



ERGO-ARM
Tool Support Systems
Operations Manual

**MODELS AD-D1098S/SAC
& AD-D1098P/PAC**



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INTRODUCTION

CAUTION!

Please read the following manual before assembling and operating your Ergo-Arm Tool Support System.

As in all cases, when electric or air lines come in close contact with moving parts or mechanisms, precautions should be taken by the person installing and operating the equipment that these cords or hoses do not become entangled or damaged by moving parts. **Proper attention will prevent possible hazard or injury.**

RECOMMENDED TOOLS FOR ASSEMBLY AND ADJUSTMENTS [NOT SUPPLIED]

3/16" Allen Wrench	Used on Item #1, 4, 52 & 54 (TABLE MOUNT 3/8 x 3/8 SET SCREW, 1/4-20 x 1-1/4 CAP SCREW, 3/8 x 1/2" SHOULDER BOLT, 3/8-16 X 3/4" DOG POINT SET SCREW)
1/8" Allen Wrench	Used on Item #17 (8-32 X 1" CAP SCREW)
3/32" Allen Wrench	Used on Item #47 (8-32 X 1/2 BUTTON HEAD SCREW)
3/4" Allen Wrench	Used on Item #7 (1/2-13 LOCK NUT)
9/16 " Open End Wrench	Used on Item #43 & 53 (3/8-16 NUTS)

ERGO-ARM OPTIONAL ACCESSORIES

PART NO.	DESCRIPTION
EA-01	Post - Custom Lengths Available
EAA-01	Wall Mount
EAA-02	Table Clamp
EAA-03	Conversion from Oil Cylinder to Air Cylinder
EAA-04	Conversion from Standard to Parallel
EAA-05	Conversion from Parallel to Standard
EAA-06	Dual Cylinder (Not Shown)
EAA-21	Custom Pistol Grip Mtg - Small
EAP-202ED	Electric Driver Mtg for Std Arm
EAS-111C	Hose Assembly Complete (26") - Custom Lengths Available
EAP-202	Wrist Bracket "V"

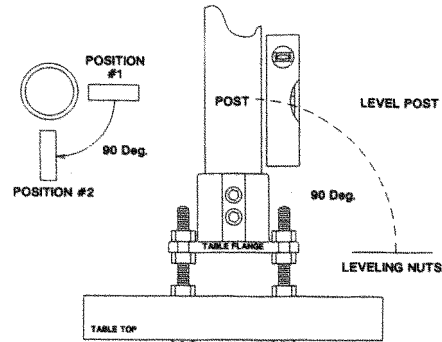
NOTE: Above items are optional accessories and must be purchased separately.

ERGO-ARM RECOMMENDED SPARE PARTS

ITEM NO.	QTY	PART NO.	DESCRIPTION
05	4	EA-03	Flange Ball Bearing
32	1	EA-08	Oil Cylinder

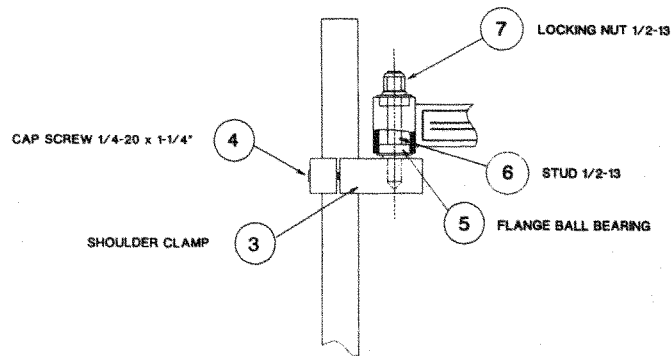
INSTALLATION AND SET UP INSTRUCTIONS - ALL MODELS

1. Remove the **TABLE MOUNT** from the box.
2. Bolt to work surface. It is important to level the table mount so that the post is 90 degrees to the work surface through full range of travel (see VIEW #1)



View #1

3. Insert **POST** into mount, and tighten set screws.
4. Remove remaining body of Ergo-Arm from box and slide **ADJUSTABLE SHOULDER CLAMP** over **POST**. Tighten screws at desired height (see VIEW #2).



View #2

5. A) FOR PARALLEL ERGO-ARMS - MODELS AD-D1098-P OR PAC:

You will need to supply correct fillings for your tool and **ELBOW MANIFOLD** openings if an air tool is used. Part #EAS-111 Air Hose Set (not included) is recommended when using AD-D1098-PE or AD-D1098-PACE style arms.

