

# CLOUD 180 ROTARY TANK CLEANING MACHINE

## EXPLODED VIEW & PARTS LIST

### Use Recommendations:

Refer to the Exploded View's accompanying illustration numbers. Locate matching illustration number in the left hand column of the parts list. Use the line information given beneath the appropriate column heading for all ordering and reference purposes.



### Portable vs. Clean-In-Place (C.I.P.) Machines

This is an exploded view of a portable tank cleaning machine. If you are ordering cast parts for a C.I.P. machine, pay special attention to the (\*) adjacent to the Illustration No. in the Castings section of the parts list. The (\*) indicates which parts are modified at the factory to allow for special self-rinsing C.I.P. capabilities. Refer to the C.I.P. component chart on the back page for specific part numbers for ordering or reference purposes.

### Lubricated vs. Flow-thru Gearbox

The lubricated type of gearbox is sealed from the cleaning solution, and uses a food-grade oil for lubrication of the geartrain. The flow-thru type of gearbox uses the cleaning solution for lubrication of the geartrain, and can be identified by the 5/32" drain hole in the gearbox cover on the bottom of the machine. Many components are common to both types of gearboxes, while some are specific to the lubricated or flow-thru type machines. Be sure to choose the appropriated column heading when selecting a part number.

### O-Ring Selection

The type of o-ring recommended for your application depends primarily upon the composition of the cleaning solution used. The chart below gives a general compatibility rating for the three types of stock o-rings available for the 180 tank cleaning machine. For more specific data, or special o-ring compound selection, contact your representative.

	Neoprene	EPR	Viton
Water	B	A	B
Mild Caustic	B	A	B
Heavy Caustic	B	A	B
Mild Acid Solution	B	A	A
Chlorinated Solvents	C	C	A
Petroleum Oils	B	C	A

