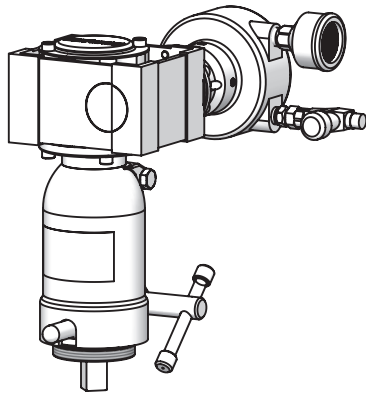


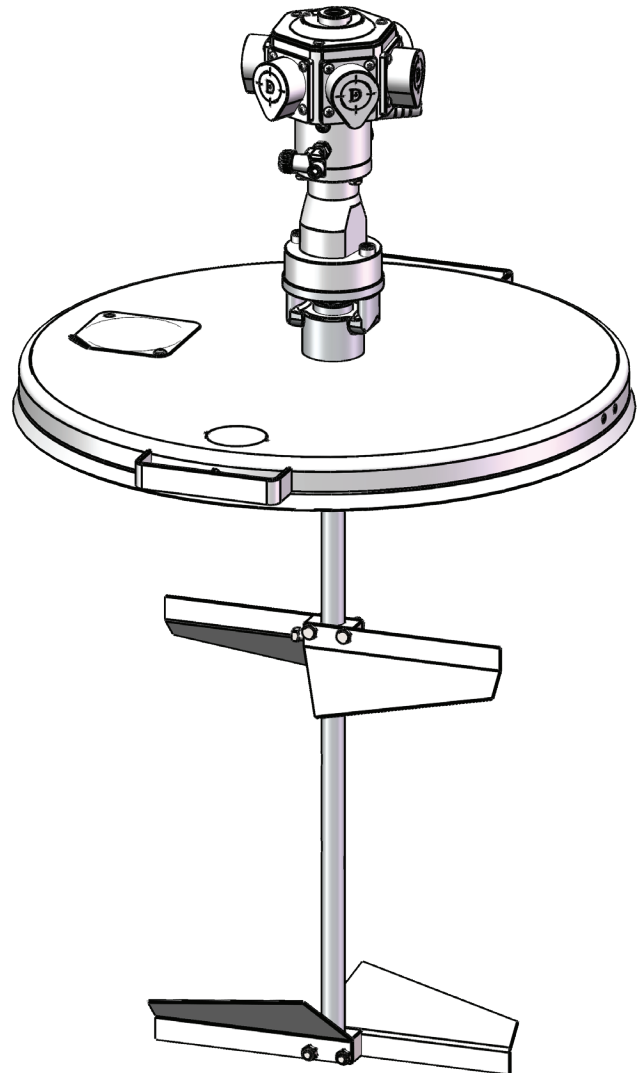


# 15:1 GEAR & DIRECT DRIVEN AIR MOTOR DRIVES AND AGITATOR ASSEMBLIES

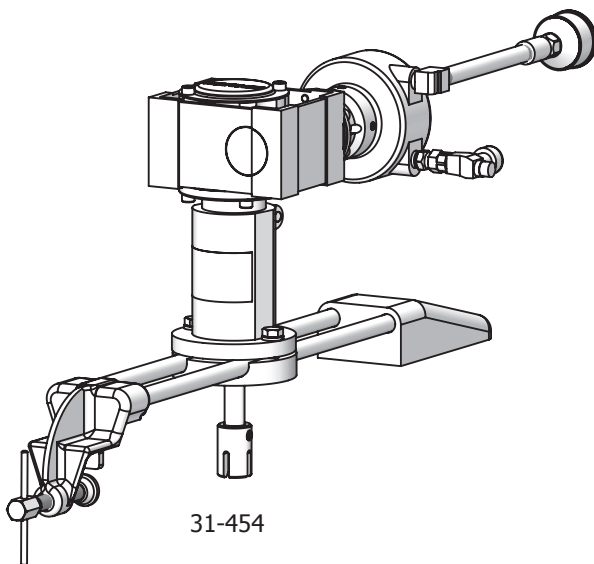
FOR OPEN AND CLOSED DRUMS AND LARGE TANK ASSEMBLIES



31-451



31-526



31-454

In this part sheet, the words **WARNING**, **CAUTION** and **NOTE** are used to emphasize important safety information as follows:

## **WARNING**

Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.

## **CAUTION**

Hazards or unsafe practices which could result in minor personal injury, product or property damage.

## **NOTE**

Important installation, operation or maintenance information.

## **WARNING**

### Read the following warnings before using this equipment.



#### READ THE MANUAL

Before operating finishing equipment, read and understand all safety, operation and maintenance information provided in the operation manual.



#### OPERATOR TRAINING

All personnel must be trained before operating finishing equipment.



#### EQUIPMENT MISUSE HAZARD

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



#### LOCK OUT / TAG-OUT

Failure to de-energize, disconnect, lock out and tag-out all power sources before performing equipment maintenance could cause serious injury or death.



#### AUTOMATIC EQUIPMENT

Automatic equipment may start suddenly without warning.



#### PRESSURE RELIEF PROCEDURE

Always follow the pressure relief procedure in the equipment instruction manual.



#### KEEP EQUIPMENT GUARDS IN PLACE

Do not operate the equipment if the safety devices have been removed.



#### KNOW WHERE AND HOW TO SHUT OFF THE EQUIPMENT IN CASE OF AN EMERGENCY



#### WEAR SAFETY GLASSES

Failure to wear safety glasses with side shields could result in serious eye injury or blindness.



#### INSPECT THE EQUIPMENT DAILY

Inspect the equipment for worn or broken parts on a daily basis. Do not operate the equipment if you are uncertain about its condition.



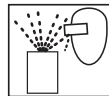
#### NEVER MODIFY THE EQUIPMENT

Do not modify the equipment unless the manufacturer provides written approval.



#### NOISE HAZARD

You may be injured by loud noise. Hearing protection may be required when using this equipment.



#### PROJECTILE HAZARD

You may be injured by venting liquids or gases that are released under pressure, or flying debris.



#### PINCH POINT HAZARD

Moving parts can crush and cut. Pinch points are basically any areas where there are moving parts.



#### STATIC CHARGE

Fluid may develop a static charge that must be dissipated through proper grounding of the equipment, objects to be sprayed and all other electrically conductive objects in the dispensing area. Improper grounding or sparks can cause a hazardous condition and result in fire, explosion or electric shock and other serious injury.



#### WEAR RESPIRATOR

Toxic fumes can cause serious injury or death if inhaled. Wear a respirator as recommended by the fluid and solvent manufacturer's Safety Data Sheet.



#### TOXIC FLUID & FUMES

Hazardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, injected or swallowed. LEARN and KNOW the specific hazards or the fluids you are using.



