779-10M			10 meter cable	Kabel	Câble	Cable	Cavo
	542779-15M			15 meter cable	Kabel	Câble	Cable	Cavo
	542779-50M			50 meter cable	Kabel	Câble	Cable	Cavo

(#) Quantity / Stückzahl / Quantité / Cantidad / Quantità

(X) Recommended Spare Parts / Kennzeichnet empfohlenes / Identifica un particolare di ricambio raccomandato / Designa el repuesto recomendado / Indique la pièce de rechange conseillée.

Models:
18ESE06
18ESE12
18ESE17

“D2”



Handle - Air LB Connector

Illustration, Abbildung, Illustration, Ilustración, Illustrazione "D2"

Ref	Number	#	X	EN	DE	FR	ES	IT
				Description	Benennung	Designation	Descripción	Descrizione
1	541480	1	3	Pin	Stift	Goupille cylindrique	Pasador	Spina
2	266255	1	3	Switch Spring	Druckfeder	Ressort	Resorte	Molla
3	B159V	1	3	Cap Screw #6-32	Schraube	Vis	Tornillo	Vite
4	W115	1	3	Lock Washer	Scheibe	Rondelle	Arandela	Rondella
5	1009089	1	3	Pin	Stift	Goupille cylindrique	Pasador	Spina
6	1091	1	3	Steel Ball, 3/16"	Stahlkugel	Bloom d'acier	Bola de acero	Sfera in acciaio
7	22598	1	3	O-Ring	O-Ring	Joint torique	Anillo "O"	Anello ad O
8	F900185	1		Switch Actuator	Hebel	Lever	Palanca	Leva
9	207317	2	2	Switch Spring Clip	Klipp	Agrafe	Presilla	Graffa
10	541033	1	2	Reverse Spring	Druckfeder	Ressort	Resorte	Molla
11	541624	1	2	Fwd/Rev Spring	Druckfeder	Ressort	Resorte	Molla
12	F900571	1	2	Start/Rev Switch	Schalter	Interrupteur	Interrupitor	Interruttore
13	207316	1		Switch Holder	Schaltergehäuse	Anneau de fixation	Anillo de retención	Anello di fissaggio
14	207322	1		Handle	Handgriff	Poignée	Manija	Impugnatura
15	207323	1		Handle Sleeve	Hülse	Douille	Manguito	Manicotto
16	207325E	1		Connector Sleeve	Hülse	Douille	Manguito	Manicotto
17	542938	1		Reverse Ring	Umschaltring	Anneau de renversement	Anillo de inversión	Anello di reversibilità
18	542819	1		Light Ring Asm.	LED-Ring kpl.	Bague	Anillo	Anello
19	541017	1		Handle Ret. Nut	Gewinding	Ecrou de retenue	Tuerca de retención	Dado di fissaggio
20	524818	1	3	O-Ring	O-Ring	Joint torique	Anillo "O"	Anello ad O
Tool Cable (Optional Length)								
21	961250-020	1		02 meter cable	Kabel	Câble	Cable	Cavo
	961250-030			03 meter cable	Kabel	Câble	Cable	Cavo
	961250-040			04 meter cable	Kabel	Câble	Cable	Cavo
	961250-060			06 meter cable	Kabel	Câble	Cable	Cavo
	961250-080			08 meter cable	Kabel	Câble	Cable	Cavo
	961250-100			10 meter cable	Kabel	Câble	Cable	Cavo
	961250-150			15 meter cable	Kabel	Câble	Cable	Cavo
Inline Swivel Cable (Optional Length)								
21	961251-020	1		02 meter cable	Kabel	Câble	Cable	Cavo
	961251-040			04 meter cable	Kabel	Câble	Cable	Cavo
	961251-080			08 meter cable	Kabel	Câble	Cable	Cavo
	961251-015			15 meter cable	Kabel	Câble	Cable	Cavo
Angle Swivel Cable (Optional Length)								
21	961252-020			02 meter cable	Kabel	Câble	Cable	Cavo
	961252-040			04 meter cable	Kabel	Câble	Cable	Cavo
	961252-080			08 meter cable	Kabel	Câble	Cable	Cavo
	961252-150			15 meter cable	Kabel	Câble	Cable	Cavo
Tool Cable Extension (Optional Length)								
21	960430-005	1		05 meter cable	Kabel	Câble	Cable	Cavo
	960430-008			08 meter cable	Kabel	Câble	Cable	Cavo
	960430-010			10 meter cable	Kabel	Câble	Cable	Cavo
	960430-020			20 meter cable	Kabel	Câble	Cable	Cavo
	960430-030			30 meter cable	Kabel	Câble	Cable	Cavo
	960430-040			40 meter cable	Kabel	Câble	Cable	Cavo
	960430-050			50 meter cable	Kabel	Câble	Cable	Cavo

(#) Quantity / Stückzahl / Quantité / Cantidad / Quantità

(X) Recommended Spare Parts / Kennzeichnet empfohlenes / Identifica un particolare di ricambio raccomandato / Designa el repuesto recomendado / Indique la pièce de rechange conseillée.

