Introduction

Thank you for purchasing this AcraDyne DC electric assembly tool, one of the lightest and fastest DC electric assembly tools on the market. When used with the AcraDyne iEC tool controller, this tool will provide excellent productivity, ergonomics, reliability and quality on a wide range of industrial assembly applications.

Safety Information

SAVE THESE INSTRUCTIONS

1) WORK AREA
   a) Keep work area clean and well lit. Cluttered and dark areas invite accidents.
   b) Do not operate power tools in explosive atmospheres, such as the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.
   c) Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

2) ELECTRICAL SAFETY
   a) Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
   b) Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
   c) Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
   d) Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
   e) This tool is intended for indoor use only.

3) PERSONAL SAFETY
   a) Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
   b) Use safety equipment. Always wear eye protection. Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries. If the maximum duty cycle of the attached tool is exceeded or the tool temperature exceeds 50° C., then the operator should wear protective hand wear (gloves).
   c) Avoid accidental starting. Ensure the switch is in the off-position before plugging in. Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.
   d) Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
   e) Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
   f) Dress properly. Do no wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.
   g) If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of these devices can reduce dust-related hazards.

4) POWER TOOL USE AND CARE
   a) Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.
   b) Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
   c) This product is designed to be used in combination with the AcraDyne iEC DC tool controller for intermittent hand-held or fixtured assembly processes.
OPERATION

1. Connect tool cable to the iEC controller and the tool:
The tool cable has curved alignment tabs and slots built into
the connectors at each end to ensure proper alignment and
connection with the tool and controller.

Make sure that power is not turned on at the controller
before making any connections. Align the female connec-
tor on the cable with the male connector on the tool and insert
the cable onto the tool, then slide the connector nut onto the
threads on the cable and turn clockwise until hand-tight.

Align the male connector tab on the other end of the tool
cable with the female slot on the controller and insert the
cable into the connector, then slide the metal outer cover
onto the connection threads on the controller and turn clock-
wise until hand-tight.

2. Multifunction Button Operation:
The tool will flash all LED lights three times when power
is first turned on at the controller. After the controller
finishes initializing and displays a target torque value, the
multifunction button (MFB) is used to toggle the tool from
clockwise mode (FWD) to counter-clockwise operation mode
(REV). The MFB is the small button opposite the trigger.

The tool will initially start in clockwise mode and will have no
LED lights turned on. If the trigger is pressed, the tool will
turn on the blue LED meaning the tightening operation is
underway. Pressing the MFB will cause the tool to flash yel-
low and red LED lights. Pressing the MFB again will switch
the tool back FWD mode and will indicate this with no LED
lights turned on.

3. Start Lever Operation:
To start the tool, depress the start lever. Blue LED lights will
be displayed while tightening a bolt. The tool will stop auto-
matically when it senses its target torque value or if no torque
is sensed in a specified time period. After a cycle is complete,
the tool will display green LED lights for a success, or red
LED lights for failure to reach torque/angle.

Light Ring Light Assignment
The Buzzer and Multi-Function Button are programmable in the
DSP Menu of ToolWare.

<table>
<thead>
<tr>
<th>Light Color</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Solid</td>
<td>OK</td>
</tr>
<tr>
<td>Red Flashing</td>
<td>Torque Low</td>
</tr>
<tr>
<td>Red Solid</td>
<td>Torque High</td>
</tr>
<tr>
<td>Yellow Flashing</td>
<td>Angle Low</td>
</tr>
<tr>
<td>Yellow Solid</td>
<td>Angle High</td>
</tr>
<tr>
<td>Blue Solid</td>
<td>Tool In-Cycle/Tool Armed</td>
</tr>
<tr>
<td>Blue Flashing</td>
<td>P-Set Change thru MFB</td>
</tr>
<tr>
<td>All On Flashing</td>
<td>Tool in Disassembly</td>
</tr>
<tr>
<td>Buzzer</td>
<td>Bad Assembly/Tool in Disassembly/Power Up</td>
</tr>
</tbody>
</table>

A complete tool system consists of the following items:

Controller  Power cord  Tool  Tool Cable
THIS SCREW IS ALREADY ASSEMBLED INSIDE OF GEAR CARRIER ASSEMBLY (SHOWN FOR CLARITY)

APPLY LOCTITE 243 (BLUE)
TIGHTEN TO 40 Nm (30 FT-LBS)