#### FIRE AND EXPLOSION HAZARD

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



#### MEDICAL ALERT

Any injury caused by high pressure liquid can be serious. If you are injured or even suspect an injury:

- Go to an emergency room immediately.
- Tell the doctor you suspect an injection injury.
- Show the doctor this medical information or the medical alert card provided with your airless spray equipment.
- Tell the doctor what kind of fluid you were spraying or dispensing.



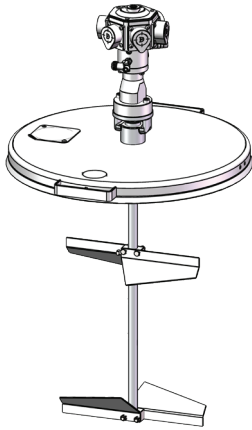
#### GET IMMEDIATE MEDICAL ATTENTION

To prevent contact with the fluid, please note the following:

- Never point the gun/valve at anyone or any part of the body.
- Never put hand or fingers over the spray tip.
- Never attempt to stop or deflect fluid leaks with your hand, body, glove or rag.
- Always have the tip guard on the spray gun before spraying.
- Always ensure that the gun trigger safety operates before spraying.

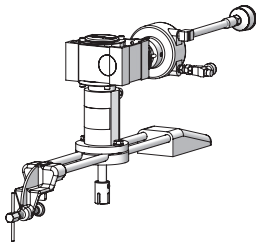
**IT IS THE RESPONSIBILITY OF THE EMPLOYER TO PROVIDE THIS INFORMATION TO THE OPERATOR OF THE EQUIPMENT. FOR FURTHER SAFETY INFORMATION REGARDING THIS EQUIPMENT, SEE THE GENERAL EQUIPMENT SAFETY BOOKLET (77-5300).**

## DESCRIPTIONS



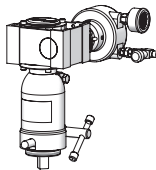
### 5:1 GEAR AND DIRECT DRIVE AGITATORS FOR 55 GALLON OPEN TOP DRUMS:

- 31-526** 55 Gallon Direct Drive Agitator with Stainless Steel drum cover
- 31-527** 55 Gallon Direct Drive Agitator with Plated Steel drum cover
- 31-424** 55 Gallon Agitator with Stainless Steel Drum Cover
- 31-397** 55 Gallon Agitator with Plated Steel Drum Cover
- 31-525** Direct Drive Agitator assembly (Less Cover)
- 31-400** Gear Driven Agitator Assembly (less cover)
- 31-524** Direct Drive (to suit 31-525, with hose and fittings)
- 31-456** Agitator Drive for 31-423, 31-397, and 31-400
- 41-3305** Agitator only (less drive and less cover)
- 31-523** Direct Drive to suit 30 & 60 Gallon pressure Tanks (less hose and fittings)
- 31-455** Agitator Drive for 30 and 60 Gallon Tanks (Includes 13" air hose and fittings)



### 15:1 GEAR DRIVEN AGITATORS FOR 55 GALLON DRUMS WITH EXISTING AGITATOR:

- 31-454** 55 Gallon Agitator Drive with bracket hardware for drums with existing agitator
- 31-453** Replacement Drive for 31-394



### 15:1 GEAR DRIVEN AGITATORS FOR 55 GALLON DRUMS WITH EXISTING AGITATOR:

- 31-451** 55 Gallon Agitator Drive with threaded adapter for drums with existing agitator

## ⚠ WARNING

**Before attempting any installation of agitators onto pressure feed tanks, the tanks must be relieved of pressure as high pressure can cause a serious injury. Pressure is maintained in a pressure tank after the system has been shut down. Before attempting removal of cover, fill cap, or center plug, pressure must be relieved using the following steps:**

### PRESSURE RELIEF PROCEDURE (IF USED ON PRESSURIZED TANKS)

1. Turn off the main air supply to the tank.
2. Close air inlet valve located on tank air manifold. Remove air inlet hose.
3. Bleed off air in the tank by turning the air relief valve thumb screw counter-clockwise. Wait until all the air has escaped through the valve before removing the pressure tank cover, fill cap, or center plug.
4. Leave the air relief valve open until you have reinstalled the cover, fill cap, or center plug.

### AIR SUPPLY

Air supplies (compressors etc.) shall be sited in a non-hazardous area with a filter on the air intake system to prevent the ingress of dust or similar foreign materials into the parts where compression takes place.

### OPTIONAL AIR MOTOR LUBRICATION (Lubrication will extend the life of the motor)

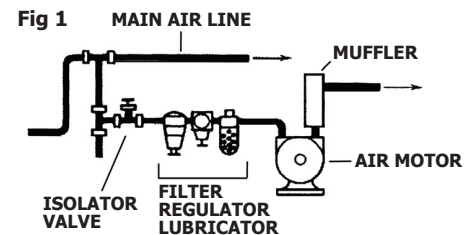
An automatic air line filter/lubricator should be installed in the air supply line no more than 18" from the air motor. A 5 micron filter is recommended. Install the lubricator level with or above the motor so the oil mist will blow directly into or down into the motor (see Fig. 1).

Fill the oil reservoir with SAE 10W motor oil.

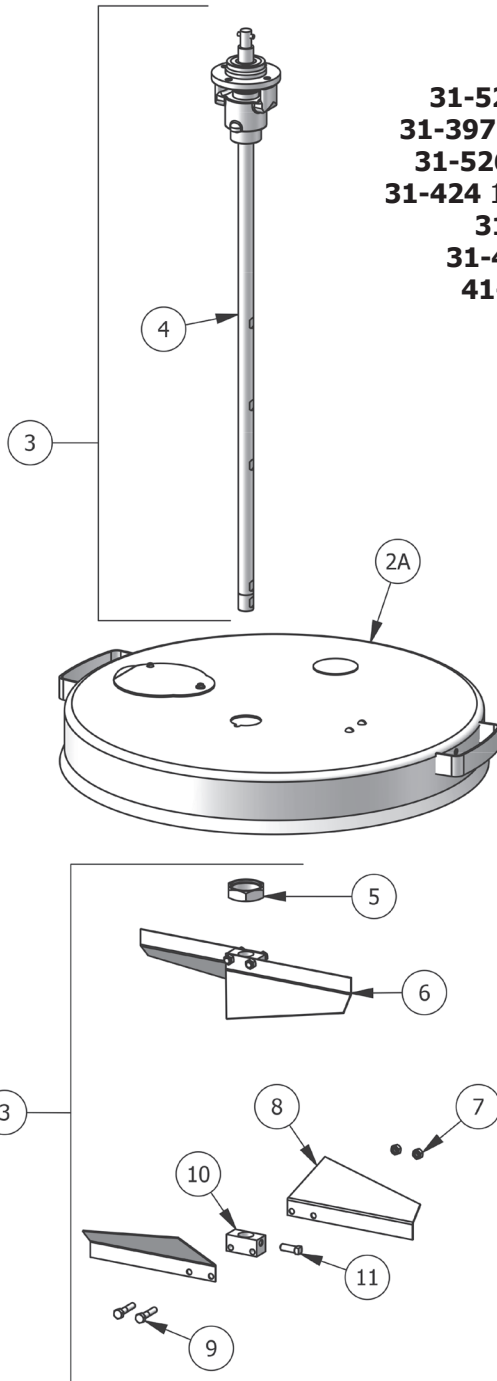
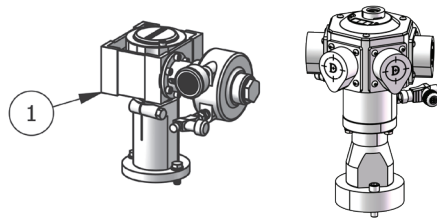
Adjust lubricator to feed 1 drop of oil for every 50 cfm of air or 1 drop per minute of continuous running.