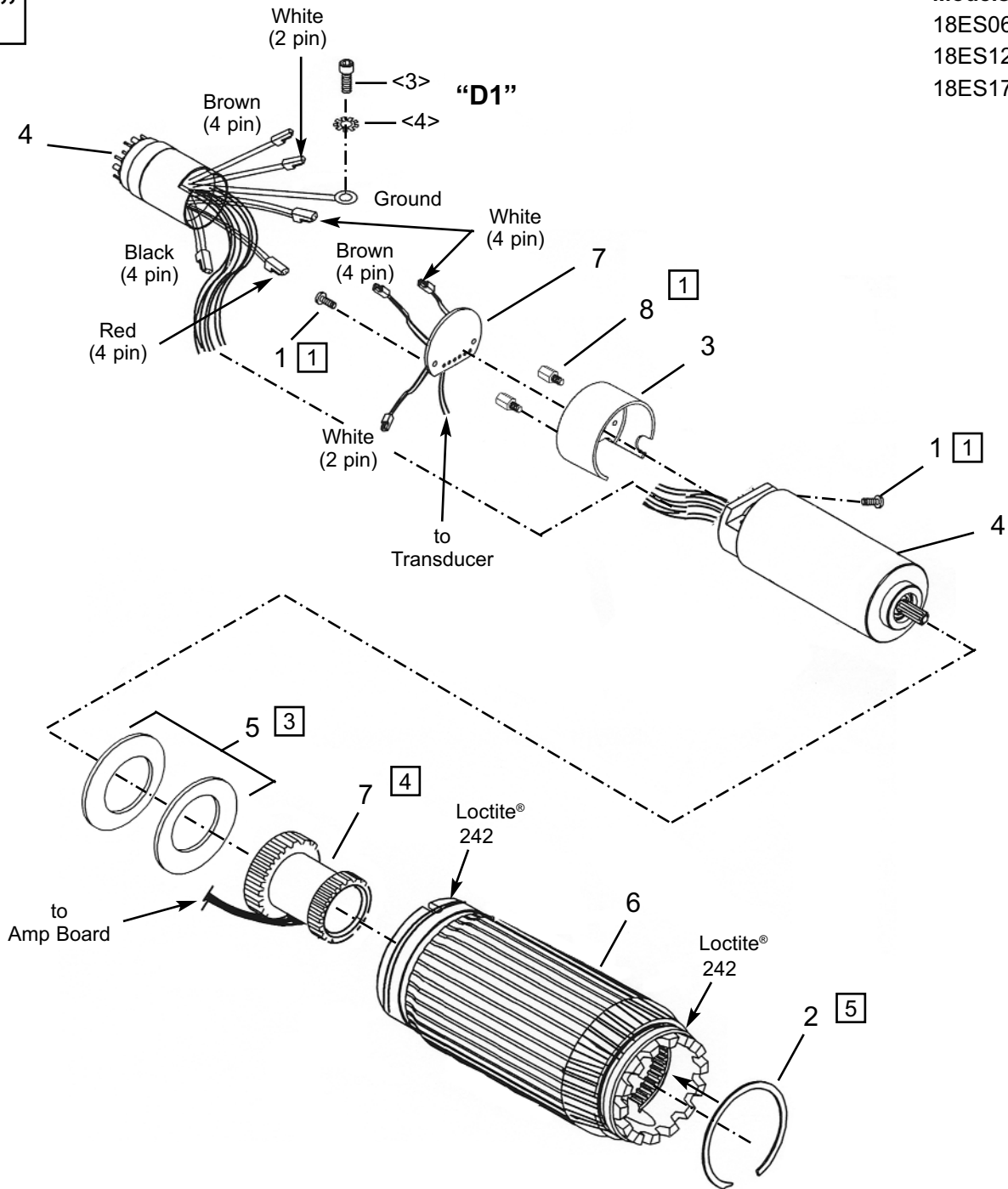
“E1”

Models:

18ES06

18ES12

18ES17



1 [1] 3 [3] 4 [4] 5 [5] See Service Notes

Motor - Matrix Tool Connector

Illustration, Abbildung, Illustration, Ilustración, Illustrazione "E1"

Ref	Number	#	X	EN	DE	FR	ES	IT
				Description	Benennung	Designation	Descripción	Descrizione
1	17-111	3	6	Screw /#4-40 Pan Head	Schraube	Vis	Tornillo	Vite
2	505306	1	2	Retaining Ring	Sicherungsring	Anneau de fixation	Anillo de retención	Anello di fissaggio
3	542588	1		Motor Spacer	Distanzstück	Entretoise	Espaciador	Distanziale
4	301760	1		Motor Assembly	Motorbaugruppe	Ensemble du moteur	Ensamblaje del motor	Gruppo motore
5	541009	2	2	Wave Washer	Wellenscheibe	Rondelle ondulée	Arandela ondulada	Rondella ondulata
6	207339	1		Housing	Gehäuse	Corps	Caja	Corpo
7	Table "E1"	1		Transducer Asm.	Transducer	Transducteur	Transductor	Trasduttore
8	542244	2	2	Stand Off (5/16")	Distanzstück	Séparateur	Separador	Neutralizzatore

