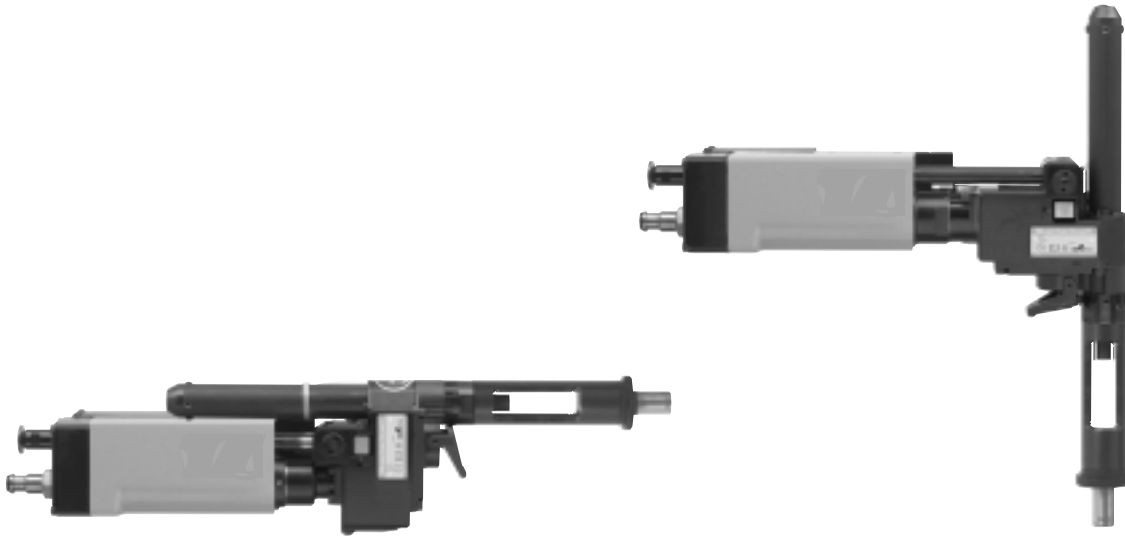


Quackenbush®

90Q & 120Q Series



XXX Q X I - XXXX XX - MS

Tool Series: _____
 90 .9 Horsepower
 120 1.2 Horsepower

Quackenbush: _____

Tool Type: _____
 R Right Angle
 B Inline (piggyback)

Options: _____
 I Indexer

Spindle Speed: _____

90 Series	120 Series	
450	1100 1700	4500
800	1400 2700	

Motor Shutoff: _____

Feed Rate (IPR):
 10 - .001" Inches per revolution
 20 - .002"
 30 - .003"
 40 - .004"
 60 - .006"

823238

January 1, 2003

Cleco

90Q & 120Q Specifications & Operation

Horsepower 90 & 120

.9 & 1.2 HP

Spindle Speed

450 RPM (.9HP)
800 RPM (.9HP)
1100 RPM (1.2HP)
1400 RPM (1.2HP)
1700 RPM (1.2HP)
2700 RPM (1.2HP)
4500 RPM (1.2HP)

Standard Stroke
Feed Rate (IPR)
Attachment

2.25" & 3.00" and others on request.
.001"-.002"-.003"-.004"-.006"
Taper Lock (Standard)

Cutter Attachment

1/4"-28 thread
5/16"-24 thread
3/8"-24 thread

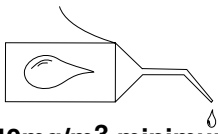
Weight without cutter
Noise level
Vibration

5.8 lbs.
Under 80 dBA
Under 2.5 m/s²

Operation

OPERATING INSTRUCTIONS

The 90 and 120 positive feed drills are designed to operate on 90 psig (6.2bar) air pressure using a 5/16"(8mm) I.D. hose up to 8' in length. If additional length is required, a 1/2"(13mm) I.D. or larger hose should be connected to the 5/16"(8mm) hose.



40mg/m³ minimum

Gears - 50,000 Cycles



**NLGI 2-EP
GREASE**

In the event that it becomes necessary to store the tool for an extended period of time (overnight, weekend, etc.), it should receive a generous amount of lubrication at that time and again when returned to service. The tool should be stored in a clean and dry environment.

DRILLING CYCLE

Pull the red emergency shutdown button to get live air into the tool. Push the feed button to start the tool and the drilling cycle. The spindle will start advancing at this time. When the forward stroke ends the spindle will automatically reverse, retract and shut off.

STROKE

The stroke is set by positioning the depth stop nut and retract stop nut.

CUTTER REMOVAL

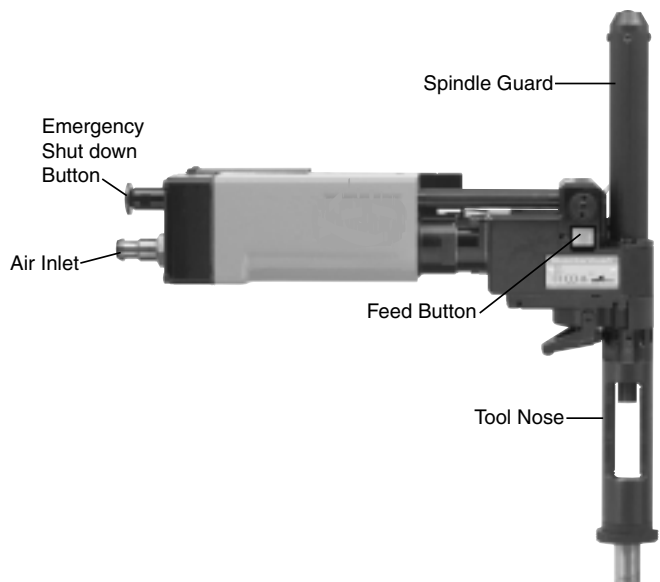
Remove tool nose. With spindle wrench 23000085, hold spindle, loosen and remove cutter.