The unit may also be lubricated manually by adding 10-20 drops of oil SAE 10 weight oil into the air inlet fitting at the start of each shift.

Periodically—Remove air adjusting valve and air strainer and flush motor with a clean suitable solvent. Remove trapped particles from screen and clean air strainer felt.



**55 GALLON AGITATORS WITH DIRECT & 15:1 GEAR REDUCED DRIVES FOR OPEN TOP DRUMS**

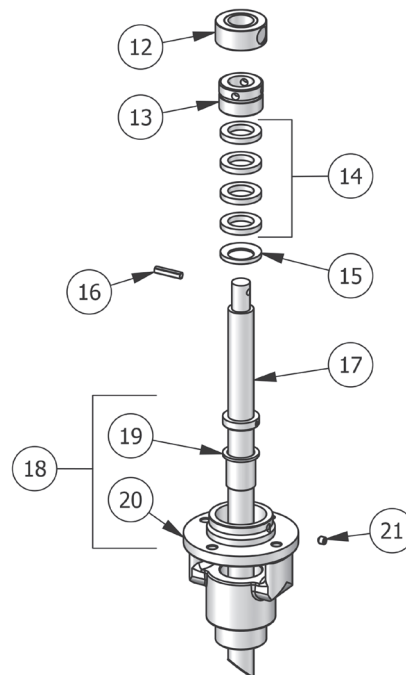


**55 GALLON AGITATORS**

- 31-527** Direct drive agitator, plated steel cover
- 31-397** 15:1 gear driven agitator, plated steel cover
- 31-526** Direct drive agitator, Stainless steel cover
- 31-424** 15:1 gear driven agitator, Stainless steel cover
- 31-525** Direct drive agitator (no cover)
- 31-400** 15:1 gear driven agitator (no cover)
- 41-3305** (no drive or cover) (items 3-11)

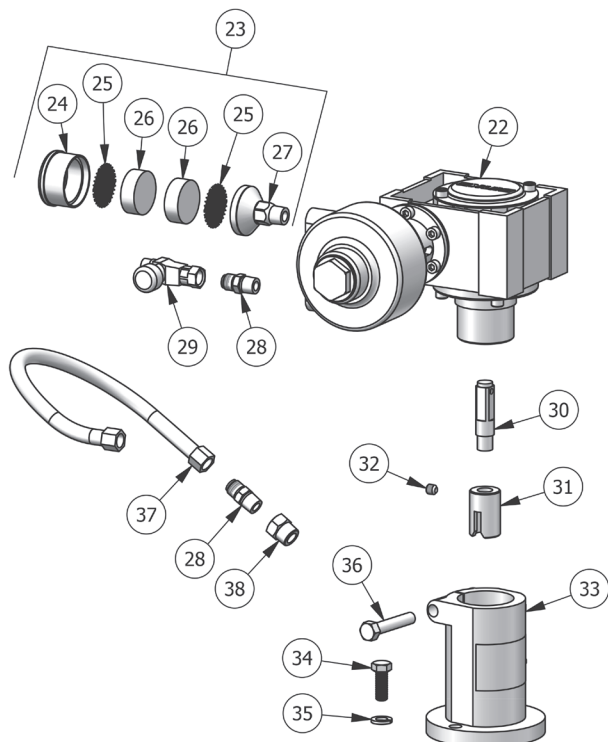
**83-2114 STUFFING BOX ASSEMBLY**

(Item 4)

