WHEEL BEARING PRESS 600-040

Johnstone Dispensing Systems 1872 Enterprise Drive PH (248) 293-5700
Rochester Hills MI 48309 FX (248) 293-5800 September, 2000

INSTALLATION AND SET-UP INSTRUCTIONS

Dimensions:

Width 35 inches Depth 40 inches Height 82 inches

Load Height 37 inches Weight 1,800 Lbs.

INSTALLATION:

1. Lag the Wheel bearing press to the floor. When moving the press be careful it is top heavy.

2. Connect main electric power to the main door disconnect in the electrical panel. See Electrical drawings for voltage requirements.

3. Connect the Air Supply to:
   a. The Wheel bearing press at the ¾ inch Safety lockout valve. Minimum line required is ¾ inch. Set the Air Pressure to 80 PSI.
   b. The supply pumps. Minimum line required is ¾ inch. Set the pump Material pressure to deliver approximately 1400 PSI, DO NOT EXCEED 2000 PSI

4. Connect the pump outlet hose to the Wheel bearing Press ½ NPTF.

5. Turn on the main disconnect.

6. Depress the Master Start Button located on the indicator panel

7. Turn the automatic / manual selector switch to the manual position.

8. Turn the Manual Tooling Selector to the UP position.

9. Turn the Manual Ram to the UP position.

10. Depress the Manual Grease Check Pushbutton and wait for the grease cycle to complete.
    a. The bearing greasers will shift and dispense material on the grease catch shelf.
    b. After material is dispensed the Grease cycle complete indicator will light and the bearing greaser will shift to the refill position.

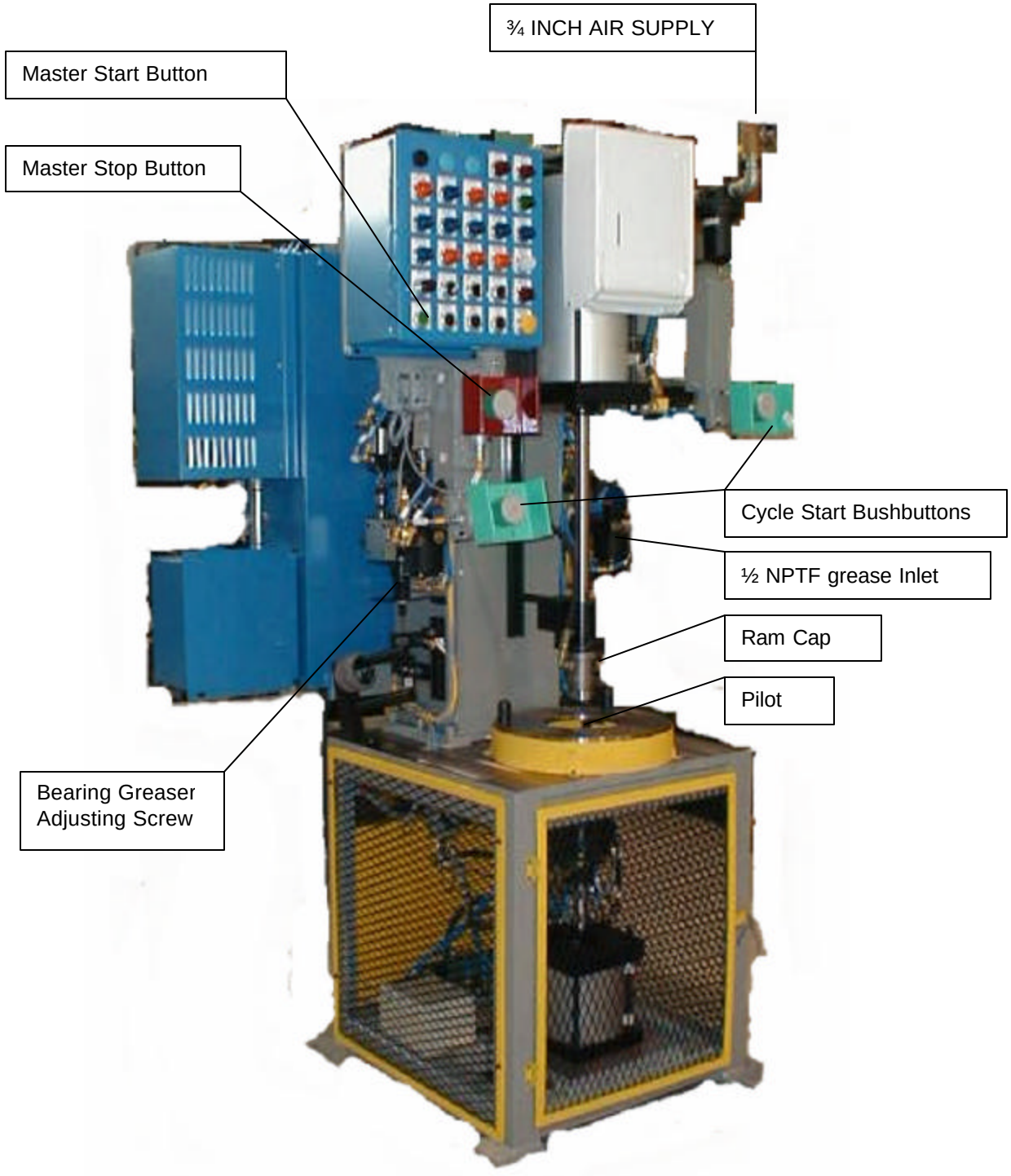
11. Depress the Manual Jet Blowout Pushbutton.