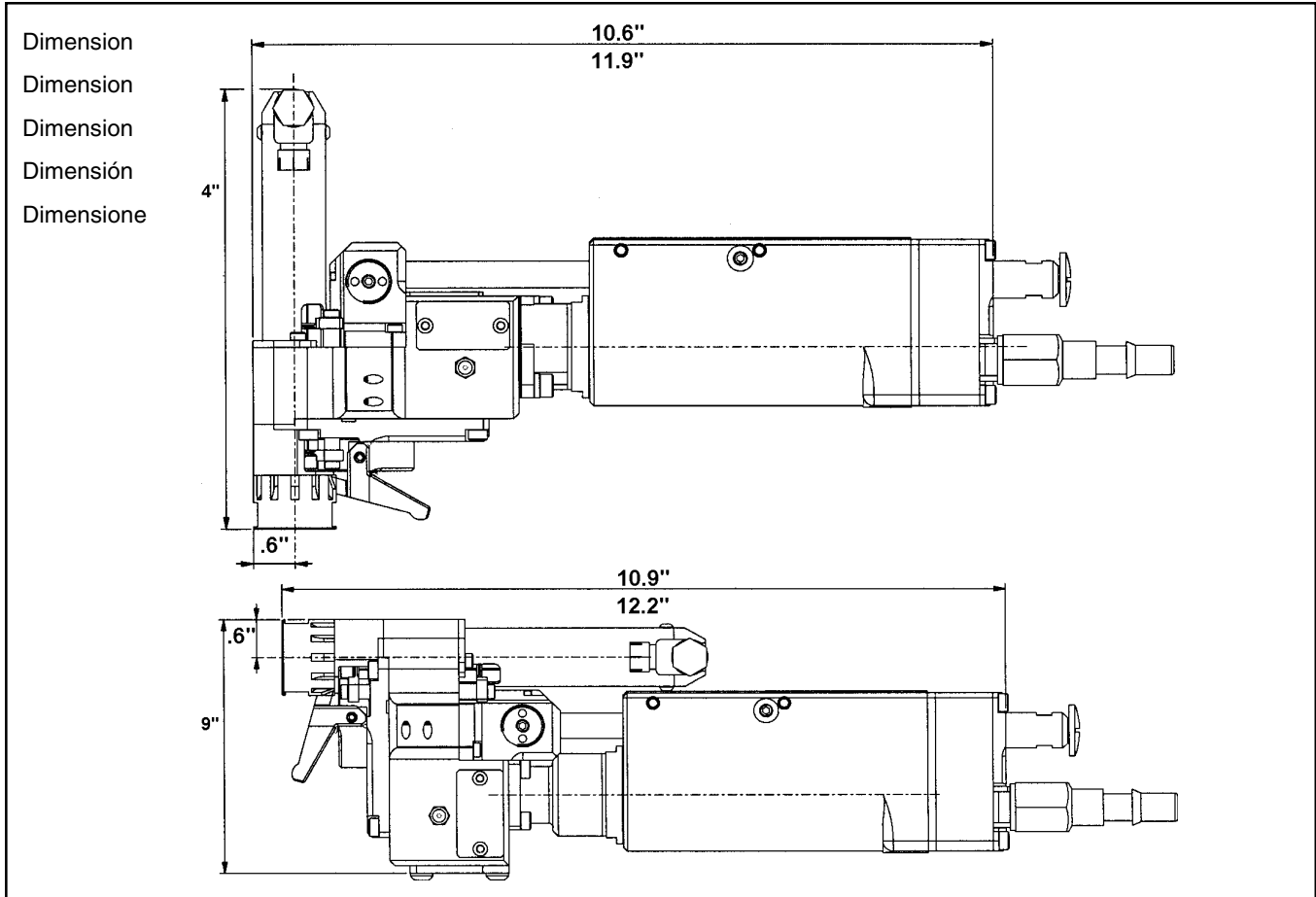
SPINDLE INSTALLATION

Remove tool nose. Start tool and put in retract. Feed rear of spindle into the front of the tool. Install depth stop nut and retract stop nut.

SPINDLE REMOVAL

Remove spindle guard (4) fig. B, fitting (8) fig. B and depth stop nut (5) fig. B. Pull emergency shut down button and push feed button. Spindle will advance out of the tool.





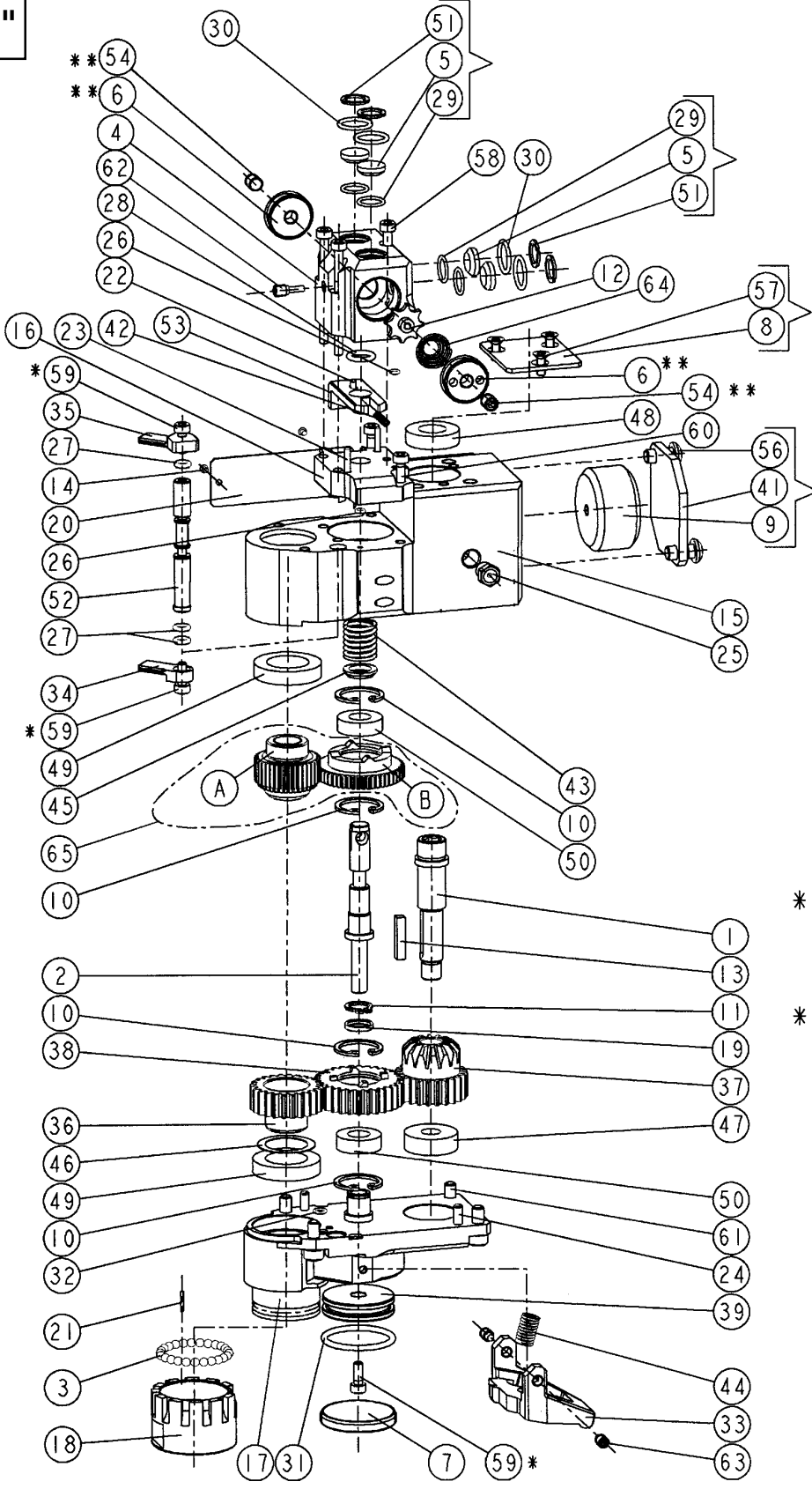
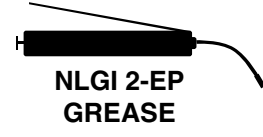
Maintenance Tool Kit 22008932

Index	Tool	EN	DE	FR	ES	IT	#
		Description	Benennung	Designation	Descripcion	Descrizione	
48	92831027	Bearing assembly	Lagermontage	Coussinet Assy.	Cojinete Assy.	Cuscinetto Assy.	1
47	92831028	Bearing assembly	Lagermontage	Coussinet Assy.	Cojinete Assy.	Cuscinetto Assy.	1
50	92831030	Bearing assembly	Lagermontage	Coussinet Assy.	Cojinete Assy.	Cuscinetto Assy.	1
50	92831031	Bearing assembly	Lagermontage	Coussinet Assy.	Cojinete Assy.	Cuscinetto Assy.	1
49	92831032	Bearing assembly	Lagermontage	Coussinet Assy.	Cojinete Assy.	Cuscinetto Assy.	1
49	92831033	Bearing assembly	Lagermontage	Coussinet Assy.	Cojinete Assy.	Cuscinetto Assy.	1
39	92831034	Plug assembly	Stopfenmontage	Tampon Assy.	Tapón Assy.	Boccola Assy.	1
6	92831035	Plug assembly	Stopfenmontage	Tampon Assy.	Tapón Assy.	Boccola Assy.	1
	92831029	Bearing assembly	Lagermontage	Coussinet Assy.	Cojinete Assy.	Cuscinetto Assy.	1
	92831036	R/A motor	R/A motor	R/A moteur	R/A motor	R/A motore	1
	92831037	I/L motor	I/L motor	I/L moteur	I/L motor	I/L motore	1
	23000085	Spindle wrench	Shlüssel	Clé	Llave	Chiave	1

