

# WELKER PNEUMATIC LIFTER

## LIFTER MAINTENANCE INFORMATION AND SYNCHROLIFT PLUMBING DIRECTIONS

### Read before set-up

Maintenance Video can be viewed @  
[www.welkerbearing.com](http://www.welkerbearing.com)

- Four hard chrome plated shafts and self lubricated bearings designed for telescoping type motion.
- Spiral retaining ring construction on all shafts, bearings and couplers.
- Standard manual lockout pin.
- Lube free cylinder.
- Dual shocks for both extend and retract strokes.

#### LUBRICATION

Welker lifter units are lubricated for life.  
No subsequent lubrication is required.

#### MAINTENANCE

Steam cleaning or wiping contamination off during the course of normal machine maintenance is desirable.  
Instructions for changing cylinders, shafts and bearings is provided on the following pages.

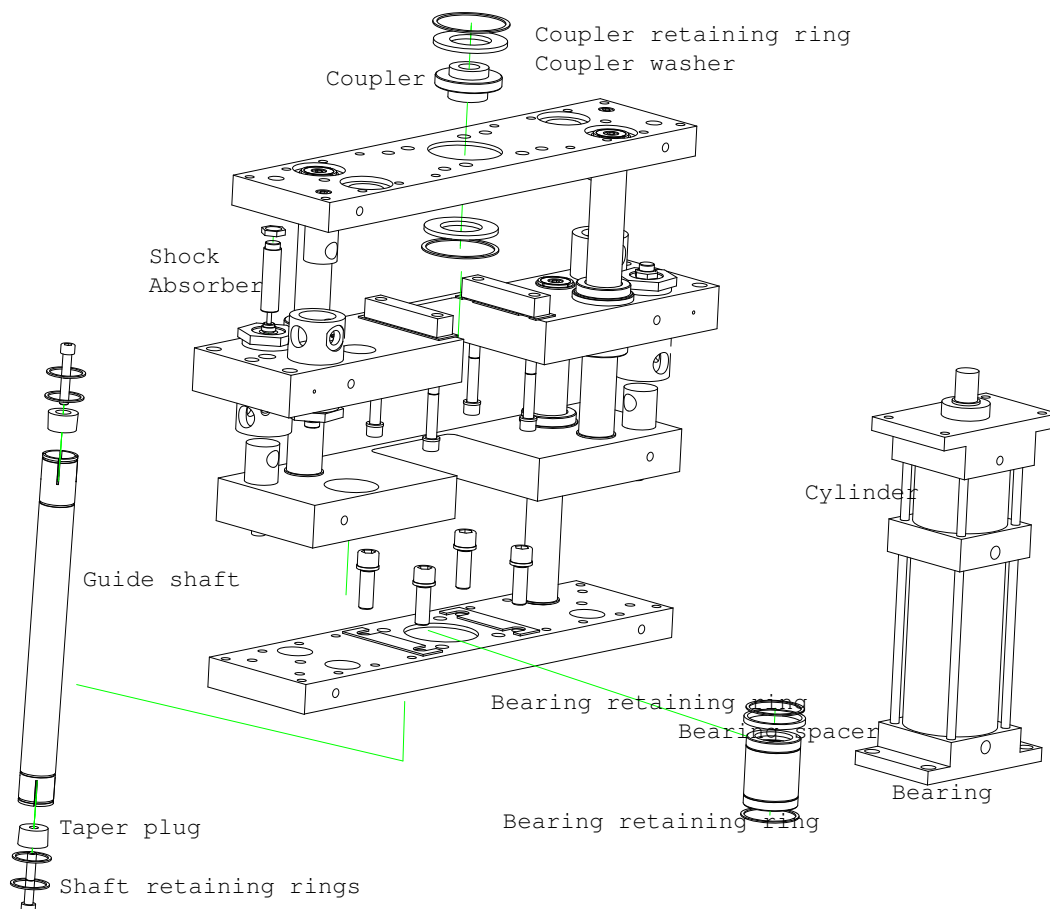
#### SAFETY CONSIDERATIONS

Use manual lockout pin feature when performing any maintenance procedures on lifter.



