

Instructions – Parts List



DOUBLE ACTING

Falcon and Falcon II Air Motors

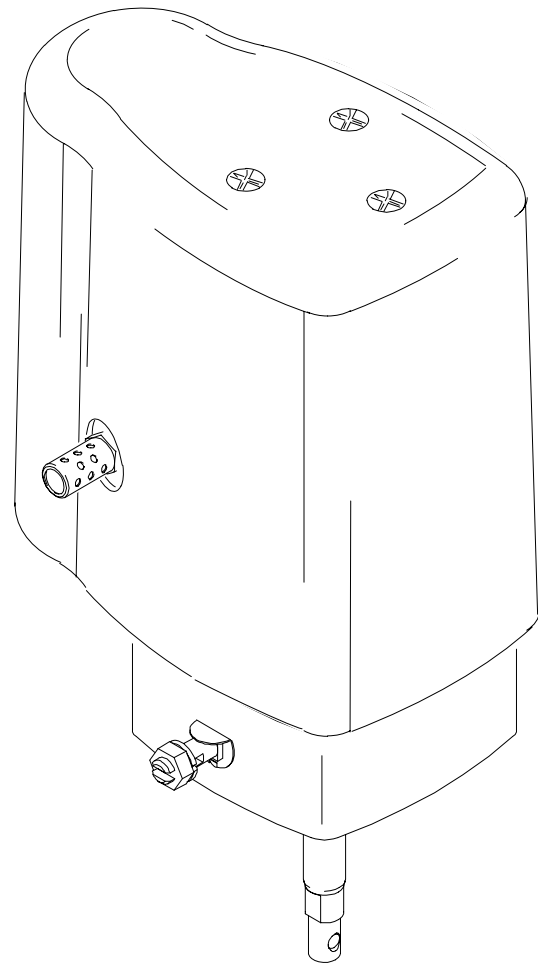
308995 rev.E

Part No. 241504, Series C Falcon Air Motor

150 psi (1.0 MPa, 10 bar) Maximum Air Input Pressure

Part No. 241505, Series C Falcon II Air Motor

150 psi (1.0 MPa, 10 bar) Maximum Air Input Pressure



9138B



Read warnings and instructions.
See page 2 for Table of Contents.

PROVEN QUALITY. LEADING TECHNOLOGY.

Table of Contents

Warnings	2	Falcon II Parts Drawing	18
Introduction	4	Falcon II Parts List	19
Installation	5	Technical Data	22
Troubleshooting Chart	6	Dimensions and Mounting Hole Layout	23
Air Motor Service	7	Graco Standard Warranty	24
Falcon Parts Drawing	16	Graco Information	24
Falcon Parts List	17		

Symbols

Warning Symbol



This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

Caution Symbol



This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

WARNING



INSTRUCTIONS

EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are not sure, call your Graco distributor.
- Do not alter or modify this equipment.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure stated on the equipment or in the **Technical Data** for your equipment. Do not exceed the maximum working pressure of the lowest rated component in your system.
- Wear hearing protection when operating this equipment.
- Do not move or lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

WARNING



FIRE AND EXPLOSION HAZARD

Improper grounding, poor ventilation, open flames or sparks can cause a hazardous condition and result in a fire or explosion and serious injury.

- Ground the equipment and the object being sprayed. Refer to **Grounding** on page 5.
- If there is any static sparking or you feel an electric shock while using this equipment, **stop spraying immediately**. Do not use the equipment until you identify and correct the problem.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvents or the fluid being sprayed.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- Electrically disconnect all equipment in the spray area.
- Extinguish all open flames or pilot lights in the spray area.
- Do not smoke in the spray area.
- Do not turn on or off any light switch in the spray area while operating or if fumes are present.
- Do not operate a gasoline engine in the spray area.



TOXIC FLUID HAZARD

Hazardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

- Know the specific hazards of the fluid you are using.
- Store hazardous fluid in an approved container. Dispose of hazardous fluid according to all local, state and national guidelines.
- Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.

Introduction

⚠ CAUTION

The Falcon Air Motors are designed for intermittent duty cycle applications. It is not recommended for continuous duty circulation systems. Contact your Graco distributor for further application information.

NOTE: Be sure that all operators read and understand this entire manual and any separate manuals supplied with components and accessories before using this equipment.

NOTE: Reference numbers and letters used in the text refer to the callouts in the figures and the parts drawing.

Air Motor Description

This air motor is a divorced design, which means that the displacement pump is attached using tie rods.

Make sure the muffler (36) is securely installed in the exhaust port (N) before you operate the air motor. See Fig. 1.

⚠ WARNING

Never run the air motor without the muffler installed. Operator injury, including physical injury and hearing loss could occur.

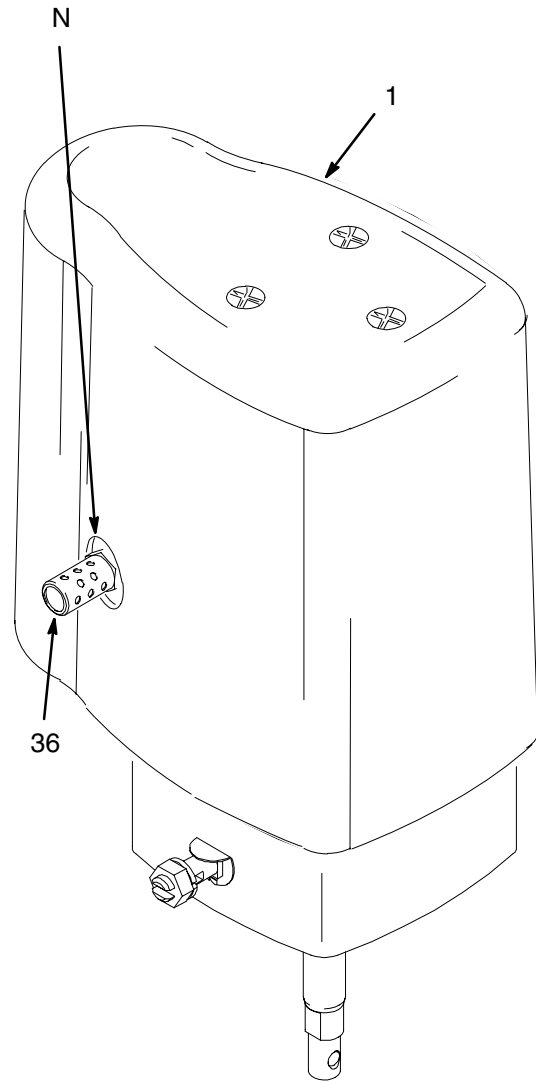


Fig. 1


9138B

Installation

NOTE: Always use Genuine Graco Parts and Accessories, available from your Graco distributor.

