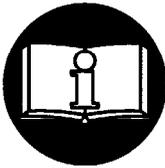


INSTALLATION AND MAINTENANCE MANUAL

for

MODEL 150LFPCF2HS11001BA AIR STARTER



▲ WARNING

**IMPORTANT SAFETY INFORMATION ENCLOSED.
READ THIS MANUAL BEFORE OPERATING TOOL.**

FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

- For safety, top performance, and maximum durability of parts, do not operate this starter at air pressures over the pressure rating stamped on the nameplate. Use supply lines of adequate size as directed in the installation instructions in this manual.
- Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this starter, or before performing any maintenance on this starter.
- Operate Model 150LFPC/F2HS11001BA Starters on compressed air only. They are not designed or sealed for operation on compressed gas.
- After assembling a starter, always test it in accordance with the procedures outlined in this manual. Never install a reassembled starter that has not been tested in accordance with the procedures in this manual.
- Do not lubricate starters with flammable or volatile liquids such as kerosene or jet fuel.
- Operate this starter only when properly installed on the engine.
- Do not remove any labels. Replace any damaged label.
- Use accessories recommended by Ingersoll-Rand.

NOTICE

The use of other than genuine Ingersoll-Rand replacement parts may result in safety hazards, decreased starter performance, and increased maintenance, and may invalidate all warranties.

Ingersoll-Rand is not responsible for customer modification of starters for applications on which Ingersoll-Rand was not consulted.

Repairs should be made only by authorized trained personnel. Consult your nearest Ingersoll-Rand Authorized Servicenter.

It is the responsibility of the employer to place the information in this manual into the hands of the operator.

Refer All Communications to the Nearest
Ingersoll-Rand Office or Distributor.

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INGERSOLL-RAND®
ENGINE STARTING SYSTEMS

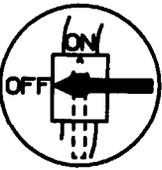
WARNING LABEL IDENTIFICATION

⚠ WARNING

FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

	⚠ WARNING
	Always wear eye protection when performing maintenance on this starter.

	⚠ WARNING
	Always wear hearing protection when testing this starter.

	⚠ WARNING
	Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this starter, or before performing any maintenance on this starter.

	⚠ WARNING
	Do not use damaged, frayed or deteriorated air hoses and fittings.

NOTICE

For maintenance instructions, refer to Form P6903.

TESTING THE STARTER

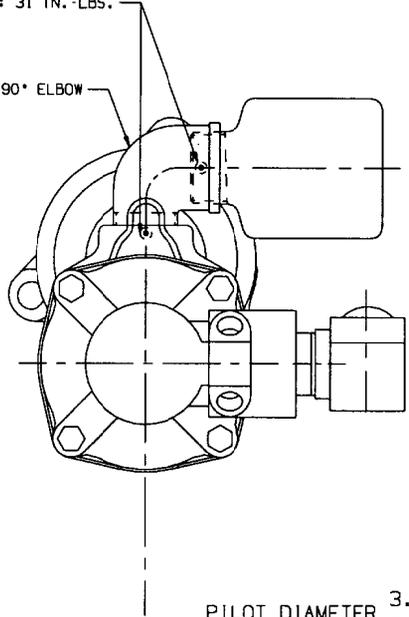
1. Turn the pinion by hand **in the direction of starter rotation**. The clutch should ratchet smoothly with a slight clicking action.
2. Turn the pinion **opposite the direction of starter rotation**. The gearing and motor should rotate freely with no binding.
3. Connect an air hose to the small pipe tapped hole nearest the Gear Case. When a little air is admitted, the drive pinion should advance to the engaged position and air should escape from the hole nearest the mounting flange.
4. Attach an air hose to the inlet and operate the motor slowly to see that it functions properly and that the drive pinion rotates in the proper direction. The bevels on the pinion teeth should be on the trailing edge of the direction of rotation. If the direction of rotation is incorrect, the motor is improperly assembled.

NOTICE

The use of other than genuine Ingersoll–Rand replacement parts may result in safety hazards, decreased starter performance and increased maintenance, and may invalidate all warranties. Ingersoll–Rand is not responsible for customer modification of starters for applications on which Ingersoll–Rand was not consulted. Repairs should be made only by authorized, trained personnel. Consult your nearest Ingersoll–Rand Authored Servicenter. It is the responsibility of the employer to place the information in this manual into the hands of the operator.

