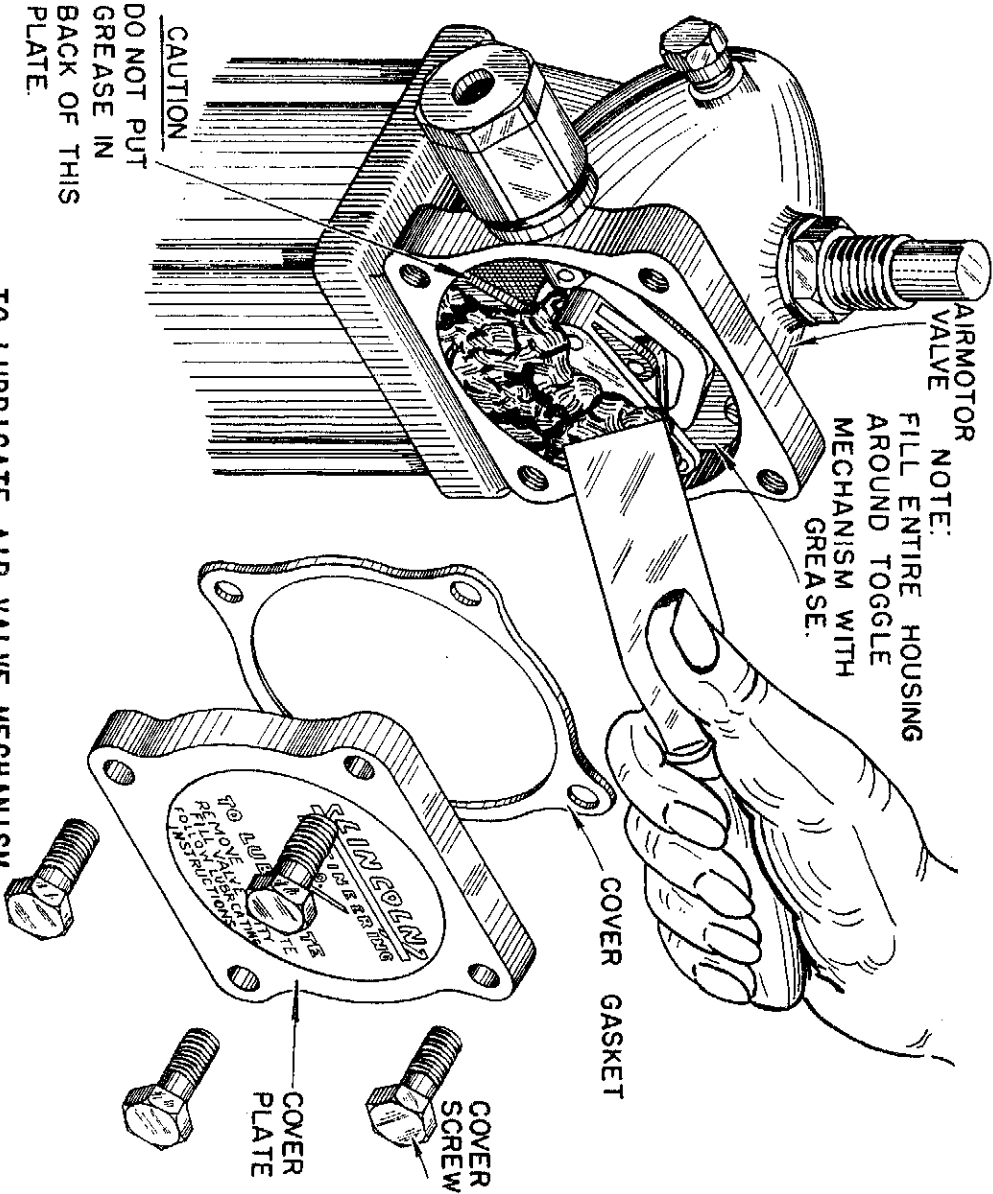


GENERAL INSTRUCTIONS

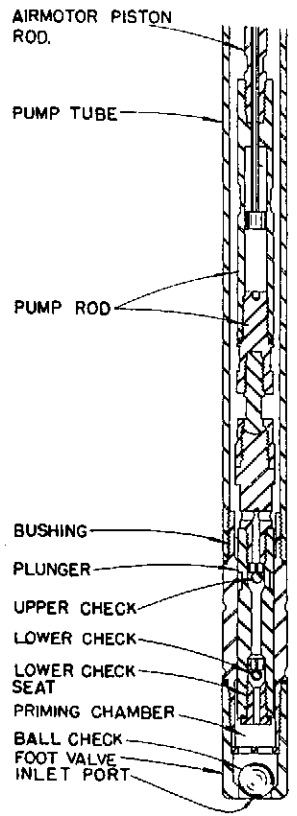
AIRMOTOR NOTE:
 FILL ENTIRE HOUSING
 AROUND TOGGLE
 MECHANISM WITH
 GREASE.



TO LUBRICATE AIR VALVE MECHANISM

Disconnect air, remove the four Cover Plate Screws and Cover Plate from the Air Motor Valve. All moving parts should then be covered with a Chassis Grease as illustrated. Replace Cover Gasket and Cover plate, tighten Cover Screws to avoid Air leaks. Periodic inspection of these parts once each month is advisable.