(#) Quantity / Stückzahl / Quantité / Cantidad / Quantità

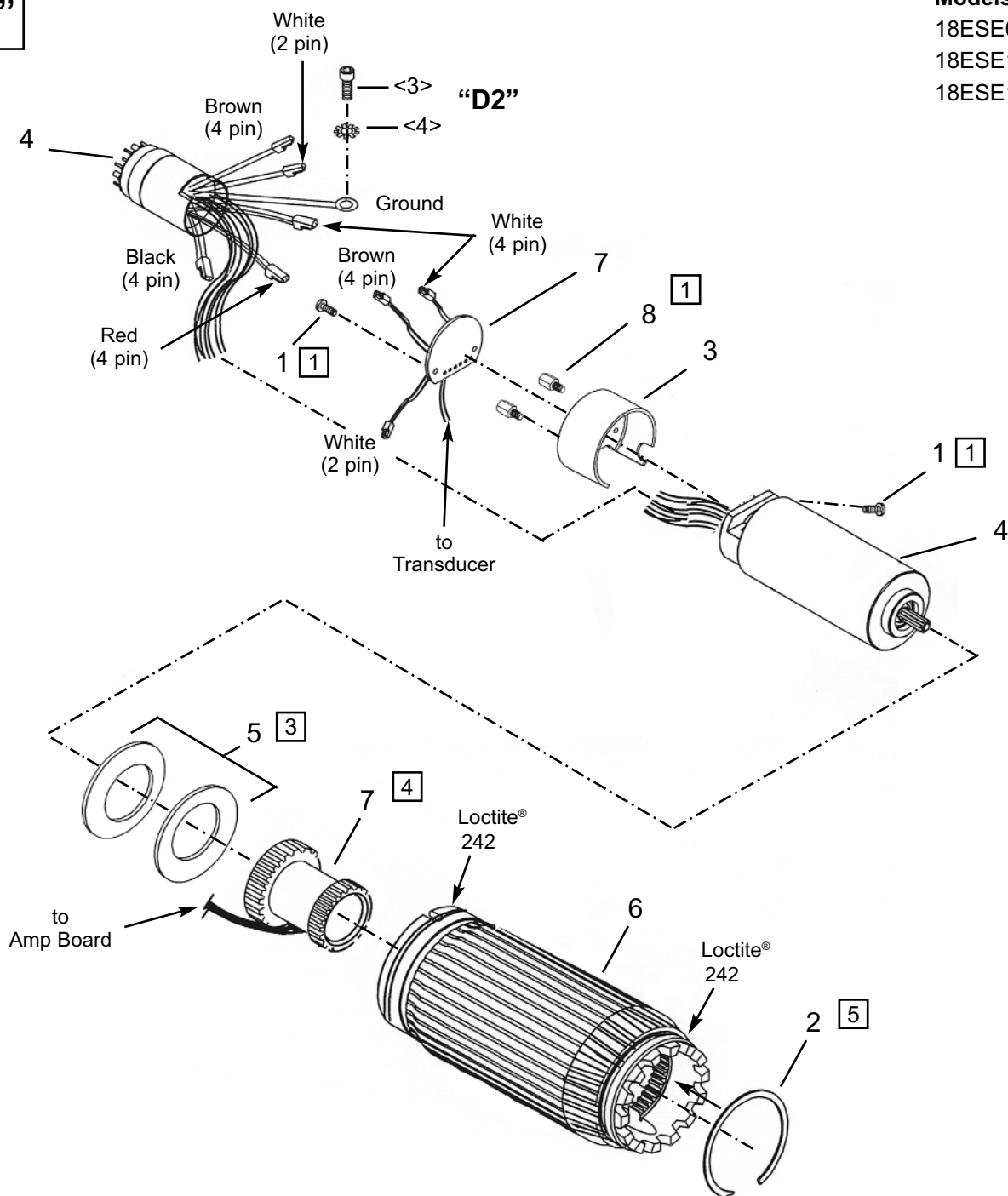
(X) Recommended Spare Parts / Kennzeichnet empfohlenes / Identifica un particolare di ricambio raccomandato / Designa el repuesto recomendado / Indique la pièce de rechange conseillée.

Table, Tabelle, Tableau, Tabla, Tabella "E1"

Ref.	Description	#	18ES06	#	18ES12	#	18ES17
7	Transducer (Unprogrammed)	1	542846-6	1	542846-12	1	542846-17
	Transducer (Programmed)	1	542846-6P	1	542846-12P	1	542846-17P
	Capacity		6Nm		12Nm		17Nm

18ESE17

“E2”



1 3 4 5 See Service Notes

Motor - Air LB Connector

Illustration, Abbildung, Illustration, Ilustración, Illustrazione "E2"

Ref	Number	#	X	EN	DE	FR	ES	IT
				Description	Benennung	Designation	Descripción	Descrizione
1	17-111	3	6	Screw /#4-40 Pan Head	Schraube	Vis	Tornillo	Vite
2	505306	1	2	Retaining Ring	Sicherungsring	Anneau de fixation	Anillo de retención	Anello di fissaggio
3	542588	1		Motor Spacer	Distanzstück	Entretoise	Espaciador	Distanziale
4	301760E	1		Motor Assembly	Motorbaugruppe	Ensemble du moteur	Ensamblaje del motor	Gruppo motore
5	541009	2	2	Wave Washer	Wellenscheibe	Rondelle ondulée	Arandela ondulada	Rondella ondulata
6	207339	1		Housing	Gehäuse	Corps	Caja	Corpo
7	Table "E2"	1		Transducer Asm.	Transducer	Transducteur	Transductor	Trasduttore
8	542244	2	2	Stand Off (5/16")	Distanzstück	Séparateur	Separador	Neutralizzatore

(#) Quantity / Stückzahl / Quantité / Cantidad / Quantità

(X) Recommended Spare Parts / Kennzeichnet empfohlenes / Identifica un particolare di ricambio raccomandato / Designa el repuesto recomendado / Indique la pièce de rechange conseillée.