# DIRECTIONS REPLACING SHAFTS & BEARINGS

1. Remove lifter and lay horizontal on large flat table.
2. Remove taper plugs in ends of shaft. For CLA models the lifter may need to be in mid-stroke position to access plugs.
3. Remove spiral retaining ring (4 per shaft.) Start with screwdriver and turn out around shaft.
4. Remove shaft. (See chart for replacement part number.)
5. To replace bearing, remove 2 spiral retaining rings.
6. Slide bearing out.
7. Install new bearing with spacer.
8. Install spiral retaining rings.
9. Install shaft retaining ring on end with closer ring groove spacing.
10. Slide shaft through plates and bearings. Turning shaft when entering bearing (light oil applied to the shaft will help it clear the lip seals.)
11. Install remaining 3 shaft retaining rings. Coat pressure plugs with Neversieze or heavy grease.
12. Install and torque to 80Nm, expand the shaft in the pilot.



# CLM CYLINDER REPLACEMENT

(Contact Welker for CLA cylinder replacement instructions.)

1. Extend lifter
2. Manually lockout lifter in extended position.
3. Remove all air lines to cylinder.
4. Remove spiral retaining ring from underside of coupler.
5. Slide washer out from coupler packet ( CLM40 only)
6. Retract cylinder rod.
  - a. For non-locking cylinder, manually retract the cylinder rod.
  - b. For locking cylinder, put 60 psi min. to cylinder brake port and then manually retract the cylinder rod.
7. Remove air pressure from brake.
8. Remove fasteners for cylinder flanges, making sure not to lose shims or spacers.
9. Remove air cylinder.
  - a. If cylinder is a Welker cylinder go to step 11, otherwise:
  - b. Remove cylinder mounting flanges from both ends of cylinder.
  - c. Remount flanges on new cylinder.
10. If new cylinder was ordered with a coupler, go to step 12, otherwise:
  - a. Remove existing coupler ( coupler has been assembled with removeable Loctite so some heat may be required.)
  - b. Slide spiral retaining ring then washer (CLM40 only) onto cylinder rod.
  - c. Loctite coupler onto new cylinder rod threads, making sure to bottom out the coupler onto the cylinder rod thread shoulder.
11. Place new cylinder into lifter and replace fasteners, shims and spacers, but do not tighten fasteners (Note: 2mm shims required at rear of cylinder.)
12. Extend cylinder rod
  - a. For non-locking cylinder, manually extend the cylinder rod.
  - b. For locking cylinder, put 60 psi min. to cylinder brake port and then manually extend the cylinder rod.
13. Align coupler into coupler pocket.
14. Re-insert washer into coupler pocket (CLM40 only.)
15. Re-insert spiral retaining ring into coupler pocket.
16. Tighten down rear cylinder fasteners with 2mm shims.
17. If necessary, add or remove shims at cylinder rod end to accomodate variance in cylinder length.
18. Tighten down rod end cylinder fasteners.
19. Reattach air lines and extend cylinder.
20. Remove manual lockout.

# Lifter Spare Parts List

Description	CLA-1.5		CLA-2.0		CLM40 & SLM40		CLM50 & SLM50	
	Qty Used	Part No.	Qty Used	Part No.	Qty Used	Part No.	Qty Used	Part No.
Shock Absorber	4	MC3225-3-2157	4	SC650M-9	4	SC300M-9	4	MC-4525-M4-2157
Guide Shaft	4	See Cylinder Note	4	See Cylinder Sheet	4	CLM40E07-{stroke}	4	CLM50E07A-{stroke}
Taper Plug	4	CLM40E09	4	PWS50E17	4	CLM40E09	4	PWS50E17
Shaft Retaining Ring	8	WSM-150	8	WSM-200	8	ES-40	8	ES-50
Coupler	1	See Cylinder Sheet	1	See Cylinder Sheet	1	See Cylinder Sheet	1	See Cylinder Sheet
Coupler Retaining Ring	1	WHM-300	1	WHM-300	2	FHL-348-HDC or EH-85	2	FHL-348-HDC or EH-85
Coupler Washer	1	CLA15E10-B	1	CLA15E10-B	2	CLM40D10-B	0	Not Used
Cylinder	1	See Cylinder Sheet	1	See Cylinder Sheet	1	See Cylinder Sheet	1	See Cylinder Sheet
Bearing	4	WFL-2438-24DS	4	WFL-3248-DS	4	WFM-40-DS	4	WFM-50-DS
Bearing Spacer	4	CLA15E05-E	4	CLA20E05-A	4	CLM40D05-A	4	CLM50E05-A
Bearing Retaining Ring	8	WSM-237	8	WSM-3000	8	ES-62	8	ES-75
Reservoir Kit					1	*Reservoir Kit SLM40	1	*Reservoir Kit SLM50