After fittings have been connected and tightened, the tool can now be attached.

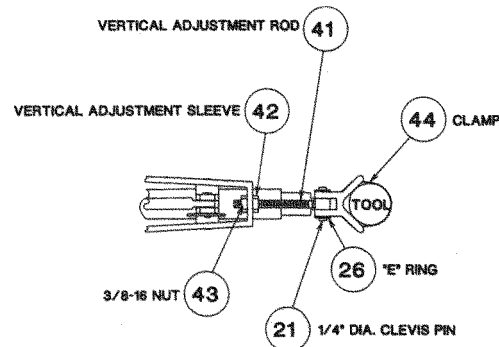
PLACEMENT OF PNEUMATIC/ELECTRIC TOOLS IN MOUNTING:

If **WRIST BRACKET "V"** Part #EAP-202 (Item #40) is supplied, adjust the tool up or down until operator is able to establish a comfortable grip on the tool. Tighten **TOOL CLAMP** (Item #44), using small clamp for tool body diameters under 2" and large clamp for tool body diameters exceeding 2", until tool is snugly in place and cannot be moved. It is recommended to leave as much of the tool body as possible, extending below the **WRIST BRACKET "V"** (Item #40), to assure operator comfort. Whichever clamp is used, after fitting the tool to arm, excess strap should be cut and any sharp edges rounded off for safety purposes.

If **AIR MANIFOLD** (Item #59) is used, connect tool to manifold with air fitting.

INSTALLATION AND SET UP INSTRUCTIONS - ALL MODELS

The **VERTICAL ADJUSTMENT ROD** (Item #41) allows the tool to be adjusted from zero degrees (parallel to column), up to 15 degrees in either direction from zero point. This compensates for any irregularities in the workpiece or if application requires fastener to be driven in at an angle (see View #3). This does not take the place of properly leveling the Table Mount Flange. Use for final 90 degree adjustment.



View #3

To adjust angle of the tool, loosen the **VERTICAL ADJUSTMENT SLEEVE** (Item #42) clockwise to have tool angle out or counter clockwise to have tool angle in. Once desired angle is reached, tighten the 3/8-16 nut (Item #43) to hold adjustment in place.

To increase the reach capability of the Ergo Arm, remove the ring pin (Item #14) from the **CYLINDER MOUNTING YOKE-ROD END** (Item #12).

Remove clevis pin (Item #19) and E-clip from **PARALLEL UPPER RAIL** (Item #38).

Pull **FOREARM INSERT** (Item #13) out, away from arm, to desired reach, up to an additional 5". Once desired reach is achieved, align hole pattern between **FOREARM** and **FOREARM INSERT**, re-insert ring pin (Item #14) in **CYLINDER MOUNTING YOKE-ROD END** (Item #12).

Adjust **PARALLEL UPPER RAIL** (Item #38) forward until length equals that of the **FOREARM INSERT** (Item #13).

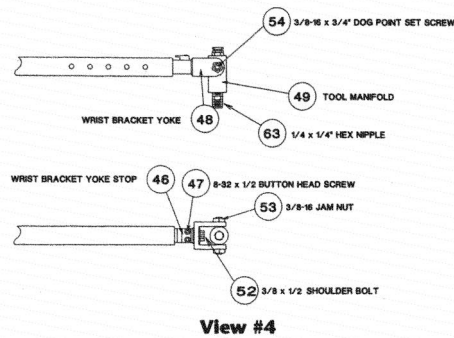
Adjust **PARALLEL UPPER RAIL** (Item #38) with **CYLINDER MOUNTING BLOCK** and **ELBOW** and re-insert clevis pin (Item #19) and E-clip (Item #26).

B) FOR PARALLEL ERGO-ARMS - MODELS AD-D1098-S OR SAC:

Attach **PNEUMATIC** tool to the **TOOL MANIFOLD** (Item #49) and tighten. If **ELECTRIC DRIVER MOUNTING** (Part #EAP-202ED, Not Supplied), or **PISTOL GRIP MOUNTING** (Part #EAA-21, Not Supplied) is used, place tool in the "V" bracket portion of mounting and tighten hose clamp making sure tool is in a comfortable operating position for the operator.