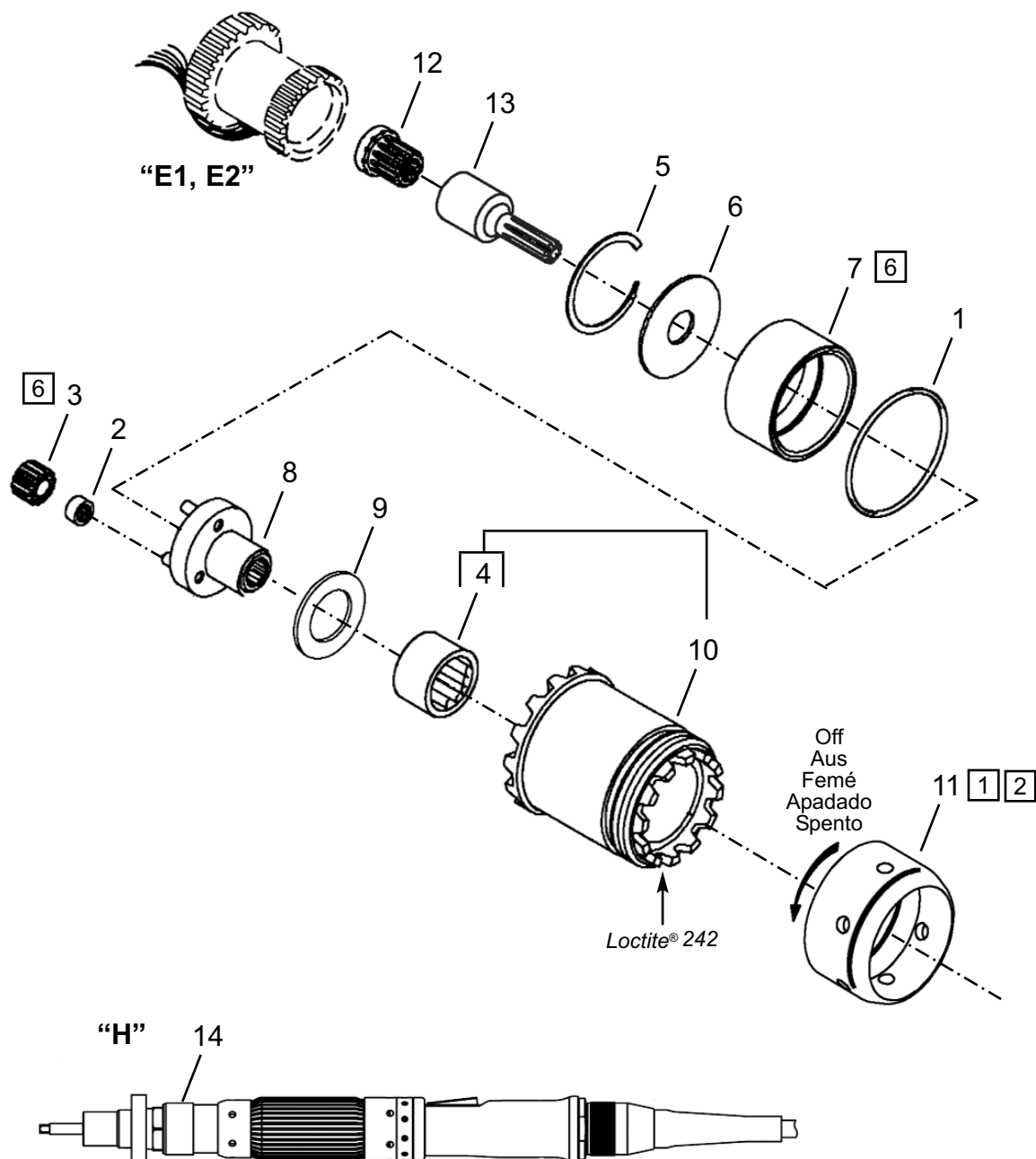
Table, Tabelle, Tableau, Tabla, Tabella "E2"

Ref.	Description	#	18ESE06	#	18ESE12	#	18ESE17
7	Transducer (Unprogrammed)	1	542846-6	1	542846-12	1	542846-17
	Transducer (Programmed)	1	542846-6P	1	542846-12P	1	542846-17P
	Capacity		6Nm		12Nm		17Nm

"F"

Model:

18ES(E)06ZA



Cleco®
Single Stage Gearing

PL12-18ES-ZA

04/29/2009

Illustration, Abbildung, Illustration, Ilustración, Illustrazione "F"