A = Best

B = Satisfactory

C = Not Recommended

**FOR ALL  
SPARE PARTS  
ORDERING &  
ASSEMBLY  
PURPOSES**

### Gearbox Bearing Selection

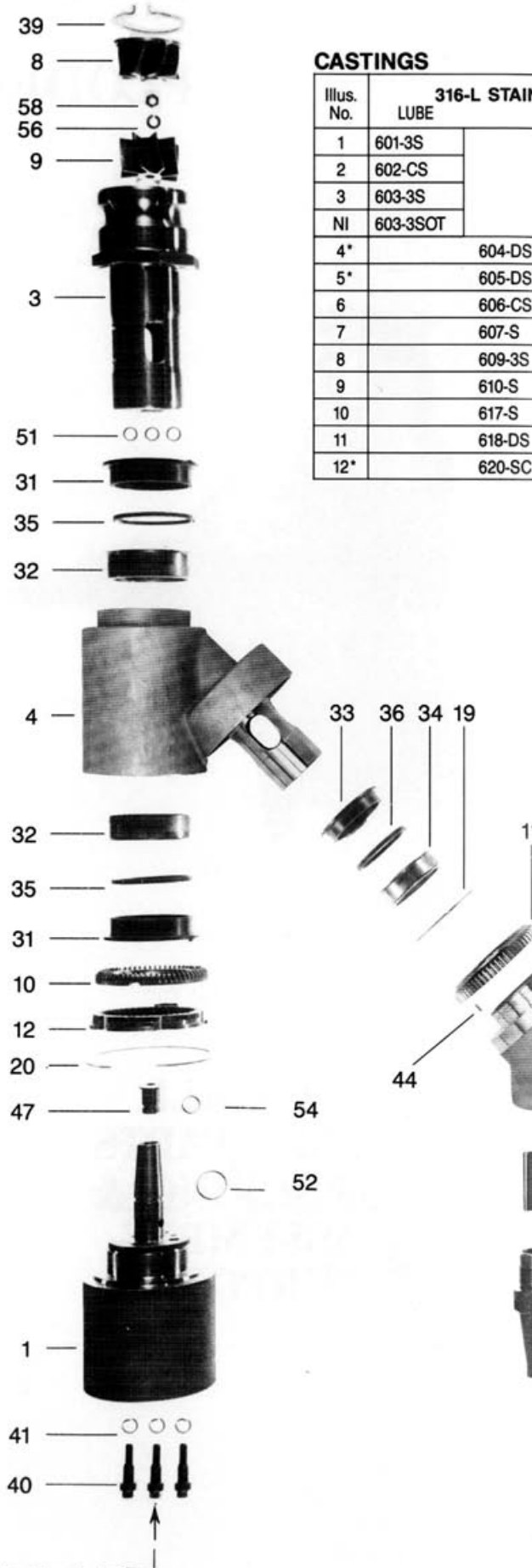
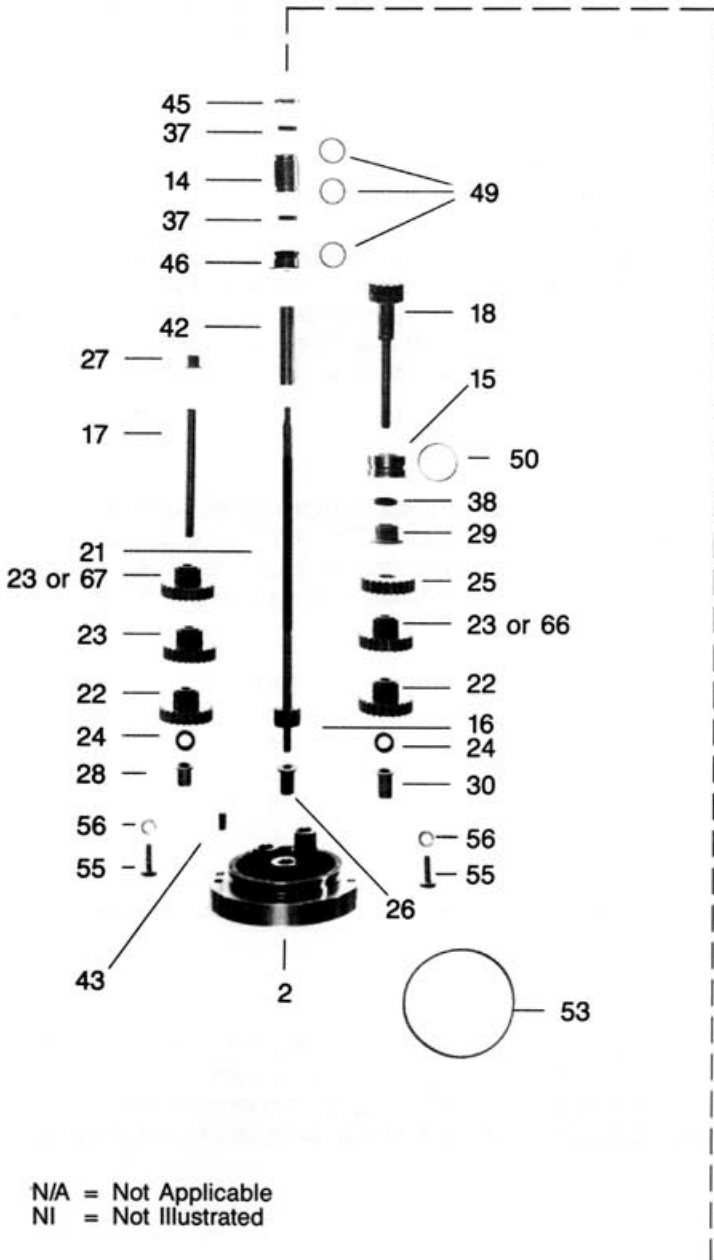
As a general rule, oil-lubricated gearboxes will use oil-impregnated bronze bearings, while flow-thru gearboxes will use either oil-impregnated bronze bearings or a PTFE type bearing material. Ask your representative for more specific information regarding bearing material selection for your cleaning application.

# CLOUD 180 EXPLODED VIEW & PARTS LIST

Machine Configuration No.

#

- Stainless/Bronze: \_\_\_\_\_  
 Gear Ratio (655/273): \_\_\_\_\_  
 Rotor Type: \_\_\_\_\_  
 Stator Type: \_\_\_\_\_  
 Nozzle Size: \_\_\_\_\_  
 C.I.P./Portable: \_\_\_\_\_  
 Gearbox (Lube/Flow-Thru): \_\_\_\_\_  
 O-Ring Type: \_\_\_\_\_  
 Bearing Type: \_\_\_\_\_



## CASTINGS

Illus. No.	316-L STAIN	
	LUBE	
1	601-3S	
2	602-CS	
3	603-3S	
NI	603-3SOT	
4*		604-DS
5*		605-DS
6		606-CS
7		607-S
8		609-3S
9		610-S
10		617-S
11		618-DS
12*		620-SC