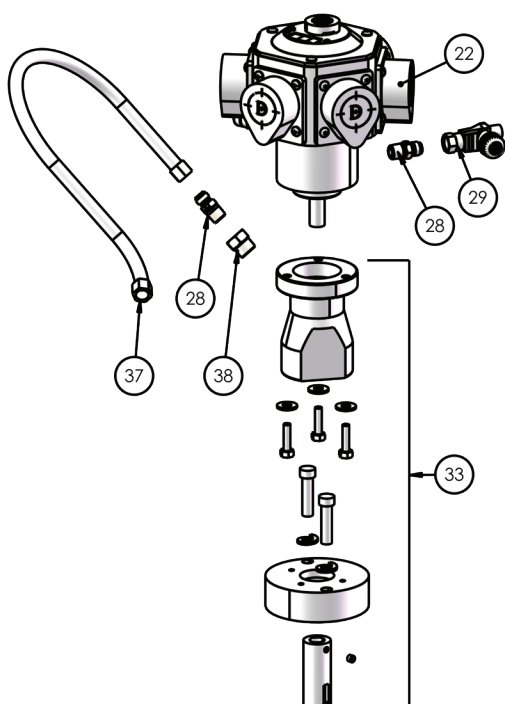


### 5:1 GEAR REDUCTION FOR OPEN TOP DRUMS

**15:1 AGITATOR DRIVE**  
**31-455** with Air Hose/fittings (shown)  
**31-456** less Air Hose/fitting



**DIRECT AGITATOR DRIVE**  
**31-523** less air hose/fittings  
**31-524** with air hose/fittings



### 55 GALLON AGITATOR, DIRECT AND 15:1 AGITATOR DRIVE PARTS LIST

Ref. No.	Replacement Part No.	Description	Ind. Parts Req'd.
1	31-452	15:1 AGITATOR DRIVE (INCLUDED WITH 31-397, 31-400, 31-424)	1
	31-455	15:1 AGITATOR DRIVE (INCLUDES ITEMS 37, 38, 39)	
	31-524	DIRECT DRIVE (INCLUDES ITEMS 37, 38, 39)	
2A	31-124	PLATED STEEL COVER	1
2B	31-426	STAINLESS STEEL COVER	
3	41-3305	AGITATOR LESS DRIVE	1
4	83-2114	STUFFING BOX ASSEMBLY	1
5	41-172	LOCKNUT	1
6	83-2197	PADDLE ASSEMBLY, SS	2
7	20-2079	HEX NUT 5/16-18, SS	4
8	83-2194	PADDLE, SS	4
9	20-2077	HEX HD. CAP SCREW 5/16-18 X 1-1/2" LG, SS	4
10	83-2132	BLOCK, SS	2
11	20-1741	SQ. HD. SET SCREW 3/8-16 X 1" LG, SS	2
12	83-2107	BEARING ASSEMBLY	1
13	83-2112	GLAND	1
14	83-2111-K4	PACKING SET (INCL 4/EA 83-2111 PACKINGS)	1
15	83-2110	WASHER	1
16	83-1211	PIN	1
17	83-2099	SHAFT	1
18	83-2109	BOX ASSEMBLY	1
19	83-3032	BEARING (INCLUDED IN ITEM 18)	1
20	-----	BOX (INCLUDED IN ITEM 18)	1
21	20-1237	SOC. HD. SET SCREW 1/4-20 X 1/4" LG	1
22	31-434	GEAR-MOTOR	1
	31-510	DIRECT DRIVE 1HP AIR MOTOR	
23	QSK-071	MUFFLER (DUAL FELT)	1
24	---	STRAINER CAP	1
▲ 25	---	SCREEN	2
▲ 26	---	FELT	2
27	---	STRAINER BODY	1
28	H-2008	DM NIPPLE, 1/4 NPT X 1/4 NPS (2/EA INCL WITH 31-396-1)	1 OR 2
29	HAV-500	AIR ADJUSTING VALVE	1
30	31-398	DRIVE SHAFT ASSEMBLY	1
31	31-57	COUPLING	1
32	Purchase Locally	SET SCREW 5/16-18 X 5/16" LONG	1
33	31-395	COUPLING ADAPTER	1
	31-510	BDL MOUNT ASSEMBLY	
34	Purchase Locally	HEX HD. CAP SCREW 3/8-16 X 1" LONG	2
35	Purchase Locally	LOCK WASHER 3/8"	2
36	Purchase Locally	HEX HD. CAP SCREW 3/8-16 X 2" LONG	1
37	HA-57011	HOSE ASSEMBLY 13" LONG, 1/4 NPS(F) SW ENDS (INCLUDED WITH 31-396-1 ONLY)	1
38	20-1753-1	BUSHING, 1/4 NPT(F) X 3/8 NPT(M) (INCLUDED WITH 31-396-1 ONLY)	1

▲ Order KK-5006 Strainer Screen and Felt Kit

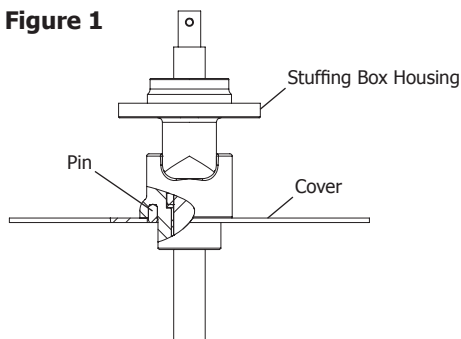
## 55 GALLON AGITATOR AND 15:1 AGITATOR DRIVE INSTALLATION INSTRUCTIONS

### **⚠ WARNING**

Before attempting any installation of agitators onto pressurized tanks, the tanks must be relieved of pressure as high pressure can cause a serious injury. Pressure is maintained in a pressure tank after the system has been shut down. Before attempting removal of cover, fill cap, or center plug, pressure must be relieved using the pressure relief procedure on page 3.

1. Insert the 83-2114 Stuffing Box Assembly (4) into the drum cover as shown.
2. Align the pin in the stuffing box housing (18) with the notch in the drum cover (2). See Figure 1 below.
3. Secure the Stuffing Box Assembly (4) to the cover (2) with the Locknut (5). Make sure this connection is tight.
4. Attach each Paddle Assembly (6). Tighten securely. For two paddle assemblies, locate on the highest and lowest flats. Orient paddle assemblies as shown.
5. Place cover with stuffing box and paddles on drum.
6. Place the Agitator Drive (1) over the top of the shaft (17). Align the pin (16) with the coupling (31).
7. Attach the Drive Unit (1) to the Stuffing Box (4) with the screws (34) and lock-washers (35) provided. Tighten securely.
8. The Gear-motor (22) orientation may be adjusted by loosening the cap screw (36) and rotating the unit to the desired position. Re-tighten the screw (36) after the unit is positioned as desired.
9. The position of the air motor (80) can be adjusted by removing the screws (84) and lockwashers (85) rotating the air motor in 90° increments. Re-tighten the screws after desired orientation is reached.
10. Connect air hose to the air adjustment valve (29).

Figure 1



## 55 GALLON AGITATOR AND 15:1 AGITATOR DRIVE OPERATION

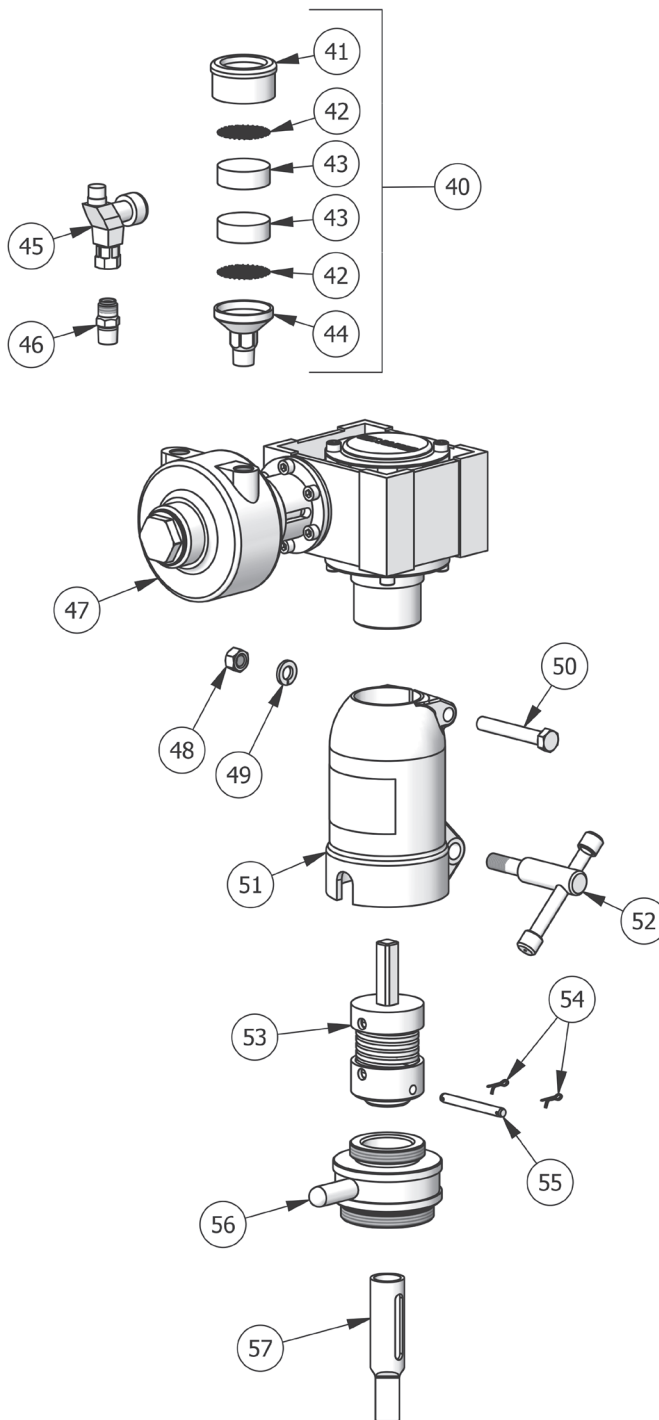
### **⚠ CAUTION**

Failure to properly lubricate the air motor will result in premature motor failure and will void the warranty.