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

Cleco 90Q & 120Q Head Assembly

"A"



* LOCTITE N° 243

** LOCTITE N° 542

Refer to chart "H"

Cleco

90Q & 120Q Head Assembly

823238

January 1, 2003

Index	Number	EN Description	DE Benennung	FR Designation	ES Descripcion	IT Descrizione	#	●
1	90020922	Shaft	Achse	Arbre	Eje	Albero	1	
2	90030932	Shaft	Achse	Arbre	Eje	Albero	1	1
3	90245140	Ball	Kugel	Bille	Bolas	Sfera	25	25
4	90247932	20932/power pack	20932/stromversorgung	20932/bloc d'alimentation	20932/alimentación	20932/alimentazione	1	
5	90255069	Plug	Stopfen	Tampon	Tapón	Boccola	2	
6	90255925	Plug	Stopfen	Tampon	Tapón	Boccola	2	
8	90444922	20932/flange (RA)	20932/flansch (RA)	20932/rebord (RA)	20932/pestaña (RA)	20932/flangia (RA)	1	
9	90454932	Centralizer (IL)	Centralizer (IL)	Centralizer (IL)	Centralizer (IL)	Centralizer (IL)	1	
10	90455050	Internal Retainer	Sicherungsring	Internal circlips	Anillo de seguridad	Anello di ritegno	1	1
11	90456025	External Retainer	External circlips	External circlips	Anillo de seguridad	Anello di ritegno	4	4
12	90460932	Valve	Ventil	Soupape	Válvula	Valvola	1	1
13	90465170	Key	Schlüssel	Clé	Llave	Chiave	1	1
14	202020	Drive Screw	Schraube	Vis	Tornillo	Vite	2	
15	90510932	Housing	Häuse	Carter	Caja	Alloggiamento	1	
16	90524932	Block	Block	Crabot superieur	Bloque	Blocco	2	
17	90525932	20932/cover	20932/deckel	20932/couvercle	20932/cubierta	20932/coperchio	2	
18	90830922	Indexer adjustment	Index	Embout nez index	Indice	Indice	1	
19	90835057	Spacer	Distanzstück	Entretoise	Espaciador	Distanziale	1	
20	632705	ID tag	Platte	Plaque identification	Placa	Piattello	1	
21	91216005	Pin	Stift	Goupille	Pasador	Spina	1	1
22	91216025	Pin	Stift	Goupille	Pasador	Spina	1	1
23	91216035	Pin	Stift	Goupille	Pasador	Spina	1	1
24	91216103	Pin	Stift	Goupille	Pasador	Spina	2	2
25	91227015	Lubricator	Schmierung	Graisser	Lubricación	Lubrificazione	2	2
26	91815025	O-ring	O-ring	Anneau	Anillo	Anello	1	1
27	91815076	O-ring	O-ring	Anneau	Anillo	Anello	2	2
28	91815199	O-ring	O-ring	Anneau	Anillo	Anello	3	3
29	91815218	O-ring	O-ring	Anneau	Anillo	Anello	1	1
30	91815305	O-ring	O-ring	Anneau	Anillo	Anello	2	2
31	91815696	O-ring	O-ring	Anneau	Anillo	Anello	4	4
32	91820301	O-ring	O-ring	Anneau	Anillo	Anello	1	1
33	92205932	Control lever	Steuerhebel	Levier de commande	Palanca de control	Leva di comando	1	1
34	92205933	Lever	Hebel	Levier	Palanca	Leva	1	1
35	92205936	Manual return lever	Hebel	Levier	Palanca	Leva	1	1
36	93030500	Driving gear	Getriebe	Engrenage	Engranaje	Ingranaggio	1	
37	93030922	Wheel gear	Getriebe	Engrenage	Engranaje	Ingranaggio	1	
38	93030932	Gear	Getriebe	Engrenage	Engranaje	Ingranaggio	1	
39	93050932	Piston	Kolben	Piston	Embolo	Pistone	1	
41	93055922	Cover plate (IL)	Deckel (IL)	Couvercle (IL)	Cubierta (IL)	Coperchio (IL)	1	
42	93430067	Spring	Druckfeder	Ressort de comp	Resorte	Molla	1	
43	93430069	Spring	Druckfeder	Ressort de comp	Resorte	Molla	1	
44	93430115	Spring	Druckfeder	Ressort de comp	Resorte	Molla	1	
45	93440134	Washer	Scheibe	Rondelle	Arandela	Rondella	1	
46	93440138	Washer	Scheibe	Rondelle	Arandela	Rondella	1	
47	93450255	Ball bearing	Lager	Roulement	Cojinete	Cuscinetto	1	1
48	93450345	Ball bearing	Lager	Roulement	Cojinete	Cuscinetto	1	1
49	93450457	Ball bearing	Lager	Roulement	Cojinete	Cuscinetto	2	2
50	93452069	Ball bearing	Lager	Roulement	Cojinete	Cuscinetto	2	2
51	93606015	Snap ring	Snap ring	Snap ring	Snap ring	Snap ring	2	2
52	93815932	Slide valve	Slide valve	Slide valve	Slide valve	Slide valve	1	
53	94216932	20932/feed button	20932/feed button	20932/feed button	20932/feed button	20932/feed button	1	
54	94224120	Screw	Schraube	Vis	Tornillo	Vite	2	
56	94228060	Screw	Schraube	Vis	Tornillo	Vite	2	
57	94230010	Screw	Schraube	Vis	Tornillo	Vite	3	
58	94234162	Screw	Schraube	Vis	Tornillo	Vite	3	
59	94234140	Screw	Schraube	Vis	Tornillo	Vite	3	
60	94234145	Screw	Schraube	Vis	Tornillo	Vite	2	
61	94234185	Screw	Schraube	Vis	Tornillo	Vite	4	
62	94235932	Screw	Schraube	Vis	Tornillo	Vite	1	
63	94235933	Screw	Schraube	Vis	Tornillo	Vite	2	
64	01-2519	Spring	Druckfeder	Ressort de comp	Resorte	Molla	1	
65		Gear (table "G")	Getriebe (table "G")	Engrenage (table "G")	Engranaje (table "G")	Ingranaggio (table "G")	1	

Kit right angle to inline - 92050952

Right Angle/Inline Assembly

56	94228060	Screw	Schraube	Vis	Tornillo	Vite	2	
41	93055022	Cover plate	Deckel	Couvercle	Cubierta	Coperchio	1	
09	90454932	Centralizer	Centralizer	Cimblot corps	Centralizer	Centralizer	1	

