Instruction Manual PL12-1019EN 06/18/2019







For additional product information visit our website at http://www.ClecoTools.com

# **Cleco**<sup>®</sup> General Information

# For this Instruction Manual

This Instruction Manual is the Original Instruction Manual intended for all persons who will operate and maintain these tools.

This Instruction Manual

- provides important notes for the safe and efficient use of these tools.
- describes the function and operation of the 19P and 19T series tools.
- serves as a reference guide for technical data, service intervals and spare parts ordering.
- provides information on optional equipment.

### Identification text:

19P / 19T represents all models of the pistol grip pneumatic screwdrivers as described in this manual

- → indicates a required action
- indicates a list
- <..> indicates a reference number from the exploded parts drawings
- Arial indicates an important feature or instruction written in Arial Bold

### Identification graphic:

- indicates a directional movement

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### **Cleco**<sup>®</sup> Nomenclature

L	19	X	Т	S	XX	Q
ool Series						
19		1				
andle						
P = Pistol Grip P-Handle						
<b>T</b> = Pistol Grip T-Handle						
ool Type						
<b>T</b> = Trigger				•		
orque Control						
S = Stall					-	
Aaximum Torque						
<b>02 =</b> 2.1 Nm						
<b>03 =</b> 3.1 Nm						
<b>04 =</b> 4.5 Nm						
<b>05 =</b> 5.1 Nm						
Output Drive						
<b>Q</b> = Quick Change Chuck						

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### 1 Safety

### 1.1 Warnings and notes

Warning notes are identified by a signal word and a pictogram.

- The signal word indicates the severity and probability of the impending danger.
- The pictogram indicates the type of danger.



**WARNING** identifies a potentially **hazardous** situation which, if not avoided, may result in serious injury.

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\_\_\_\_\_

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**CAUTION** identifies a potentially **hazardous** situation which, if not avoided, may result in minor or moderate injury or property and environmental damage.



**NOTE** identifies general information which may include application tips or useful information but no hazardous situations.



Important information that must be read and understood by all personnel installing, operating or maintaining this equipment.

### **1.2 Basic requirements for safe working practices**



All personnel involved with the installation, operation or maintenance of these tools must read and understand all safety instructions contained in this manual. Failure to comply with these instructions could result in serious injury or property damage.

These safety instructions are not intended to be all inclusive. Study and comply with all applicable National, State and Local regulations.

CAUTION!

#### ON! Work Area:



- → Ensure there is enough space in the work area.
- → Keep the work area clean.
- → Keep the work area well ventilated.

#### Personnel Safety:

- → Inspect the air supply hoses and fittings. Do not use damaged, frayed or deteriorated hoses.
- → Make sure the air supply hose is securely attached to the tool.
- → Ensure a secure standing position and maintain balance.
- → Make sure the throttle is positioned relative to the head so the throttle will not become wedged against an adjacent object in the ON position due to torque reaction.
- → If the tool is to be reversed, locate the throttle in a neutral position to prevent entrapment.
- → Keep the tool clean and dry to provide the best possible grip.
- $\rightarrow$  Firmly grasp the handle of the 19P/19T and apply the bit to the application before starting.
- ➔ Be prepared for high short-term reaction torques.

#### Safety working with and around fastening tools:

- → Use only power tool sockets and bits available from Apex Tool Group.
- → Inspect socket or bit for visible damage and cracks. Replace damaged items immediately.
- → Disconnect the air supply before installing or replacing the socket or bit.
- → Do not attach the socket or bit at a slant.
- → Make sure the socket or bit is fully assembled on the drive and locked in postion.

### 1.3 Operator training

All personnel must be properly trained before operating the 19P/19T tools. The 19P/19T tools are to be repaired by fully trained personnel only.

#### 1.4 Personal protective equipment

When working



- Wear eye protection to protect against flying metal splinters.
- Wear hearing protection

Danger of injury by being caught by moving equipment.



- Wear a hairnet
- Wear close fitting clothing
- Do not wear jewelry

### 1.5 Designated use

The 19P/19T are designed exclusively for fastening and releasing threaded fasteners.

The 19P/19T series screwdrivers are not equipped with a clutch. The output spindle is coupled to the last stage of gearing. Torque output from a stall tool may be controlled within fairly reasonable limits with an air pressure regulator.

- Do not modify the 19P/19T, any guard or accessory.
- Use only with accessory parts which are approved by the manufacturer.
- Do not use as a hammer, pry-bar or any other improper usage.