Ref	Number	#	X	EN	DE	FR	ES	IT
				Description	Benennung	Designation	Descripción	Descrizione
1	1011732	1	3	O-Ring	O-Ring	Joint torique	Anillo "O"	Anello ad O
2	541487	3	6	Needle Bearing	Nadellager	Cage à aiguilles	Cojinete de agujas	Cuscinetto a rulli
3	541893	3	6	Planet Gear (21T)	Planetengetriebe	Pignon satellite	Piñon satélite	Ingranaggio satellite
4	500528	1	3	Needle Bearing	Nadellager	Cage à aiguilles	Cojinete de agujas	Cuscinetto a rulli
5	800116	1	3	Retaining Ring	Sicherungsring	Anneau de fixation	Anillo de retención	Anello di fissaggio
6	541887	1		Washer	Scheibe	Rondelle	Arandela	Rondella
7	542090	1		Ring Gear (52T)	Zahnkreis	Couronne dentée	Engranaje de anillos	Guarnizione
8	542793	1		Planet Carrier	Planetentraeger	Porte-planète	Portador planetario	Portasatellite
9	502983	1		Thrust Washer	Druckscheibe	Rondelle de butée	Arandela de empuje	Rondella di spinta
10	542794	1		Adapter	Zwischenstück	Adaptateur	Adaptador	Adattatore
11	541904	1		Front Nut	Mutter	Ecrou	Tuerca	Dado
12	541044	1	2	Pinion Adapter	Zwischenstück	Adaptateur	Adaptador	Adattatore
13	541898	1	2	Extension Pinion	Pinion	Pignon	Piñón	Il pignone
14	930300	1		ZA Attachment	Kopfstück	Accessoire	Accesorio	Testina

(#) Quantity / Stückzahl / Quantité / Cantidad / Quantità

(X) Recommended Spare Parts / Kennzeichnet empfohlenes / Identifica un particolare di ricambio raccomandato / Designa el repuesto recomendado / Indique la pièce de rechange conseillée.

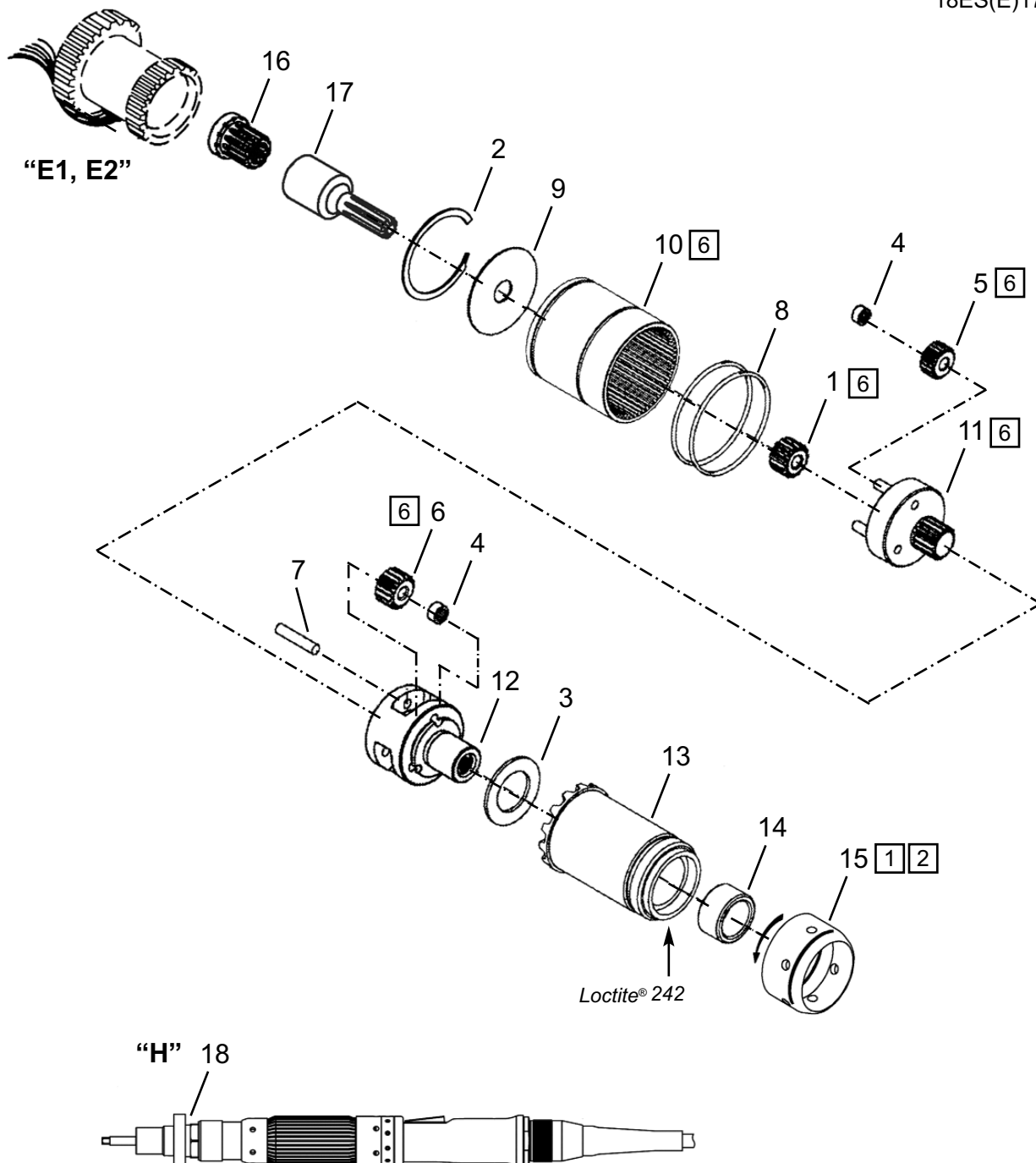
(T) Teeth / Zähne / Dents / Dientes / Denti