Complete Motor

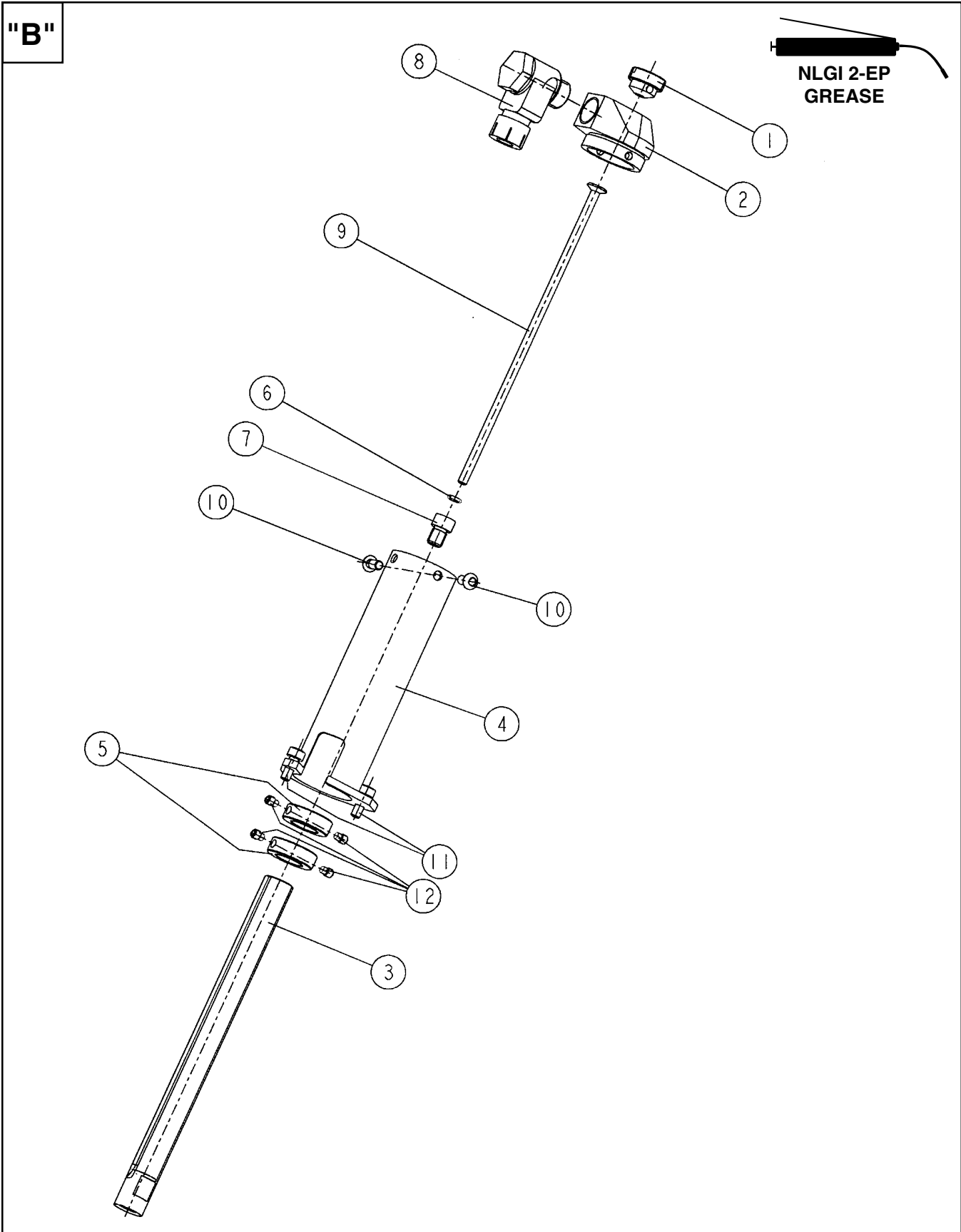
36	94234190	Screw	Schraube	Vis	Tornillo	Vite	3	
35	93825933	Pipe	Rohr	Tuyautage	Tuberia	Tubazione	2	
19	90855922	Shaft	Achse	Arbre	Eje	Albero	1	
08	90410922	Shim	Unterlegstück	Cale	Calzo	Spessore	1	
06	90005923	Adapter	Zwischenstück	Adaptatiur	Adaptador	Adattatore	1	

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

(●) Indicates recommended spare part. Kennzeichnet empfohlenes Ersatzteil. Identifica un particolare di ricambio raccomandato. Designa el repuesto recomendado. Indique la pièce de rechange conseillée.

Cleco

90Q & 120Q Spindle Assembly



Cleco

90Q & 120Q Spindle Assembly

823238
January 1, 2003

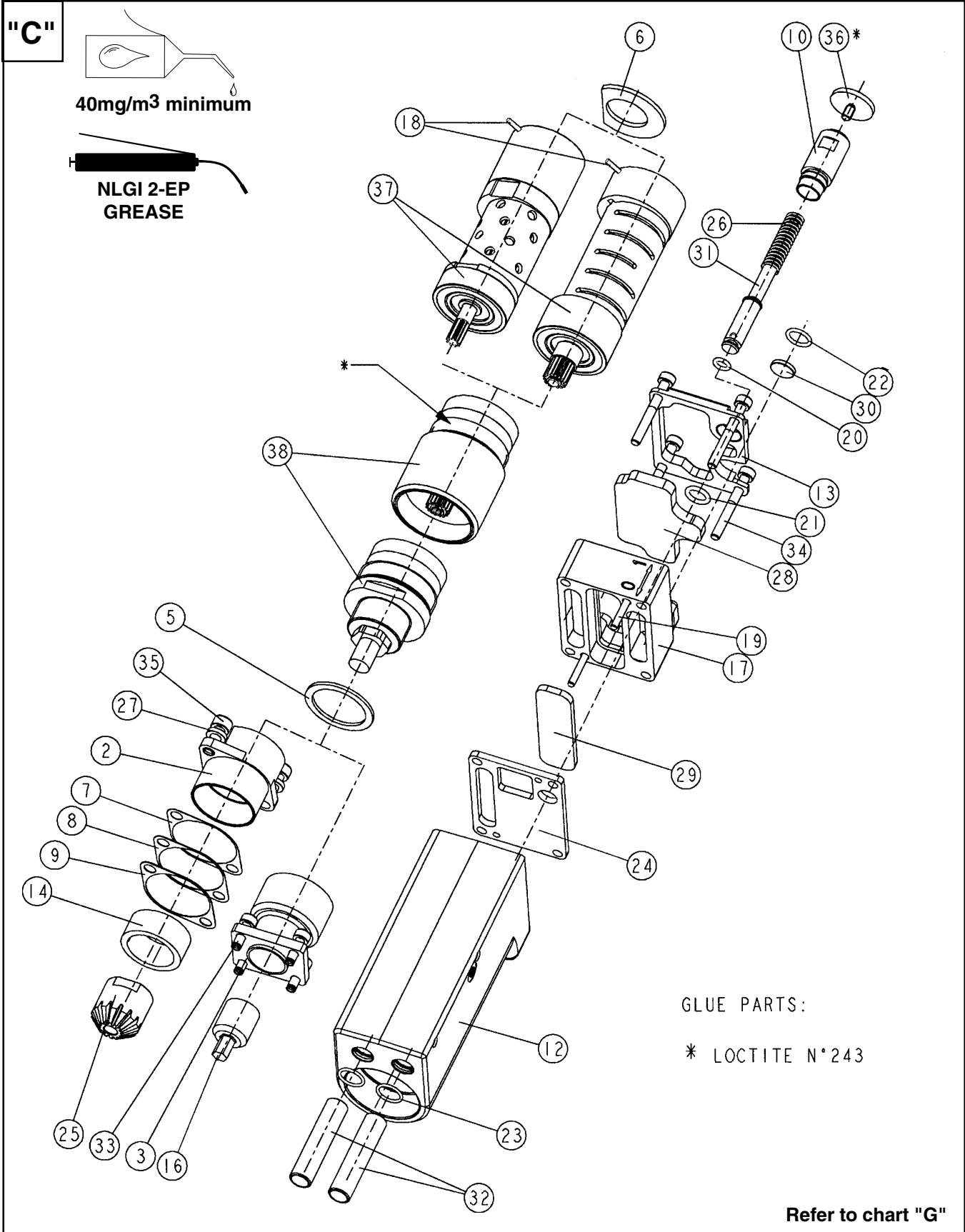
Index	Number	EN	DE	FR	ES	IT	#	●
		Description	Benennung	Designation	Descripcion	Descrizione		
1	90255021	Plug	Stopfen	Tampon	Tapon	Boccola	1	
2	90255071	Guard cap	Deckel	Couvercle	Cubierta	Coperchio	1	
3	Table "B"	Spindle	Spindel	Broche	Husillo	Asta	1	
4	Table "B"	Spindle guard	Spindeldeckel	Couvercle	Cubierta	Coperchio	1	
5	90810101	Depth stop nut	Mutter	Ecrou	Tuerca	Dado	2	1
6	91820301	O-ring	O-ring	Anneau	Anillo	Anello	1	1
7	93076932	Spindle sleeve	Hülse	Douille	Casquillo	Boccola	1	1
8	93405703	Fitting	Zwischenstück	Adaptateur	Adaptador	Adattatore	1	1
9	93825285	Tube	Rohr	Tuyautage	Tuberia	Tubazione	1	
10	94234140	Screw	Schraube	Vis	Tornillo	Vite	2	1
11	94235075	Screw	Schraube	Vis	Tornillo	Vite	4	1
12	94228000	Screw	Schraube	Vis	Tornillo	Vite	2	1

