



Printed Matter No. 6159929650 EN

Issue No. 01

10/2020 Date 1/20 Page

Angle-head Electric Nutrunner

Product Instructions

Model	Part number
EAD20-1300	6151656060
EAD32-900	6151656070
EAD50-900	6151656090
EAD50-900-HAD	6151658770
EAD70-800	6151656110
EAD70-700-HAD	6151658780
EAD70-800 SQ1/2	6151658820
EAD80-650	6151656120
EAD105-500	6151656130
EAD105-500-HAD	6151658790
EAD160-430	6151656810
EAD160-430-HAD	6151658800
EAD200-370	6151656820
EAD280-260	6151656830
EAD280-370	6151656840
EAD440-250	6151656850
EAD660-160	6151656860



Download the latest version of this document at http://www.desouttertools.com/info/6159929650_EN



MARNING

Read all safety warnings and instructions

Failure to follow the safety warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference

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Product Information

General Information

MARNING Risk of Property Damage or Severe Injury

Ensure that you read, understand and follow all instructions before operating the tool. Failure to follow all the instructions may result in electric shock, fire, property damage and/or severe bodily injury.

- ▶ Read all Safety Information delivered together with the different parts of the system.
- ▶ Read all Product Instructions for installation, operation and maintenance of the different parts of the system.
- ► Read all locally legislated safety regulations regarding the system and parts thereof.
- ▶ Save all Safety Information and instructions for future reference.

Safety Signal Words

The safety signal words **Danger**, **Warning**, **Caution**, and **Notice** have the following meanings:

DANGER	DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	NOTICE is used to address practices not related to personal injury.

Warranty

- Product warranty will expire 12 months after the product is first taken into use, but will in any case expire at the latest 13 months after delivery.
- Normal wear and tear on parts is not included within the warranty.
 - Normal wear and tear is that which requires a part change or other adjustment/overhaul during standard tools maintenance typical for that period (expressed in time, operation hours or otherwise).
- The product warranty relies on the correct use, maintenance, and repair of the tool and its component parts.
- Damage to parts that occurs as a result of inadequate maintenance or performed by parties other than Desoutter or their Certified Service Partners during the warranty period is not covered by the warranty.
- To avoid damage or destruction of tool parts, service the tool according to the recommended maintenance schedules and follow the correct instructions.
- Warranty repairs are only performed in Desoutter workshops or by Certified Service Partners.

Desoutter offers extended warranty and state of the art preventive maintenance through its Tool Care contracts. For further information contact your local Service representative.

For electrical motors:

· Warranty will only apply when the electric motor has not been opened.

Website

Information concerning our Products, Accessories, Spare Parts and Published Matters can be found on the Desoutter website.

Please visit: www.desouttertools.com.

Information about spare parts

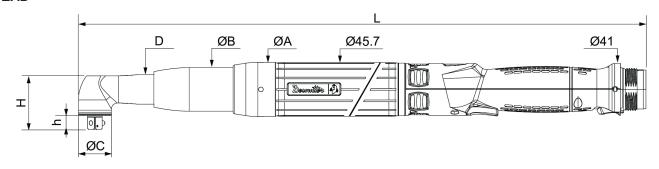
Exploded views and spare parts lists are available in Service Link at www.desouttertools.com.

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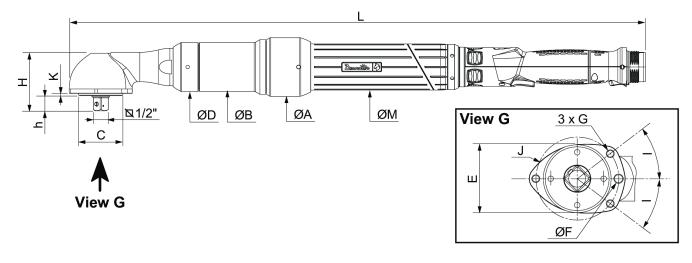
Dimensions (mm)

EAD



	ØA	ØB	D	L	
20-1300	46	37	25	481	
32-900	46	37	25	481	
50-900	46	37	28	531	
70-800	58	43	32	544	
70-800 Sq.1/2	58	43	32	544	
80-650	58	48	40	567	
105-500	58	48	40	567	

	h	Н	ØC
20-1300	12	45.5	28
32-900	12	45.5	28
50-900	12	51.1	35
70-800	12	56.7	40
70-800 Sq.1/2	17	62	40
80-650	17.5	60.4	45
105-500	17.5	60.4	45