Grounding

⚠ WARNING



FIRE AND EXPLOSION HAZARD

Before operating the air motor, ground the system as explained below. Also read the section **FIRE AND EXPLOSION HAZARD** on page 3.

Ground all of this equipment:

- *Air motor:* Use a ground wire and clamp as shown in Fig. 2. Loosen the grounding lug locknut (W) and washer (X). Insert one end of a 12 ga (1.5 mm²) minimum ground wire (Y) into the slot in lug (Z) and tighten the locknut securely. Connect the other end of the wire to a true earth ground. Order part number 238909 Grounding Clamp and Wire.
1. *Pump air supply and fluid hoses:* Use only electrically conductive hoses with a maximum of 500 feet (150 m) combined hose length to ensure grounding continuity. Check the electrical resistance of your air and fluid hoses at least once a week. If the total resistance to ground exceeds 29 megohms, replace the hose immediately.

NOTE: Use a meter that is capable of measuring resistance at this level.

- *Dispensing Valve:* Obtain grounding through connection to a properly grounded fluid hose and air motor.
- *Fluid supply container:* Follow your local code.
- *Air compressor:* Follow your local code.
- *To maintain grounding continuity when flushing or relieving pressure,* hold a metal part of the spray gun firmly to the side of a grounded *metal* pail, then trigger the gun.

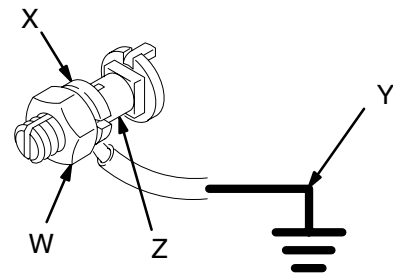


Fig. 2

06431

Troubleshooting



WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 7.

Before servicing this equipment, always make sure to **relieve the pressure**.

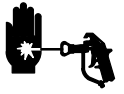
NOTE: Check all possible problems and solutions before disassembling the air motor.

PROBLEM	CAUSE	SOLUTION
Motor will not cycle	Insufficient air supply to director valve.	Turn off air supply to motor, then on again.
Continuous air exhaust from pilot valve vent holes.	Worn or damaged actuator valve pin o-rings (22, top or bottom).	Inspect and replace. See page 8.
	Improper installation of carriage spool u-cups (31).	Inspect and replace. See page 13.
Air motor not shifting properly; erratic operation/stalling.	Worn or damaged actuator valve pin o-rings (22, top or bottom).	Inspect and replace. See page 8.
	Worn or damaged director valve cup (6).	Replace. See page 13.
	Worn or damaged carriage spool u-cups (31).	Replace. See page 13.
	Clogged or obstructed valve porting.	Clean.
	Clogged vent holes in the valve housing (4).	Inspect and replace or clean. See page 13.
Continuous air exhaust from muffler.	Air cup (6) not seating properly, or damaged.	Inspect; reseal or replace. See page 13.
	Worn or damaged motor piston o-ring (32).	Inspect and replace. See page 9 (Falcon) or page 11 (Falcon II).
Air leaking from base vent hole.	Worn or damaged low pressure u-cup seal (18).	Inspect and replace. See page 9 (Falcon) or page 11 (Falcon II).

Air Motor Service

Pressure Relief Procedure

WARNING



INJECTION HAZARD

Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** whenever you

- Are instructed to relieve the pressure
- Stop dispensing
- Check or service any of the system equipment
- Install or clean the spray tips/nozzles

1. Close the air motor air regulator.
2. Close the bleed-type master air valve (required in your system).
3. Hold a metal part of the dispensing valve firmly to the side of a metal waste container, and trigger the valve to relieve fluid pressure.

*If you suspect that the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, **very slowly** loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely; then clear the tip or hose.*

Repair Kits

Repair Kits 241833, 241834, and 241884 are available to service the air motor. Purchase the kits separately. For the best results, use all the new parts in the kits. Parts included in the kits are denoted with symbols.

Required Tools

The following tools are required to service the air motor:

- Snap-ring pliers
- Needle-nose pliers
- O-ring pick
- 9/32 in. or 7 mm socket wrench or nut driver
- 3/8 in. or 10 mm box wrench
- 1/2 in. or 13 mm box wrench
- 5/8 in. or 16 mm box wrench
- Adjustable wrench
- Torque wrench
- Phillips screwdriver

Air Motor Service

Actuator Valve Service

Disassembly

NOTE: Actuator valve repair parts are available. Repair Kit 241833 for Falcon Air Motors and Repair Kit 241834 for Falcon II Air Motors.

1. Fig. 3. Remove actuator valve plug (10) from top cap (2). Inspect sealing gasket (14) and spring (15) in place on plug. If gasket needs replacement, thread it off actuator valve plug.
2. Pull spool (11) out of top cap. Remove two o-rings (22) from pin.
3. If it is necessary to remove o-ring (23) from pilot plug cavity, you must first remove top cap. See **Cylinder, Base and Piston Service**.
4. Repeat for bottom cylinder cap (3).

Reassembly

1. Fig. 3. If o-ring (23) was removed, it must be installed from inside of top cap (2). Lubricate o-ring. Reinstall top cap. See **Cylinder, Base, and Piston Service**.
2. Install two o-rings (22) on spool (11). Grease pin and insert it in top cap. Long end must point toward inside of motor.
3. Thread gasket (14) onto actuator valve plug (10). Grease spring (15) and install it in actuator valve plug. Screw plug into top cap (2) and torque from 60 to 80 in-lb (6.8 to 9.0 N-m).
4. Repeat for bottom cylinder cap (3).

Falcon Air Motor Service

Cylinder, Base and Piston Service

Disassembly







NOTE: Falcon cylinder, base, and piston repair parts are available in Repair Kit 241833.