“G”

Models:

18ES(E)12ZA

18ES(E)17ZA



[1] [2] [6] See Service Notes

Cleco®

Double Stage Gearing

PL12-18ES-ZA

04/29/2009

Illustration, Abbildung, Illustration, Ilustración, Illustrazione "G"

Ref	Number	#	X	EN	DE	FR	ES	IT
				Description	Benennung	Designation	Descripción	Descrizione
1	541899	1	3	Slip-On Gear	Steckritzel	Pignon coulissant	Engranaje de deslizamiento	Ingranaggio slittante
2	800116	1	2	Retaining Ring	Sicherungsring	Anneau de fixation	Anillo de retención	Anello di fissaggio
3	502983	1		Thrust Washer	Druckscheibe	Rondelle de butée	Arandela de empuje	Rondella di spinta
4	541487	6	12	Needle Bearing	Nadellager	Cage à aiguilles	Cojinete de agujas	Cuscinetto a rulli
5	541894	3	6	Planet Gear (17T)	Planetengetriebe	Pignon satellite	Piñon satélite	Ingranaggio satellite
6	Table "G"	3	6	Planet Gear	Planetengetriebe	Pignon satellite	Piñon satélite	Ingranaggio satellite
7	541888	3	6	Planet Pin	Planetenradzapfen	Goupille satellite	Pasador de piñon satélite	Spina planetario
8	542724	2	6	O-Ring	O-Ring	Joint torique	Anillo "O"	Anello ad O
9	541887	1		Washer	Scheibe	Rondelle	Arandela	Rondella
10	542722	1		Ring Gear	Zahnkreis	Couronne dentée	Engranaje de anillos	Guarnizione ingranaggio
11	Table "G"	1		Planet Carrier	Planetenraeager	Porte-planète	Portador planetario	Portasatellite
12	Table "G"	1		Planet Cage	Planetenradträger	Porte-satellites	Portaengranajes	Corpo planetario
13	542829	1		Angle Head Adapter	Zwischenstück	Adaptateur	Adaptador	Adattatore
14	500528	1	3	Needle Bearing	Nadellager	Cage à aiguilles	Cojinete de agujas	Cuscinetto a rulli
15	541904	1		Front Nut	Mutter	Ecrou	Tuerca	Dado
16	541044	1	2	Pinion Adapter	Zwischenstück	Adaptateur	Adaptador	Adattatore
17	Table "G"	1	2	Extension Pinion	Pinion	Pignon	Piñón	Il pignone
18	930300	1		ZA Attachment	Kopfstück	Accessoire	Accesorio	Testina

(#) Quantity / Stückzahl / Quantité / Cantidad / Quantità

(X) Recommended Spare Parts / Kennzeichnet empfohlenes / Identifica un particolare di ricambio raccomandato / Designa el repuesto recomendado / Indique la pièce de rechange conseillée.

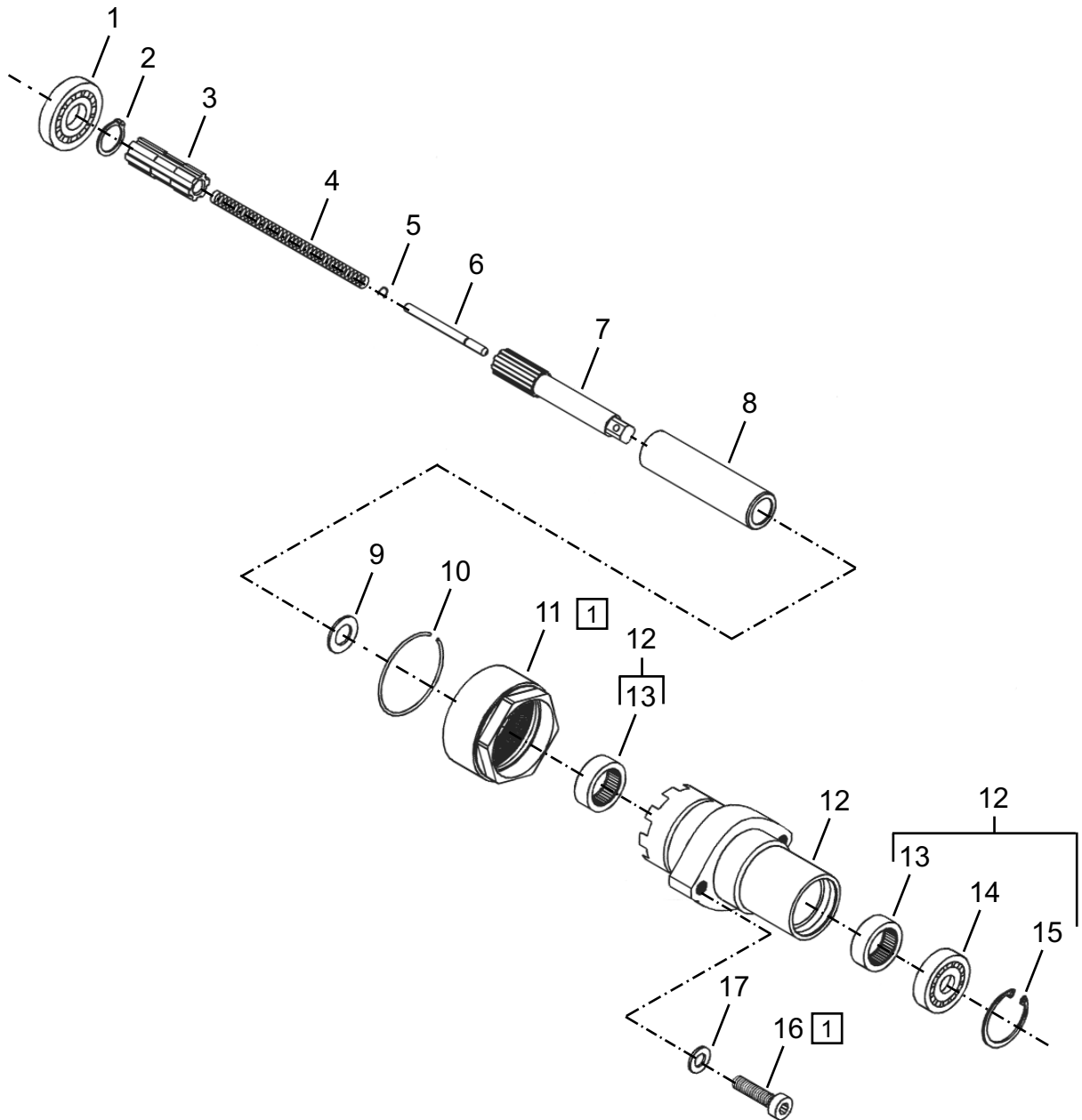
(T) Teeth / Zähne / Dents / Dientes / Denti