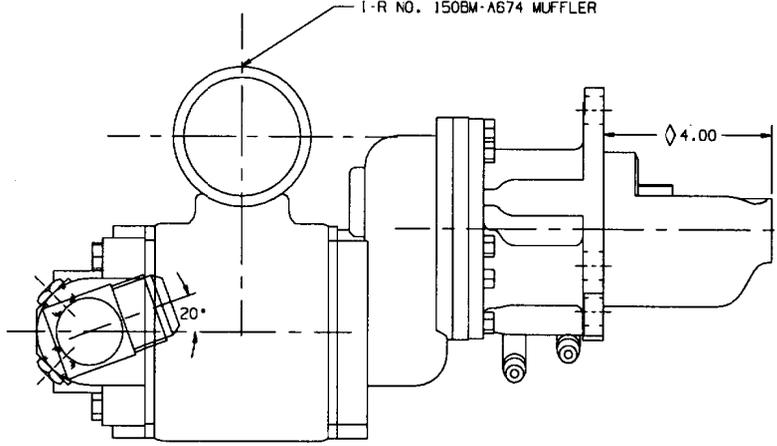
DRILL, TAP & INSTALL
141 #12-22 SET SCREWS WITH LOCTITE
OR EQUIVALENT AS SHOWN.
TORQUE TO: 31 IN.-LBS.

1 1/4" NPT 90° ELBOW



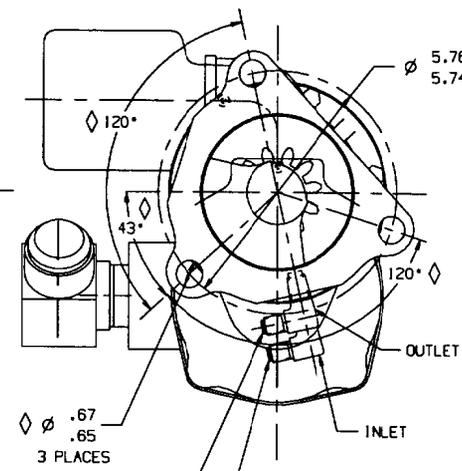
PILOT DIAMETER 3.624
3.621

I-R NO. 150BM-A674 MUFFLER



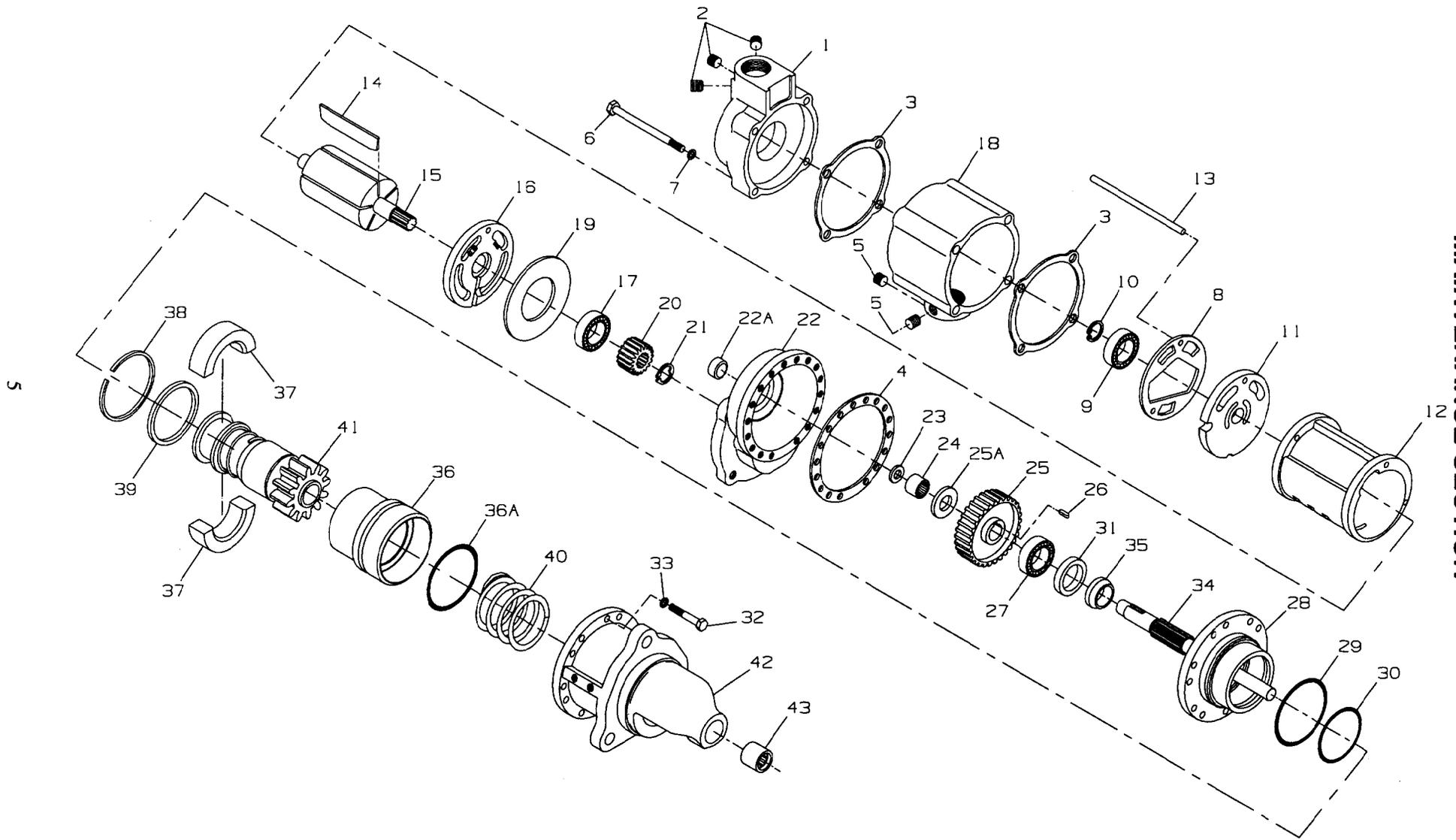
90° ELBOW - 1/4" - 18 NPT x 7/16" - 20 x 37° JIC
I-R NUMBER EL90-4M437M