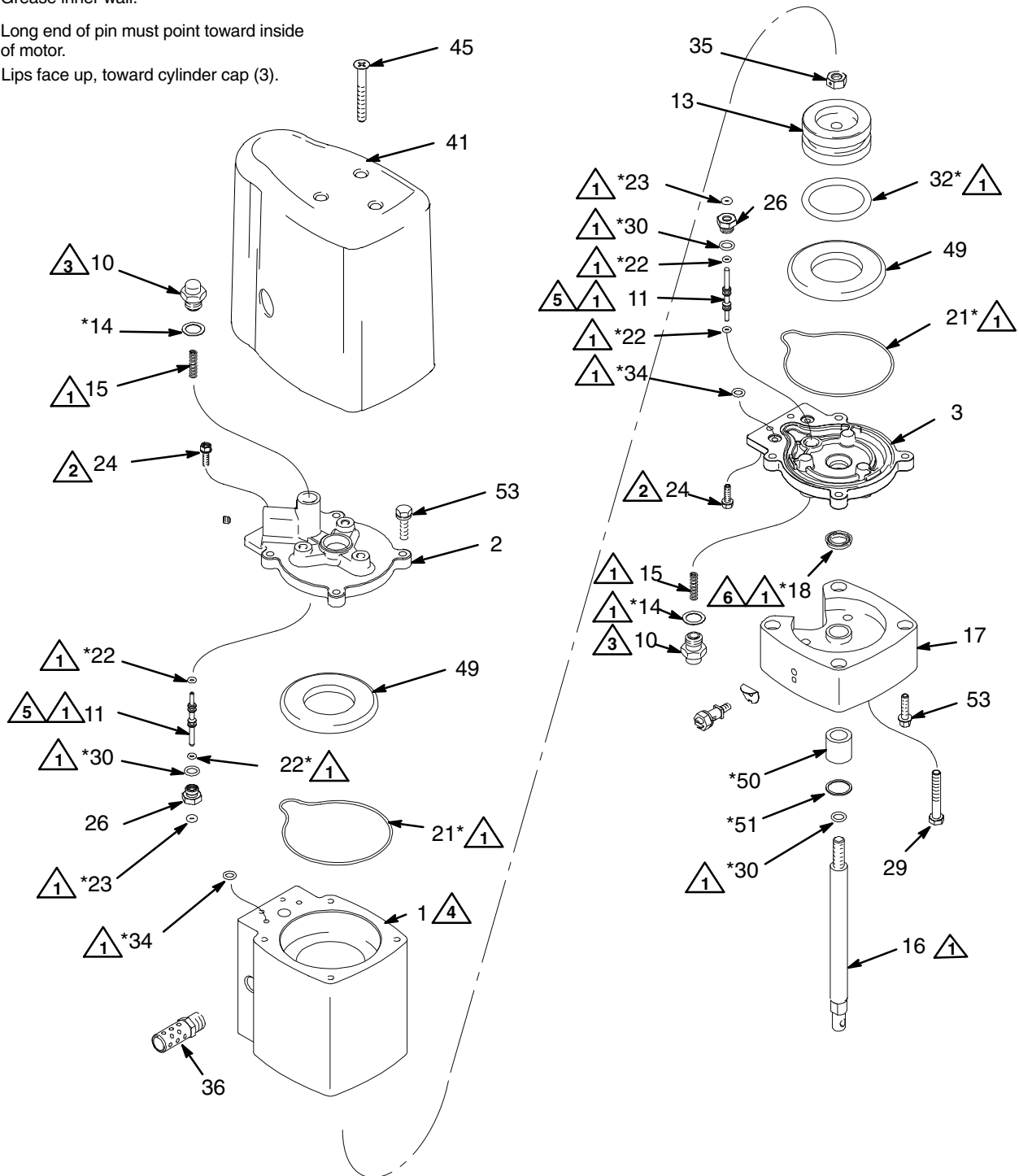
1. Fig. 3. Remove three screws (29) holding motor base (17) to bottom cylinder cap (3). Pull base off cap.
2. Remove u-cup packing (18) from bottom cylinder cap.
3. Remove retaining ring (51) and bearing (50) from motor base. Inspect. Replace if worn or damaged.
4. Remove six screws (24 and 53) holding bottom cylinder cap to motor cylinder (1). Lift motor cylinder off bottom cylinder cap to expose piston (13).
5. Pull piston and piston rod (16) out of motor cylinder.
6. Remove trip plate (49) from bottom of piston.
7. Remove piston o-ring (32). Use wrench on flats at end of piston rod to hold it steady, and unscrew nut (35) from rod. Remove piston and o-ring (30) from rod.
8. Remove two screws (45) and motor cover (41) from top cylinder cap (2).
9. Remove six screws (24 and 53) and lift off top cylinder cap.
10. Remove trip plate (49) from top of cylinder.
11. Examine inner surface of cylinder for scoring or damage.
12. Remove large o-ring (21) and two small o-rings (34) from inside of top cylinder cap. Repeat for bottom cylinder cap.

Reassembly

1. Fig. 3. Grease large o-ring (21) and two small o-rings (34) and install on top cylinder cap (2). Repeat for bottom cylinder cap (3).
2. Install trip plate (49) into bottom of motor cylinder (1).
3. Install bottom cylinder cap on cylinder. Be sure that large o-ring (21) does not roll out of groove. Install two M4 screws (24) in square section of bottom cylinder cap. Install four M5 screws (53) in tabs. Torque two M4 screws in square section from 14 to 17 in-lb (1.6 to 1.9 N•m) and four M5 screws in tabs from 35 to 45 in-lb (4.0 to 5.1 N•m).
4. Lubricate u-cup packing (18). Install it in bottom cylinder cap with lips facing up toward cylinder.
5. Install bearing (50) and retaining ring (51) into motor base (17).
6. Install motor base on bottom cylinder cap.
7. Install o-ring (30) and piston (13, *with chamfer facing down toward o-ring*) on piston rod (16). Screw self-locking nut (35) onto piston rod. Install o-ring (32) on piston, and lubricate o-ring.
8. Grease piston rod and inner wall of motor cylinder.
9. Insert piston rod through motor cylinder into bottom cylinder cap and motor base. Be careful not to damage u-cup packing inside bottom cap.
10. Install trip plate (49) into top of motor cylinder.
11. Install top cylinder cap on motor cylinder. Be sure that large o-ring does not roll out of groove. Install two M4 screws (24) in square section of top cylinder cap. Install four M5 screws (53) in tabs. Torque two M4 screws in square section from 14 to 17 in-lb (1.6 to 1.9 N•m) and four M5 screws in tabs from 35 to 45 in-lb (4.0 to 5.1 N•m).
12. Install motor cover (41) using two screws (45).

Falcon Air Motor Service

-  Lubricate with grease.
-  Torque to 14 to 17 in-lb (1.6 to 1.9 N•m).
-  Torque to 60 to 80 in-lb (6.8 to 9.0 N•m).
-  Grease inner wall.
-  Long end of pin must point toward inside of motor.
-  Lips face up, toward cylinder cap (3).



* Repair parts are available in Repair Kit 241833.

Fig. 3

9179B

Falcon II Air Motor Service

Cylinder, Base and Piston Service

Disassembly







NOTE: Falcon II cylinder, base, and piston repair parts are available in Repair Kit 241834.

1. Fig. 4. Remove three screws (29) holding motor base (17) to bottom cylinder cap (3). Pull base off cap.
2. Remove u-cup packing (18) from bottom cylinder cap.
3. Remove retaining ring (51) and bearing (50) from motor base. Inspect. Replace if worn or damaged.
4. Remove six screws (24 and 53) holding bottom cylinder cap to motor cylinder (1). Lift motor cylinder off bottom cap to expose piston (13).
5. Pull piston and piston rod (16) out of motor cylinder.
6. Remove piston o-ring (32). Use wrench on flats at end of piston rod to hold it steady, and unscrew nut (35) from rod. Remove piston and o-ring (30) from rod.
7. Remove two screws (45) and motor cover (41) from top cylinder cap (2).
8. Remove six screws (24 and 53) and lift off top cylinder cap.
9. Examine inner surface of cylinder for scoring or damage.
10. Remove large o-ring (21) and two small o-rings (34) from inside of top cylinder cap. Repeat for bottom cylinder cap.