#### 1.6 Codes and standards

It is mandatory that all national, state and local codes and standards be followed.

### 1.7 Noise and vibration

Noise level  $\leq$  79 dB(A) free speed (without load) according to ISO 12100: 2011 Vibration values < 2.5 m/s<sup>2</sup> according to ISO 12100: 2011

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Scope of Supply, Transport and Storage

# 2 Scope of supply, transport and storage

### 2.1 Items supplied

Check shipment for transit damage and ensure that all items have been supplied:

- 1 19P or 19T
- 1 PL12-1019EN instruction manual
- 1 Declaration of Conformity
- 1 Lubrication sheet
- 1 Warranty statement

### 2.2 Transport

Transport and store the 19P/19T in the original packaging. The packaging is recyclable.

### 2.3 Storage

For short term storage (less than 2 hours) and protection against damage:

- → Place the 19P/19T in a location on the workbench to avoid accidental depression of the trigger. or
- $\rightarrow$  Suspend the 19P/19T from a suitable balancer or tool positioner.

For storage longer than 2 hours:

→ Disconnect the air supply from the 19P/19T

Object	Time Period	Storage Temperature
19PT without air supply	No guideline	-13°F to 104°F (-25°C to 40°C)
19TT without air supply	No guideline	-13°F to 104°F (-25°C to 40°C)

# **Cleco**<sup>®</sup> Product Description

# 3 **Product description**

### 3.1 General description

- Pistol grip or "T" handle pneumatic powered screwdriver
- Trigger actuated
- Clockwise/counterclockwise rotation
- Stall type tool (no clutch)
- Low vibration level

### 3.2 Operation and functional elements

This section describes the operational and functional elements of the 19P/19T.



### **Cleco**<sup>®</sup> Accessories

# 4 Accessories



# **Cleco**<sup>®</sup> Before Initial Operation

# 5 Before initial operation

### 5.1 Ambient conditions

Ambient temperature: 41°F (5°C) to a maximum of 104°F (40°C)

Acceptable relative humidity: 25% to 90%, non-condensing

### 5.2 Air supply

Parameter	Description
Air Hose	Minimum inside diameter: 3/16" (4,7 mm)
	Maximum length: 16.4' (5 m)
Marking processor range	58 to 101.5 psi (400 to 700 kPa)
Working pressure range	Recommended: 90 psi (620 kPa)
Compressed air	Air quality according to ISO 8573-1, quality class 2.4.3
	The compressed air must be clean and dry.



To attain consistent results, maintain a constant working pressure using a suitable air line unit consisting of a filter, regulator and lubricator.

 $\rightarrow$  The inside diameter of the air hose must be free of residue, clean if necessary.

 $\rightarrow$  Spray a few drops of light air tool oil into the air inlet adapter.

→ Adjust the lubricator to a minimum setting to reduce the amount of excess oil in the exhaust air.

### Oil identification

Part No.	Packaged	Designation	Vendor
540397	1 Quart (0.94 liter)	Airlube 10W/NR-420LB DR	Fuchs Lubricants Co.
533485	1 US Gallon (3.78 liter)	Airlube 10W/NR-420LB DR	Fuchs Lubricants Co.

### 5.3 Connecting the air supply to the tool

WARNING!

The air hose can disconnect from the tool by itself and whip around uncontrollably.



 $\rightarrow$  Turn off the compressed air before connecting to the tool.

 $\rightarrow$  Securely connect the air hose to the tool.

 $\rightarrow$  Turn on the compressed air.

### 5.4 Tool set up

The tool must be configured for the application.

# 6 First operation

### 6.1 Putting into use

- $\rightarrow$  Make sure the air supply is securely attached and the compressor is turned on.
- → Make sure the reverse lever is in the correct position.
- → Place the socket or bit on the application and depress the trigger to start the rundown.
- $\rightarrow$  When the rundown is complete, release the trigger.
- $\rightarrow$  Remove the tool from the application.