90° EXTENDED ELBOW - 1/4" - 18 NPT x 7/16" - 20 x 37° JIC
I-R NUMBER EL90-4M427ML



MAINTENANCE SECTION

MODEL 150LFP STARTER WITH TYPE 81 AND 88 DRIVE HOUSINGS



MAINTENANCE SECTION

PART NUMBER FOR ORDERING

PART NUMBER FOR ORDERING

MAINTENANCE SECTION

1	Motor Housing Cover Assembly (1-1/4" inlet)	150BMP-A102A	◆ 29	Gear Case Cover Seal	150BMP-607
2	Housing Cover End Plug (3)	HSPPS-3	◆ 30	Piston Seal	150BMP-604
3	Gasket (2)	150BMP-283	◆ 31	Drive Shaft Grease Seal	150BMP-271
4	Gasket	150BMP-284	32	Drive Housing Cap Screw (9)	10BM-744
5	Set Screw (2)	R22H-474	33	Drive Housing Cap Screw Lock Washer (12)	10BM-67
*	Nameplate	150BM-301	34	Drive Shaft	150BMP-8-2
*	Nameplate Screw (3)	R4K-302	35	Drive Shaft Collar	10BM-30
6	Motor Housing Cover Cap Screw (4)	107-25	36	Piston Assembly	150BMP-703
7	Cover Cap Screw Lock Washer (4)	D02-504	◆ 36A	Piston Ring	150BMP-337
◆ 8	Motor Housing Cover Gasket	150LF-283	37	Shift Ring (consists of two halves)	101BMP-705-1
◆ 9	Rear Rotor Bearing	R3H-24	38	Shift Ring Retainer	10BMP-606
◆ 10	Rear Rotor Bearing Retainer	G57-729	39	Shift Ring Spacer	10BMP-602
11	End Plate	150LF-12A	40	Piston Return Spring	101BMP-701-1
12	Cylinder	150LF-3	41	Starter Drive	150BMP-299-4
13	Cylinder Dowel	10BM-98	42	Drive Housing	150BMP-A300-88
◆ 14	Vane Packet (set of 5 Vanes)	150LF-42-5	◆ 43	Drive Housing Bearing	ML50K-318
15	Rotor	150LF-53	*	Elbow	EL90-20M1637M
16	End Plate	150LF-11A	*	Elbow	EL90-4M437M
◆ 17	Front Rotor Bearing	10BM-24	*	Elbow	EL90-4M437ML
18	Motor Housing	VRSM-18	*	Muffler Assembly	150BM-A674
◆ 19	Gear Case Gasket	150LF-284	*	Pipe Sealant	SMB-441
20	Rotor Pinion (16 teeth)	101BMPD-17	*	Solenoid Valve (12V)	150BMP-1051B
◆ 21	Rotor Pinion Retainer	10BM-69	*	Solenoid Valve (24V)	150BMP-2451B
22	Gear Case Assembly	10BM-37	*	Starter Control Valve	SMB-618
22A	Plug	R2-227	*	Relay Valve	SRV-125
◆ 23	Bearing Ejecting Washer	10BM-25	*	Check Valve	150BMP-1056
◆ 24	Drive Shaft Rear Bearing	10BM-399	*	Check Relief Valve	150BMP-1054
25	Drive Gear (43 teeth)	10BMC-9	*	Plastic Gasket	SMB-431
◆ 25A	Drive Gear Thrust Washer	10BM-15	*	Road Splash Deflector Assembly	150BM-A735
◆ 26	Drive Gear Key	10BM-610	*	Tune-up Kit (includes illustrated Items 8, 9, 10, 14, 17, 19, 21, 23, 24, 25A, 26, 27, 29, 30, 31, 36A, 43 and SMB-431 Plastic Gasket) ...	150LF-TK1
◆ 27	Drive Shaft Front Bearing	T02-33			
28	Gear Case Cover Assembly	150BMP-378			

* Not illustrated.

◆ Indicates Tune-up Kit part.

NOTES