1. Lubricate air motor. Follow the lubrication instructions on page 3.
2. Open the valve to the main air line, and slowly open the air adjusting valve (29) until the agitator turns.
3. Adjust speed of the agitator with the air adjustment valve (29). Do not run unit at excessive speeds. Typical speeds are 50 to 70 RPM.

## AGITATOR DRIVE UNITS FOR AGITATOR EQUIPPED DRUMS

### 31-451 AGITATOR DRIVE



**AGITATOR DRIVE UNITS FOR AGITATOR EQUIPPED DRUMS (CONTINUED)**

**31-451 DRIVE UNIT ASSEMBLY**

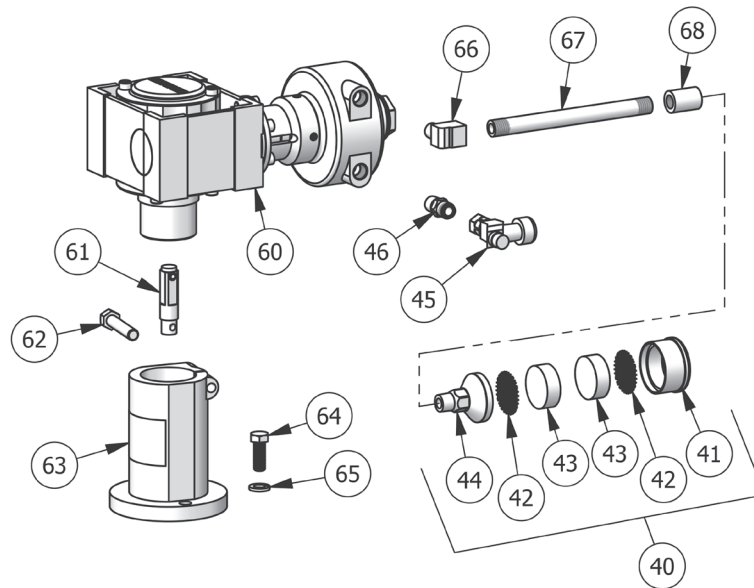
ITEM NO.	PART NO.	DESCRIPTION	QTY.
40	QSK-071	MUFFLER & AIR STRAINER ASSEMBLY (DUAL FELT)	1
41		STRAINER CAP	1
42	▲	SCREEN	2
43	▲●	FELT	2
44		STRAINER BODY	1
45	HAV-500	ADJUSTING VALVE	1
46	H-2008	ADAPTER, 1/4 NPSM X NPT PLATED BRASS	1
47	31-434	AGITATOR DRIVE	1
48	Purchase Locally	HEX NUT, 3/8-16	1
49	Purchase Locally	LOCK WASHER 3/8"	1

ITEM NO.	PART NO.	DESCRIPTION	QTY.
50	Purchase Locally	HEX HD. CAP SCREW 3/8-16 X 2-1/2" LONG	1
51	QS-238	AIR MOTOR SUPPORT	1
52	QS-456	SCREW ASSEMBLY	1
53	QS-455	DRIVE COUPLING ASSEMBLY	1
54	Purchase Locally	COTTER PIN, 1/16" X 1/2"	1
55	QS-237	DRIVER PIN	1
56	QS-457	ADAPTER	1
57	QS-240	DRIVER SHAFT, 1/2" SQUARE	1
57	QS-242	DRIVER SHAFT, 7/16" SQUARE	1

**Parts are included within the following packing kits:**

- KK-5001-1A AIR MOTOR REPAIR KIT
- ▲ KK-5006 STRAINER SCREEN AND FILTER KIT

**31-453 DRIVE UNIT ASSEMBLY FOR 31-454**



ITEM NO.	PART NO.	DESCRIPTION	QTY.
40	QSK-071	MUFFLER & AIR STRAINER ASSEMBLY (DUAL FELT)	1
41		STRAINER CAP	1
42	▲	SCREEN	2
43	▲●	FELT	2
44		STRAINER BODY	1
45	HAV-500	ADJUSTING VALVE	1
46	H-2008	ADAPTER, 1/4 NPSM X NPT PLATED BRASS	1
60	31-434	DRIVE UNIT	1
61	31-398	DRIVE SHAFT ASSEMBLY	1

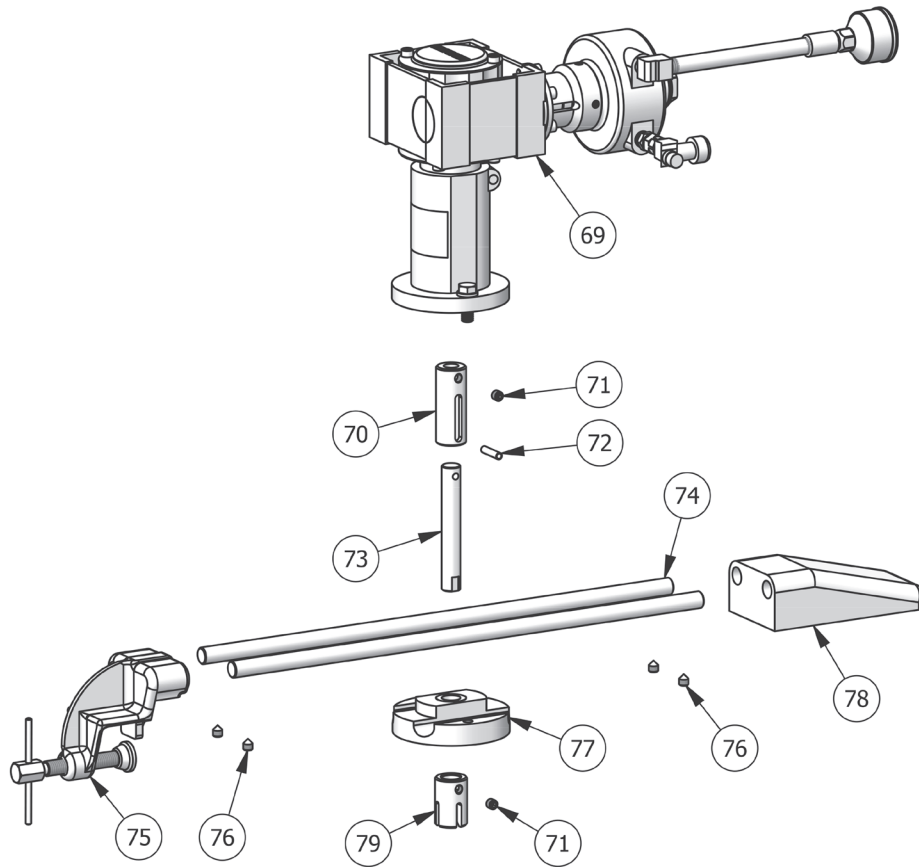
ITEM NO.	PART NO.	DESCRIPTION	QTY.
62	Purchase Locally	HEX HEAD CAP SCREW 3/8-16 X 2" LONG	1
63	31-395	COUPLING ADAPTER	1
64	Purchase Locally	HEX HEAD CAP SCREW 3/8-16 X 1" LONG	2
65	Purchase Locally	LOCK WASHER 3/8"	2
66	Purchase Locally	STREET ELBOW, 1/4" NPT M X F	1
67	Purchase Locally	PIPE, 1/4" NPT X 6" LONG	1
68	Purchase Locally	COUPLING, 1/4" NPT	1