Reassembly

1. Fig. 4. Grease large o-ring (21) and two small o-rings (34) and install on top cylinder cap (2). Repeat for bottom cylinder cap (3).
2. Install bottom cylinder cap on cylinder. Be sure that large o-ring (21) does not roll out of groove. Install two M4 screws (24) in square section of bottom cylinder cap. Install four M5 screws (53) in tabs. Torque two M4 screws in square section from 14 to 17 in-lb (1.6 to 1.9 N•m) and four M5 screws in tabs from 35 to 45 in-lb (4.0 to 5.1 N•m).
3. Lubricate u-cup packing (18). Install it in bottom cylinder cap with lips facing up toward cylinder.
4. Install bearing (50) and retaining ring (51) into motor base (17).
5. Install base on bottom cylinder cap.
6. Install o-ring (30) and piston (13, *with chamfer facing down toward o-ring*) on piston rod (16). Screw self-locking nut (35) onto piston rod. Install o-ring (32) on piston, and lubricate o-ring.
7. Grease piston rod and inner wall of motor cylinder.
8. Insert piston rod through cylinder into bottom cylinder cap and motor base. Be careful not to damage u-cup packing inside bottom cap.
9. Install top cylinder cap on cylinder. Be sure that large o-ring does not roll out of groove. Install two M4 screws (24) in square section of top cylinder cap. Install four M5 screws (53) in tabs. Torque two M4 screws in square section from 14 to 17 in-lb (1.6 to 1.9 N•m) and four M5 screws in tabs from 35 to 45 in-lb (4.0 to 5.1 N•m).
10. Install cover (41) using screws (45).

Falcon II Air Motor Service

-  Lubricate with grease.
-  Torque to 14 to 17 in-lb (1.6 to 1.9 N•m).
-  Torque to 60 to 80 in-lb (6.8 to 9.0 N•m).
-  Grease inner wall.
-  Long end of pin must point toward inside of motor.
-  Lips face up, toward cylinder cap (3).

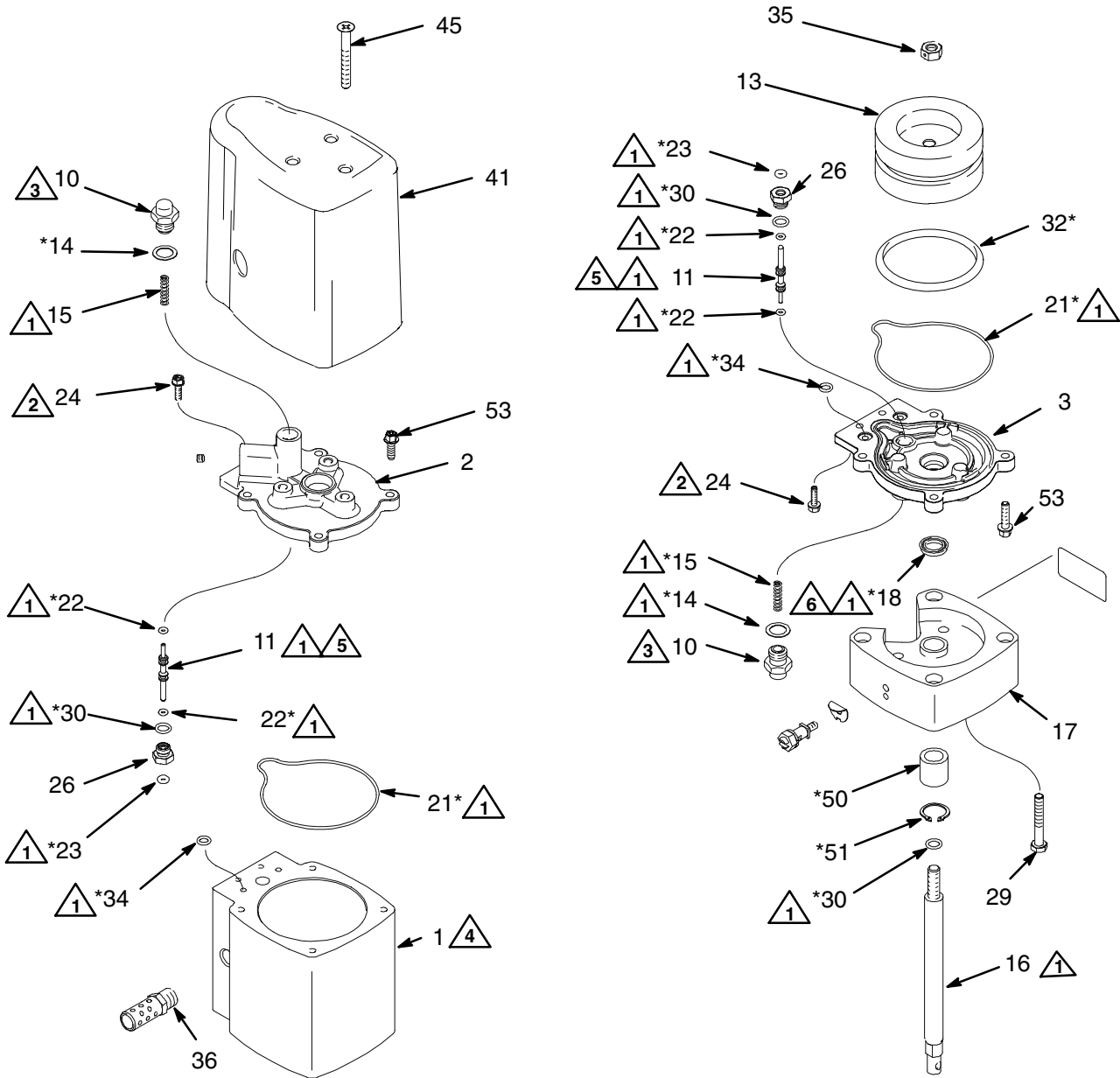


Fig. 4

* Repair parts are available in Repair Kit 241834.

9243B

Air Motor Service

Director Valve Service

Disassembly

NOTE: Motor Repair Kit 241884 is available. Also, director valve assembly 241357 is available by itself. For the best results, use all the new parts in the kit.

1. Fig. 5. Remove screws (24) holding valve housing (4) to motor cylinder (1). Be careful not to drop air cup (6) as you remove valve housing. Air cup can be damaged. Inspect air cup surface for scratches. Also inspect back side of air cup for wear. If damaged, replace.