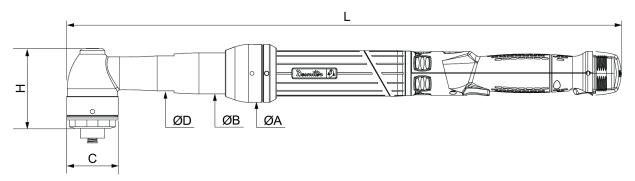


	ØA	ØB	M	L	
160-430	66	55	52	650	
200-370	66	55	52	673	
280-260	66	55	52	673	
280-370	76	55	66	681	
440-250	76	67	66	735	
660-160	76	67	66	774	



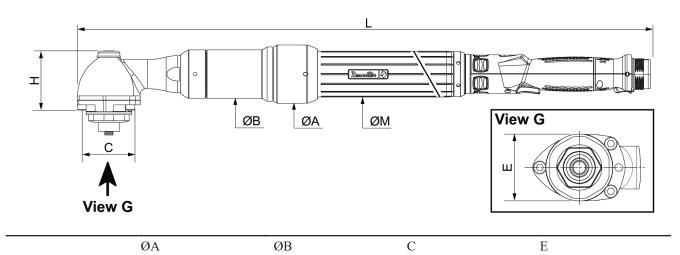
	C	Е		F	G	
160-430	50	51		6 (0 to 0.012)	M6	
200-370	62	63		6 (0 to 0.012)	M6	
280-260	62	63		6 (0 to 0.012)	M6	
280-370	62	63		6 (0 to 0.012)	M6	
440-250	75	76		8 (0 to 0.015)	M8	
660-160	106	107		10 (0 to 0.015)	M10	
	K	h	Н	Ī	J	
160-430	2.5	17	65	37°	61	
200-370	3.5	23	85	40°	73	
280-260	3.5	23	85	40°	73	
280-370	3.5	23	85	40°	73	
440-250	3.5	24	91	37°	90	
60-160	5	33	110	40°	121	

EAD-HAD



	ØA	ØB	С	D	
50-900	46	37	36.5	28	
70-700	58	41	52	35	
105-500	58	48	46	40	

	Н	L
50-900	61.6	532
70-700	90	550
105-500	88	567



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160-430	66	55	46	51.5	
	Н	L		ØM	
160-430	91	65	0	52	

CAD files

For information about the dimensions of a product, see the Dimensional drawings archive:

https://www.desouttertools.com/resource-centre

Overview

General overview

EAD / EAD-HAD are electric angle-head nutrunners powered by one of the following Desoutter controllers.

- CVI3 Essential
- CVI3 Function
- CVI3 Vision
- TWINCVI3

They are hand-held by the operator.

They also can be used as fixtured tools and installed on a frame in the workstation.

Contact your Desoutter representative to get more information and support.

They received the tightening process to run from the controller.

Tools settings such as trigger management, LED management, run reverse mode, etc... can be set up with CVI CON-FIG.

Change the orientation of the angle head by mounting an eFLEX cable.

The following models are equipped with *eCompass* feature.

- EAD20-1300
- EAD32-900
- EAD50-900
- EAD70-800
- EAD70-800 SQ1/2
- EAD80-650
- EAD105-500
- EAD160-430
- EAD200-370

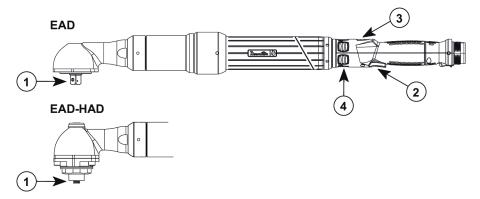
This feature is available for tools equipped with a gyroscope.

This feature is used to compensate any movement of the operator that might add or remove angle in the assembly. Moreover, an angle range (tool angle limits) is defined to stop the tightening if the operator movement is outside this range.

This feature is programmable with CVI CONFIG software.

The ePOD model (ePOD2 Compass) must be connected to the controller.

Product description





1	Output drive
2	Trigger
3	Reverse button
4	Reporting LEDs

Technical data

Voltage

 $3\sim 230\ V$

Power consumption

Model	W	
EAD20-1300	55	
EAD32-900	55	
EAD50-900	100	
EAD50-900-HAD	100	
EAD70-700-HAD	100	
EAD70-800	100	
EAD70-800 SQ 1/2	100	
EAD80-650	100	
EAD105-500	100	
EAD105-500-HAD	100	
EAD160-430	160	
EAD160-430-HAD	160	
EAD200-370	160	
EAD280-260	160	
EAD280-370	170	
EAD440-250	170	
EAD660-160	170	