CARE AND MAINTENANCE OF PUMP TUBE

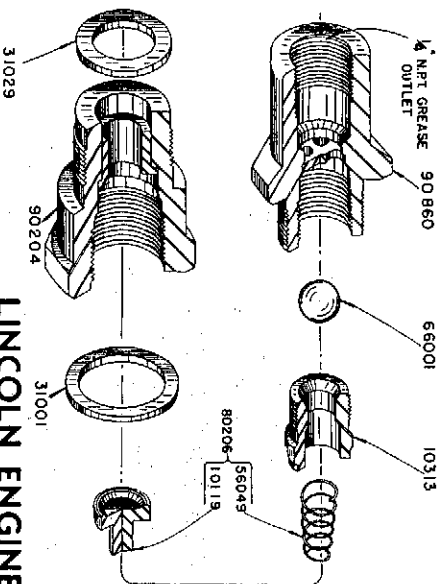
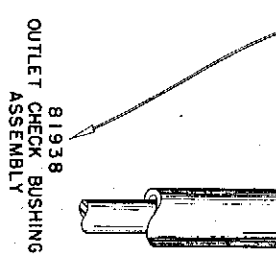
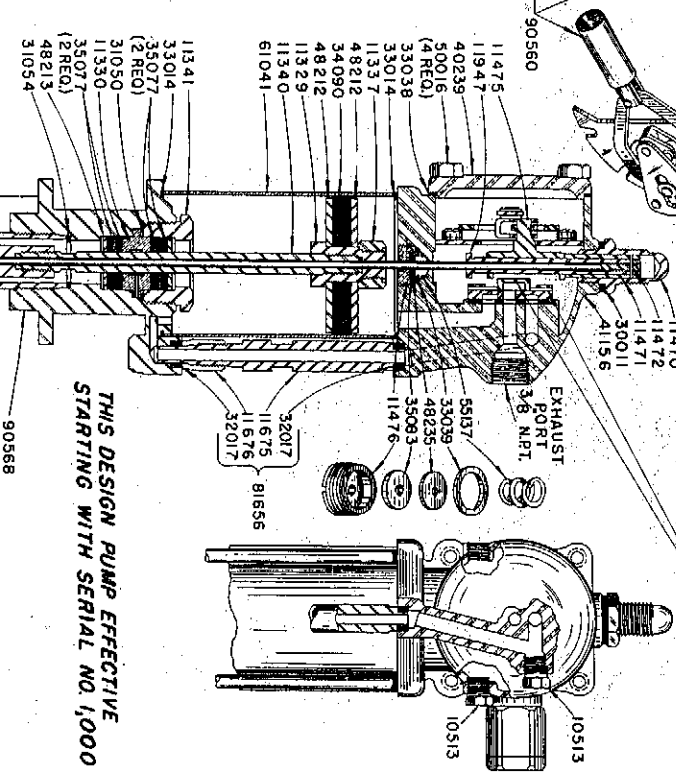