Table, Tabelle, Tableau, Tabla, Tabella "G"

Ref.	Description	#	18ES(E)12ZA	#	18ES(E)17ZA
6	Planet Gear	3	541894 (17T)	3	541897 (20T)
11	Planet Carrier	1	542230	1	542233
12	Planet Cage	1	542079	1	542099
17	Extension Pinion	1	541894	1	541898

(T) Teeth / Zähne / Dents / Dientes / Denti

"H"



1 See Service Notes

930300 ZA Attachment

Illustration, Abbildung, Illustration, Ilustración, Illustrazione "H"

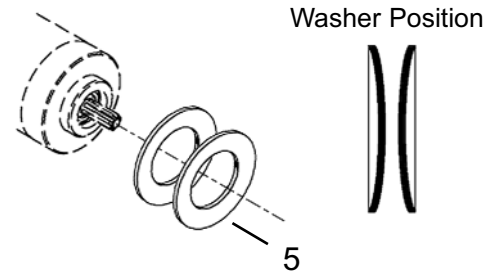
Ref	Number	#	X	EN	DE	FR	ES	IT
				Description	Benennung	Designation	Descripción	Descrizione
1	066810	1	2	Ball Bearing	Kugellager	Roulement à billes	Cojinete de bolas	Cuscinetto a sfera
2	902862	1	3	Retaining Ring	Sicherungsring	Anneau de fixation	Anillo de retención	Anello di fissaggio
3	930308	1		Driving Shaft	Abtriebsschaft	Arbre de transmission	Eje motor	Albero motore
4	930310	1	3	Compression Spring	Druckfeder	Ressort	Resorte	Molla
5	930913	1	3	Retaining Ring	Sicherungsring	Anneau de fixation	Anillo de retención	Anello di fissaggio
6	930305	1	2	Spring Bolt	Federbolzen	Boulon étoquiau	Cerrojo de resorte	Bloccaggio a molla
7	930304	1		Drive Spindle	Antriebsspindel	Broche d'entraînement	Husillo impulsor	Alberino di trasmissione
8	930306	1		Sleeve	Hülse	Douille	Manguito	Manicotto
9	930309	1	2	Support Washer	Scheibe	Rondelle	Arandela	Rondella
10	923297	1	3	Retaining Ring	Sicherungsring	Anneau de fixation	Anillo de retención	Anello di fissaggio
11	923175	1		Union Nut	Schraubkupplung	Ecrou d'union	Tuerca de unión	Dado di accoppiamento
12	930301	1		Spindle Hsg Asm	Montage	Assemblage	Ensamblaje	Assemblaggio
13	416230	2	4	Needle Sleeve	Hülse	Douille	Manguito	Manicotto
14	253160	1	2	Ball Bearing	Lager	Coussinet	Cojinete	Cuscinetto
15	902184	1	2	Retaining Ring	Sicherungsring	Anneau de fixation	Anillo de retención	Anello di fissaggio
16	902614	2	4	Cap Screw	Kopfschraube	Vis de chapeau	Tornillo de casquete	Vite a testa cilindrica
17	926169	2	4	Retaining Washer	Sicherungsscheibe	Rondelle de retenue	Arandela de retención	Rondella di fissaggio