SEE NOTE #1
MOTOR PINION IS PART OF GEAR TRAIN ASSEMBLY (SHOWN FOR CLARITY)
LUBRICATE INTERNAL O-RING PER NOTE #3
AND SLIDE PINION ONTO MOTOR SHAFT UNTIL O-RING SEATS IN GROOVE
APPLY LOCTITE 243 (BLUE)
TIGHTEN TO 1.9-2.5 Nm (17-22 IN-LBS) 4 PLACES
APPLY LOCTITE 243 (BLUE)
TIGHTEN TO 1.4-1.6 Nm (12-14 IN-LBS) 2 PLACES
APPLY LOCTITE 243 (BLUE)
TIGHTEN TO 1.9-2.5 Nm (17-22 IN-LBS) 4 PLACES
ASSEMBLE THRU GROUND TERMINAL ON ITEM 18 AND ATTACH TO MOTOR HOUSING
APPLY LOCTITE 243 (BLUE)
TIGHTEN TO 1.4-1.6 Nm (12-14 IN-LBS)
APPLY LOCTITE 243 (BLUE)
TIGHTEN TO 1.4-1.6 Nm (12-14 IN-LBS) 4 PLACES
PRESS FLUSH TO BELOW MOTOR HOUSING DIAMETER
APPLY LOCTITE 243 (BLUE)
TIGHTEN TO 1.4-1.6 Nm (12-14 IN-LBS) 2 PLACES
SEE NOTE #1
LUBRICATE MOTOR SPLINE SHAFT PER NOTE #1
APPLY LOCTITE 243 (BLUE)
TIGHTEN TO 1.4-1.6 Nm
PRESS
APPLY LOCTITE 243 (BLUE)
TIGHTEN TO 1.4-1.6 Nm (12-14 IN-LBS) 2 PLACES
SEE NOTE #3
NOT SHOWN
SUB-ASSEMBLY
3) O-RINGS: LUBRICATE WITH O-RING LUBE
2) BEARINGS: LUBRICATE WITH CHEVRON SR1 GREASE
1) GEARS & SPLINES: LUBRICATE WITH DOW CORNING MOLYKOTE BR2 PLUS GREASE.

ITEM # | PART NUMBER | QTY. | DESCRIPTION
--- | --- | --- | ---
1 | 26213 | 1 | PISTOL MOTOR ASSEMBLY
2 | 26198 | 1 | THRUST WASHER
3 | 26074 | 1 | BELLEVILLE WASHER
4 | SEE CHART | 1 | GEAR TRAIN ASM.
5 | 26530 | 2 | DOWEL PIN, 1/8 x 1.00, STEEL
6 | 20912 | 1 | WAVE SPRING — 3000 SERIES
7 | SEE CHART | 1 | ASSEMBLY, GEAR CARRIER
8 | 20911 | 2 | BELLEVILLE WASHER
9 | 20923 | 1 | INLINE HEAD ASSY - 1/2 IN DRIVE
10 | 20913 | 2 | PIN, RETAINING
11 | 26077 | 2 | M-F THREADED HEX STANDOFF
12 | 26359 | 1 | PISTOL LED BOARD ASM.
13 | 26078 | 2 | SCREW, SHC 4-40X.312, STEEL, BLACK OXIDE
14 | 26080 | 1 | O-RING, LED LIGHT RING COVER
15 | 26079 | 1 | LIGHT RING COVER, LED
16 | 26085 | 1 | PISTOL HANDLE
17 | 25847 | 1 | TID BOARD ASM.
18 | 24934 | 2 | SCREW, FHC 4-40 X .312, STEEL, BLACK OXIDE
19 | 26103 | 1 | TOOL CONNECTOR ASM., PISTOL
20 | 25745 | 4 | SCREW, BHC 4-40X.188, STEEL, BLACK OXIDE
21 | 25102 | 1 | SCREW, BHC 4-40X.188, STEEL, BLACK OXIDE
22 | 26089 | 4 | SCREW, BHSC 6-32X.375, STEEL, BLACK OXIDE
23 | 20534 | 1 | 3000 SERIAL/MODEL LABEL
24 | 25212 | 1 | SWITCH SUB-ASSEMBLY
25 | 25788 | 1 | CABLE ASM, TRIGGER
26 | 26081 | 1 | MOTOR HOUSING COVER
27 | 25389 | 4 | SCREW, BHSC 6-32 X 375, STEEL
28 | 26087 | 1 | END CAP, PISTOL MOTOR
29 | 22141 | 1 | SAFETY LABEL
30 | 20847 | 1 | REACTION BAR
31 | 20455 | 1 | FIXTURE NUT, INLINE — 3000 SERIES

MODEL NO. | GEAR TRAIN ASM. | GEAR CARRIER ASM.
--- | --- | ---
AEP35075AV | 26116 | 20924
AEP35090AV | 26115 | 26117
AEP35110AV | 26114 | 20924
AEP35135AV | 26113 | 26117
AEP35170AV | 26111 | 26117
5000 SERIES PISTOL NUTRUNNERS

- Assemble thru ground terminal on item 14 and attach to motor housing.
  - Apply Loctite 243 (Blue) tight to 1.4-1.6 Nm (12-14 IN-LBS) 4 places.