NOTE: The **WRIST BRACKET YOKE** (Item #48) allows the tool to move from side to side and front to back. If the side to side movement is not wanted, remove the **WRIST BRACKET YOKE STOP** (Item #46, mounted on the end of the **FOREARM INSERT**) by removing (2) button head screws (Item #47), then turn the **WRIST BRACKET YOKE STOP** 180 degrees to where the lip of the **YOKE STOP** is across the **WRIST BRACKET YOKE** (Item #48). This allows the operator the option of restricting the side to side movement (see VIEW #4 at the top of page 5).

INSTALLATION AND SET UP INSTRUCTIONS - ALL MODELS



To increase the reach capability of the Ergo-Arm, remove the ring pin (Item #14) from the **CYLINDER MOUNTING YOKE-ROD END** (Item #12).

Pull the **FOREARM INSERT** (Item #13) out, away from the arm, the desired reach, up to an additional 5". Once desired reach is achieved, align holes in **FOREARM** and **FOREARM INSERT**, re-insert ring pin in **CYLINDER MOUNTING YOKE-ROD END** (Item #12).

To adjust the **OIL CYLINDER RETURN SPEED**, remove rod end of **CYLINDER YOKE** (Item #12) by removing hairpin and clevis pin.

Turn cylinder rod **CLOCKWISE** to **SLOW DOWN TRAVEL**. Turn cylinder rod **COUNTER-CLOCKWISE** to **SPEED UP TRAVEL**.

Place rod end of cylinder in **CYLINDER YOKE** (Item #12) and re-insert clevis pin and hairpin.

FOR ALL MODELS:

- Loosen cap screw in **CYLINDER MOUNTING BLOCK** (Item #17).
- For Ergo-Arms with **OIL CYLINDER**, pull **CYLINDER** (Item #32) up through the mounting block (away from tool for heavier tool/towards tool for lighter tool) until desired height of arm is reached. Hold in place while tightening cap screw. If this does not accomplish the needed Balance Point:
- Remove the ring pin (Item #14) from **CYLINDER MOUNTING YOKE-ROD** (Item #12).
- Move **YOKE** (Item #12) forward desired number of adjustment holes (holes are in 1" increments) towards tool for heavier tool or away from tool for lighter tool. When desired position is located, re-insert ring pin. This increases or decreases the **CYLINDER PRE-LOAD**.

FOR AIR CYLINDER MODELS:

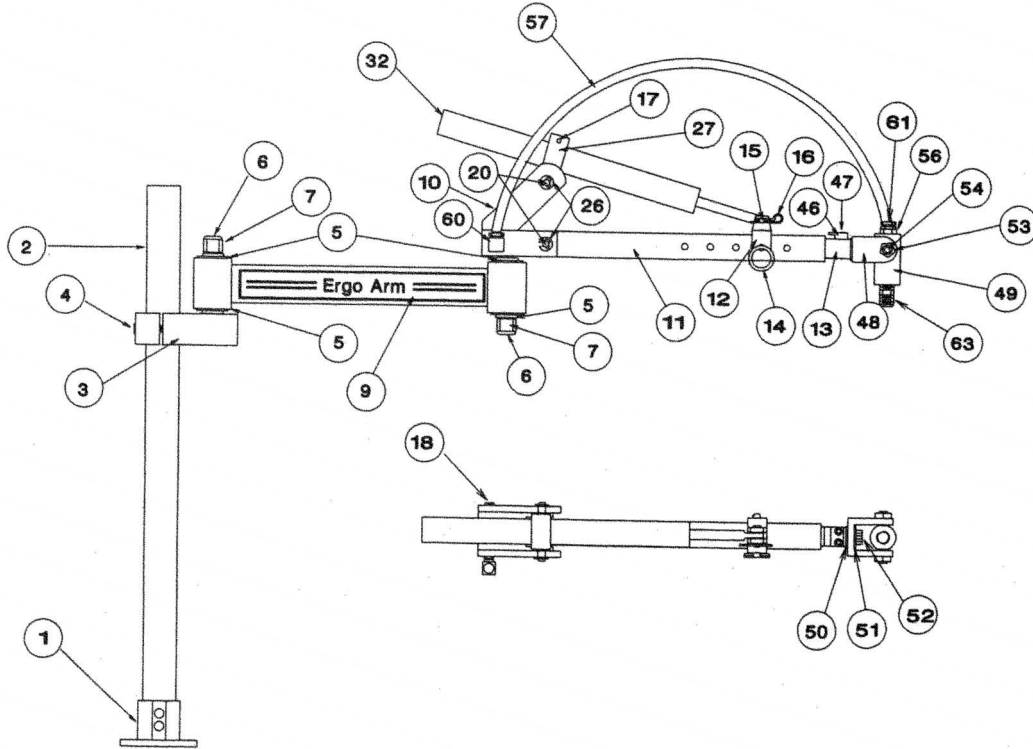
- For Ergo-Arms with **AIR CYLINDER**, supply air to the 1/4" N.P.T. inlet on the **ELBOW**. This also supplies air to the pneumatic regulator. If the application does not require air to the driver (i.e electric tool), then this port should be plugged with 1/4" N.P.T. plug (not supplied).