**Parts are included within the following packing kits:**

- KK-5001-1A AIR MOTOR REPAIR KIT
- ▲ KK-5006 STRAINER SCREEN AND FILTER KIT

**AGITATOR DRIVE UNITS FOR AGITATOR EQUIPPED DRUMS**

**31-454 AGITATOR DRIVE ASSEMBLY**



**31-454 AGITATOR DRIVE ASSEMBLY**

ITEM NO.	PART NO.	DESCRIPTION	QTY.
69	31-434	DRIVE UNIT	1
70	31-28	COUPLING ASSEMBLY	1
71	Purchase Locally	SET SCREW, 5/16 X 5/16" LONG, CUP POINT	2
72	83-1211	ROLL PIN	1
73	31-25	SHAFT	1
74	31-32	AIR MOTOR SUPPORT	2
75	31-31	CLAMP ASSEMBLY	1
76	Purchase Locally	SET SCREW, 5/16 X 3/8" LONG , CUP POINT	4
77	31-35	DRIVE BASE	1
78	31-33	BRACKET	1
79	31-21	COUPLING (7/16" SQUARE)	1
79	31-22	COUPLING (5/8" SQUARE)	1
79	31-23	COUPLING (1/2" SQUARE)	1
79	31-24	COUPLING (3/8" SLOTTED)	1

**Parts are included within the following packing kits:**

- KK-5001-1A AIR MOTOR REPAIR KIT
- ▲ KK-5006 STRAINER SCREEN AND FILTER KIT



## INSTALLATION INSTRUCTIONS

### 31-451

1. Adapter (56) has two thread sizes: 1-1/2" NPS (m) on one end and 2" NPS(m) on the other end. Choose the proper thread size and place the adapter over the agitator shaft of the drum and screw down securely.
2. Select the proper driver shaft (57) and attach it to drive coupling assembly (53) with driver pin (55) and cotter pins (54). Place the assembly on the shaft of the drum agitator.
3. Slip air motor support (51) down over drive coupling assembly (53) and adapter (56).
4. Tighten air motor support (51) securely with screw assembly (52).
5. Install gear-motor (47) on the air motor support (51), being sure to engage the shaft of the drive coupling assembly (53).
6. Tighten cap screw (50) and hex nut (48).
7. Connect supply line to air adjusting valve (45).
8. The gear-motor orientation may be adjusted by loosening the cap screw (64) and rotating the gear motor (47) to the desired position and re-tightening the cap screw (64).

### 31-453 & 31-454

1. Loosen cap screw (64) and separate the gear-motor (47) from the coupling adapter (63).
2. Align the set screw detent on the drive shaft assembly (61) with the set screw (71) in the coupling assembly (70) and tighten the set screw securely
3. Re-attach the gear-motor (47) to the coupling adapter (79) and tighten the cap screw (64).
4. Align holes on the coupling adapter (79) to the mounting holes on the drive base (77). Secure tightly with screws (62) and lock washers (65).
5. Connect the desired coupling (79) to the shaft (73) with set screw (71).
6. Place entire assembly across drum and align the coupling with the end of the pre-fitted agitator shaft.
7. After unit is positioned, clamp unit to drum.
8. The gear-motor orientation may be adjusted by loosening the cap screw (64) and rotating the gear motor (47) to the desired position and re-tightening the cap screw (64).

### 31-523 & 31-524

1. Align the air motor drive (coupling slot) with the stuffing box pin (16) and place on to stuffing box assembly 83-2114.
2. Rotate air motor drive assembly to align fixing holes on the stuffing box assembly 83-2114 and secure with fixings provided.
3. Connect supply line to air adjusting valve.

## OPERATION

### 31-451

#### CAUTION

**Failure to properly lubricate the air motor will result in premature motor failure and will void the warranty.**

1. Lubricate air motor. Follow the lubrication instructions on page 3.
2. Open the valve to the main air line, and slowly open the air adjusting valve (45) until the agitator turns.
3. Adjust speed of the agitator with the air adjustment valve (45). Do not run unit at excessive speeds. Typical speeds are 50 to 70 RPM.

### 31-453 & 31-454

#### CAUTION

**Failure to properly lubricate the air motor will result in premature motor failure and will void the warranty.**

1. Lubricate air motor. Follow the lubrication instructions on page 3.
2. Open the valve to the main air line, and slowly open the air adjusting valve (45) until the agitator turns.
3. Adjust speed of the agitator with the air adjustment valve (45). Do not run unit at excessive speeds. Typical speeds are 50 to 70 RPM.

### 31-523 & 31-524

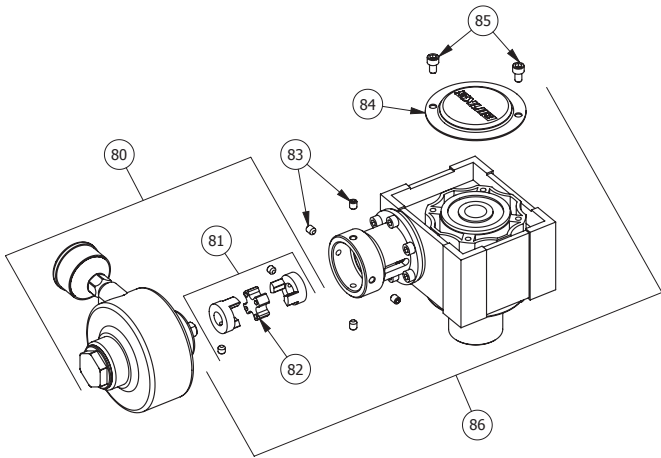
#### CAUTION

**Failure to properly lubricate the air motor will result in premature motor failure and will void the warranty.**

1. Lubricate air motor; see associated air motor manual (77-3356) for instruction and frequency.
2. Open the valve to the main air line, and slowly open the air adjusting valve (29) until the agitator turns.
3. Adjust speed of the agitator with the air adjustment valve (29). Do not run unit at excessive speeds. Typical speeds are 50 to 70 RPM. Note to prolong the life of the motor we do not recommend running in excess of 300 RPM.