# 7 Troubleshooting

Malfunction	Possible causes		Remedy
Tool does not start	No or low air pressure	→	Make sure there is adequate air pressure at the tool air inlet
	Reversing lever out of position	→	Make sure the reversing lever is in the clockwise or counterclockwise position
	Broken gears	→	Tool disassembly required (parts replacement)
Tool does not shut off	Working pressure < 58 psi (400 kPa)	→	Increase the working air pressure
Tool loses power	Reduced air pressure	→	Check air supply line for any obstructions
	Lack of lubrication	→	Check the air line lubricator to make sure it is full of lubricant and is working properly
	Motor exhaust air is obstructed	→	Clean or replace bronze mufflers
	Swollen rotor blades from excessive moisture Worn rotor blades		Check the air line filter, empty reservoir if necessary
			Tool disassembly required (parts replacement)
	Worn gears or bearings		Tool disassembly required (parts replacement)
Air leak at inlet	Loose inlet adapter	→	Tighten inlet adapter
adapter	Worn o-ring on inlet adapter	→	Replace o-ring

# 8 Maintenance

CAUTION!

Danger of injury from accidental start up. Turn off the compressed air before performing any maintenance.

#### 8.1 Service schedule

Only qualified and trained personnel are permitted to perform maintenance on these tools.

Regular maintenance reduces operating faults, repair costs and downtime. In addition to the following service schedule, implement a safetu related maintenance program that takes the local regulations for repair and maintenance for all operating phases of the tool into account.

Maintenance Interval	Rundowns	Designation
Daily	Daily	<ul> <li>Visual inspection of air supply hose and connections</li> <li>Inspect airline filter, regulator and lubricator for proper operation</li> <li>Check the tool for excessive vibration or unusual noises</li> <li>Visual inspection of all external components of the tool</li> </ul>
W1	100,000	<ul> <li>Inspect the air hose for damage or wear</li> <li>inspect the output spindle for damage or wear</li> <li>Inspect the air inlet adapter for a secure fit</li> <li>Check the maximum free speed</li> </ul>
W2	500,000	<ul> <li>Check individual parts and replace if necessary</li> <li>Replace O-rings and seals</li> <li>Clean bronze mufflers</li> </ul>
W3	1,000,000	<ul> <li>Check individual parts and replace if necessary</li> <li>Throttle valve</li> <li>Motor</li> <li>Gearing</li> <li>Quick change chuck</li> </ul>

This maintenance schedule uses values that are valid for most applications. For a specific maintenance interval, refer to 8.1.1 Calculating a customer-specific maintenance plan.

### 8.1.1 Calculating a customer specific maintenance plan

A service interval W(1, 2, 3) depends on the following factors:

Factor	Value assumed in "Service Schedule"	Description
v	V1 = 100,000 V2 - 500,000 V3 = 1,000,000	Number of rundowns after a maintenance measure is prescribed by Apex Tool Group.
T1	1.8 seconds	Specific rundown time, measured in life and endurance tests.
T2	2 seconds	Actual rundown time, depending on the hardness of the joint.
S	1; 2; 3	Number of shifts per day.
VS	750	Number of rundowns per shift.

T2, S and VS are variable factors and can differ depending on the specific application.

Example for service interval W2:



After 500,000 rundowns (V),

a specific rundown time of 1.8 seconds (T1)

with an actual fastening time of 3 seconds (soft joint) and

3 completed shifts per day and 750 rundowns per shift.

W (1, 2, 3) = 
$$\frac{V \times T1}{T2 \times S \times VS}$$
 W2 =  $\frac{500000 \times 1.8}{3 \times 3 \times 750}$  = 133 (days)

You will need to perform the maintenance indicated as W2 after an operating time of 133 days.)

### 8.2 Lubricants

For proper function and long service life, use of the correct grease is essential.

Grease lubricants recommended for this tool.

Part No.	Packaged	Designation	Vendor
540450	18 oz. (0.51 kg)	Black Pearl EP-NLGI-0	Chevron
540395	2 oz. (0.06 kg)	Magnalube-G	Carleton-Stuart Corp.
513156	16 oz. (0.45 kg)	Magnalube-G	Carleton-Stuart Corp.
541444	2 oz. (0.06 kg)	Rheolube 363AX-1	Nye Lubricants, Inc.
541445	16 oz. (0.45 kg)	Rheolube 363AX-1	Nye Lubricants, Inc.