NOTE: The surface of the air cup can be repaired by rubbing it with 300 to 600 grit sandpaper on a flat surface.
2. Remove screws (28) holding valve plate (7) to motor cylinder. Be very careful not to drop or damage valve plate. Inspect valve plate surface for scratches. If damaged, replace.
3. Remove plate seal (12) from face of motor cylinder.
4. Remove foam (63) from valve housing and inspect vent holes for obstruction. **DO NOT ENLARGE VENT HOLES**, as this will adversely affect the motor operation.
5. Clean and inspect all parts. Replace any that are worn or damaged.

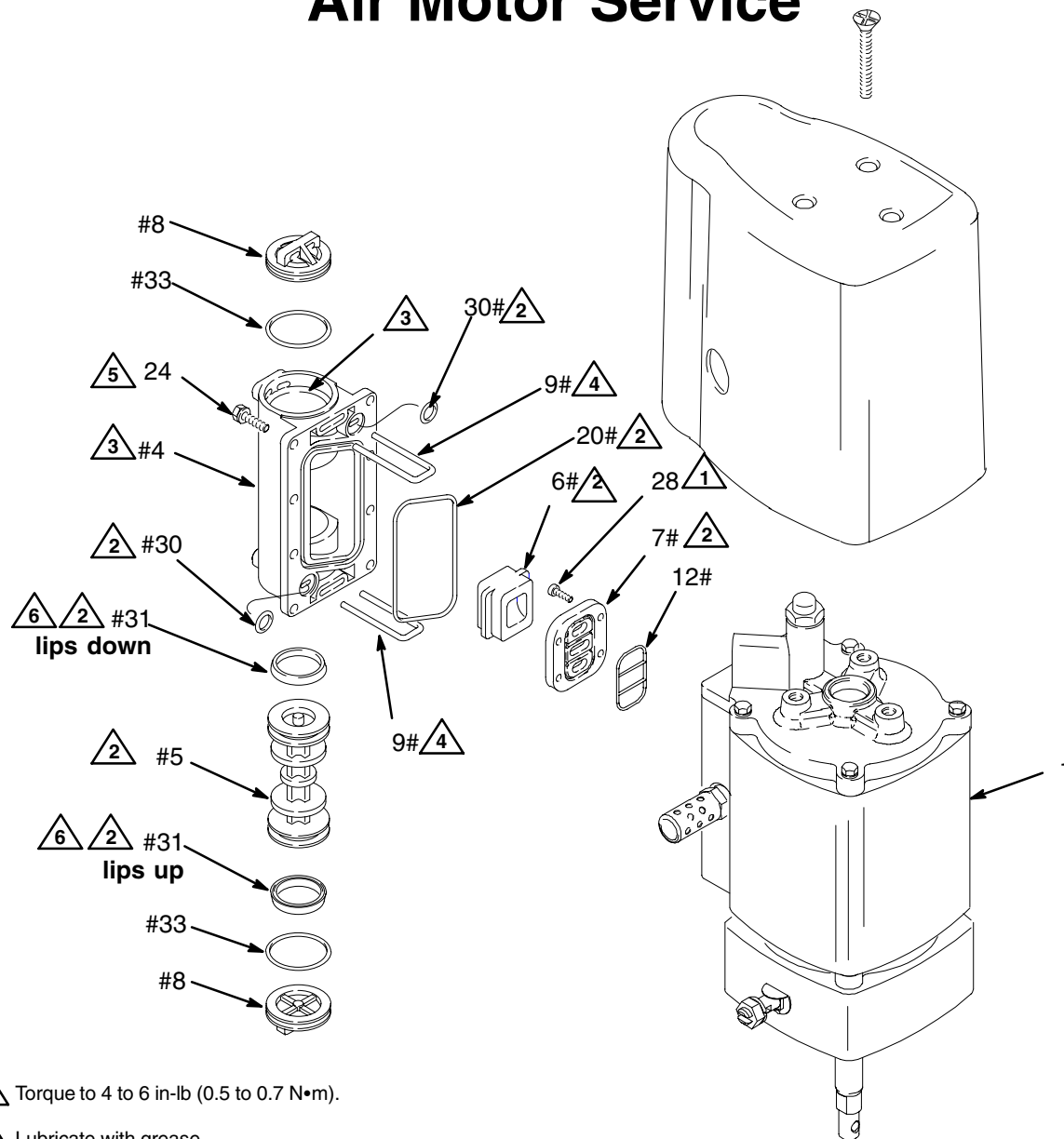
Reassembly

1. Fig. 5. Install plate seal (12) and valve plate (7) on motor cylinder (1). Be sure surface of valve plate facing out is free of scratches or damage. Install screws (28), and torque them oppositely and evenly from 4 to 6 in-lb (0.5 to 0.7 N•m).

NOTE: Before reinstalling the valve housing (4), be sure spool (5) is fully shifted to one side and foam pieces (63) are in place.

2. Grease o-ring grooves in valve housing, then install large o-ring (20) and two small o-rings (30). Grease holds o-rings in place during assembly.
3. Grease air cup (6) and valve plate. Orient air cup as shown. Place air cup on valve plate so its position corresponds to position of spool.
4. Place valve housing on motor cylinder. Spool must engage air cup, or valve housing assembly will not fit correctly. If necessary, move air cup to engage spool.
5. Install screws (24), and torque oppositely and evenly from 14 to 17 in-lb (1.6 to 1.9 N•m). Be sure o-rings (20, 30) do not slip out of grooves on valve housing.

Air Motor Service



- 1** Torque to 4 to 6 in-lb (0.5 to 0.7 N•m).
- 2** Lubricate with grease.
- 3** Grease inside diameter.
- 4** Clips (9) must be installed from inside of housing (4).
- 5** Torque to 14 to 17 in-lb (1.6 to 1.9 N•m).
- 6** Lips point toward center of spool.

Repair parts are available in Repair Kit 241884.