12. Turn the Automatic Manual Selector Switch to the Automatic Position.

13. The press is ready to run.

NOTE: THE GREASE QUANTITY FOR EACH BEARING MUST BE SET

INSTALLATION INSTRUCTIONS



CHECKING GREASE QUANTITIES:

1. Place a 3: X 5” card on the grease catch shelf. This card will be used to catch the dispensed grease so that it can be measured.

2. Turn the Automatic / Manual Selector switch to the Manual position.

3. Depress the “Manual Grease Check “ Pushbutton.
   a. Both bearing greaser will dispense a shot of grease on the grease catch shelf.
   b. This is the same amount that is being dispensed into the bearings.

4. The Grease can be weighed to meet quality specifications.
   a. The Left side greaser is for the inner bearing
   b. The right side greaser is for the outer bearing.

5. Adjust the Grease Qualities if required.

6. Turn the Automatic / Manual selector switch to the Automatic Position.

7. The press is ready to runs.

ADJUSTING GREASE QUANTITIES:

1. The grease quantities are adjusted on the bearing greasers #103-005 (see Drawing)
   The adjustment is made by turning the adjustment screw #500-549. Turning the screw clockwise will decrease the amount of grease and turning the screw counter-clockwise will increase the amount of grease dispensed.

2. Depressurize the grease and air pressure from the valve.

3. Loosen the Lock Nut #350-098

4. Turn the adjusting screw #500-549 clockwise for less material and counter clockwise for more material.

5. Tighten the lock nut #350-098.

6. Turn on the Air and Grease pressure to the valve.

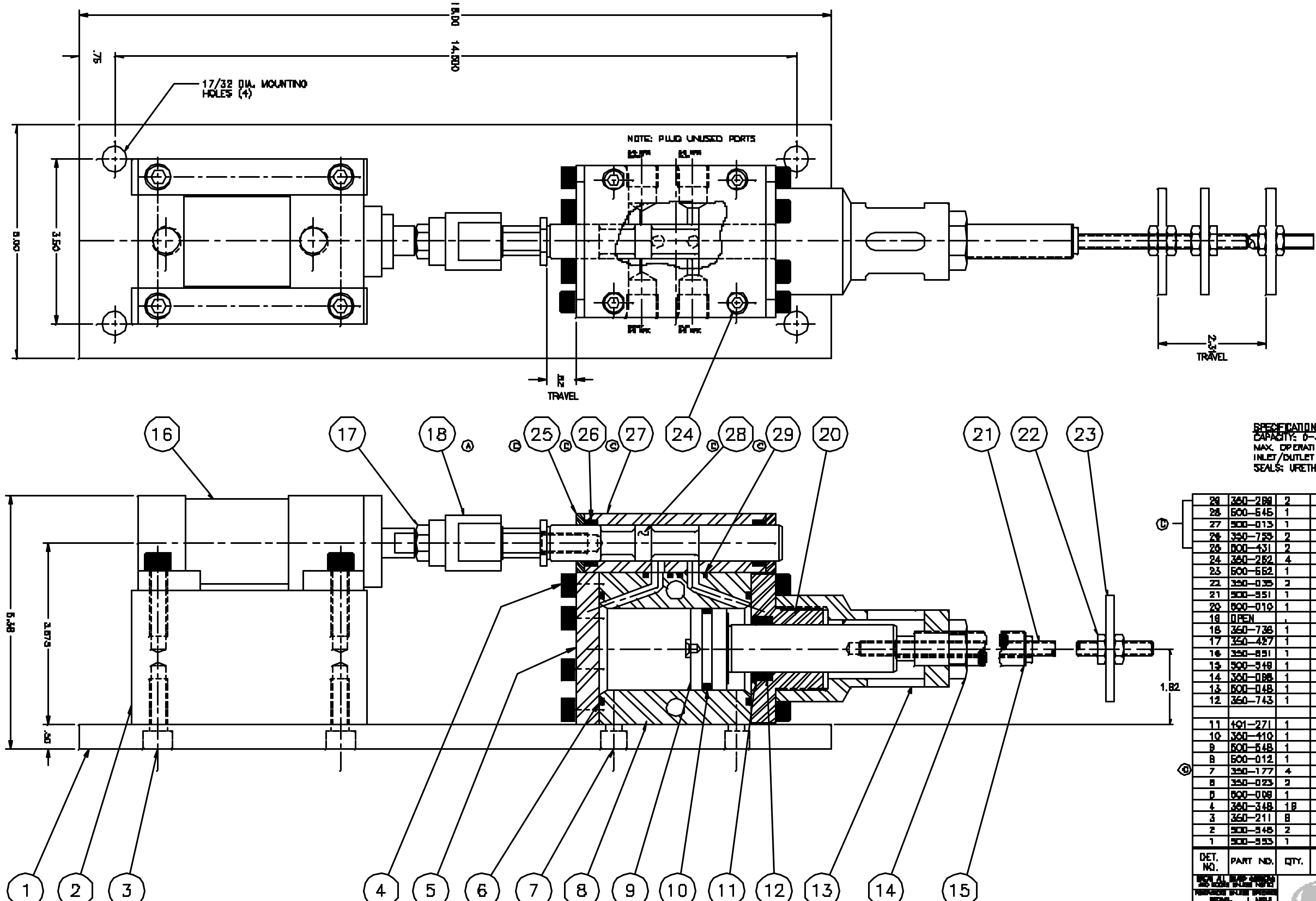
7. The Lower Proximity switch (dispensed) may require adjustment.