(#) **Quantity** - Stückzahl - Quantité - Cantidad - Quantità

(●) **Indicates recommended spare part.** Kennzeichnet empfohlenes Ersatzteil. Identifica un particolare di ricambio raccomandato. Designa el repuesto recomendado. Indique la pièce de rechange conseillée.

Table "B"

Index	Description	1/4" - 28 Spindle					
		Stroke (in)					
		1.50	2.25	3.00	3.90	4.75	5.50
		Code					
		22005570	22005572	22005574	22005576	22005578	22005579
3	Spindle	90277054	90277055	90277055	90277232	90277233	90277036
4	Spindle Guard	90420932	90420933	90420935	90277231	90277231	90420936
Index	Description	5/16" - 24 Spindle					
		Stroke (in)					
		1.50	2.25	3.00	3.90	4.75	
		Code					
		22005580	22005582	22005584	22005586	22005588	
3	Spindle	90277049	90277047	90277050	90277070	90277071	
4	Spindle Guard	90420932	90420933	90420935	90420930	90420931	
Index	Description	3/8" - 24 Spindle					
		Stroke (in)					
		1.50	2.25	3.00	3.90	4.75	
		Code					
		22005590	22005592	22005594	22005596	22005598	
3	Spindle	90277064	90277062	90277065	90277112	90277235	
4	Spindle Guard	90420932	90420933	90420935	90420930	90420931	

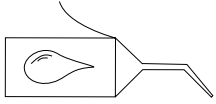


Index	Number	EN	DE	FR	ES	IT	#	●
		Description	Benennung	Designation	Descripcion	Descrizione		
2	90005922	Adapter	Zwischenstück	Adaptatiur	Adaptador	Adattatore	1	
3	90005923	Adapter	Zwischenstück	Adaptatiur	Adaptador	Adattatore	1	
5	90410922	Shim	Unterlegstück	Cale	Calzo	Spessore	1	1
6	90410924	Shim	Unterlegstück	Cale	Calzo	Spessore	1	1
7	90410932	Shim	Unterlegstück	Cale	Calzo	Spessore	1	1
8	90410933	Shim	Unterlegstück	Cale	Calzo	Spessore	1	1
9	90410934	Shim	Unterlegstück	Cale	Calzo	Spessore	1	1
10	90450922	Shaft sleeve	Hülse	Douille	Manguito	Manicotto	1	
12	90510926	Body	Body	Corps	Body	Body	1	
13	90525044	Cover	Deckel	Couvercle	Cubierta	Coperchio	1	
14	90615165	Needle Bearing	Lager	Roulement	Cojinete	Cuscinetto	1	
16	90855922	Hexagonal drive	Achse	Arbre	Eje	Albero	1	
17	91021922	Housing	Haüse	Carter	Caja	Alloggiamento	1	
18	91216035	Pin	Stift	Goupille	Pasador	Spina	1	1
19	91216120	Pin	Stift	Goupille	Pasador	Spina	2	2
20	91815135	O-ring	O-ring	Anneau	Anillo	Anello	1	1
21	91815220	O-ring	O-ring	Anneau	Anillo	Anello	1	1
22	91815256	O-ring	O-ring	Anneau	Anillo	Anello	1	1
23	91815305	O-ring	O-ring	Anneau	Anillo	Anello	2	2
24	91820922	Seal	Dichtung	Sceau	Sello	Guarnizione	1	1
25	93030116	Gear	Getriebe	Engrenage	Engranaje	Ingranaggio	1	
26	93430088	Spring	Druckfeder	Ressort de comp	Resorte	Molla	1	
27	93440613	Washer	Scheibe	Rondelle	Arandela	Rondella	2	
28	93615924	Muffler	Auspufftopf	Muffler	Muffler	Muffler	1	
29	93615926	Muffler	Auspufftopf	Muffler	Muffler	Muffler	1	
30	93800002	Air filter	Filter	Filtre	Filtro	Air filter	1	
31	93815923	Slide valve	Ventil	Soupape	Valvula	Valvola	1	
32	table "F"						2	
33	94234190	Screw	Schraube	Vis	Tornillo	Vite	4	
34	94234207	Screw	Schraube	Vis	Tornillo	Vite	4	
35	94234240	Screw	Schraube	Vis	Tornillo	Vite	2	
36	94235152	Screw	Schraube	Vis	Tornillo	Vite	1	
37	table "G"						1	
38	table "F"						1	

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

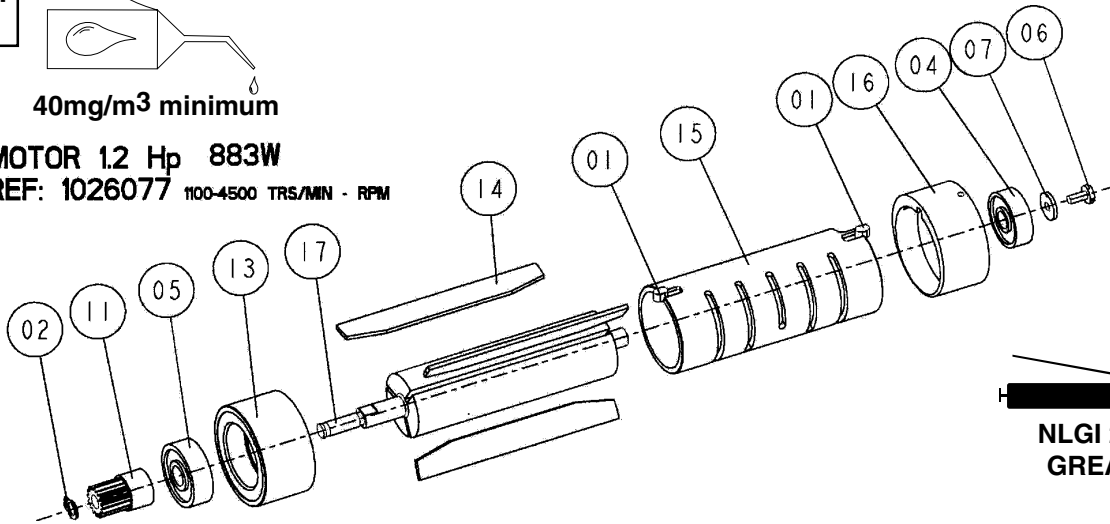
(●) Indicates recommended spare part. Kennzeichnet empfohlenes Ersatzteil. Identifica un particolare di ricambio raccomandato. Designa el repuesto recomendado. Indique la pièce de rechange conseillée.