WARNING: Although a check valve has been supplied with the arm, when air is first connected, the arm will bounce to an upright position very quickly. All operators should stand with the front of the Ergo-Arm facing away while connecting the air supply to prevent many injuries.

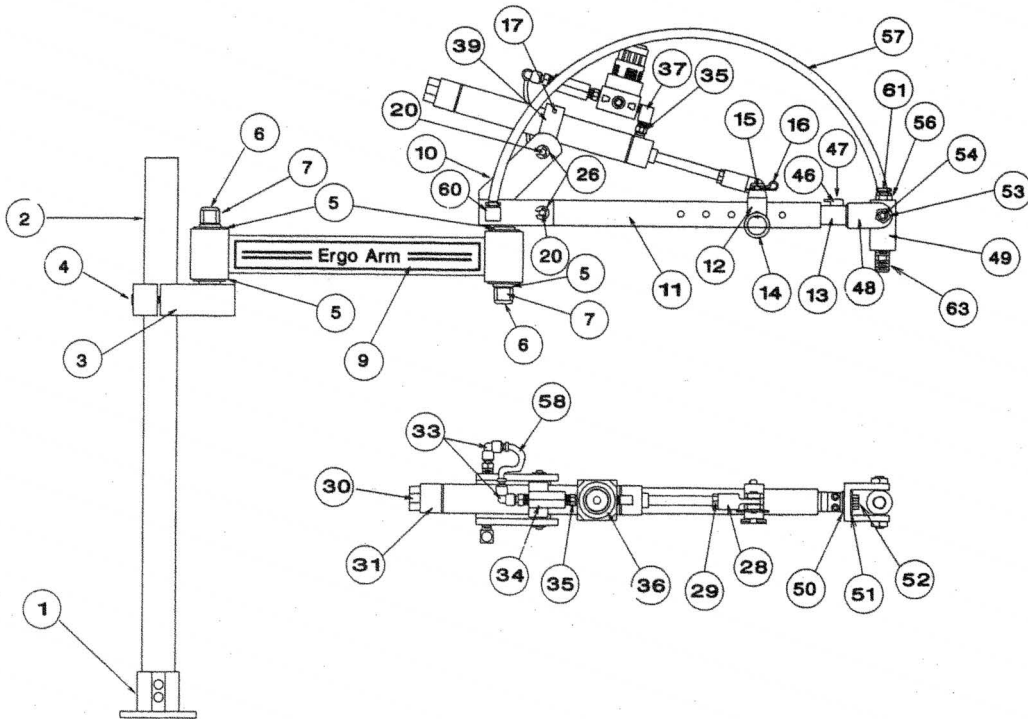
- By turning the regulator adjustment knob clockwise, air pressure is increased to the cylinder allowing the arm to have more resistance and increased weight holding capacity.
- By turning the regulator adjustment knob counter-clockwise, air pressure is decreased allowing the arm to have less resistance and decreased weight holding capacity.

YOUR ERGO-ARM IS NOW READY FOR USE.