**BASE DRIVE UNIT**

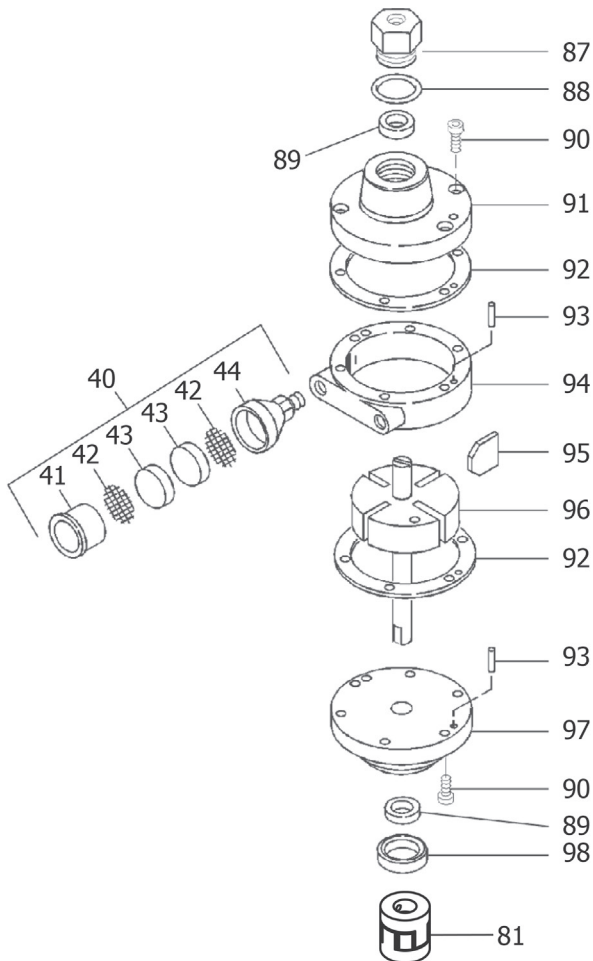
**31-434 15:1 GEAR REDUCTION DRIVE ASSEMBLY**



**31-434 PARTS LIST**

ITEM NO.	PART NO.	DESCRIPTION	QTY.
80	31-437-K	AIR MOTOR WITH COUPLING (INCL W/ 31-434)	1
81	20-6990	COUPLING ASSEMBLY	1
82	20-1068	COUPLING SPIDER	1
83	Purchase Locally	SET SCREW, 1/4-20 X 5/16"	4
84	31-422	COVER PLATE (INCL W/ 31-435-K)	1
85	Purchase Locally	CAP HEAD SCREW, M6 X 10mm	2
86	31-435-K	15:1 REDUCER WITH COUPLING (INCL W/ 31-434)	1

**31-437-K AIR MOTOR & COUPLING ASSEMBLY**



**31-437-K PARTS LIST**

ITEM NO.	PART NO.	DESCRIPTION	QTY.
40	QSK-071	MUFFLER & AIR STRAINER ASSEMBLY (DUAL FELT)	1
41		STRAINER CAP	1
42	▲	SCREEN	2
43	▲●	FELT	2
44		STRAINER BODY	1
81	20-6990	COUPLING ASSEMBLY	1
87	QS-190	END CAP	1
88	●	END CAP GASKET	1
89	PT-58	BEARING	2
90	Purchase Locally	MACHINE SCREW, 1/4-28 X 1/2"	12
91		FRONT PLATE	1
92	PT-59-1-K10 ●	END PLATE SPACER KIT	2
93	QS-189-1-K10	DOWEL PIN	4
94		BODY	1
95	●	VANE	4
96		ROTOR ASSEMBLY	1
97		END PLATE	1
98	37-90	SEAL	1

Parts are included within the following packing kits:

- KK-5001-1A AIR MOTOR REPAIR KIT
- ▲ KK-5006 STRAINER SCREEN AND FILTER KIT

## AIR MOTOR DRIVE SERVICE CHECKS

CONDITION	CAUSE	CORRECTION
<b>Air motor sluggish or inefficient.</b>	Air motor muffler (40) is clogged.	Clean or replace the felt (43). Replace muffler (40) if necessary.
	Air motor needs lubrication or cleaning.	Lubricate (see "Air Motor Lubrication" section). Disassemble and clean per parts replacement instructions.
	Motor vanes need replacing or contaminants present in motor chamber.	Disassemble, clean motor per parts replacement instructions. Replace worn vanes.
	Air motor bearing (89) worn.	Replace bearings per parts replacement instructions.

### AIR MOTOR REBUILD

**(SEE EXPLODED VIEW OF 31-437-K ON PAGE 9.)**

Do not pry front plate (91) or end plate (97) from air motor body (94) with a screwdriver. This will dent the surface of the body and plates and causing leaks. A puller tool should be used to remove the plate from the motor body while maintaining the positions of the shaft.

Always install new spacers (92) when re-assembling air motor.

Assemble the end plates to the body using an arbor press with a pusher acting on both races of the bearing while rigidly supporting the opposite (drive) end of the shaft.

### GEAR BOX OIL

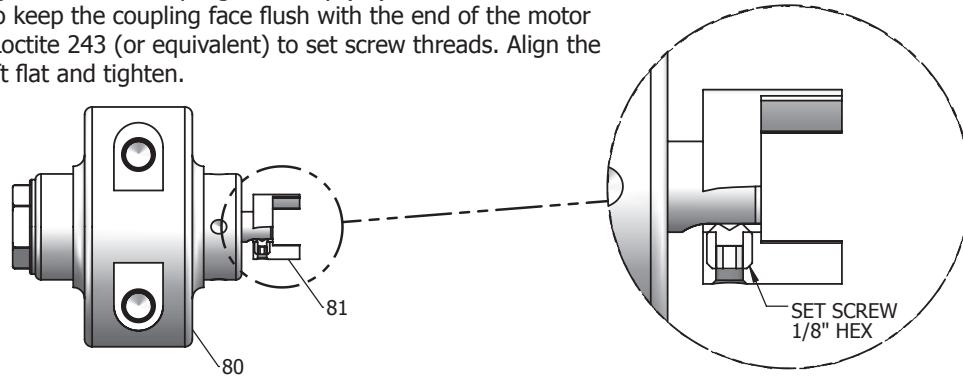
The gearbox (86), page 9, contains a special high quality gear oil, made specifically for worm drive gearboxes. The oil that was installed at the factory should be sufficient for the life of the gearbox. If oil should ever be required, drain the gearbox completely. Then add 80mL [2.7 oz] of 31-439 gear oil.

