

INSTRUCTIONS
FOR
CARE & MAINTENANCE

DIESEL LUB. OIL PURIFIER PUMP

Size 4500-10-V2051

U.S.S. TAMBOR)	The Sharples Corporation
U.S.S. TAUTOG)	Order No. 97983
U.S.S. THRESHER)	Northern Pump Company
)	Order No. 31689
U.S.S. GAR)	The Sharples Corporation
U.S.S. GRAMPUS)	Order No. 2255
U.S.S. GRAYBACK)	Northern Pump Company
)	Order No. 33656 & 7

MANUFACTURED BY
NORTHERN PUMP COMPANY
MINNEAPOLIS, MINN.

GENERAL DESCRIPTION

P A R T 1

(A) This pump is of the positive displacement rotary gear type. The pump and motor are connected to one another by means of an end bell and the pump drive shaft and motor shaft are connected by a Northern Flexible Coupling.

(B) Pump Characteristics

G. P. H.	300
Pressure	25#
R. P. M.	1150
Liquid	Navy Oil
Viscosity	180-500 SSU
Temperature Range	35-180° F.
Mechanical Efficiency	29%
B. H. P.	.71
Suction Lift	15" HG

(C) Motor Characteristics

H. P.	1
Frame	224
R. P. M.	1150
Volts	250
Bearings	Ball
Duty	Continuous
Range	175-325

P A R T II

INSTALLATION & OPERATION

- (A) Care should be taken to see that the motor and pump are in perfect alignment. Any distortion will cause a vibration in the whole unit.
- (B) All pipe connections to the pump should be made so that there will not be any undue strains imposed on pump.
- (C) It is very important when installing packing that the rings are cut to the exact lengths. The joints should be alternated so that they do not come in line with each other and the gland should be set up in small increments in order to permit the packing to adjust itself to the shaft gradually. Excessive tightening of the packing gland will increase the horsepower and overload the motor.
- (D) Be sure that the pump rotates as indicated by arrow.
- (E) Pump should pump liquid as originally intended and no other.
- (F) The pump pressure should not exceed that which is specified in order or shown on nameplate.
- (G) Care should be exercised in keeping the liquid being pumped free from all foreign matter such as grit, etc., because of the close clearances maintained within the pump.
- (H) If trouble is experienced in starting the flow of liquid from pump, inspect the suction line and connections for air leakage.
- (I) If pump is noisy, check for air leaks in the suction line.

P A R T I I I CARE & MAINTENANCE

- (A) When the capacity of the pump drops off after an extended period of operation, the cause is most likely due to wear in the bearings and pump gears. These can be replaced by following the routine listed below. For reference to parts, see cross sectional drawing 4500-10-V2051.
- (B) (1) Remove electric motor from end bell mounting (5).
(2) Next, remove pump coupling half (4).
(3) Now, nuts (28), rear end plate (27), relief valve plate (26), thrust plate (24), pin (22), thrust washer (23) and rear bearing plate (15) are removed.
(4) Drive shaft (16) and driven shaft (20) are now free to be removed.
(5) Lastly, remove front bearing plate (15) from pump support (5).
The pump is now dis-assembled for inspection.
- (C) In reassembling pump, the reverse order of dis-assembly can be followed. All plates should be thoroughly cleaned and given a coat of white shellac before assembling. A clearance of .0015" should be maintained on each side of pump gears. All parts should run freely except for a slight drag caused by the stuffing box.
- (D) When the pump is completely assembled, it should be given a hydrostatic test of 37-1/2# pressure to determine whether there are any leaks at the joints.
- (E) In case of leakage at the stuffing box, the glands should be tightened only enough to stop leakage. Excessive tightening of the glands will increase the horsepower and overload the motor.