\*SLM40 & SLM50 Synchrolift Reservoir Kit  
Spare Part = 1 Reservoir Kit per 2 Lifters

## Spare Part Cylinder Options

Lifter Series	Cylinder	Bore	Ports	Brake Ports	Cylinder	Synchro Cylinder (SLM only)	Coupler	Guide Shaft
CLA-1.5	-NL	4"	3/4 NPT	N/A	WC_-2060-STROKE		CLA15E05-C	CLA15E07-A-STROKE
	-LOCK	4"	1/2 NPT	1/4 NPT	CDLA-BN-100-STROKE-E-X1US		CLA15E05-B	CLA15E07-B-STROKE
CLA-2.0	-NL	6"	3/4 NPT	N/A	GMA-MX1-6.0X STROKE-2-SSM		CLA20E05-C	CLA20E07-A-STROKE
	-LOCK	6"	3/4 NPT	1/4 NPT	WCA-2079-STROKE		CLA20E05-B	CLA20E07-B-STROKE
CLM40 & SLM40	-WEL1	4"	1/2 NPT	N/A	WC_-2008-STROKE	WC-2080-STROKE	CLM40D05-J	CLM40E07-STROKE
	-WEL2	4"	#10 SAE	N/A	WC_-2009-STROKE	WC-2080-STROKE	CLM40D05-J	
	-WEL3	4"	1/2 G	N/A	WC_-2010-STROKE	WC-2080-STROKE	CLM40D05-J	
	-WEL4	4"	1/2 NPT	1/4 NPT	WCA-2005-STROKE	WC-2080-STROKE	CLM40D05-E	
	-WEL5	4"	#10 SAE	#4 SAE	WCA-2006-STROKE	WC-2080-STROKE	CLM40D05-E	
	-WEL6	4"	1/2 G	1/4 G	WCA-2007-STROKE	WC-2080-STROKE	CLM40D05-E	
	-WEL7	4"	1/2 NPT	N/A	WCA-2073-TOTAL STR-SUB STR	WC-2080-STROKE		
	-WEL8	4"	#10 SAE	N/A	WCA-2074-TOTAL STR-SUB STR	WC-2080-STROKE		
	-WEL9	4"	1/2 G	N/A	WCA-2075-TOTAL STR-SUB STR	WC-2080-STROKE		
	-WEL10	4"	1/2 NPT	1/4 NPT	WCA-2076-TOTAL STR-SUB STR	WC-2080-STROKE		
	-WEL11	4"	#10 SAE	#4 SAE	WCA-2077-TOTAL STR-SUB STR	WC-2080-STROKE		
	-WEL12	4"	1/2 G	1/4 G	WCA-2078-TOTAL STR-SUB STR	WC-2080-STROKE		
CLM50 & SLM50	-NL	4"	1/2 NPT	N/A	WC_-2008-STROKE	WC-2080-STROKE	CLM40D05-J	CLM50E07A-STROKE
	-LOCK	4"	1/2 NPT	1/4 NPT	WCA-2005-STROKE	WC-2080-STROKE	CLM40D05-E	
	-WEL1	6"	3/4 NPT	N/A	WC_-2033-STROKE	WC-2080-STROKE	CLM50E05-B	
	-WEL2	6"	#12 SAE	N/A	WC_-2034-STROKE	WC-2080-STROKE	CLM50E05-B	
	-WEL3	6"	3/4 G	N/A	WC_-2035-STROKE	WC-2080-STROKE	CLM50E05-B	
	-WEL4	6"	3/4 NPT	1/4 NPT	WCA-2030-STROKE	WC-2080-STROKE	CLM50E05-C	
	-WEL5	6"	#12 SAE	#4 SAE	WCA-2031-STROKE	WC-2080-STROKE	CLM50E05-C	
	-WEL6	6"	3/4 G	1/4 G	WCA-2032-STROKE	WC-2080-STROKE	CLM50E05-C	
	-WEL7	8"	3/4 NPT	N/A	WCA-2014-STROKE	WC-2004-STROKE	CLM50E05-B	
-WEL8	8"	#12 SAE	N/A	WCA-2015-STROKE	WC-2004-STROKE	CLM50E05-B		
-WEL9	8"	3/4 G	N/A	WCA-2016-STROKE	WC-2004-STROKE	CLM50E05-B		

# Synchro Cylinder Plumbing

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