"D"

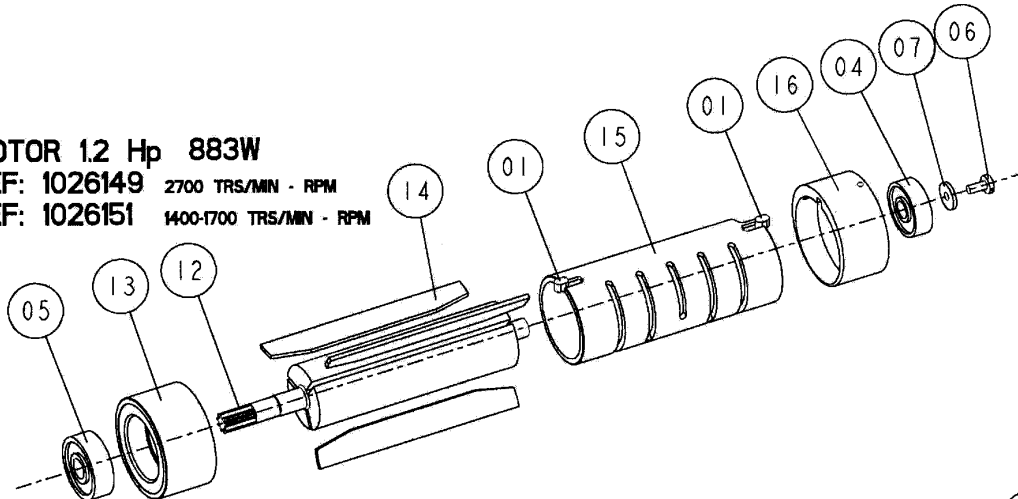


40mg/m³ minimum

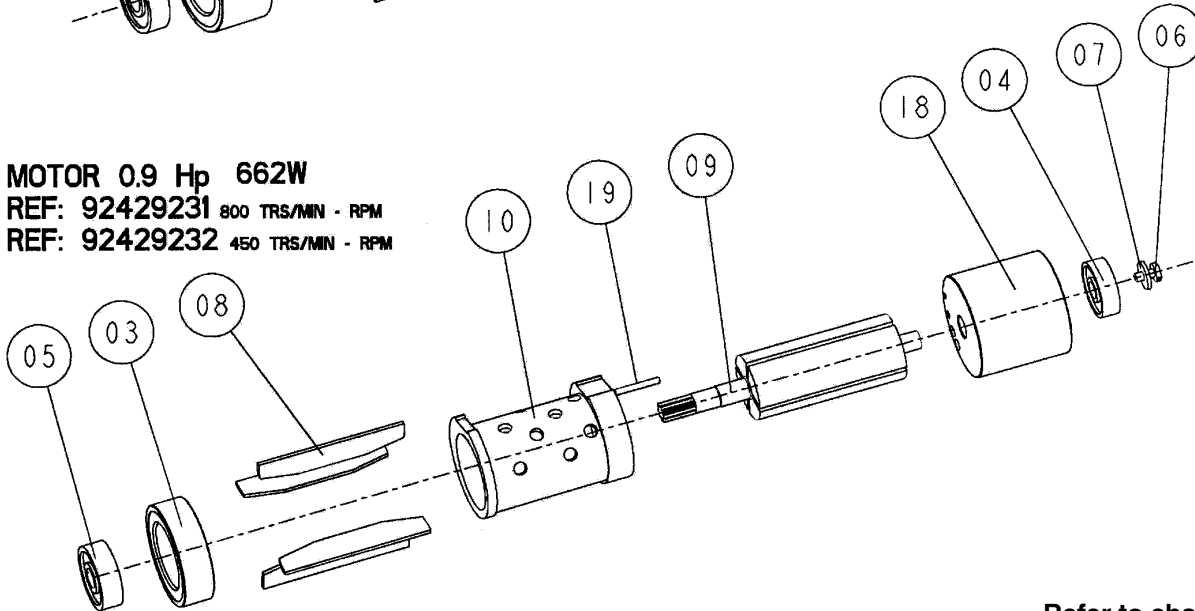
MOTOR 1.2 Hp 883W
REF: 1026077 1100-4500 TRS/MIN - RPM



MOTOR 1.2 Hp 883W
REF: 1026149 2700 TRS/MIN - RPM
REF: 1026151 1400-1700 TRS/MIN - RPM



MOTOR 0.9 Hp 662W
REF: 92429231 800 TRS/MIN - RPM
REF: 92429232 450 TRS/MIN - RPM



Refer to chart "G"