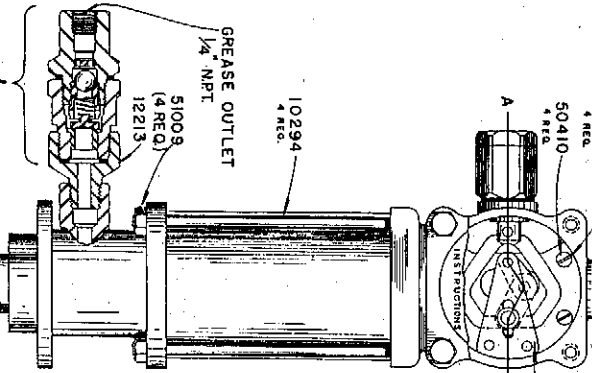
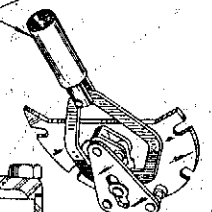
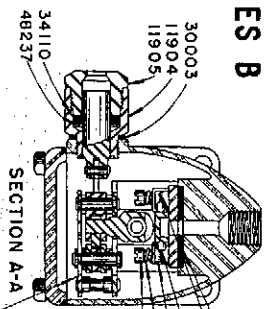
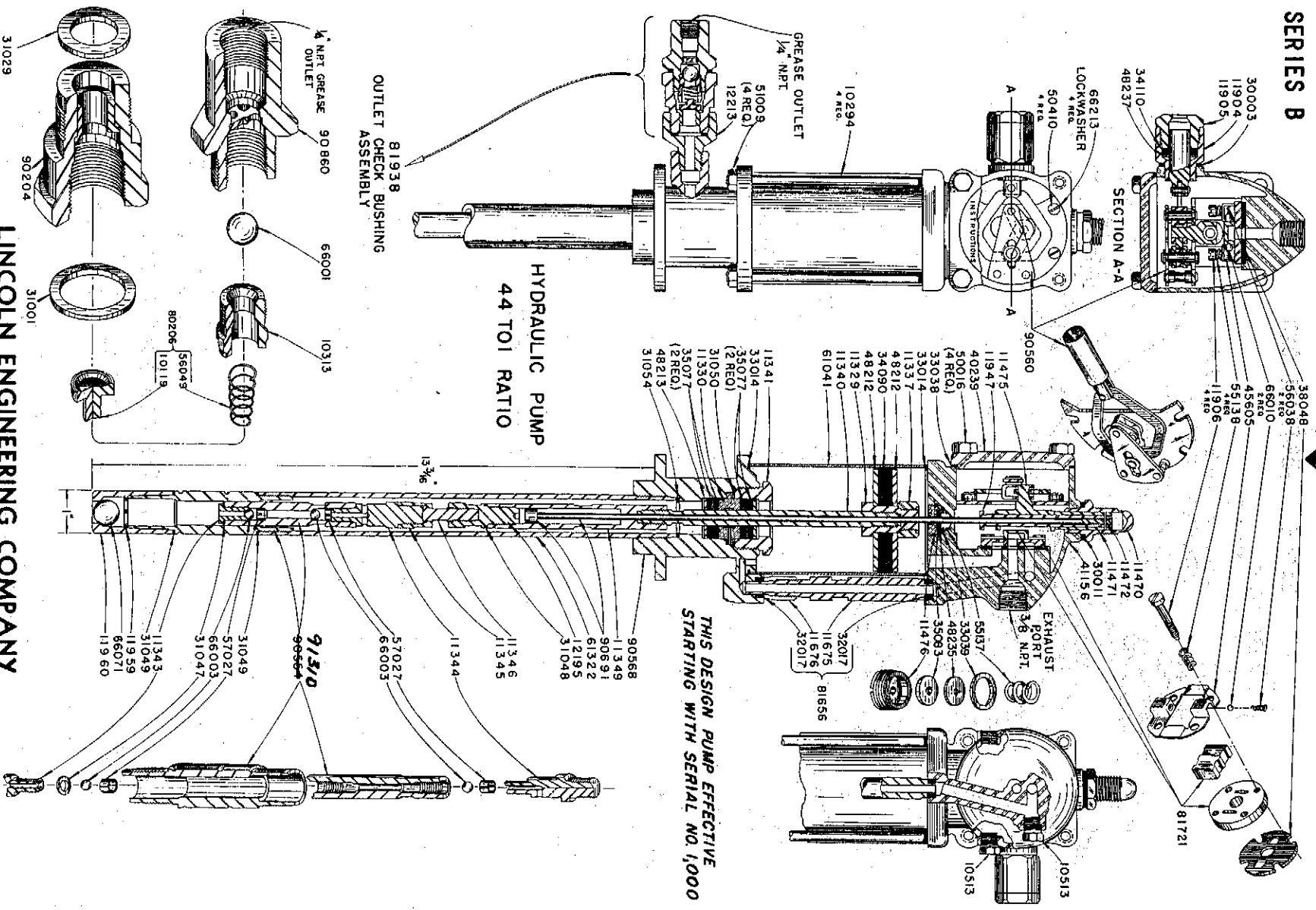