N/A = Not Applicable  
 NI = Not Illustrated

STAINLESS FLOW-THRU	PART DESCRIPTION	QTY/ Unit
601-3ST	Gearbox	1
602-CST	Gearbox Cover	1
603-3S-ST	Inlet Stem w/ 2½" Quick Disconnect	1
603-3SOT-ST	Inlet Stem w/ Outside Dia. Threads	1
	Directional Tee Housing	1
	Directional Nozzle Housing-Triple; Pin Drive	1
	Name Plate w/ CLOUD	1
	Nozzle (¼, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8)	3
	Stator-Standard (see back page for options)	1
	Rotor-Standard (see back page for options)	1
	Tee Housing Bevel Gear	1
	Directional Nozzle Housing Bevel Gear	1
	Ring Gear	1



## COMPONENT PARTS

Illus. No.	LUBRICATED GEARBOX	ALL MACHINES	FLOW-THRU GEARBOX	PART DESCRIPTION	QTY/ Unit
13		608		Stream Straightener	3
14	611-3B		N/A	Rotor Shaft Seal Housing	1
15		613-S		Final Shaft Bearing Retainer	1
16		614-A		Rotor Shaft Pinion Gear Sub-Assy	1
17		615-C		Idler Shaft w/Chrome	1
18		616-SA-D		Final Shaft & Pinion Assembly w/Chrome	1
21		622-A		Rotor Shaft Assembly	1
22	623-AS		623-AST	Idler Gear — 10T/24T lower	2
23	623-SS		623-SST	Idler Gear — 10T/24T upper	3
24		623-W		Idler Gear Thrust Washer	2
25		624-SS		24T Final Shaft Drive Gear	1
26	626-A		626-AT	Rotor Shaft Thrust Bearing	1
27	627		627-T	Idler Shaft Upper Bearing	1
28	628		628-T	Idler Shaft Lower Bearing	1
29	629-A		629-AT	Final Shaft Upper Bearing	1
30	630		630-T	Final Shaft Lower Bearing	1
31		631		Tee Housing Bearing	2
32		632		Tee Housing Bearing Cup	2
33		633-D		Nozzle Housing Bearing	2
34		634-D		Nozzle Housing Bearing Cup	2
35		635-TG		Tee Housing Seal	2
36		636-TG		Nozzle Housing Seal	2
37	641-TG		N/A	Rotor Shaft Seal	3
38	643-ATG		N/A	Final Shaft Seal	1
42		655-A		Rotor Shaft Spacer	1
43		658		Gearbox Cover Dowel	1
44†		658-A		618 Bevel Gear Drive Pin	1
45	659-3		N/A	Seal Housing Spacer	1
46		660-3A		Center Carbide Bearing Sub-Assy	1
47	660-DX		660-D	Upper Carbide Bearing Sub-Assy	1

## O-RINGS

Illus. No.	VITON	ETHYLENE PROPYLENE	NEOPRENE	PART DESCRIPTION	QTY/ Unit
49	639-V	639-E	639-N	611-3A, 660-3A O-Ring	1/3
50	640-V	640-E	640-N	613 O-Ring	1
51	641-3V	641-3E	641-3N	Gearbox Screw O-Ring	3
52	642-3V	642-3E	642-3N	Gearbox Stem O-Ring	1
53	644-V	644-E	644-N	Gearbox Cover O-Ring	1
54	662-V	662-E	662-N	660-D, 660-DX O-Ring	1

## FASTENERS

No.	STAINLESS	PART DESCRIPTION	QTY.
19	619	Bevel Gear Snap Ring	1
20	621	Ring Gear Retaining Ring	1
39	645-3	Stator Retaining Ring	1
40	650-3	Gearbox Bolt	3
41	652-3	Gearbox Bolt Lockwasher	3
55	646-AS	Gearbox Cover Screw 3/4"	2
56	647-S	Lockwasher	5
57	648-AS	Name Plate Screw 5/8"	2
58	654-S	Rotor Retaining Nut	1

# CONFIGURATION OPTIONS



61



62



63



64

<b>STATORS</b>			
Illus No.	STAINLESS	PART DESCRIPTION	QTY.
61	609-3LPS	Stator-Low Pressure	1
62	609-3LMS	Stator-Modified Low Pressure	1
63	609-3HPS	Stator-High Pressure	1
64	609-3HV1S	Stator-High Volume	1



22



23

<b>GEARSETS for 273:1 + 655:1 gear ratios</b>				273	655
No.	LUBRICATED	FLOW-THRU	PART DESCRIPTION	QTY.	QTY.
22	623-AS	623-AST	Idler Gear — 10T/24T lower	2	2
23	623-SS	623-SST	Idler Gear — 10T/24T upper	1	3



65

<b>ROTORS</b>	STAINLESS	DESCRIPTION	QTY.
66	610-LPS	Rotor — Low Pressure	1