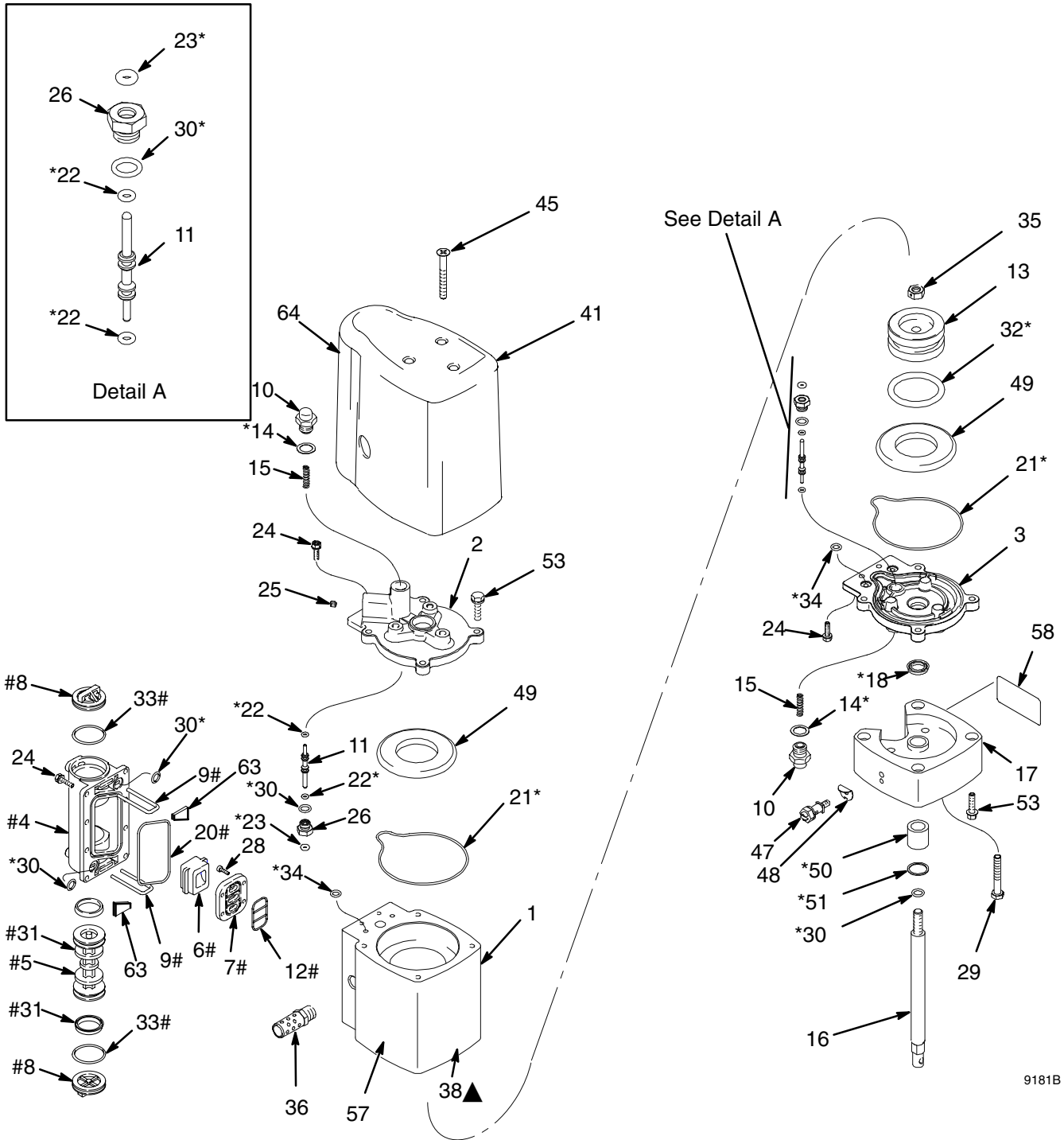
Fig. 5

9180B

Notes

[illegible]

Falcon Parts Drawing



* Repair parts are available in Repair Kit 241833.

Repair parts are available in Repair Kit 241884.

Falcon Parts List

Model 241504 Air Motor, Series C

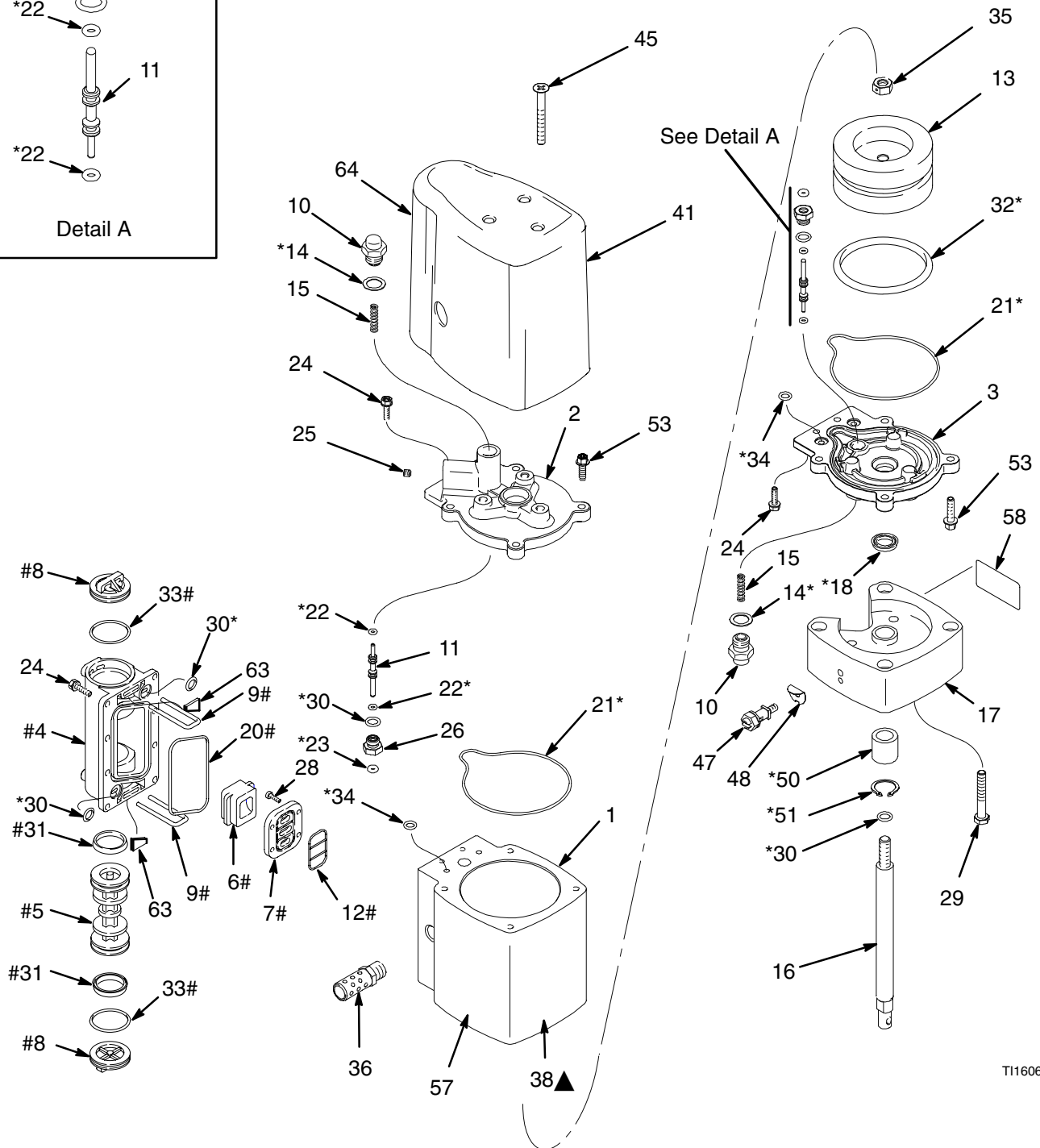
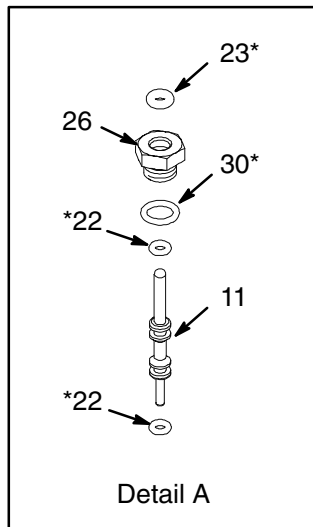
Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	194714	CYLINDER, motor, air	1	26	194720	PLUG, pilot	2
2	194719	CAP, cylinder, top	1	28	112116	SCREW, machine, pan hd; M3 x 0.5: 10 mm (0.40 in.) long	4
3	194718	CAP, cylinder, bottom	1	29	115138	SCREW, cap, hex hd	3
4#	194344	HOUSING, valve	1	30*	154741	PACKING, o-ring	5
5#	276264	SPOOL; acetal	1	31#	112181	PACKING, u-cup	2
6#	188947	CUP, air; acetal	1	32*	115136	PACKING, o-ring	1
7#	191778	PLATE, valve; stainless steel	1	33#	108730	PACKING, o-ring	2
8#	276605	RETAINER, spool	2	34*	156454	PACKING, o-ring; Buna-N	4
9#	188583	CLIP	2	35	112840	NUT, hex; M8 x 1.25	1
10	188539	PLUG, actuator; aluminum	2	36	113779	MUFFLER	1
11	194723	SPOOL, actuator	2	38▲	198035	LABEL, warning	1
12#	191777	SEAL, plate, valve; Buna-N	1	41	276664	COVER, motor, air, painted	1
13	194721	PISTON, motor, air	1	45	115139	SCREW, phillips, flat hd	3
14*	188582	GASKET, plug; nylon	2	47	104029	CLAMP, ground, electrical	1
15	113876	SPRING, compression	2	48	104582	WASHER, tab, grounding	1
16	194717	ROD, piston	1	49	194739	PLATE, trip	2
17	194716	BASE, motor, air	1	50*	115137	BEARING, oilite	1
18*	112110	PACKING, u-cup; nitrile	1	51*	115452	RING, retaining, internal	1
20#	191839	SEAL, housing, valve	1	53	113945	SCREW, flange, hex hd; M5 x 0.8; 20 mm (0.79 in.) long	8
21*	112106	PACKING, o-ring; Buna-N	2	57	198044	LABEL, Falcon	2
22*	112107	PACKING, o-ring; polyurethane	4	58	195448	LABEL, identification	1
23*	112104	PACKING, o-ring; Buna-N	2	63	196602	DAMPENER, foam	2
24	112111	SCREW, cap, hex hd; M4 x 0.7; 14 mm (0.55 in.) long	12	64	196854	LABEL, WARNING	1
25	112112	SCREW, set, socket hd; M5 x 0.8; 5 mm (0.20 in.) long	4				