## **WARNING**

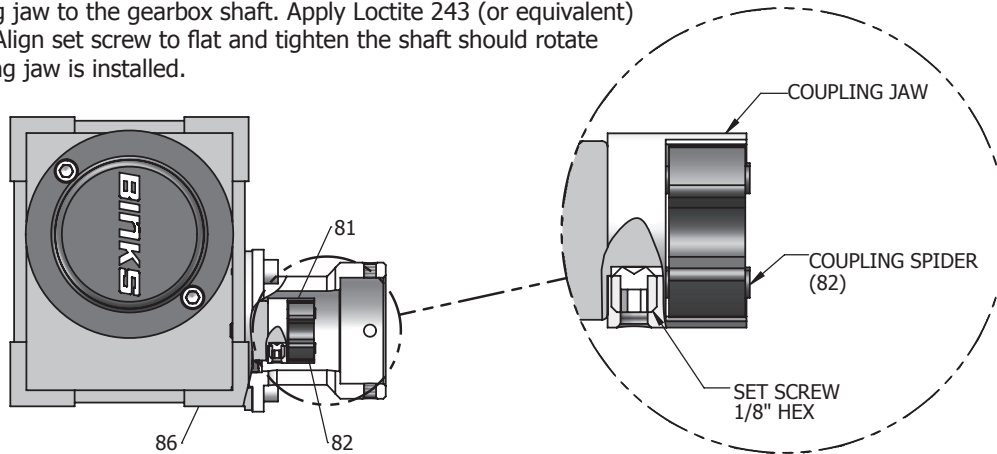
**Do not substitute another gear oil or it may result in damage to your equipment.**

## 15:1 AGITATOR DRIVE FLEX COUPLING INSTALLATION

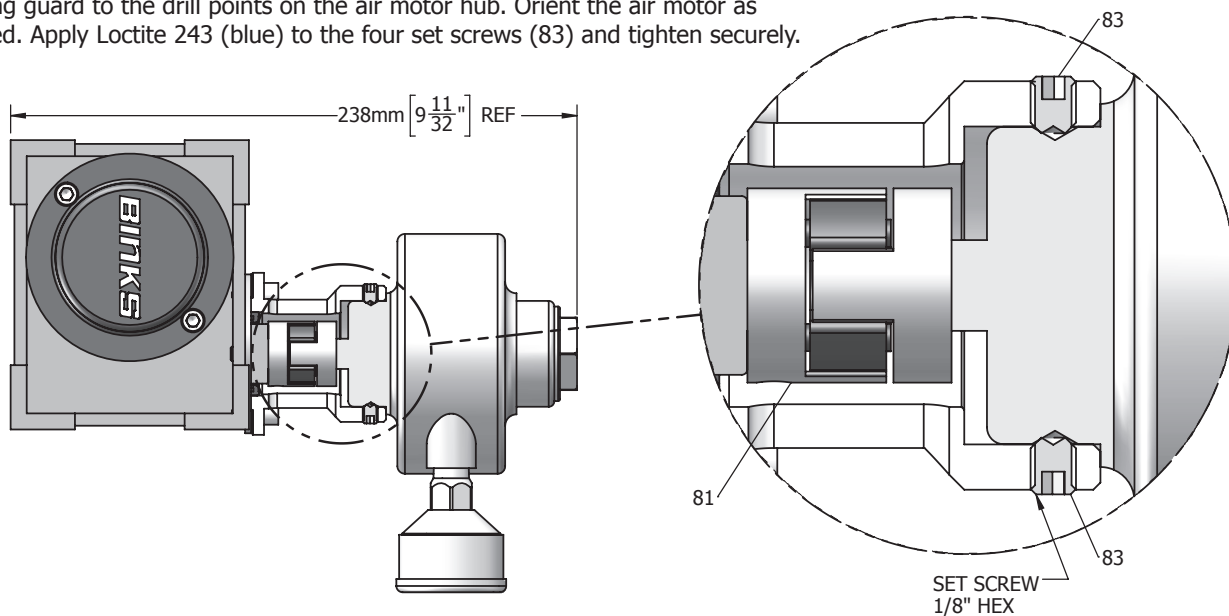
Assemble one coupling jaw from the coupling assembly (81) onto the air motor shaft (80). Make sure to keep the coupling face flush with the end of the motor shaft as shown. Apply Loctite 243 (or equivalent) to set screw threads. Align the set screw to motor shaft flat and tighten.



Assemble one coupling jaw to the gearbox shaft. Apply Loctite 243 (or equivalent) to set screw threads. Align set screw to flat and tighten the shaft should rotate freely after the coupling jaw is installed.



After assembling the coupling jaws and spider as shown above, align the coupling jaws of the air motor (80) to the spider and jaws of the gearbox coupling (86), and insert the air motor into the coupling guard. Align the set screw holes on the coupling guard to the drill points on the air motor hub. Orient the air motor as required. Apply Loctite 243 (blue) to the four set screws (83) and tighten securely.



---

**NOTES**

---

## WARRANTY POLICY

This product is covered by Carlisle Fluid Technologies' materials and workmanship limited warranty. The use of any parts or accessories, from a source other than Carlisle Fluid Technologies, will void all warranties. Failure to reasonably follow any maintenance guidance provided may invalidate any warranty.

For specific warranty information please contact Carlisle Fluid Technologies.

---

For technical assistance or to locate an authorized distributor, contact one of our international sales and customer support locations.

<b>Region</b>	<b>Industrial / Automotive</b>	<b>Automotive Refinishing</b>
Americas	Tel: 1-800-992-4657 Fax: 1-888-246-5732	Tel: 1-800-445-3988 Fax: 1-800-445-6643
Europe, Africa, Middle East, India	Tel: +44 (0)1202 571 111 Fax: +44 (0)1202 573 488	
China	Tel: +8621-3373 0108 Fax: +8621-3373 0308	
Japan	Tel: +81 45 785 6421 Fax: +81 45 785 6517	
Australia	Tel: +61 (0) 2 8525 7555 Fax: +61 (0) 2 8525 7575	

For the latest information about our products, visit [www.carlisleleft.com](http://www.carlisleleft.com)

---

Carlisle Fluid Technologies is a global leader in innovative finishing technologies. Carlisle Fluid Technologies reserves the right to modify equipment specifications without prior notice.

BGK™, Binks®, DeVilbiss®, Hosco®, MS®, and Ransburg® are all registered trademarks of Carlisle Fluid Technologies, LLC.

©2022 Carlisle Fluid Technologies, LLC.  
All rights reserved.



16430 North Scottsdale Rd., Suite 450 Scottsdale, AZ 85254 USA