CROSS SECTION THROUGH PUMP PISTON

The Pump Assembly consists of an all steel Foot Valve, and a Nitralloy Plunger and Bushing to insure long and continuous service. A double Ball Check is incorporated in the Nitralloy Plunger which permits the entering of the fluid and checks the flow in the opposite direction.

If dirt or foreign particles become lodged under the Ball Checks, either in the Nitralloy Plunger or the Foot Valve, the seal will be fouled and the Pump will reciprocate without dispensing fluid. To correct this condition, the Ball Checks should be removed and cleaned thoroughly before reassembly.

SERIES B



LINCOLN ENGINEERING COMPANY
GENERAL OFFICES: 5701 NATURAL BRIDGE AVENUE, ST. LOUIS, MO.

LUBRICATING EQUIPMENT

PUMP ROD

NOTE:

Assume that the Pump is primed with fluid and that the Airmotor Piston is in its extreme up position.

DOWN STROKE

The down stroke of the Airmotor Piston moves the Pump Rod down. The Plunger portion of Pump Rod moving in the close fitted Plunger Bushing creates pressure upon the Ball Check, forcing it to a closed position. The fluid trapped in the Priming Chamber is forced through the passage in the Plunger, past both Ball Checks and through the Pump Tube to the Outlet.

BUSHING

PLUNGER

UPPER CHECK

LOWER CHECK

LOWER CHECK SEAT

PRIMING CHAMBER

BALL CHECK

FOOT VALVE

INLET PORT

DOWNSTROKE

UP STROKE

The up stroke of the Airmotor Piston moves the Pump Rod up, forcing the fluid through the Outlet. The Ball Checks in the Plunger being in a closed position prevents a back flow of the fluid. The Ball Checks being closed creates a vacuum in the Priming Chamber which draws the charge of fluid past the Ball Check into the Priming Chamber, loading it for the subsequent down stroke.

