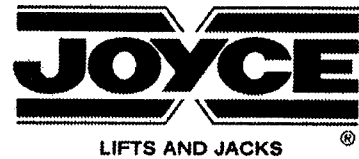


# INSTALLATION—OPERATION AND MAINTENANCE INSTRUCTIONS WITH PARTS LIST FOR JOYCE BEVEL GEAR® JACKS

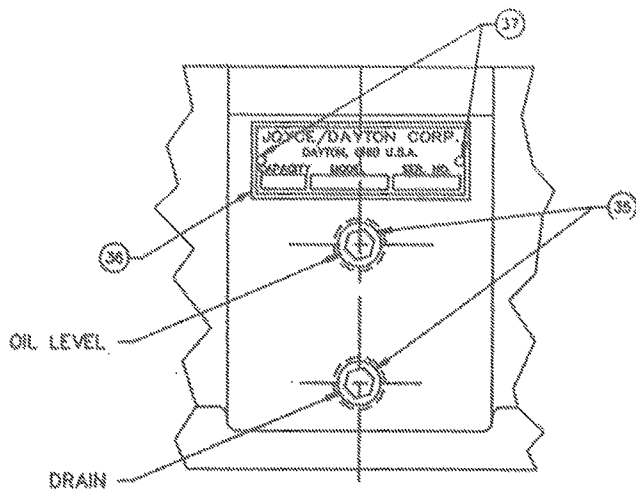


## INSTALLATION

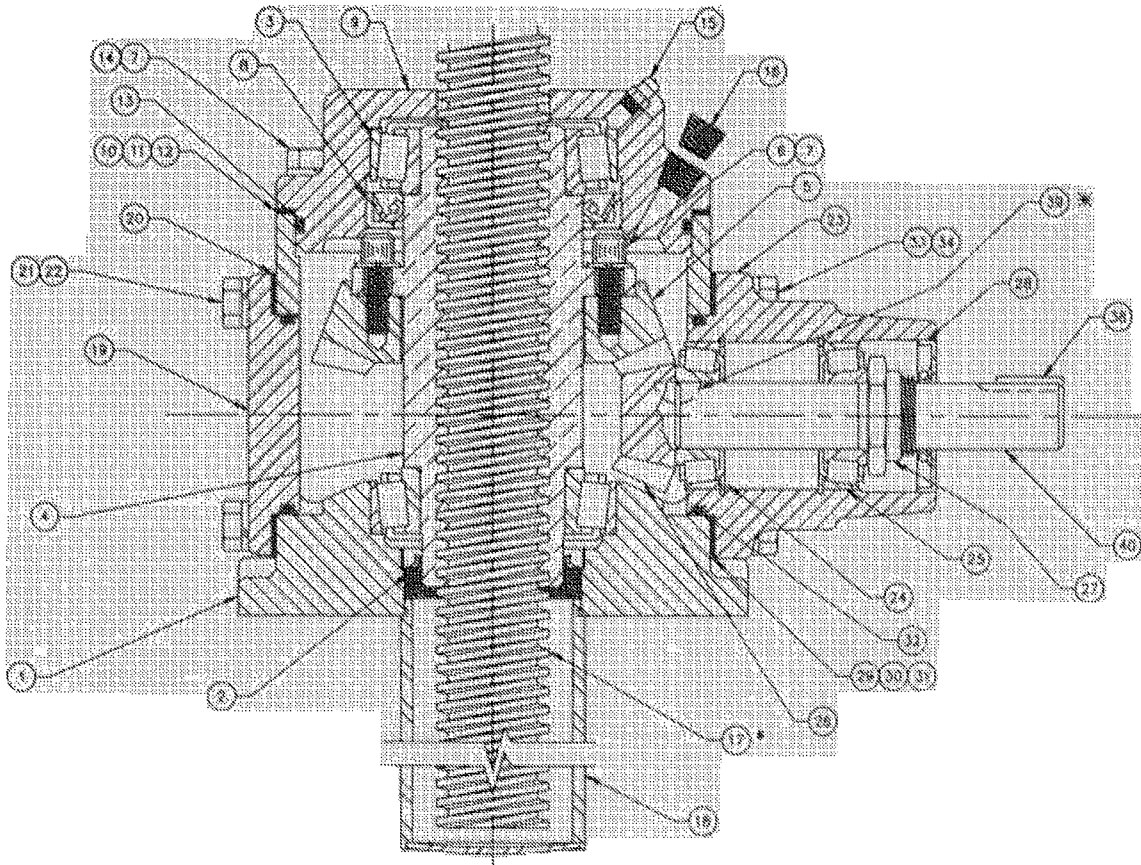
- 1 Jack should be mounted in a vertical position if oil lubricated. For horizontal mounting contact Joyce/Dayton Corp.
- 2 Load should be centered on the lifting screw. Excessive side loads will result in increased wear and possible failure.
- 3 Lifting screws should be plumb; connecting shafts should be aligned precisely.
- 4 Auxilliary equipment and parts assembled on projecting shafts should be installed as close to the housing as possible.
- 5 Parts should not be fitted so tightly that the force required to assemble could damage the jack.
- 6 Rotate the main shaft manually after jacks, miter boxes, couplings and shafts are assembled and before connecting power source or applying load. The system should operate freely without binding.
- 7 **JOYCE BEVEL GEAR® JACKS ARE NOT FACTORY LUBRICATED.** See lubrication instructions before operating.