Output drive

Model	Туре	
EAD20-1300	Sq. 3/8"	
EAD32-900	Sq. 3/8"	
EAD50-900	Sq. 3/8"	
EAD50-900-HAD	Hold and Drive *	
EAD70-700-HAD	Hold and Drive *	
EAD70-800	Sq. 3/8"	
EAD70-800 SQ 1/2	Sq. 1/2"	
EAD80-650	Sq. 1/2"	
EAD105-500	Sq. 1/2"	
EAD105-500-HAD	Hold and Drive *	
EAD160-430	Sq. 1/2"	
EAD160-430-HAD	Hold and Drive *	
EAD200-370	Sq. 3/4"	
EAD280-260	Sq. 3/4"	
EAD280-370	Sq. 3/4"	
EAD440-250	Sq. 3/4"	
EAD660-160	Sq. 1"	

^{*:} socket and bit not supplied

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Torque range (Nm)

Model	Min. / Nominal / Max.	
EAD20-1300	3 / 18 / 20	
EAD32-900	5 / 30 / 32	
EAD50-900	8 / 45 / 50	
EAD50-900-HAD	8 / 45 / 50	
EAD70-700-HAD	12 / 65 / 70	
EAD70-800	12 / 65 / 70	
EAD70-800 SQ 1/2	12 / 65 / 70	
EAD80-650	15 / 75 / 80	
EAD105-500	20 / 90 / 105	
EAD105-500-HAD	20 / 90 / 105	
EAD160-430	35 / 150 / 160	
EAD160-430-HAD	35 / 150 / 160	
EAD200-370	60 / 170 / 200	
EAD280-260	60 / 250 / 280	
EAD280-370	60 / 250 / 280	
EAD440-250	100 / 400 / 440	
EAD660-160	100 / 600 / 660	

Torque range (ft.lb)

Model	Min. / Nominal / Max.
EAD20-1300	2.2 / 13.3 / 14.8
EAD32-900	3.7 / 22.1 / 23.6
EAD50-900	5.9 / 33.2 / 40.6
EAD50-900-HAD	5.9 / 33.2 / 40.6
EAD70-700-HAD	8.8 / 47.9 / 51.6
EAD70-800	8.8 / 47.9 / 51.6
EAD70-800 SQ 1/2	8.8 / 47.9 / 51.6
EAD80-650	11.1 / 55.3 / 59.0
EAD105-500	14.8 / 66.4 / 77.4
EAD105-500-HAD	14.8 / 66.4 / 77.4
EAD160-430	26 / 111 / 118
EAD160-430-HAD	26 / 111 / 118
EAD200-370	44 / 125 / 148
EAD280-260	44 / 184 / 207
EAD280-370	44 / 184 / 207
EAD440-250	74 / 295 / 325
EAD660-160	74 / 443 / 487

Rated speed (rpm)

Model	rpm
EAD20-1300	1300
EAD32-900	900
EAD50-900	900
EAD50-900-HAD	900
EAD70-700-HAD	700
EAD70-800	800
EAD70-800 SQ 1/2	800



Model	rpm	
EAD80-650	650	
EAD105-500	500	
EAD105-500-HAD	500	
EAD160-430	430	
EAD160-430-HAD	430	
EAD200-370	370	
EAD280-260	260	
EAD280-370	370	
EAD440-250	250	
EAD660-160	160	

Weight

Model	kg	lb	
EAD20-1300	1.55	3.41	
EAD32-900	1.55	3.41	
EAD50-900	1.95	4.30	
EAD50-900-HAD	1.80	3.96	
EAD70-700-HAD	2.00	4.40	
EAD70-800	2.15	4.74	
EAD70-800 SQ 1/2	2.15	4.74	
EAD80-650	2.55	5.62	
EAD105-500	2.55	5.62	
EAD105-500-HAD	2.40	5.29	
EAD160-430	4.45	9.81	
EAD160-430-HAD	4.3	9.5	
EAD200-370	5.25	11.57	
EAD280-260	5.25	11.57	
EAD280-370	6.35	13.99	
EAD440-250	8.65	19.07	
EAD660-160	11.25	24.80	

Storage and use conditions

Storage temperature	-20 to +70 °C (-4 to +158 F)
Operating temperature	0 to 45 °C (32 to 113 F)
Storage humidity	0-95 % RH (non-condensing)
Operating humidity	0-90 % RH (non-condensing)
Altitude up to	2000 m (6562 feet)
Usable in Pollution degree 2 environment	
Indoor use only	

Accessories

Optional accessories

Barcode reader and headlight	6158121380		
Headlight	6158121390		
Trigger locker	6153978420		