PARTS BREAKDOWN

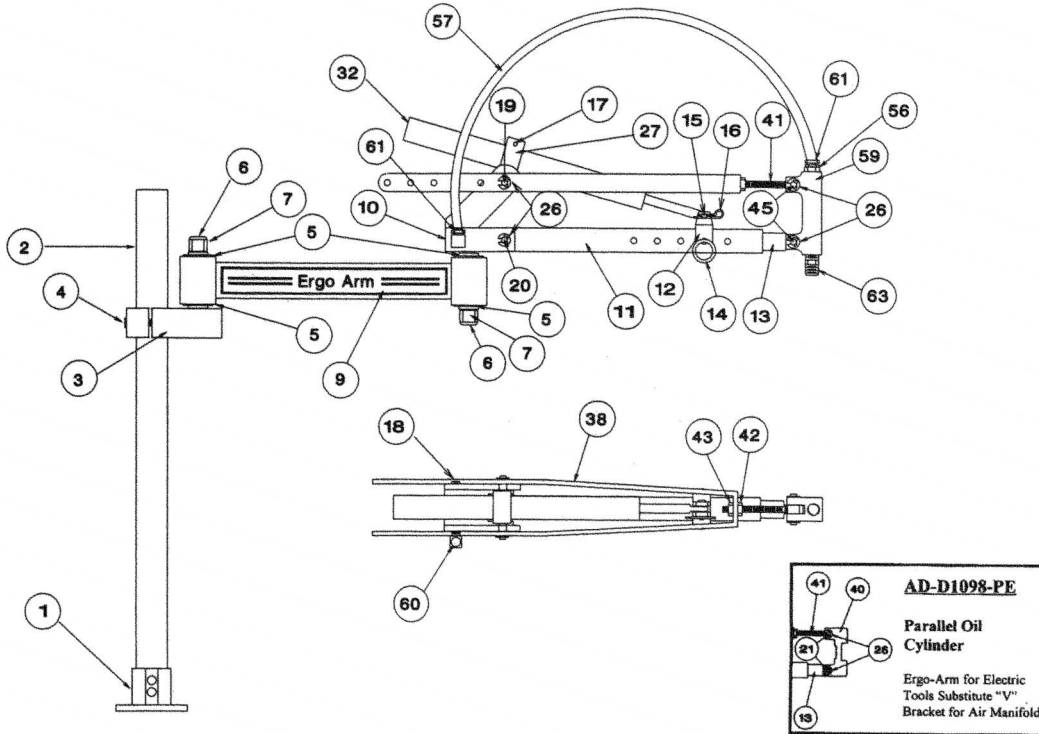


AD-D1098-S — Oil Cylinder Ergo Arm

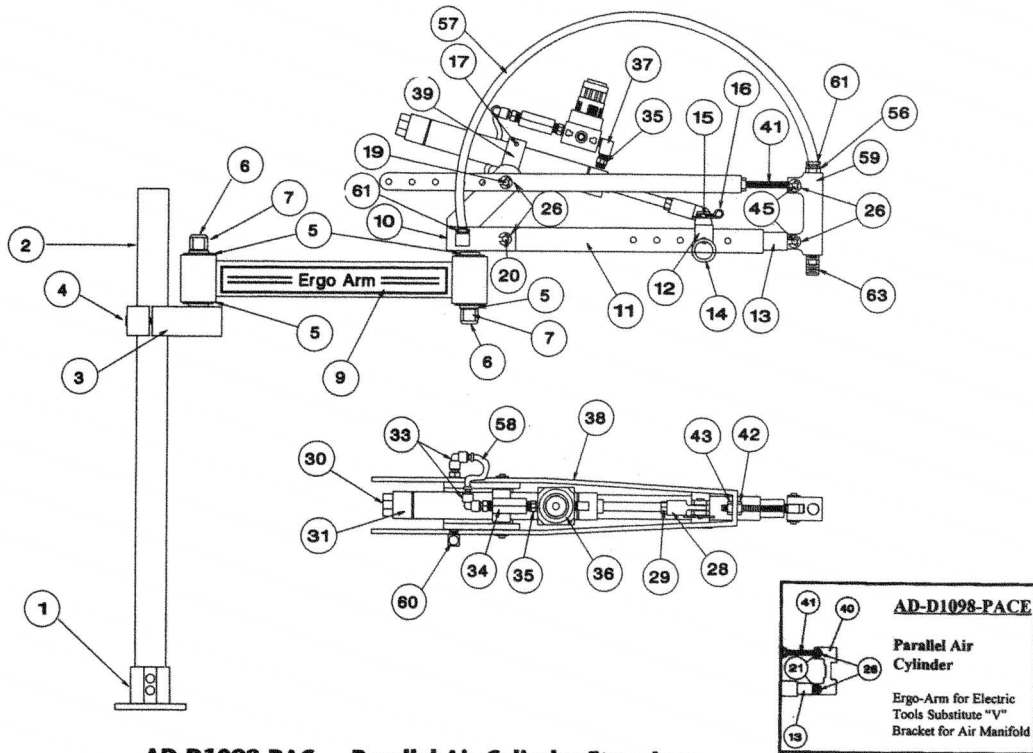


AD-D1098-SAC — Air Cylinder Ergo Arm

PARTS BREAKDOWN



AD-D1098-P — Parallel Oil Cylinder Ergo Arm



AD-D1098-PAC — Parallel Air Cylinder Ergo Arm

ERGO-ARM BREAKDOWN

Index Number	Part Number	Description	Qty	Index Number	Part Number	Description	Qty
1	EA-14	Table Flange	1	32	EA-08	Oil Cylinder	1
2	EA-01	Post	1	33	EAC-03	90 Deg. Swivel Elbow	2
3	EA-02	Shoulder Clamp	1	34	EAC-01	Check Valve	1
4	EA-44	1/4-20 x 1-1/4" Cap Screw	2	35	EAC-08	Hex Nipple	2
5	EA-03	Bearing	4	36	EAC-02	Regulator	1
6	EA-04	1/2-13 x 4" Double Ended Stud	2	37	EAC-05	90 Deg. Street Elbow	1
7	EA-05	1/2-13 Locking Nut	2	38	EAP-201	Parallel Upper Rail	1
8	EA-21	Label	2	39	EAC-12	Cyl. Mtg. Clamp Body	1
9	EA-06	Upper Arm	1	40	EAP-202	Wrist Bracket "V"	1
10	EA-07	Elbow	1	41	EAP-204	Vertical Adjustment Rod	1
11	EA-10	Forearm	1	42	EAP-205	Vertical Adjustment Sleeve	1
12	EA-09	Cyl. Mtg. Yoke Rod End	1	43	EAP-206	3/8-16 Nut	1
13	EA-11	Forearm Insert	1	44	EAP-212	Hose Clamp Assembly (1 lg./1 sm.)	1
14	EA-18	1/4 x 1-5/8" Cotterless Clevis Pin	1	45	EA-38	Clevis Pin	2