   a. Turn the Automatic / Manual Selector switch to the Manual Position.
   b. Hold the Manual Grease check push button.
   c. Adjust the proximity switches until the engaged light is on.
   d. Tighten the proximity switch.

8. Perform a Manaual grease check.

9. Turn the Automatic / Manual Selector switch to the Automatic Position.

10. The Press is ready to run.

REV.	DESCRIPTION	BY	DATE
A	WAS 360-067	MRE	3-17-87
B	DRAWN ON CAD	JFD	1-10-88
C	WAS 350-177	GPF	6-18-97
D	REVISED CAD DWG		
	ADDED/REMOVED PARTS	KDS	12-7-00



SPECIFICATIONS:
CAPACITY: 0-5.56 IN ~3.078 FL. OZ.~90 C.C.
MAX. OPERATING PRESSURE: 3000 P.S.I.
INLET/OUTLET PRESSURE RATIO 1.48-1
SEALS: URETHANE (STD)

DET. NO.	PART NO.	QTY.	DESCRIPTION
29	360-289	2	O RING BUNA 7/16 x 5/8 x 3/32 REF111
28	500-545	1	SPOOL
27	500-013	1	HEAD
26	350-755	2	POLYSEAL LUB 3/4 ID x 1 x 1/8 1/4
25	500-431	2	RETAINER PLATE
24	360-262	4	S.H.C.S. 5/16-18 x 1-1/4"
23	500-552	1	STRIKER PLATE
22	350-035	2	HEX NUT SEMI FINISHED 5/16-18
21	500-551	1	TRIP ROD
20	500-010	1	PACKING GLAND PLATE
19	OPEN	.	.
18	360-736	1	SELF ALIGNING ROD CONNECTOR 7/16-20
17	350-427	1	HEX - JAM NUT 7/16-20
16	350-851	1	AIR CYL. 1 1/2" BORE x 1" STROKE 1/4" NPT
15	500-549	1	ADJUSTING SCREW
14	360-098	1	HEX JAM NUT 3/4-16
13	500-048	1	ADJUSTING SCREW HEAD
12	360-743	1	ROD SEAL LUBRITHANE
			5/16 DEPTH 1 ID x 1 3/8 OD x 3/16 CS
11	401-271	1	SEAL RETAINER
10	360-410	1	O-RING VITON 1-1/2 ID x 1-3/4 OD x 1/8 CS
9	500-548	1	PISTON
8	500-012	1	BODY
7	350-177	4	S.H.C.S. 5/16-18 x 5/8"
6	350-023	2	O-RING BUNA 2-1/8 ID x 2-3/8 OD x 1/8 CS
5	500-009	1	END PLATE
4	360-348	16	S.H.C.S. 5/16-18 x 1"
3	360-211	8	S.H.C.S. 3/8-16 x 1"
2	500-546	2	RISER BLOCK
1	500-553	1	MOUNTING PLATE