* Repair parts are available in Repair Kit 241833.

Repair parts are available in Repair Kit 241884.

▲ Replacement Danger and Warning labels, tags and cards are available at no cost.

Falcon II Parts Drawing



TI1606A

* Repair parts are available in Repair Kit 241834.

Repair parts are available in Repair Kit 241884.

Falcon II Parts List

Model 241505 Air Motor, Series C

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	194715	CYLINDER, motor, air	1	26	194720	PLUG, pilot	2
2	194719	CAP, cylinder, top	1	28	112116	SCREW, machine, pan hd; M3 x 0.5: 10 mm (0.40 in.) long	4
3	194718	CAP, cylinder, bottom	1	29	115138	SCREW, cap, hex hd	3
4#	194344	HOUSING, valve	1	30*	154741	PACKING, o-ring	5
5#	276264	SPOOL; acetal	1	31#	112181	PACKING, u-cup	2
6#	188947	CUP, air; acetal	1	32*	113755	PACKING, o-ring; Buna-N	1
7#	191778	PLATE, valve; stainless steel	1	33#	108730	PACKING, o-ring	2
8#	276605	RETAINER, spool	2	34*	156454	PACKING, o-ring; Buna-N	4
9#	188583	CLIP	2	35	112840	NUT, hex; M8 x 1.25	1
10	188539	PLUG, actuator; aluminum	2	36	113779	MUFFLER	1
11	194723	SPOOL, actuator	2	38▲	198036	LABEL, warning	1
12#	191777	SEAL, plate, valve; Buna-N	1	41	276664	COVER, motor, air, painted	1
13	194722	PISTON, motor, air	1	45	115139	SCREW, phillips, flat hd	3
14*	188582	GASKET, plug; nylon	2	47	104029	CLAMP, ground, electrical	1
15	113876	SPRING, compression	2	48	104582	WASHER, tab, grounding	1
16	194717	ROD, piston	1	50*	115137	BEARING, oilite	1
17	194716	BASE, motor, air	1	51*	115452	RING, retaining, internal	1
18*	112110	PACKING, u-cup; nitrile	1	53	113945	SCREW, flange, hex hd; M5 x 0.8; 20 mm (0.79 in.) long	8
20#	191839	SEAL, housing, valve	1	57	198044	LABEL, Falcon II	2
21*	112106	PACKING, o-ring; Buna-N	2	58	195448	LABEL, identification	1
22*	112107	PACKING, o-ring; polyurethane	4	63	196602	DAMPENER, foam	2
23*	112104	PACKING, o-ring; Buna-N	2	64	196854	LABEL, WARNING	1
24	112111	SCREW, cap, hex hd; M4 x 0.7; 14 mm (0.55 in.) long	12				
25	112112	SCREW, set, socket hd; M5 x 0.8; 5 mm (0.20 in.) long	4				

* Repair parts are available in Repair Kit 241834.

Repair parts are available in Repair Kit 241884.

▲ Replacement Danger and Warning labels, tags and cards are available at no cost.