## OPERATION

- 1 Pinion shaft speed should not exceed 1750 RPM.
- 2 If necessary to operate jacks at extreme limits of travel, it should be done cautiously. Screw is not retained in housing, a positive stop or limit switch may be furnished. Contact factory if required.
- 3 For jacks not equipped with protective boot, care should be taken to prevent dust and dirt from accumulating on the lift screw threads; whenever possible return jacks to retracted position.
- 4 Your Joyce jack is a precise piece of equipment; treat it as such. Avoid overloading and excessive pinion shaft speeds. If property installed and maintained, your Joyce jack should give years of satisfactory service. If repair parts are required, refer to the parts list included in this manual.



*BACK SIDE OF JACK*



**For parts not listed and for nonstandard jacks, contact the Joyce/Dayton Corp.**

To order parts give the capacity, model and serial number found on the name plate attached to the jack. Also specify whether upright or inverted, and the end condition of screw.

Below is the name plate as it appears on your jack. Record the information in the proper spaces exactly as it appears on the jack for your reference.



		Model Number								
		BG150			BG250			BG375		
Screw Diameter		1 1/2"			2 1/2"			4"		
Item	Description	Quantity Required								
1	Sleeve	1			1			1		
2	Lower Seal	1			1			1		
3	Thrust Bearing	2			2			2		
4	Jack Nut	1			1			1		
5	Bevel Gear	1			1			1		
6	Bevel Gear Mtg. Screw	6			6			6		
7	Lockwasher	14			14			14		
8	Upper Seal	1			1			1		
9	Sleeve Cap	1			1			1		
10	Sleeve Cap Shim, Blue	3			3			3		
11	Sleeve Cap Shim, Transparent	3			3			3		
12	Sleeve Cap Shim, Yellow	1			1			1		
13	O'Ring	1			1			1		
14	Sleeve Cap Screw	8			8			8		
15	Grease Fitting	1			1			1		
16	Fill Vent	1			1			1		
17	Jack Screw	1			1			1		
18	Protection Tube Assembly	1			1			1		
Note: Items 19-40 quantities are shown according to number of input shafts.										
Number Of Input Shafts		1	2	3	1	2	3	1	2	3
19	Cover Plate	2	2	0	2	1	0	2	1	0
20	Cover Plate Gasket	2	2	0	2	1	0	2	1	0
21	Cover Plate Screw	8	4	0	12	6	0	12	6	0
22	Cover Plate Lockwasher	8	4	0	12	6	0	12	6	0
23	Carrier Housing	1	2	3	1	2	3	1	2	3
24	Retaining Ring	2	4	6	2	4	6	2	4	6
25	Carrier Bearing	2	4	6	2	4	6	2	4	6
26	Bevel Pinion	1	2	3	1	2	3	1	2	3
27*	Locknut	1	2	3	1	2	3	1	2	3
28	Input Shaft Seal	1	2	3	1	2	3	1	2	3
29	Carrier Shim, Blue	3	6	9	3	6	9	3	6	9
30	Carrier Shim, Transparent	3	6	9	3	6	9	3	6	9
31	Carrier Shim, Yellow	1	2	3	1	2	3	1	2	3
32	O'Ring	3	3	3	3	3	3	3	3	3
33	Carrier Screw	4	8	12	6	2	18	6	2	18
34	Carrier Lockwasher	4	8	12	6	2	18	6	2	18
35	Pipe Plug	2	2	2	2	2	2	2	2	2
36	Name Plate	1	1	1	1	1	1	1	1	1
37	Drive Screw	2	2	2	2	2	2	2	2	2
38	Key	1	2	3	1	2	3	1	2	3
39**	Woodruff Key	0	0	0	1	2	3	1	2	3
40	Input Shaft	1	2	3	1	2	3	1	2	3
<b>Oil Amounts In Ounces</b>		<b>18</b>	<b>20</b>	<b>22</b>	<b>45</b>	<b>48</b>	<b>51</b>	<b>100</b>	<b>104</b>	<b>108</b>
* - Locknut Is On Opposite End Of The Input Shaft On BG250 And BG375.										
** - Not used on BG150.										