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Front trigger (mechanical) for EAD20 to EAD105 Warning: this trigger must be mounted on tool by authorized Desoutter technician only.	6153985300
Front trigger (electric) for EAD20 to EAD32	6159110135
Front trigger (electric) for EAD50 to EAD105	6159110125
Suspension bail (up to EAD105 / EID75)	6153974130
Suspension bail (for EAD160-200-280-660 / EID120)	6155710720
Protective cover for EAD20/EAD32	6155732070
Protective cover for EAD50	6155732080
Protective cover for EAD70	6155732090
Protective cover for EAD80/EAD105	6155732100
Handle lever	6153978310

eFLEX tool cable

Length (m)	Length (ft)	Part number
2.5	8.20	6159176310
5	16.0	6159176320

Telescopic modules

Telescopic module AHE5 - 1/2"	6153980760	
Telescopic module AHE6 - 3/4"	6153980770	
Telescopic module AHE7 - 3/4"	6153980780	
Telescopic module AHE8 - 1"	6153981610	

Where-used list

EAD160-430	AHE5 - 1/2"	-	-	-	
EAD280-260	-	AHE6 - 3/4"	-	-	
EAD280-370	-	AHE6 - 3/4"	-	-	
EAD440-250	-	-	AHE7 - 3/4"	-	
EAD660-160	-	-	-	AHE8 - 1"	

Required accessories

Tool cables

Length (m)	Length (ft)	Part number	
2.5	8.20	6159176010	
5	16.0	6159176020	
10	32.8	6159176040	
15	49.2	6159176050	



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Tool extension cables

Length (m)	Length (ft)	Part number	
8	26.2	6159175810	
16	52.5	6159175840	
32	105	6159175870	
50	164	6159175890	

Service Overview

Maintenance program

Please consult us on the Tool Care program that includes production support and maintenance solutions.

Spare parts

Exploded views and spare parts lists are available at https://www.desouttertools.com/resource-centre.

The use of spare parts other than those originally supplied by the manufacturer may result in a drop in performance or in increased maintenance and level of vibration and in the full cancellation of the manufacturer's liability.



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Installation

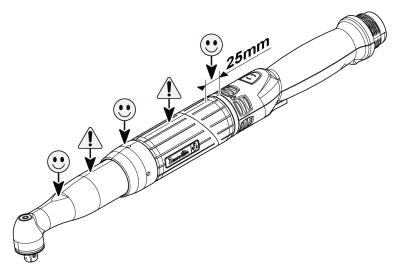
Installation Instructions

How to clamp the tool

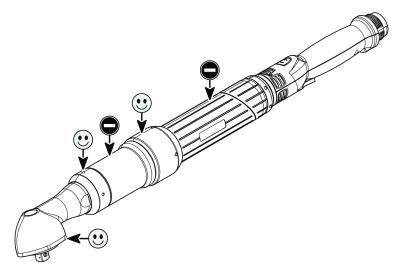
(i) Whether the tool is handled by an operator with a torque arm or embedded in a robot with high dynamics, it is advised to select two clamping locations instead of one.

Before selecting where to clamp the tool, take into account the following instructions.

From EAD20-1300 to EAD105-500



From EAD160-430 to EAD660-160



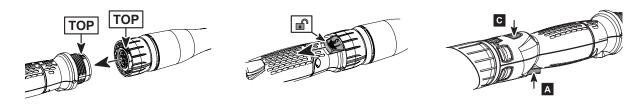
- A Dedicated clamping area for torque reaction.
- Preferred clamping area.
- This clamping area can be used as a secondary clamping. Do not use this area for torque reaction.
- Prohibited clamping area.
- (i) Clamping on the motor shall always be selected as the very last option and the operation shall be done with extra care.



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Connecting the tool to the controller

1. Connect the cable to the tool.



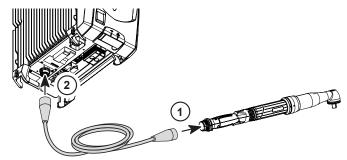
Plug the cable with help of TOP indication.

Tighten the nut. No need to tighten it too much.

The locking system will prevent any loosening.

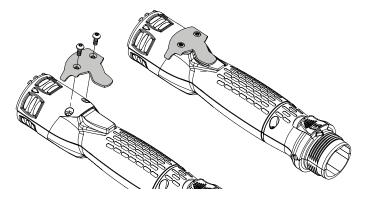
To enable the loosening of the cable, actuate the locking trigger at the bottom of the handle.

2. Connect the cable to the controller.



Mounting the trigger locker

Follow the instructions below.