- Press flush to below motor housing diameter.
  - Apply Loctite 243 (Blue) tight to 1.4-1.6 Nm (12-14 IN-LBS) 2 places.

- Lubricate motor spline shaft per note #1.

- See note #1.

- Motor pinion is part of gearbox assembly (shown for clarity).

- Lubricate internal O-ring per note #3.

- Slide pinion onto motor shaft until O-ring seats in groove.

- Apply Loctite 243 (Blue) tight to 1.9-2.5 Nm (17-22 IN-LBS) 4 places.

- Apply Loctite 243 (Blue) tight to 1.4-1.6 Nm (12-14 IN-LBS) 2 places.

- Apply Loctite 243 (Blue) tight to 1.4-1.6 Nm (12-14 IN-LBS) 4 places.

- Assemble thru ground terminal on item 14 and attach to motor housing.
  - Apply Loctite 243 (Blue) tight to 1.4-1.6 Nm (12-14 IN-LBS) 4 places.

- Assemble thru ground terminal on item 14 and attach to motor housing.
  - Apply Loctite 243 (Blue) tight to 1.4-1.6 Nm (12-14 IN-LBS) 2 places.

ITEM # | PART NUMBER | QTY. | DESCRIPTION
--- | --- | --- | ---
1 | 26213 | 1 | Pistol motor assembly
2 | 26198 | 1 | Thrust washer
3 | 26074 | 1 | Belleville washer
4 | SEE CHART | 1 | Gearbox asm. - triple step
5 | 26530 | 2 | Dowel pin, 01/8 x 1.00, steel
6 | 26077 | 2 | M-F threaded hex standoff
7 | 26059 | 1 | Pistol led board asm.
8 | 26078 | 2 | Screw, SHC 4-40X.312, steel, black oxide
9 | 26080 | 1 | O-ring, led light ring cover
10 | 26079 | 1 | Light ring cover, led
11 | 26085 | 1 | Pistol handle
12 | 25847 | 1 | Tid board asm.
13 | 24934 | 2 | Screw, HHC 4-40 x .312, steel, black oxide
14 | 26103 | 1 | Tool connector asm., pistol
15 | 25745 | 4 | Screw, BHC 4-40X.188, steel, black oxide
16 | 25102 | 1 | Screw, BHC 4-40X.188, steel, black oxide
17 | 26089 | 4 | Screw, BHSC 6-32X.25, steel, black oxide
18 | 20534 | 1 | 3000 serial/model label
19 | 25212 | 1 | Switch sub-assembly
20 | 25788 | 1 | Cable asm., trigger
21 | 26081 | 1 | Motor housing cover
22 | 25385 | 4 | Screw, FHSC 6-32 x .375, steel
23 | 26087 | 1 | End cap, pistol motor
24 | 22141 | 1 | Safety label
25 | 23793 | 1 | Reaction bar
26 | 23792 | 1 | Retaining nut, hex

MODEL NO. | GEARBOX ASM.
--- | ---
AEP35280AV | 26202
AEP35350AV | 26203
AEP35420AV | 26201
AEP35515AV | 26200
AEP35635AV | 26129
### 5000 SERIES PISTOL NUTRUNNERS