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Johnstone DISPENSING SYSTEMS

DRAWN: VOLD | SIZE: D | SCALE: 1:1 | DATE: 1/88

TITLE: AIR OPERATED BEARING GREASER WBP-BG-13AL

DWG. No. 103-005 | SHT 1 OF 1 | REV. D | PART No. 103-005

103-005 BEARING GREASER

SPECIFICATIONS: **SIZE:**

Capacity	0- 5.5 cubic inches	Length 26 inches
	0- 3.078 Fluid OZ	Width 5 inches
	0- 90 cc	Depth 5.38 inches

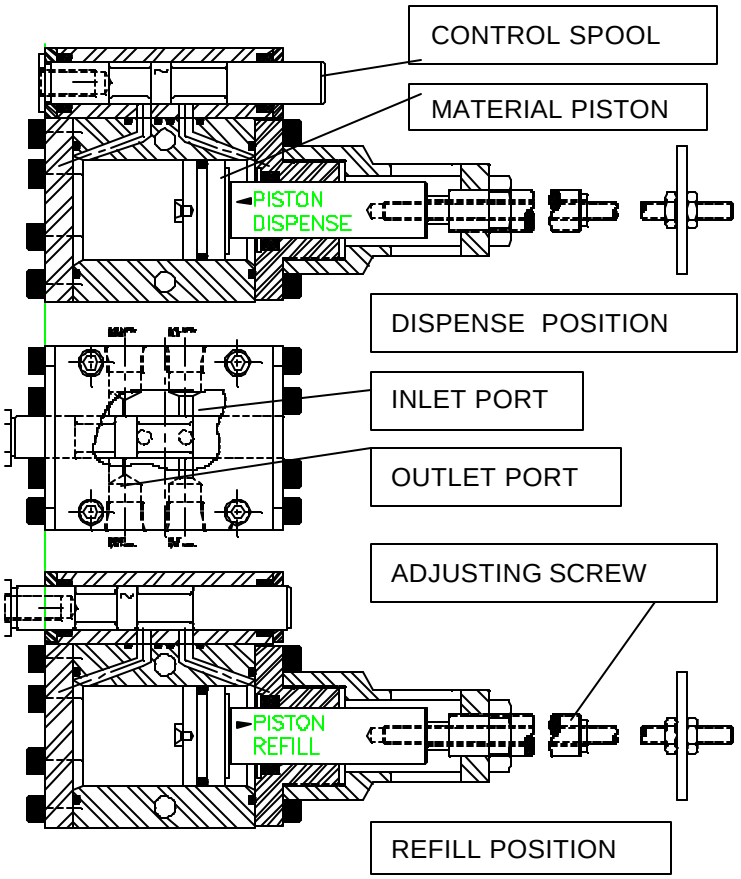
Pressures:

Air Cylinder set to 80 PSI working
Inlet Pressure 100 to 3000 PSI
Inlet Outlet Pressure 1.48 : 1

DO NOT EXCEED 3000 PSI.

OPERATION:

1. The Control Spool shifted to the left position To dispense material.
2. The inlet material pressures pushes on The rod end of the Material Piston.
3. The outlet port is open to (tooling) and the Material piston will travel in the left direction Until it hits a hard stop (cylinder cover).
4. All of the material that was in the blind side Of the cylinder will be displaced to the Outlet port (tooling).
5. The Control Spool is shifted to the Right Position to refill the valve.
6. The outlet port is blocked by the center Land of the Control spool (No Material Flow).
7. The inlet port is connected to both sides Of the material piston. Since there is more Surface area on the blind side of the piston Material pressure will force the material to The hard stop of the adjusting screw.