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**Cleco**<sup>®</sup> Repair Instructions

# 9 Repair instructions

## 9.1 Motor disassembly and reassembly



## **Cleco**<sup>®</sup> Spare Parts



#### **19P Series Screwdriver** 10.1

Ref	Number	#	x	EN
Rei	Number	#	<b>^</b>	Description
1	301963PT	1		Reversing Valve Assembly (includes Ref. 2 thru 12)
2	541528	1	3	O-Ring
3	207611PT	1		Tapered Throttle Valve
4	207612PT	1		Valve Stem
5	70193900	1		Washer
6	70191800	1		Reversing Valve Bushing
7	80047400	1	1	Spring Clip
8	207574PT	1		Reversing Valve
9	207597PT	1		Reversing Valve Lever
10	207598PT	1	2	Socket Head Set Screw
11	1110038	1	1	Trigger
12	93040033	1	3	O-Ring
13	207570PT	1		Pistol Grip Housing
14	847031	1	2	Dowel Pin
15	844302	1	3	O-Ring
16	812962	1	3	Screw
17	867926	1	3	O-Ring
18	207601PT	1		Large Pistol Grip Handle (Standard Equipment)
	207595PT *	1		Small Pistol Grip Handle (Option)
19	203563	1	3	Muffler Pad
20	866400PT	1	3	Muffler
21	207587PT	1		Muffler Cap
22	207602PT	1		Inlet Adapter - Large Handle (Standard Equipment)
~~	207588PT *	1		Inlet Adapter - Small Handle (Option)
23	905031 *	1	3	Screen
24	905599 *	1	3	Retaining Ring
25	207594PT	1		Valve Manifold (includes Ref. 26)
26	847548	1	2	Pin
27	931962	1	2	Suspension Bail

(#) Quantity
 (X) Recommended Spare Parts (quantity shown based on 1-5 tools in operation)
 \* Note: Parts included in 302020PT small Pistol Grip handle kit

## **Cleco**<sup>®</sup> Spare Parts



#### 10.2 **19T Series Screwdriver**

Ref	Number	#	x	EN
Rei	Number	#	^	Description
1	301963PT	1		Reversing Valve Assembly (includes Ref. 2 thru 12)
2	541528	1	3	O-Ring
3	207611PT	1		Tapered Throttle Valve
4	207612PT	1		Valve Stem
5	70193900	1		Washer
6	70191800	1		Reversing Valve Bushing
7	80047400	1	1	Spring Clip
8	207574PT	1		Reversing Valve
9	207597PT	1		Reversing Valve Lever
10	207598PT	1	2	Socket Head Set Screw
11	1110038	1	1	Trigger
12	93040033	1	3	O-Ring
13	207572PT	1		Pistol Grip Housing
14	847031	1	2	Dowel Pin
15	844302	1	3	O-Ring
16	812962	1	3	Screw
17	867926	1	3	O-Ring
18	207601PT	1		Large Pistol Grip Handle (Standard Equipment)
10	207595PT *	1		Small Pistol Grip Handle (Option)
19	203563	1	3	Muffler Pad
20	866400PT	1	3	Muffler
21	207587PT	1		Muffler Cap
22	207602PT	1		Inlet Adapter - Large Handle (Standard Equipment)
<sup>22</sup> [	207588PT *	1		Inlet Adapter - Small Handle (Option)
23	905031 *	1	3	Screen
24	905599 *	1	3	Retaining Ring
25	207594PT	1		Valve Manifold (includes Ref. 26)
26	847548	1	2	Pin
27	931962	1	2	Suspension Bail

(#) Quantity

(X) Recommended Spare Parts (quantity shown based on 1-5 tools in operation) \* Note: Parts included in 302020PT small Pistol Grip handle kit

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### 10.3 Motor Assembly

Ref	Number	#	х	EN
Rei		#	^	Description
	Table 10.3	1		Motor Assembly
1	203504	1		Cylinder
2	205960	1		Rear Bearing Plate
3	Table 10.3	1		Rotor
4	203615PT	4	12	Rotor Blade
5	208535PT	1		Front Bearing Plate
6	842768	2	4	Ball Bearing
7	844897	1	2	Front Cylinder Pin
8	847548	1	2	Rear Cylinder Pin
9	92570018	1	2	Pin

(#) Quantity

### Table 10.3

Ref.	Description	#	19(-)TS02Q 19(-)TS05Q	#	19(-)TS03Q	#	19(-)TS04Q
	Motor Assembly	1	301972PT	1	301973PT	1	301974PT
3	Rotor	1	203545	1	203547	1	203546

# **Cleco**<sup>®</sup> Spare Parts



### 10.4 301967PT Gearing Assembly

Ref	Number	#	x	EN
Kei			^	Description
	301967PT	1		Gear Case Assembly (6.875:1)
1	204136PT	1		End Plate Spacer
2	207619PT	3	6	Idler Gear (16T)
3	207620PT	1		Open Spider
4	205964	1		Gear Case
5	847595	1	2	Ball Bearing
6	619017	1	2	Retaining Ring