Repair Kits

Repair Kit 241833, for Falcon Air Motor 241504, Series B

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	112107	PACKING, o-ring	4	6	115136	PACKING, o-ring	1
2	112104	PACKING, o-ring	2	7	112110	PACKING, u-cup	1
3	188582	GASKET, plug	2	8	154741	PACKING, o-ring	3
4	112106	PACKING, o-ring	2	9	115137	BEARING, oilite	1
5	156454	PACKING, o-ring	4	10	115452	RING, retaining	1

Repair Kit 241834, for Falcon II Air Motor 241505, Series B

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	112107	PACKING, o-ring	4	6	113755	PACKING, o-ring	1
2	112104	PACKING, o-ring	2	7	112110	PACKING, u-cup	1
3	188582	GASKET, plug	2	8	154741	PACKING, o-ring	3
4	112106	PACKING, o-ring	2	9	115137	BEARING, oilite	1
5	156454	PACKING, o-ring	4	10	115452	RING, retaining	1

Valve Repair Kit 241884, for Falcon Air Motor 241504, Series B and Falcon II Air Motor 241505, Series B

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	241357	VALVE ASSY, spool	1	3	191777	GASKET, plate, valve	1
2	188947	CUP, air	1	4	191778	PLATE, valve	1

Notes

[illegible]

Falcon Technical Data

Maximum air inlet pressure	150 psi (1.0 MPa, 10 bar)
Stroke length	2.25 in. (57 mm)
Effective piston area	3.1 in ² (20.3 cm ²)
Effective piston diameter	2 in.(50.8 mm)
Maximum motor operating temperature	130°F (54°C)
Air inlet size	3/8 npt(f)
Approximate weight	6.5 lb (2.9 Kg)
Sound pressure level at 70 psi air and 20 cpm	67.53 dB(A)
* Sound power level at 70 psi air and 20 cpm	71.31 dB(A)

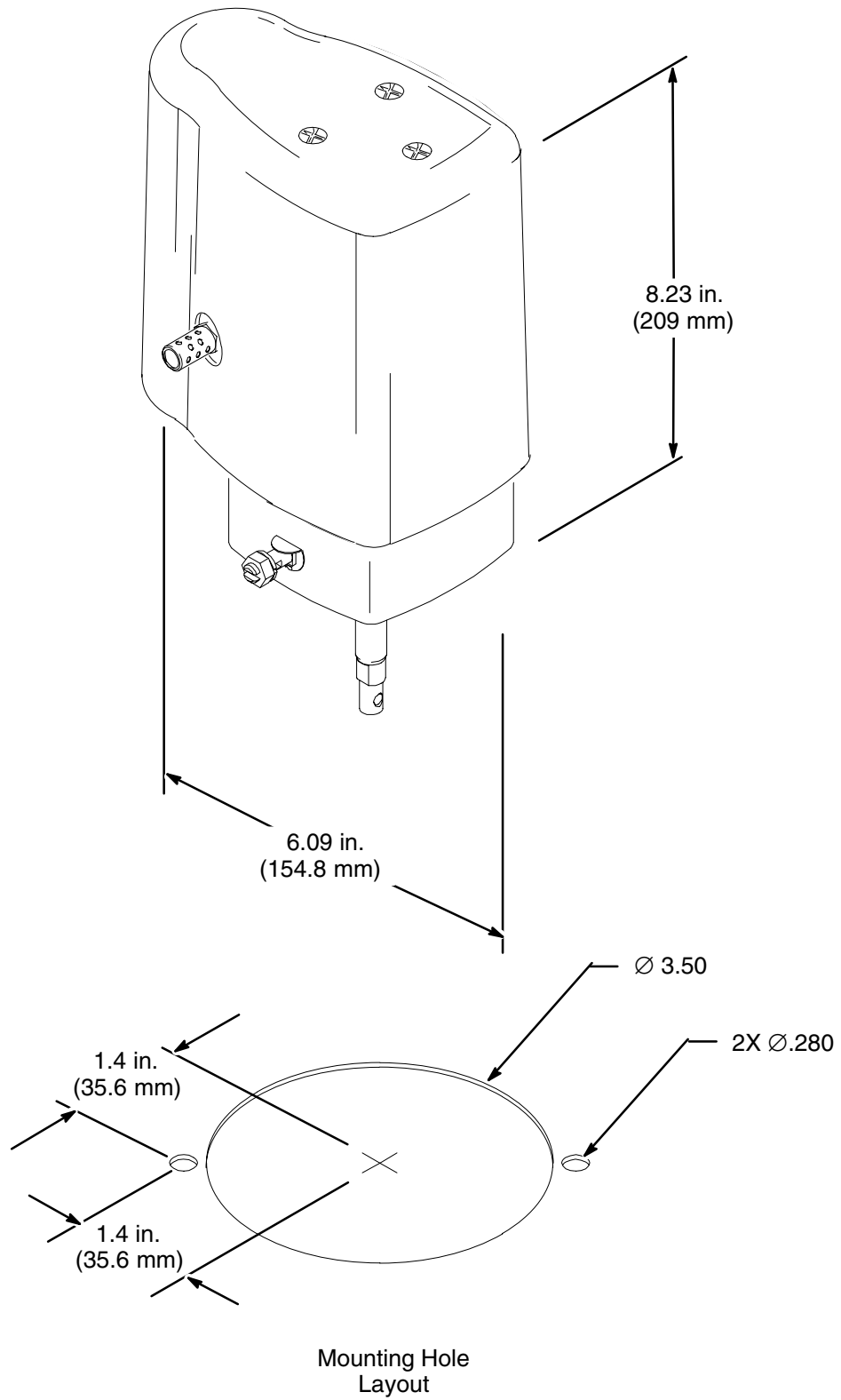
** Sound power levels measured per ISO Standard 9614-2.*

Falcon II Technical Data

Maximum air inlet pressure	150 psi (1.0 MPa, 10 bar)
Stroke length	2.25 in. (57 mm)
Effective piston area	6.6 in ² (42.6 cm ²)
Effective piston diameter	2.9 in.(73.7 mm)
Maximum motor operating temperature	130°F (54°C)
Air inlet size	3/8 npt(f)
Approximate weight	6.1 lb (2.8 Kg)
Sound pressure level at 68 psi air and 20 cpm	70.34 dB(A)
* Sound power level at 68 psi air and 20 cpm	73.72 dB(A)

** Sound power levels measured per ISO Standard 9614-2.*

Dimensions



9138B

Graco Standard Warranty

Graco warrants all equipment manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

Graco makes no warranty, and disclaims all implied warranties of merchantability and fitness for a particular purpose in connection with accessories, equipment, materials or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

FOR GRACO CANADA CUSTOMERS

The parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English. Les parties reconnaissent avoir convenu que la rédaction du présent document sera en Anglais, ainsi que tous documents, avis et procédures judiciaires exécutés, donnés ou intentés à la suite de ou en rapport, directement ou indirectement, avec les procédures concernées.

Graco Information

TO PLACE AN ORDER, contact your Graco distributor, or call one of the following numbers to identify the distributor closest to you:

1-800-367-4023 Toll Free

612-623-6921

612-378-3505 Fax

*All written and visual data contained in this document reflect the latest product information available at the time of publication.
Graco reserves the right to make changes at any time without notice.*

Sales Offices: Minneapolis, Detroit
International Offices: Belgium, Korea, Hong Kong, Japan

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1441

www.graco.com

PRINTED IN USA 308995 06/1999, Revised 01/2003