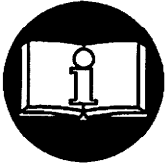


## SERIES 150BMP AIR STARTERS MODELS D88R54 AND D88L54



### ⚠ 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 Series 150LFPC and 150LFPE Starters 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 Series 150LFPC and 150LFPE 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.

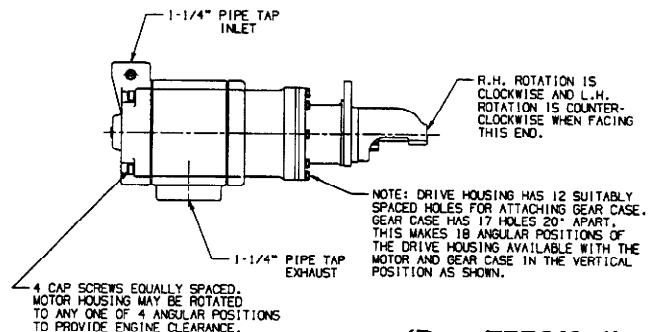
### LUBRICATION

For temperatures above 32° (0° C), use a good quality SAE 10 non-detergent motor oil.

For temperatures below 32 (0° C), use diesel fuel. We recommend the use of an Ingersoll-Rand No. HDL2 lubricator which is designed for air or gas driven starters. Use of this lubricator will help to eliminate costly downtime caused by lubrication neglect.

### STARTER REORIENTATION

Starters can be assembled in different angular positions to provide a variety of locations for the inlet, exhaust and mounting flange holes. Reorient only if necessary to mount the starter to the engine or connect air lines to the starter.



(Dwg. TPD649-1)

### 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 Servicer.

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.

© Ingersoll-Rand Company 1997


Printed in U.S.A.


**INGERSOLL-RAND®**  
**ENGINE STARTING SYSTEMS**

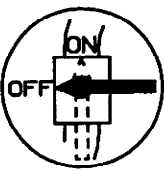
# WARNING LABEL IDENTIFICATION


## ⚠ WARNING

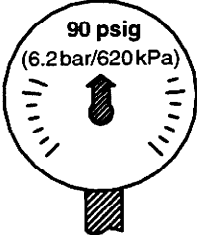
FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

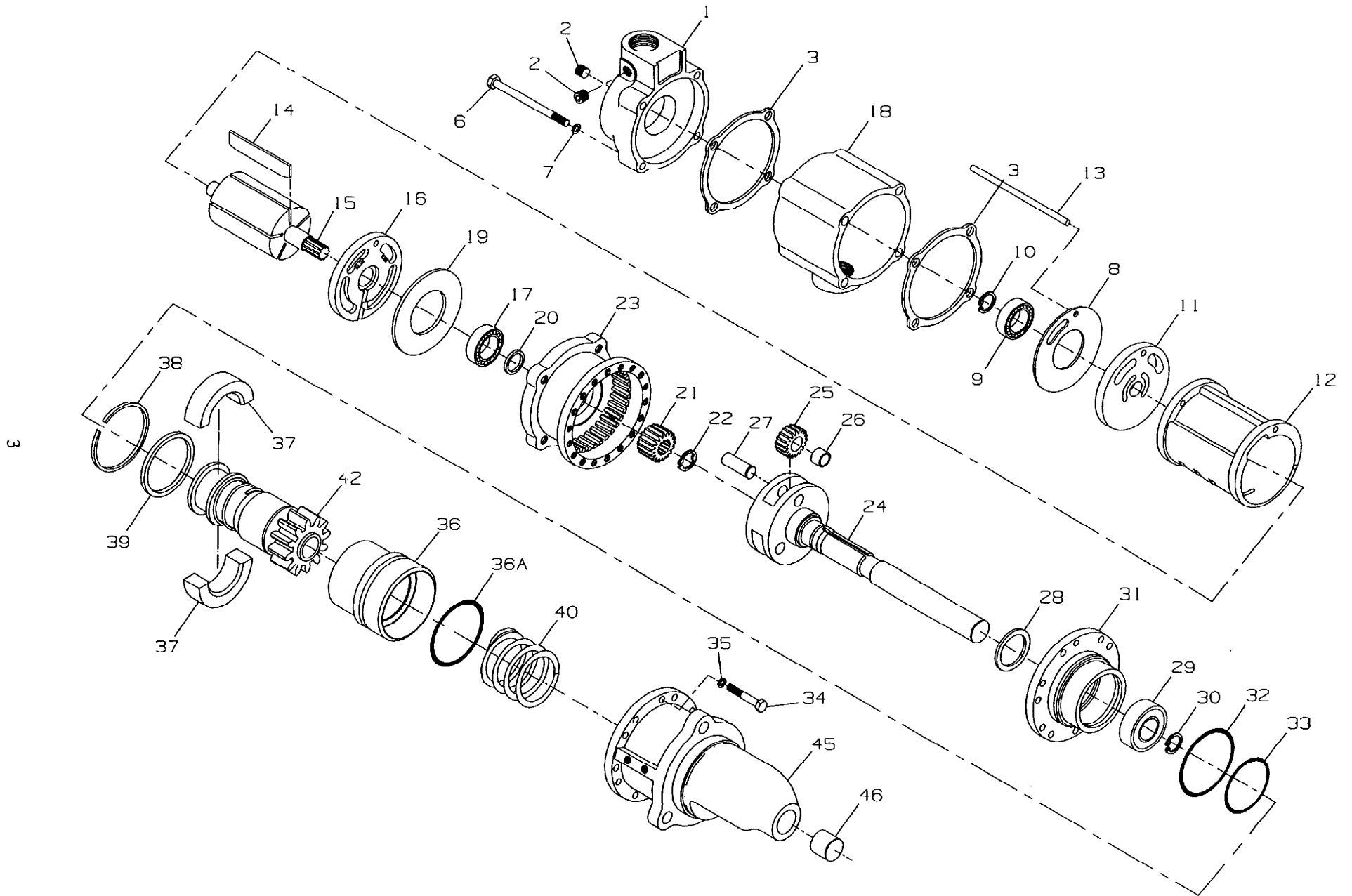
	<b>⚠ WARNING</b>
	Always wear eye protection when performing maintenance on this starter.