(#) Quantity

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

(T) Teeth

### 10.5 301086 Gearing Assembly

Ref	Number	#	x	EN
Ker		#	^	Description
	301086	1		Gear Case Assembly
1	203646	1		End Plate Spacer
2	833862	3	6	Needle Roller
3	869155	1		Spider
4	869163	3	6	Idler Gear (18/9T)
5	205966	1		Gear Case
6	847595	1	2	Ball Bearing
7	619017	1	2	Retaining Ring

(#) Quantity

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

(T) Teeth

# **Cleco**<sup>®</sup> Spare Parts



#### 10.6 301968PT Gearing Assembly

Ref	Number	#	x	EN
Ker		π	^	Description
	301968PT	1		Gear Case Assembly (17.256:1)
1	203644PT	1		End Plate Spacer
2	203919	1	2	Pinion Gear
3	205964	1		Gear Case
4	619017	1	2	Retaining Ring
5	847595	1	2	Ball Bearing
6	207615PT	1		Open Spider
7	207616PT	6	12	Idler Gear (14T)
8	207618PT	1		Open Spider

(#) Quantity

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

(T) Teeth

### 10.7 301969PT Gearing Assembly

Ref	Number	#	х	EN
Kei		π	^	Description
	301969PT	1		Gear Case Assembly (28.484:1)
1	204136PT	1		End Plate Spacer
2	205963	1		Gear Case
3	619017	1	2	Retaining Ring
4	847595	1	2	Ball Bearing
5	207616PT	3	6	Idler Gear (14T)
6	207617PT	1		Open Spider
7	207618PT	1		Open Spider
8	207619PT	3	6	Idler Gear (16T)

(#) Quantity

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

(T) Teeth



#### 301122 Spindle Assembly 10.8

Ref	Number	#	v	EN
Ker	Number	π	^	Description
	301122	1		Stall Spindle Assembly
1	202847PT	1		Spindle
2	844265	1	3	Steel Ball (.125 diameter)
3	207104	1		Spindle Housing
4	619524	1	2	Retaining Ring
5	202833PT	1	1	Release Collar
6	202842PT	1	3	Spring
7	864249	1	1	Washer
8	833688	1	2	Retaining Ring

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

## **11** Technical data

# 11.1 19PTS and 19TTS Specifications

Trigger Start Stall

Model	Maxi	mum	Free	19PT Series				19TT Series				
WIDGET	Torque		Speed	Length		Weight		Length		Weight		
19PT Series	19PT Series 19TT Series		Nm	(rpm)	in	mm	lbs	kg	in	mm	lbs	kg
19PTS02Q	19TTS02Q	19	2.1	2800	5.9	150	1.16	0.5	5.8	146	1.19	0.5
19PTS03Q	19TTS03Q	26	2.9	1900	6.1	155	1.16	0.5	6.1	155	1.19	0.5
19PTS04Q	19TTS04Q	40	4.5	1100	5.9	150	1.16	0.5	5.8	146	1.19	0.5
19PTS05Q	19TTS05Q	45	5.1	680	6.3	160	1.36	0.6	6.3	160	1.39	0.6



### 12 Service

### 12.1 Replacement parts



Use only original Cleco replacement parts. Failure to comply can result in reduced power and increased service requirements. The tool warranty may be voided if replacement parts are not manufactured or approved by Apex Tool Group.

### 12.2 Tool repairs

Only qualified and trained personnel are to repair this equipment.

#### 12.3 Warranty repairs

All warranty repairs are to be performed by an authorized Apex Tool Group service center. Contact your local representative for assistance with warranty repair claims.

# 13 Disposal

CAUTION! Injuries and environmental damage from improper disposal.

- Components and auxillary materials of the tool pose risks to health and the environment.
- → Capture auxillary materials (oils, greases) when drained and dispose of them properly.

\_\_\_\_\_

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- $\rightarrow$  Separate the packaging components and dispose of them properly.
- $\rightarrow$  Comply with all applicable local regulations.



Observe local disposal guidelines for all components of this tool and its packaging.

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## **POWER TOOLS SALES & SERVICE CENTERS**

Please note that all locations may not service all products.

Contact the nearest Cleco® Sales & Service Center for the appropriate facility to handle your service requirements.

Sales Center

📕 Service Center

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