**ITEM #** | **PART NUMBER** | **QTY.** | **DESCRIPTION**
---|---|---|---
1 | 26213 | 1 | PISTOL MOTOR ASSEMBLY
2 | 26198 | 1 | THRUST WASHER
3 | 26074 | 1 | BELLEVILLE WASHER
4 | SEE CHART | 1 | GEAR TRAIN ASM.
5 | 26520 | 2 | DOWEL PIN, 01/8 x 1.00, STEEL
6 | 20912 | 1 | WAVE SPRING — 3000 SERIES
7 | SEE CHART | 1 | ASSEMBLY, GEAR CARRIER
8 | 20911 | 2 | BELLEVILLE WASHER
9 | 20923 | 1 | INLINE HEAD ASSY - 1/2" IN DRIVE
10 | 20913 | 2 | PIN, RETAINING
11 | 26077 | 2 | M/F THREADED HEX STANDOFF
12 | 26359 | 1 | PISTOL LED BOARD ASM.
13 | 26078 | 2 | SCREW, SHC 4-40X.312, STEEL, BLACK OXIDE
14 | 26080 | 1 | O-RING, LED LIGHT RING COVER
15 | 26079 | 1 | LIGHT RING COVER, LED
16 | 26085 | 1 | PISTOL HANDLE
17 | 25847 | 1 | TID BOARD ASM.
18 | 24934 | 2 | SCREW, FHC 4-40 X .312, STEEL, BLACK OXIDE
19 | 26407 | 1 | TOOL CONNECTOR ASM, FIXTURED
20 | 25745 | 4 | SCREW, BHC 4-40X1.00, STEEL, BLACK OXIDE
21 | 25102 | 1 | SCREW, BHC 4-40X1.00, STEEL, BLACK OXIDE
22 | 26089 | 4 | SCREW, BHSC 6-32X.25, STEEL, BLACK OXIDE
23 | 20534 | 3 | 3000 SERIES/ MODEL LABEL
24 | 25212 | 1 | SWITCH SUB-ASSEMBLY
25 | 25788 | 1 | CABLE ASM. TRIGGER
26 | 2681 | 1 | MOTOR HOUSING COVER
27 | 25385 | 4 | SCREW, FHSC 9-32 X .375, STEEL
28 | 22399 | 1 | "J" HANDLE PLUG
29 | 22141 | 1 | SAFETY LABEL
30 | 25847 | 1 | REACTION BAR
31 | 20455 | 1 | FIXTURE/NUT, INLINE — 3000 SERIES
32 | 26399 | 1 | RIGHT ANGLE ADAPTER
33 | 25400 | 1 | SHELL ADAPTER, TOOL CONNECTOR
34 | 26088 | 8 | SCREW, BHSC 8-32X.25, STEEL, BLACK OXIDE
35 | 26404 | 2 | SCREW, BHSC 4-40 X 1/4, STEEL

**MODEL NO.** | **GEAR TRAIN ASM.** | **GEAR CARRIER ASM.**
---|---|---
AEP35075AVT | 26116 | 20924
AEP35090AVT | 26115 | 26117
AEP35110AVT | 26114 | 20924
AEP35135AVT | 26113 | 26117
AEP35170AVT | 26111 | 26117

**ASSEMBLY INSTRUCTIONS**

2. Bearings: Lubricate with Chevron SR1 grease.
3. O-rings: Lubricate with O-ring lube.

**APPLY LOCTITE 243 (BLUE)**

- Tighten to 1.9-2.5 Nm (17-22 IN-LBS) 2 PLACES
- Tighten to 1.4-1.6 Nm (12-14 IN-LBS) 2 PLACES
- Tighten to 2.5-2.9 Nm (22-26 IN-LBS) 6 PLACES
## 5000 SERIES PISTOL NUTRUNNERS

### Assembly Instructions

- 1) Gears & Splines: Lubricate with Dow Corning Molykote BR2 Plus Grease
- 2) Bearings: Lubricate with Chevron SR1 Grease
- 3) O-Rings: Lubricate with O-Ring Lube