How to install optional accessories

 $Refer \ to \ the \ user \ manual \ dedicated \ to \ the \ accessory \ available \ at \ \underline{https://www.desouttertools.com/resource-centre}.$

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Operation

Configuration Instructions

How to set up the reverse mode

Go to CVI CONFIG to set up the run reverse settings.

Refer to the *Configuration Manual* of CVI CONFIG (printed matter: 6159925470) available at https://www.desouttertools.com/resource-centre.

How to set up the tool as a fixtured tool

Desoutter should not be held responsible for any injury, accident or damage which may be the consequence of an incorrect installation, modification or start-up, or a use out of the intended use of Desoutter products, by the customer or a third party.

This tool can be used as a fixtured tool installed on a frame in the workstation.

MARNING Risk Of Electric Shock

The frame where tools are clamped must be **earthed**.

In this case, the tool trigger must be locked by the optional accessory *Trigger locker*.

The tightening operation is then triggered by an external start.

The external start can be a remote pushbutton or a PLC output signal sent to the controller.

Operating Instructions

Starting the tool

№ WARNING Risk Of Injury

As the reaction force increases in proportion to the tightening torque, there is a risk of severe bodily injury of the operator as a result of unexpected behavior of the tool.

▶ Make sure that the tool is in perfect working order and the system is programmed correctly.

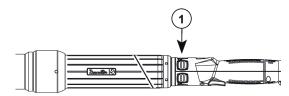
Fit the tool with a suitable socket.

Select the appropriate program on the controller.

Hold the tool by means of the handle and apply to the fastener to be tightened.

Press the trigger to start the tool.

How to reverse the rotation



Run reverse button

Press this button.

Red and green LEDs are blinking alternatively.

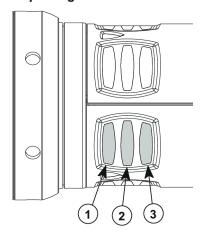
Apply the tool to the fastener and press the trigger.



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Tightening status and LED reporting

Reporting LEDs



1 Red 2 Green 3 Yellow

How to read the tightening report

LED color Description		Action to do
Green	Accept report	None
Yellow	Incomplete rundown	Tighten again.
Yellow and red (orange)	Reject report	Loosen and tighten again.
Red	Above max. limits	Loosen, replace the fastener and tighten
		again.



Service **EN**

Service

Maintenance Instructions

Instructions for transducerized tools

- Do not damage the wires when pulling out the connectors.
- Do not pull out the torque transducer wires.
- Ensure that wires are not crushed.

Read before maintenance



MARNING Connection Hazard

The tool can start unexpectedly and cause severe bodily injury.

▶ Prior to any maintenance task, disconnect the tool.

Maintenance should be performed by qualified personnel only.

Follow standard engineering practices and refer to exploded views for disassembling and reassembling the different parts of the system.

Take into account the following instructions given in the exploded views.

Be cautious: when reassembling, tighten the right direction.



Left hand thread



Right hand thread

When reassembling:



Apply the recommended glue.



Tighten to the required torque.



Lubricate with the required grease or oil. Do not apply too much grease on gears or bearings; a thin coat shall be sufficient.

Preventive Maintenance

Recommendations

Overhaul and preventive maintenance are recommended at regular intervals once per year or after a maximum number of tightenings (refer to the table below) depending on which occurs sooner.

Maintenance frequency

500,000 tightenings

Heavy duty

Heavy duty use can require more frequent overhaul and Preventive Maintenance intervals. Please contact your local Desoutter Service team to get a customized maintenance plan.

Upgrading tools

To upgrade tools, it is necessary to have:

- an ACCESS KEY USB stick set with the right profile. This USB stick is provided by your CVIKEY manager.
- · CVIMONITOR software

Contact your Desoutter representative to get more information and support.



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Checking before putting back into service

Prior to putting the equipment back into service, check that its main settings have not been modified and that the safety devices work properly.

ΕN

Recommissionning

Prior to putting the different parts of the system back into service, check that the main settings have been correctly set up and that the safety devices work properly.

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Original instructions
Founded in 1914 and headquartered in France, Desoutter Industrial Tools is a global leader in electric and pneumatic assembly tools serving a wide range of assembly and manufacturing operations, including Aerospace, Automotive, Light and Heavy Vehicles, Off-Road, General Industry.
Desoutter offers a comprehensive range of Solutions -tools, service and projects- to meet the specific demands of local and global customers in over 170 countries.
The company designs, develops and delivers innovative quality industrial tool solutions, including Air and Electric Screwdrivers, Advanced Assembly Tools, Advanced Drilling Units, Air Motors and Torque Measurement Systems.

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Find more on www.desouttertools.com