REPAIR KITS:

103-005RK Includes the control valve, seals and O-rings to rebuild the valve.
300-689 Control Valve assembly

Maintenance:

Check Valve for Leakage Monthly. If leaking replace seals.
Check Grease Quantities daily.

103-005 BEARING GREASER DISSASSEMBLY:

1. REMOVE ALL AIR AND MATERIAL PRESSURE FROM THE VALVE.

2. Remove the Air and Grease fitting from the valve.

3. Disconnect the Self Aligning connector 350-736 by unscrewing it from the control spool

4. Remove the 4 SHCS 5/16 x 1 ¼ inch that holds the control valve to the Material piston body.

5. Remove the 4 SHCS 5/16 x 1 inch that hold the seal retainers to the control valve.

6. The Seal retainer , Spool and Polyseals can be removed from the control valve.
   NOTE: Mark the direction that the spool is removed from the body. It can be put in backwards.

7. Remove the Striker plate 500-552 from the trip rod (including the Jam nuts.

8. Remove the (16) SHCS that hold the Packing Gland and end plate to the body.

9. Remove the Packing Gland and Material Piston assembly from The Body. The parts can be separated.

10. Remove the end plate from the body.

11. Clean and inspect all of the parts for damage. Discard all of the soft seals.

ASSEMBLY INSTRUCTIONS:

1. Install a new polyseal in the Packing Gland. The heal Goes into the bore first and install the Snap ring to secure the polyseal. Lubricate the polyseal.

2. Install a new O-ring on the material piston and Lubricate. Insert the Rod end of the material piston through the packing gland.

3. Install New O-rings (2) 350-023 on the Body and insert the Material Piston into the body. Tighten the 8 SHCS that hold the packing gland to the body.

4. Install the end plate and tighten the (8) SHCS that hold it into place.

5. Install the (2) 350-269 O-rings that seal the control Valve to the Body.

6. Install the Polyseals (2) 350-755 into the control valve body. Lips Into The counter bore first and lubricate.

7. Install the Retainer plates onto the control valve body using the (4) SHCS.

8. Install the Spool through the body so that the flange is towards the outlet ports. (see drawing).

9. Install the control valve onto the body so that the spool flange is opposite the rod end of the material piston and tighten with the (4) SHCS.

10. Reconnect the 350-736 self-alignment connector. Adjust the travel of the spool to .625 inch.

11. The valve is ready for operation.

600-046 Wheel Bearing Press Preventive Maintenance.

DAILY:

1. Check the grease quantity for the inner and outer bearing. If adjustment is needed see, the manual grease check instructions.

2. The operator should wipe the ram cap and pilot of excessive grease periodically with paper towels supplied.

3. Test for burnt out signal lights.

WEEKLY:

1. Check for worn or damaged sensing pin.

2. Check for worn or damaged spring plunges located on the pilot and ram cap.

3. Check the main air supply system.
   a. Set to 80 PSI
   b. The main air line water filter is drained.
   c. Maintain the proper oil level in the lubricator. Use 10W oil.

4. Check the Bearing Greasers for leakage or stick valve movement.

5. Check for broken or damaged tooling.

6. Clean excess grease from press.

600-046 SEQUENCE OF OPERATION

The press must have air and grease pressure. The Electrical system must have power and the main disconnect must be turned on.

1. Depress the Master Start Switch on the Indicator panel.

2. Move the Manual / Automatic selector switch to the Automatic Position.

3. The Load inner seal and bearing and Bearing Greasers Ready lights are on.

4. The operator correctly positions the Seal on the Pilot.
   a. This starts the jet sensing circuit.
   b. The Seal Present light is on.

5. The operator correctly loads the Inner bearing onto the Pilot.
   a. The load seal & inner Bearing light goes off.
   b. The Pilot tooling will retract after .75 second timer.
   c. The load Hub light will go on.
   d. The Inner Bearing Present light goes on.

6. The operator correctly loads the hub in place.
   a. The Load hub light goes off.
   b. The pilot tooling extends after a .75 second timer.
   c. The Hub Part Present Light goes on.
   d. The load outer bearing Light goes on.