Cleco

90Q & 120Q Motor Assembly

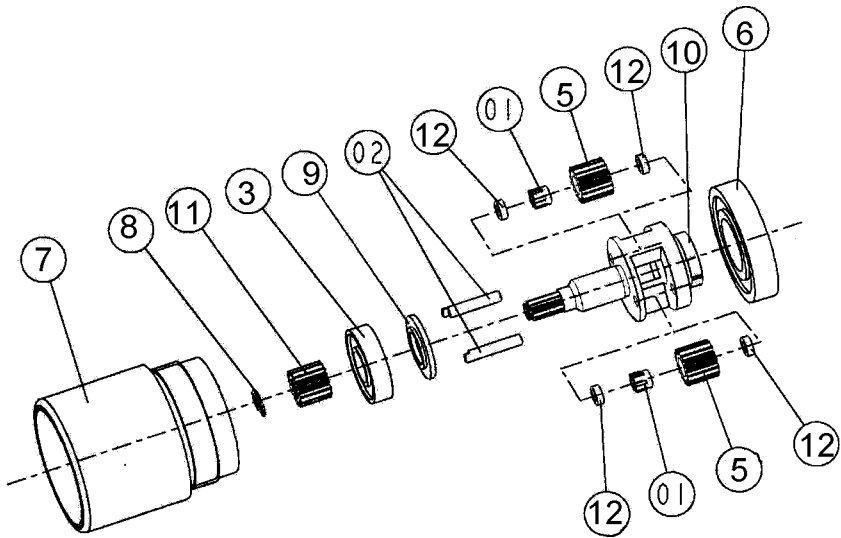
823238
January 1, 2003

							Motor No.	1 0 2 6 1 5 1	1 0 2 6 1 4 9	1 0 2 6 0 7 7	9 2 4 2 9 2 3 1	9 2 4 2 9 2 3 2	
							RPM	1400 1700	2700	1100 4500	800	450	
Item	Number	EN Description	DE Benennung	FR Designation	ES Descripcion	IT Descrizione	#	#	#	#	#	●	
1	25405	Key	Schlüssel	Cle	Llave	Chiave	2	2	2			2	
2	1007548	Retaining ring	Secherungsring	Circlips	Anillo	Anello			1			1	
3	1008260	Front plate	Rotordeckel	Chapeau	Tapa de rotor	Plastra				1	1	1	
4	1010183	Ball bearing	Lager	Roulement	Cojinete	Cuscinetto	1	1	1	1	1	1	
5	1010770	Ball bearing	Lager	Roulement	Cojinete	Cuscinetto	1	1	1	1	1	1	
6	1011750	Screw	Schraube	Vis	Tornillo	Vite	1	1	1	1	1	1	
7	1012518	Washer	Scheibe	Rondelle	Arandela	Rondella	1	1	1	1	1	1	
8	1017119	Rotor blade	Lamelle	Lamelle	Laminilla	Aletta				4	4	4	
9	1017184	Rotor 5T	Rotor 5T	Rotor 5T	Rotor 5T	Rotore 5T					1	1	
	1017156	Rotor 9T	Rotor 9T	Rotor 9T	Rotor 9T	Rotore 9T				1		1	
10	1019667	Cylinder	Rotorzylinder	Cylindre	Clindro	Cilindro				1		1	
11	1021745	Pinion 16T	Steckritzel	Pignon 16T	Pinon 16T	Pignone 16T			1			1	
12	1111161	Rotor 5T	Rotor 5T	Rotor 5T	Rotor 5T	Rotore 5T	1					1	
	1110855	Rotor 9T	Rotor 9T	Rotor 9T	Rotor 9T	Rotore 9T		1	1			1	
13	1111137	Front plate	Rotordeckel	Chapeau	Tapa de rotor	Plastra	1	1	1			1	
14	1111138	Rotor blade	Lamelle	Rotor blade	Laminilla	Aletta	3	3	3			3	
15	1111139	Cylinder	Rotorzylinder	Cylindre	Clindro	Cilindro	1	1	1			1	
16	1111140	Rear plate	Rotordeckel	Chapeau	Tapa de rotor	Plastra	1	1	1			1	
17	1111144	Rotor	Rotor	Rotor	Rotor	Rotore			1			1	
18	91010043	Rear plate	Rotordeckel	Chapeau	Tapa de rotor	Plastra				1	1	1	
19	91216045	Pin	Stift	Broche	Pasador	Spina				1	1	1	

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

(●) Indicates recommended spare part. Kennzeichnet empfohlenes Ersatzteil. Identifica un particolare di ricambio raccomandato. Designa el repuesto recomendado. Indique la pièce de rechange conseillée.

"E"



Primary Planetary

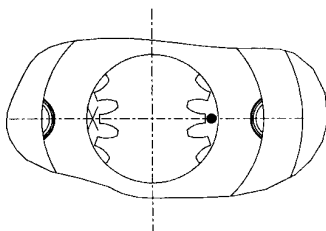
REDUCTION GEAR

REF: 1025583 1100 TRS/MIN - RPM

REF: 1025584 800 TRS/MIN - RPM

REF: 1025605 450 TRS/MIN - RPM

DETAIL A



Gear assembly

Assemble the planet gears into the planet cage making sure the notched planet pins fit over the planet cage washer. Rotate each gear until the aligning hole – on the end of one gear – is diametrical opposite the “X” mark of the other gear. It is important to maintain this alignment to avoid damaging the gear teeth. Warning : this is the only position where the gear teeth are lined up.

Refer to chart "G"

Cleco

90Q & 120Q Primary Gear Train Assembly

823238
January 1, 2003

							Complete Gear Train	1 0 2 5 5 8 3	1 0 2 5 5 8 4	1 0 2 5 6 0 5	
							RPM	1100	800	450	
Item	Number	EN Description	DE Benennung	FR Designation	ES Descripcion	IT Descrizione	#	#	#	●	
1	7610	Bearing	Lager	Coussinet	Cojinete	Cuscinetto	2	2	2	4	
2	1004983	Planet pin	Stift	Goupille	Pasador	Spina	2	2	2	2	
3	1005062	Ball bearing	Lager	Coussinet	Cojinete	Cuscinetto	1	1		1	
4	1007964	Retaining ring	Sicherungsring	Circlip	Anillo	Anello			1	1	
5	1008250	Pinion 16T	Steckritzel	Pignon	Pinon	Pignone	2				
	1008252	Pinion 19T	Steckritzel	Pignon	Pinon	Pignone		2	2		
	1110139	Pinion 21T	Steckritzel	Pignon	Pinon	Pignone	1	1	1		
6	1008262	Ball bearing	Lager	Coussinet	Cojinete	Cuscinetto	1			1	
7	1008955	Gear 48T	Getriebe	Engrenage	Engranaje	Ingranaggio		1	1		
	1008956	Gear 49T	Getriebe	Engrenage	Engranaje	Ingranaggio	1	1	1		
8	1007548	Retaining ring	Sicherungsring	Circlip	Anillo	Anello	1			1	
9	1017051	Washer	Scheibe	Rondelle	Arandela	Rondella	1				
	1017053	Washer	Scheibe	Rondelle	Arandela	Rondella		1	1		
10	1017841	Planet gear	Getriebe	Engrenage	Engranaje	Ingranaggio	1	1			
	1017842	Planet gear	Getriebe	Engrenage	Engranaje	Ingranaggio	1				
11	1017856	Pinion 9T & 16T	Steckritzel	Pignon	Pinon	Pignone	1	1	1		
12	1110066	Washer	Rotorzylinder	Rondelle	Arandela	Rondella	4	4		4	

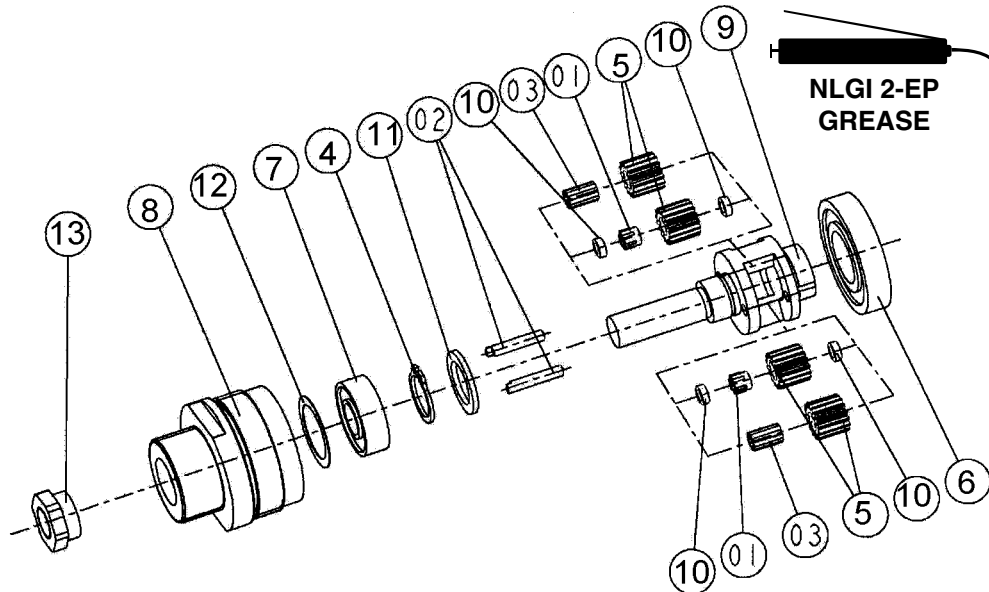
(#) Quantity - Stückzahl - Quantité - Cantidad - Quantità

(●) Indicates recommended spare part. Kennzeichnet empfohlenes Ersatzteil. Identifica un particolare di ricambio raccomandato. Designa el repuesto recomendado. Indique la pièce de rechange conseillée.