## HOW TO ORDER REPLACEMENT PARTS

In order to conserve space in the above chart, part numbers have not been used for the various items listed. In ordering spare parts you should list the model number of the Jack and the item number required. This serial number is the only way to positively identify your Jack.

The quantities listed under the various model numbers indicate the quantity required for a complete Jack.

## LUBRICATION

1. Jacks are designed for oil bath operation except upper bearing (Ref. No. 3). Fill oil to recommended level prior to operation and when below recommended level. Operation without proper lubrication will result in severe damage.
2. For normal operation screw and upper bearing should be greased. Rub grease on to screw. Apply grease to bearing through fitting (Ref. No. 15). Oil level should be checked by removing the upper pipe plug on the side of the jack. This should be done at least once a month. Under severe use grease upper bearing and check grease on screw at least once a week.
3. Products listed below are recommended by the lubricant manufacturers to meet requirements for normal operation. The listing of brand names is solely for the convenience of users of Joyce/Dayton Corp. equipment and their lubricant suppliers; it does not constitute endorsement. Joyce/Dayton Corp. assumes no responsibility for the quality, performance or availability of any of the listed products.
4. For operation above 170°F and extreme loading consult the Joyce/Dayton Corp.
5. Amount of oil required per jack is listed at the end of the repair parts chart on page 3.

## OIL

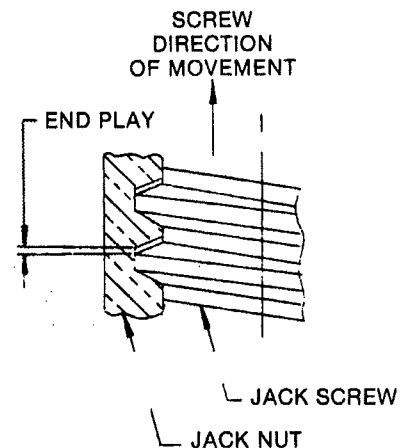
- |                           |                                  |
|---------------------------|----------------------------------|
| 1. Sohio Gear Lube EP220. | 3. Chevron NL Gear Compound 220. |
| 2. Shell Omala 220.       | 4. Mobil Gear #630.              |

## GREASE

- |                                   |                                 |
|-----------------------------------|---------------------------------|
| 1. Gulf Crown Grease EP #1.       | 5. Marathon Oil 526 Maralube #1 |
| 2. Phillips Petroleum Philube B-1 | 6. Texaco Multifak EP-1.        |
| 3. Standard Oil MP #1.            | 7. Sohio Bearing Guard #1.      |
| 4. Shell Oil Alvania EP-1.        |                                 |

## MAINTENANCE

1. Check pinion shaft for excessive backlash (more than 10% angular). Backlash can be eliminated by removing carrier housing (Ref. No. 23) and removing shims as required, (Ref. No. 30). Replace carrier housing and tighten screws. If this does not eliminate backlash, then pinion should be replaced.
2. Jack nut (Ref. No. 4) acme threads are main load supporting members. If these threads wear too thin the jack could fail. Determine wear by checking jack screw end play at least once a month. Check wear more frequently for severe applications. Contact factory for recommendation. Endplay is the gap between the jack nut and jack screw (Ref. No. 17) acme threads (see sketch). To measure endplay: remove load from screw. Make sure sleeve cap screws (Ref. No. 14) are tight. Mark reference point, then move screw in direction shown on sketch and measure distance moved from referenced point. Measurement should be recorded in a log. If maximum endplay listed below is attained, jack nut **must** be replaced. At this time other parts (Bearings, Bushings, etc.) should be inspected for excessive wear.



<b>Jack Model No.</b>	BGRS150 BGLS150	BGRD150 BGLD150	BGRS250 BGLS250	BGRD250 BGLD250	BGRS375 BGLS375	BGRD375 BGLD375
<b>Max. Endplay</b>	1/8"	3/32"	7/32"	5/32"	5/16"	5/16"



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