### Item Numbers, Part Numbers, & QTY.

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>PART NUMBER</th>
<th>QTY.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>26213</td>
<td>1</td>
<td>Pistol Motor Assembly</td>
</tr>
<tr>
<td>2</td>
<td>26198</td>
<td>1</td>
<td>Thrust Washer</td>
</tr>
<tr>
<td>3</td>
<td>26074</td>
<td>1</td>
<td>Belleville Washer</td>
</tr>
<tr>
<td>4</td>
<td>26530</td>
<td>2</td>
<td>Dowel Pin, 01/8 x 1.00, Steel</td>
</tr>
<tr>
<td>5</td>
<td>26077</td>
<td>2</td>
<td>M-F Threaded Hex Standoff</td>
</tr>
<tr>
<td>6</td>
<td>26359</td>
<td>1</td>
<td>Pistol LED Board ASM.</td>
</tr>
<tr>
<td>7</td>
<td>26078</td>
<td>2</td>
<td>Screw, SHC 4-40 x .312, Steel, Black Oxide</td>
</tr>
<tr>
<td>8</td>
<td>26080</td>
<td>1</td>
<td>O-Ring, LED Light Ring Cover</td>
</tr>
<tr>
<td>9</td>
<td>26079</td>
<td>1</td>
<td>Light Ring Cover, LED</td>
</tr>
<tr>
<td>10</td>
<td>26085</td>
<td>1</td>
<td>Pistol Handle</td>
</tr>
<tr>
<td>11</td>
<td>25847</td>
<td>1</td>
<td>Tid Board ASM.</td>
</tr>
<tr>
<td>12</td>
<td>24934</td>
<td>2</td>
<td>Screw, FHC 4-40 x .312, Steel, Black Oxide</td>
</tr>
<tr>
<td>13</td>
<td>26407</td>
<td>1</td>
<td>Tool Connector ASM., Fixtured</td>
</tr>
<tr>
<td>14</td>
<td>25475</td>
<td>4</td>
<td>Screw, BHC 4-40 x .188, Steel, Black Oxide</td>
</tr>
<tr>
<td>15</td>
<td>25102</td>
<td>1</td>
<td>Screw, BHC 4-40 x .188, Steel, Black Oxide</td>
</tr>
<tr>
<td>16</td>
<td>26089</td>
<td>4</td>
<td>Screw, BHSC 6-32 x .25, Steel, Black Oxide</td>
</tr>
<tr>
<td>17</td>
<td>20034</td>
<td>1</td>
<td>3000 Serial/Model Label</td>
</tr>
<tr>
<td>18</td>
<td>25212</td>
<td>1</td>
<td>Switch Sub-Assembly</td>
</tr>
<tr>
<td>19</td>
<td>25788</td>
<td>1</td>
<td>Cable ASM, Trigger</td>
</tr>
<tr>
<td>20</td>
<td>26081</td>
<td>1</td>
<td>Motor Housing Cover</td>
</tr>
<tr>
<td>21</td>
<td>25385</td>
<td>4</td>
<td>Screw, FHSC 6-32 x .375, Steel</td>
</tr>
<tr>
<td>22</td>
<td>26239</td>
<td>1</td>
<td>&quot;J&quot; Handle Plug</td>
</tr>
<tr>
<td>23</td>
<td>22141</td>
<td>1</td>
<td>Safety Label</td>
</tr>
<tr>
<td>24</td>
<td>23793</td>
<td>1</td>
<td>Reaction Bar</td>
</tr>
<tr>
<td>25</td>
<td>23792</td>
<td>1</td>
<td>Retaining Nut, Hex</td>
</tr>
<tr>
<td>26</td>
<td>26399</td>
<td>1</td>
<td>Right Angle Adapter</td>
</tr>
<tr>
<td>27</td>
<td>26400</td>
<td>1</td>
<td>Shell Adapter, Tool Connector</td>
</tr>
<tr>
<td>28</td>
<td>26088</td>
<td>8</td>
<td>Screw, BHCS 8-32 x .25, Steel, Black Oxide</td>
</tr>
<tr>
<td>29</td>
<td>26404</td>
<td>2</td>
<td>Screw, BHSC 4-40 x 1/4, Steel</td>
</tr>
</tbody>
</table>

### Model No. & Gearbox ASM.

- **Model No.**
  - AEP35280AVT: 26202
  - AEP35280AVT: 26203
  - AEP35420AVT: 26201
  - AEP35515AVT: 26200
  - AEP35633AVT: 26129
Specifications

Environmental
- Operating Temperature: 0°C to 32°C
- Storage Temperature: 0°C to 65°C
- Humidity:
  - 5% to 90% RH, Non-Condensing, for temperatures 0°C to 40°C
  - 5% to 60% RH, Non-Condensing, for temperatures 0°C to 65°C
- Maximum Altitude of Operation: 3000m
- Maximum decibel level: 77 dB(A)

Electrical
- Motor Type: BLDC
  - Motor Phase Voltage: 160 Volts Pulse DC @ Controller Supply Voltage of 120 RMS, or 320 Volts Pulse DC @ Controller Supply Voltage of 230 RMS
- Duty Cycle: The Nutrunner tools are intended for intermittent operation with recommended maximum duty cycles not to exceed 25%. Note: actual maximum duty cycles are dependant upon several factors including: Ambient Temperature, Tool selection, Joint conditions, Fastening-parameter programming, and different applications and strategies. For optimum duty cycle determination, please contact your AcraDyne sales representative.

Physical
- 6.9 lbs/3.1 kg - 16.1 lbs/7.3 kg

Performance (Series)
- Torque Range: 19 - 635 NM
- Speed Range: 14 - 468.6 RPM

Notes: Full speed 50% of rated for 5000 series tools @ 120VAC. 5000 series tools must be connected to iEC controllers equipped with 40A servo drive.