"F"

Output Planetary

REP.03 ONLY
MOUNTED ON
REF: 1025559



REDUCTION GEAR

REF: 1025559 450-800-1100-4500 TRS/MIN - RPM

REF: 1025564 2700 TRS/MIN - RPM

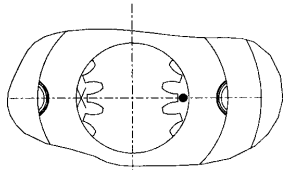
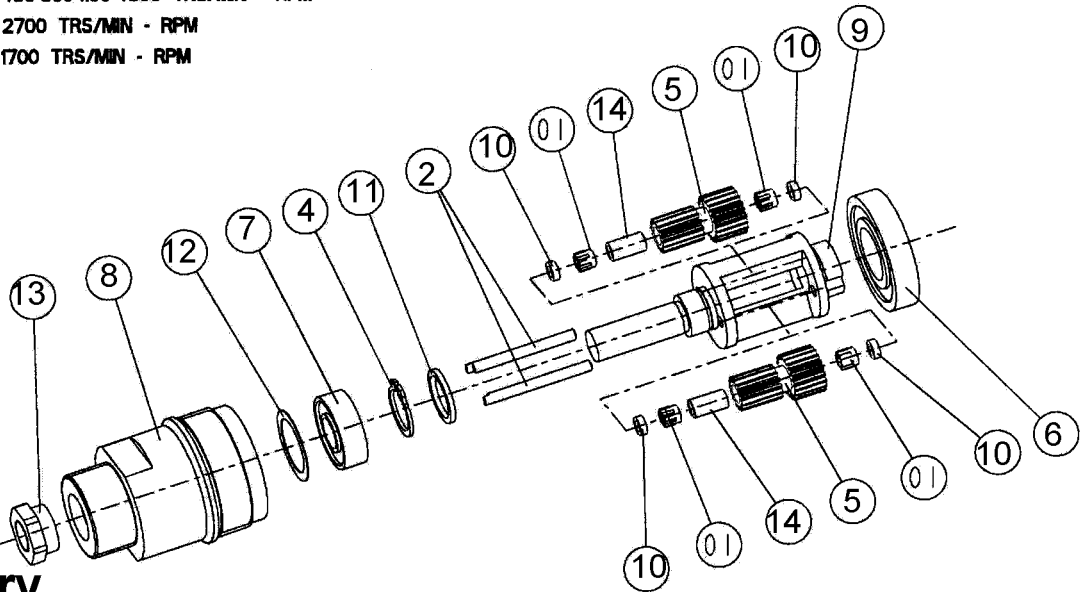
REF: 1025567 1700 TRS/MIN - RPM

Output Planetary

REDUCTION GEAR

REF: 1025568 1400 TRS/MIN - RPM

DETAIL A



Gear assembly

Assemble the planet gears into the planet cage making sure the notched planet pins fit over the planet cage washer. Rotate each gear until the aligning hole – on the end of one gear – is diametrical opposite the "X" mark of the other gear. It is important to maintain this alignment to avoid damaging the gear teeth. Warning : this is the only position where the gear teeth are lined up.

Refer to chart "G"

							1 0 2 5 5 5 9	1 0 2 5 5 6 4	1 0 2 5 5 6 7	1 0 2 5 5 6 8		
							Complete Gear Train					
							RPM	450 800 1100 4500	2700	1700	1400	
Item	Number	EN Description	DE Benennung	FR Designation	ES Descripcion	IT Descrizione	#	#	#	#	●	
1	7610	Bearing	Lager	Coussinet	Cojinete	Cuscinetto		2	2	4	2	
2	1004983	Planet pin	Stift	Goupille	Pasador	Spina	2	2	2		2	
	1005010	Planet pin	Stift	Goupille	Pasador	Spina				2	2	
3	1005062	Needle	Lager	Coussinet	Cojinete	Cuscinetto	22				22	
4	1007964	Retaining ring	Sicherungsring	Circlip	Anillo	Anello	1	1	1	1	1	
5	1008250	Gear 16T	Getriebe	Engrenage	Engranaje	Ingranaggio	1					
	1008252	Gear 19T	Getriebe	Engrenage	Engranaje	Ingranaggio		2				
	1110139	Gear 21T	Getriebe	Engrenage	Engranaje	Ingranaggio			2			
	1008952	Gear 15T, 21T	Getriebe	Engrenage	Engranaje	Ingranaggio				2		
6	1008262	Ball bearing	Lager	Coussinet	Cojinete	Cuscinetto	1	1	1	1	1	
7	1008854	Ball bearing	Lager	Coussinet	Cojinete	Cuscinetto	1	1	1	1	1	
8	1110040	Gear 48T	Getriebe	Engrenage	Engranaje	Ingranaggio	1					
	1110042	Gear 49T	Getriebe	Engrenage	Engranaje	Ingranaggio		1	1			
	1110063	Gear 43T	Getriebe	Engrenage	Engranaje	Ingranaggio				1		
9	1110043	Cage 3/8-24	Entrager	Porte-pignon	Satelite	Satellite	1					
	1110044	Cage 3/8-24	Entrager	Porte-pignon	Satelite	Satellite		1				
	1110045	Cage 3/8-24	Entrager	Porte-pignon	Satelite	Satellite			1			
	1110060	Cage 3/8-24	Entrager	Porte-pignon	Satelite	Satellite				1		
10	1110066	Washer	Scheibe	Rondelle	Arandela	Rondella		4	4	4		
11	1110069	Washer	Scheibe	Rondelle	Arandela	Rondella	1					
	1110070	Washer	Scheibe	Rondelle	Arandela	Rondella		1				
	1110071	Washer	Scheibe	Rondelle	Arandela	Rondella			1	1		
12	1110127	Wavy Washer	Scheibe	Rondelle	Arandela	Rondella	1	1	1	1	1	
13	1110185	Nut	Mutter	Ecrou	Tuerca	Dado	1	1	1	1	1	
14	1110571	Spacer	Distanzstuck	Entretoise	Espaciador	Distanziale				2		

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

(●) Indicates recommended spare part. Kennzeichnet empfohlenes Ersatzteil. Identifica un particolare di ricambio raccomandato. Designa el repuesto recomendado. Indique la pièce de rechange conseillée.

"G"**VARIABLE PARTS SELECTION FOR SPEED**

Motor RPM		Motor, Gear Train & Housing Assy. "C"	Motor only "D"	Gear Train "F"	Gear Train "E"	Motor Pipe Qty. 2 Item no. 32 - "C"
				Output planetary	Primary planetary	
450	RA	22002768	1025572	1025559	1025605	93825938
	IL	22002769	1025572	1025559	1025605	93825939
800	RA	22002766	1025571	1025559	1025584	93825938
	IL	22002767	1025571	1025559	1025584	93825939
1100	RA	22002744	1026077	1025559	1025583	93825938
	IL	22002745	1026077	1025559	1025583	93825939
1400	RA	22002746	1026151	1025568		93825932
	IL	22002747	1026151	1025568		93825933
1700	RA	22002742	1026151	1025567		93825932
	IL	22002743	1026151	1025567		93825933
2700	RA	22002748	1026149	1025564		93825932
	IL	22002749	1026149	1025564		93825933
4500	RA	22002764	1026077	1025583		93825932
	IL	22002765	1026077	1025583		93825933

RA - Right angle

IL - Inline

"H"**VARIABLE PARTS SELECTION FOR FEED**

Feed - mm/inches Rotation	Feed Subassemblies Includes Items "A" & "B"	Feed selection Item no. 65 - "A"	
		Item "A"	Item "B"
0.03mm/.001"	22003530	93030151	93030142
0.05mm/.002"	22003532	93030151	93030143
0.07mm/.003"	22003534	93030151	93030144
0.10mm/.004"	22003536	93030149	93030146
0.15mm/.006"	22003538	93030148	93030147

NOTES



CooperTools
670 Industrial Drive
Lexington, SC 29072
Phone: (803) 359-1200
Fax: (803) 359-2013
www.clecotools.com