7. The Operator correctly loads the Outer Bearing.
   a. The Outer Bearing / Race Present light goes on.
   b. The Ready light goes on. The system is ready for the dispense cycle.

8. The Operator depresses both Master Cycle Buttons at the same time and holds them.
   a. If the Master Start buttons are released the cycle stops.
   b. The Ram Goes Down and the Exciter ring is sensed.
   c. If the exciter ring is not present the cycle stops and the ram retract button will return the ram.
   d. If the exciter ring is present the Race present light goes on and the cycle continues.

9. The Ram presses in the Seal and the Ram is Down Proximity switch is made.
   a. A ram settle in timer of .75 seconds times out. This ensures that the seal is completely pressed in.
   b. The Ram is Down Auto Cycle light go on and the operator can remove their hands from the Master Cycle pushbuttons.

10. A solenoid valve “Bearing Greasers” is energized.
    a. Both the inner and outer bearing greaser air cylinder are shifted at the same time.
    b. The Bearing greasers start dispensing material and the striker plate deactivates the bearing greaser filled proximity switches.
    c. The grease is being dispensed into the bearing and 2 pressure switches are made. Inner bearing and outer bearing pressure switches. These pressure switches ensure hoses or tubing is connected to the ram and pilot tooling.
    d. The grease pressure light will go on.

11. The Bearing Greasers will fully dispense and the striker plate the trip the dispensed proximity switches.
    a. If the dispensed proximity switches are NOT made after 7 seconds the Greasers did not dispense and Part not Greased light will go on. The press will stay in the down position and can only be retracted b y depressing the Ram retract button.

    NOTE: WHEN THE PRESS FAULTS THE RAM IS IN THE DOWN POSITION.

    b. When both dispensed proximity switches are made a 1 second grease pressure settle timer is started.
    c. The Grease Cycle Complete light will go on.

12. The Part OK stamp circuit will start.
    a. The solenoid valve will be energized for 1 second. This will allow the OK stamp air piston assembly to stamp the hub.

13. The Ram and Pilot air cylinders will retract.
    a. The remove hub light will go on.

14. The operator can remove the hub.

600-046 WHEEL BEARING PRESS TROUBLE SHOOTING

1.	PRESS COMPLETELY INOPERATIVE:	Verify that the Main disconnect is on and the Master Start pushbutton has been depressed. Verify that the press has Air and Grease Pressure. Check for any blown fuses Check the PLC for any fault lights and verify that it is in the RUN position.
	The Press could be out of Sequence	Remove and parts that are on the tooling. Depress the Ram Retract Pushbutton. Put the panel in the Manual Position and test the lights, perform a manual jet blow out and perform a manual grease check.
2.	RAM CYLINDER MALFUNCTION:	The operator must keep both Start palm button depress until “Ram is Down Auto Cycle” light comes on. Failure to do this will cause the press to stop. It is now necessary to depress the Ram Retract button to retract the ram. All of the parts must be taken off the tooling and restart the cycle over again. The Bearing Greaser Proximity Switch are not being made. Check the operation of the bearing greaser and proximity switches. The Ram Cylinder solenoid is sticky or a blown fuse.
3.	PARTS NOT GREASED LIGHT ON.	Check the Main Grease Supply Verify that the Solenoid valve is working correctly. Verify that the bearing greasers are working correctly. Check the operation of the proximity switches. Verify the operation of the grease pressure switches.
4.	NOT SENSING THE SEAL	Check tooling for obstruction. Check Air supply pressure Verify that there are no Kinked air hoses under pilot tooling. Check PS2 for proper operation

WHEEL BEARING PRESS TROUBLE SHOOTING 600-046

5.	NOT SENSING THE INNER OR OUTER BEARING	Check Tooling for obstruction Perform a Manual Jet Blowout. Verify that there are no kinked air hoses under pilot tooling. Check Pressure switches I:1/15 & I:3/01 for proper operation. Check the system for proper air pressure.
6.	BEARING GREASER NOT SHIFTING	Verify that the air cylinder have 80 PSI. Verify that there is grease pressure and that it is Not over 2000 PSI. Check for contamination in the grease supply. The SHCS that secure the control valve could Be over-torqued. Retighten and check for binding.
7.	EXCITER SENSING NOT WORKING	Check Tooling for obstruction Verify that there are no kinked air hoses under Pilot tooling. Verify that the EXCITER pin is not bent.