15	EA-17	3/16 x 3/4" Clevis Pin	1	46	EAS-102	Wrist Bracket Yoke Stop	1
16	EA-13	Hair Pin Cotter	1	47	EAS-108	8-32 x 1/2" Button Head Screw	1
17	EA-20	8-32 x 1" Cap Screw	1	48	EAS-101	Wrist Bracket Yoke	1
18	EA-27	1/8" Pipe Plug	1	49	EAS-103	Tool Manifold	1
19	EA-36	1/4 x 2-5/8" Clevis Pin/Parallel Arm	1	50	EAS-104	Bushing	1
20	EA-37	1/4 x 2-5/16" Clevis Pin/Standard Arm	2	51	EAS-104-1	3/8 Nylon Washer	1
21	EA-35	Clevis Pin	2	52	EAS-106	3/8 x 1/2" Shoulder Bolt	1
22	EA-31	Bearing	6	53	EAS-107	3/8 x 16 Jam Nut	2
23	EA-30	Bearing	4	54	EAS-105	3/8-16 x 3/4" Dog Point Set Screw	2
24	EA-33	Bearing	2	55	*EA-43	Nylon Tip Set Screw	1
25	EA-32	Bearing	2	56	EAS-113	1/4 x 1/4 Barb Fitting	1
26	EA-39	"E" Ring (4 for standard/8 for parallel)	4/8	57	EAS-114	1/4" Tubing 26" long	1
27	EA-12	Cyl. Mtg. Clamp Body	1	58	EAC-13	5/32" Tubing 8" long	1
28	EAC-07	Rod End	1	59	EAP-203	Air Manifold	1
29	EAC-09	Rod End Nut	1	60	EAS-110	1/4 x 1/4" 90 Deg. Barb Fitting	1
30	EAC-06	Exhaust Filter	1	61	EAS-112	3/8 #811 Hose Clamp	2
31	EAC-04	Air Cylinder	1	62	EAS-111	Air Hose Set	1
				63	EAS-115	1/4 x 1/4 Hex Nipple	1

* Part #EA-43 located under Part #EAS-102



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