	<b>⚠ WARNING</b>
	Always wear hearing protection when testing this starter.

	<b>⚠ WARNING</b>
	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.

	<b>⚠ WARNING</b>
	Do not use damaged, frayed or deteriorated air hoses and fittings.

	<b>⚠ WARNING</b>
	Operate at 90 psig (6.2 bar/620 kPa) Maximum air pressure.



(Dwg. TPA484-3)

**PART NUMBER FOR ORDERING** 

**PART NUMBER FOR ORDERING** 

+ 1	Motor Housing Cover Assembly (1-1/4")	150BMP-A102A	◆ 29	Planet Gear Frame Bearing	101BMPD-510
2	Lubricator Port Plug (3)	HSPPS-3	◆ 30	Planet Gear Frame Retaining Ring	C6H20A-6
*	Nameplate	150BM-301	31	Gear Case Cover Assembly	101BMP-A378-2
*	Nameplate Screw (3)	R4K-302	◆ 32	Gear Case Cover Seal	150BMP-607
6	Motor Housing Cover Cap Screw (4)	107-25	◆ 33	Piston Seal	150BMP-604
7	Cover Cap Screw Lock Washer (4)	D02-504	34	Drive Housing Cap Screw (9)	10BM-744
◆ 8	Motor Housing Cover Gasket	150LF-283	35	Drive Housing Cap Screw Lock Washer (12)	10BM-67
◆ 9	Rear Rotor Bearing	R3H-24	36	Piston Assembly	04331393
◆ 10	Rear Rotor Bearing Retainer	C57-729	36A	O-Ring	150BMP-337
11	Rear End Plate	10BM-12	37	Shift Ring (two halves)	101BMP-705-1
12	Cylinder	150BM-3	38	Shift Ring Retainer	10BMP-606
13	Cylinder Dowel	10BM-98	39	Shift Ring Spacer	10BMP-602
◆ 14	Vane Packet (set of 5 Vanes)	10BM-42-5	40	Piston Return Spring	101BMP-700-1
15	Rotor	10BMP-53	42	Bendix Starter Drive	
16	Front End Plate	10BM-11		for Model D88R54 (Bendix No. 480320)	101BMP-299-1
◆ 17	Front Rotor Bearing	S12-218		for Model D88L54 (Bendix No. 480412)	101BMP-299-2
18	Motor Housing	10BM-40	45	Drive Housing Assembly	150BMP-300-88
◆ 19	Gear Case Gasket	150LF-284	◆ 46	Drive Housing Bearing	ML50K-318
20	Rotor Pinion Spacer	101BMPD-753	*	Air Strainer Assembly	K4U-A267AT
21	Rotor Pinion	101BMPD-17	*	Air Strainer Cap	K4U-286AT
◆ 22	Rotor Pinion Retainer	10BM-69	*	Air Strainer Plug	22SR-165
23	Gear Case	101BMPD-37	*	Air Strainer Screen	K4U-61AT
24	Planet Gear Frame	101BMPD-367-1	*	Air Strainer Nipple (1-1/4" x 2-1/2")	SS350-HN20
25	Planet Gear Assembly (3)	101BMPD-A10	*	Road Splash Deflector Assembly	150BM-A735
26	Planet Gear Bearing (3)	D01-243	*	Muffler Assembly	150BM-A674
27	Planet Gear Shaft (3)	101BMPD-191	*	Tune-up Kit (includes illustrated parts 8, 9, 10, 14,	
28	Planet Gear Frame Thrust Ring	R3H-511		17, 19, 22, 29, 30, 32, 33 and 46)	150BMPD-TK1

\* Not illustrated.

◆ Indicates Tune-up Kit part.

+ If the Motor Housing Cover being replaced has a 1" inlet, order No. 11BMP-800-3 Adapter (1-1/4" x 1").

**Ingersoll-Rand - Engine Starting Systems**  
**Box 8000, Southern Pines, NC 28387 (910) 692-8700**