(#) Quantity / Stückzahl / Quantité / Cantidad / Quantità

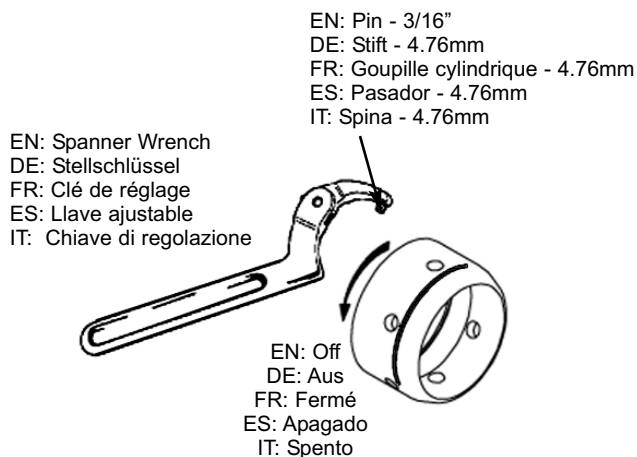
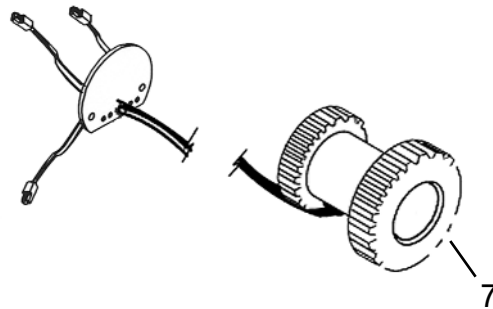
(X) Recommended Spare Parts / Kennzeichnet empfohlenes / Identifica un particolare di ricambio raccomandato / Designa el repuesto recomendado / Indique la pièce de rechange conseillée.

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Illustration Abbildung Illustration Ilustración Illustrazione	Reference Verweisung Référence Referencia Riferimento	Tightening torque Anzugsmoment Torsion de serrage Torsión de apriete Coppia di serraggio	
		Ft. Lbs. (In. Lbs.)	Nm
D1 D2	3	(10-14)	1,1-1,6
	16	25-30	34-41
	19	35-40	47-54
E1	1	(4-6)	0,45-0,68
E2	8	(4-6)	0,45-0,68
F	11	35-40	47-54
G	15	35-40	47-54
H	11	30	41
	16	12	17

3**Illustrations “E1, E2”**

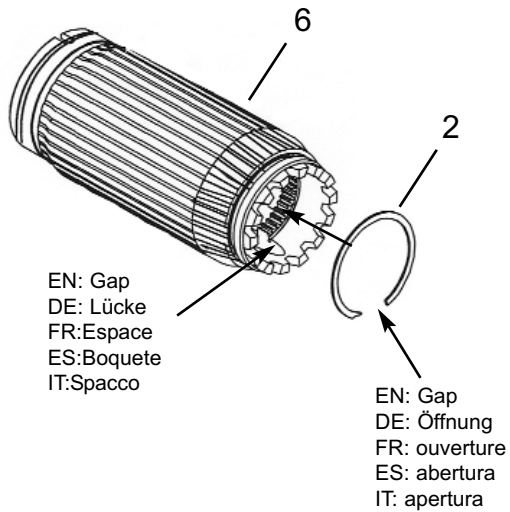
EN: Assembly of washers.
 DE: Montage - Scheibe
 FR: Assemblage - Rondelle
 ES: Ensamblaje - Arandela
 IT: Assemblaggio - Rondella

2**Illustrations “D1, D2, F, G”****4****Illustrations “E1, E2”**

EN: Transducers are not interchangeable, check part number.
 DE: Transducer sind nicht austauschbar, Kontrolle Teilnummer.
 FR: Les transducteurs ne sont pas interchangeables, le numéro de partie de chèque.
 ES: Los transductores no son intercambiables, el número de la parte de cheque.
 IT: I trasduttori non sono intercambiabili, il numero di parte di assegno.

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Illustrations "E1, E2"



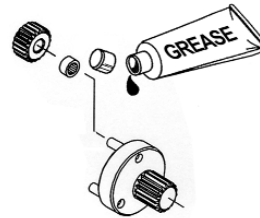
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Illustrations "F, G"

541444 - 2 oz. (56 g)
541445 - 16 oz. (0.45 kg)

EN: Idler Gears
DE: Zwischenzahnrad
FR: Engrenage secondaire
ES: Engranaje secundario
IT: Ingranaggio intermedio

EN: Grease
DE: Schmiermittel
FR: Graisse
ES: Grasa
IT: Grasso



EN: Pinion Gears
DE: Ritzelgetriebe
FR: Pignon d'entraînement
ES: Piñon diferencial
IT: Ingranaggio a pignone



EN: Ring Gears
DE: Zahnkreis
FR: Couronne dentée
ES: Engranaje de anillos
IT: Guarnizione ingranaggio

Tool Memory Parameters

Model Number	Free Speed [RPM]	Max Torque [Nm]	Torque Cal [Nm]	Transducer Type	Angle Cal [PPD]	Static Current Factor [Nm/A]
18ES(E)06ZA	4000	5.7	6.9796	542846-06	21.3333	0.5315
18ES(E)12ZA	1825	11.9	12.8653	542846-12	46.8595	1.1091
18ES(E)17ZA	1300	17	17.8509	542846-17	66.1219	1.5651

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
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