UPPER CHECK

PLUNGER

LOWER CHECK

LOWER CHECK SEAT

BUSHING

PRIMING CHAMBER

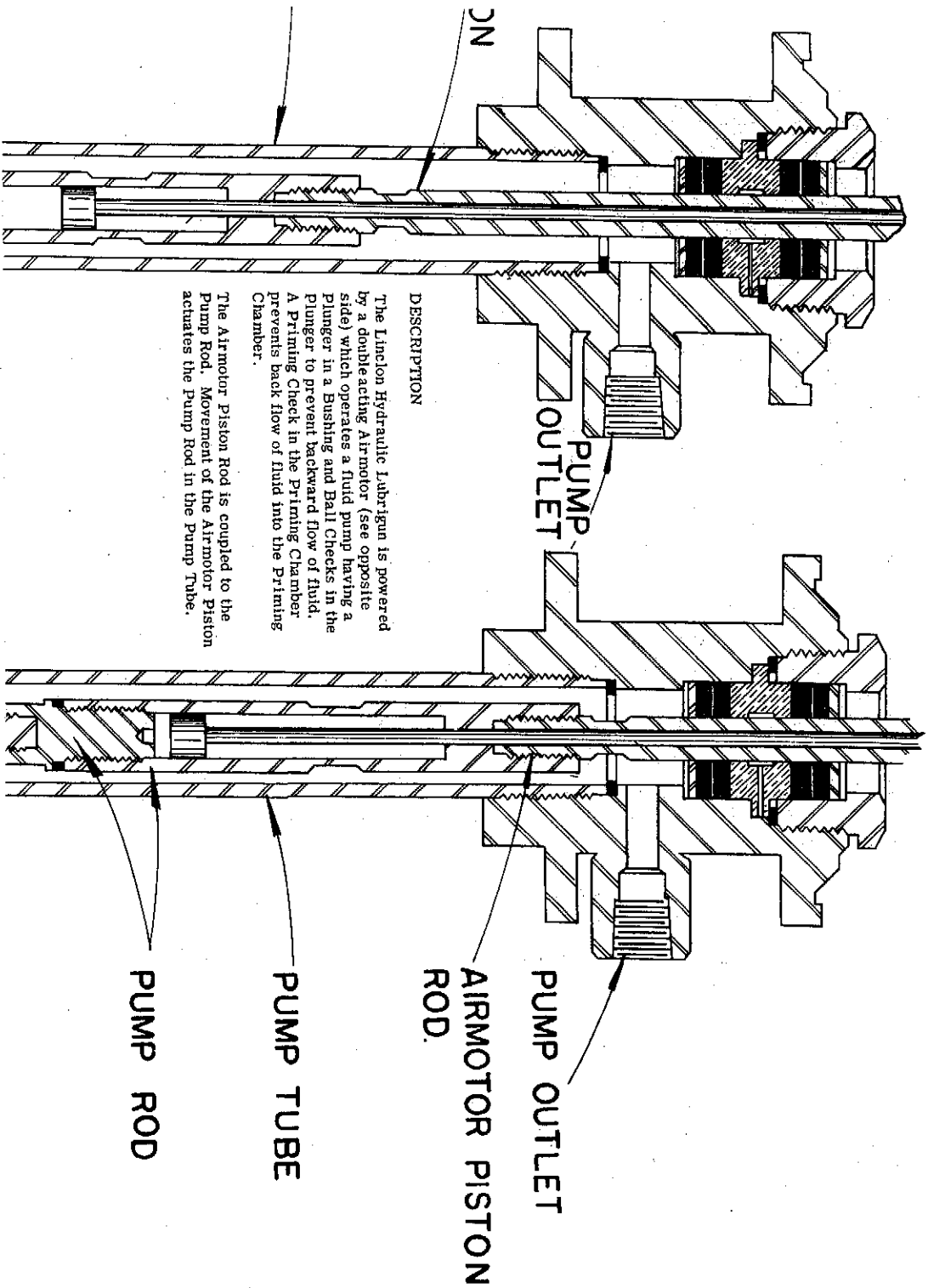
FOOT VALVE

BALL CHECK

INLET PORT

UPSTROKE

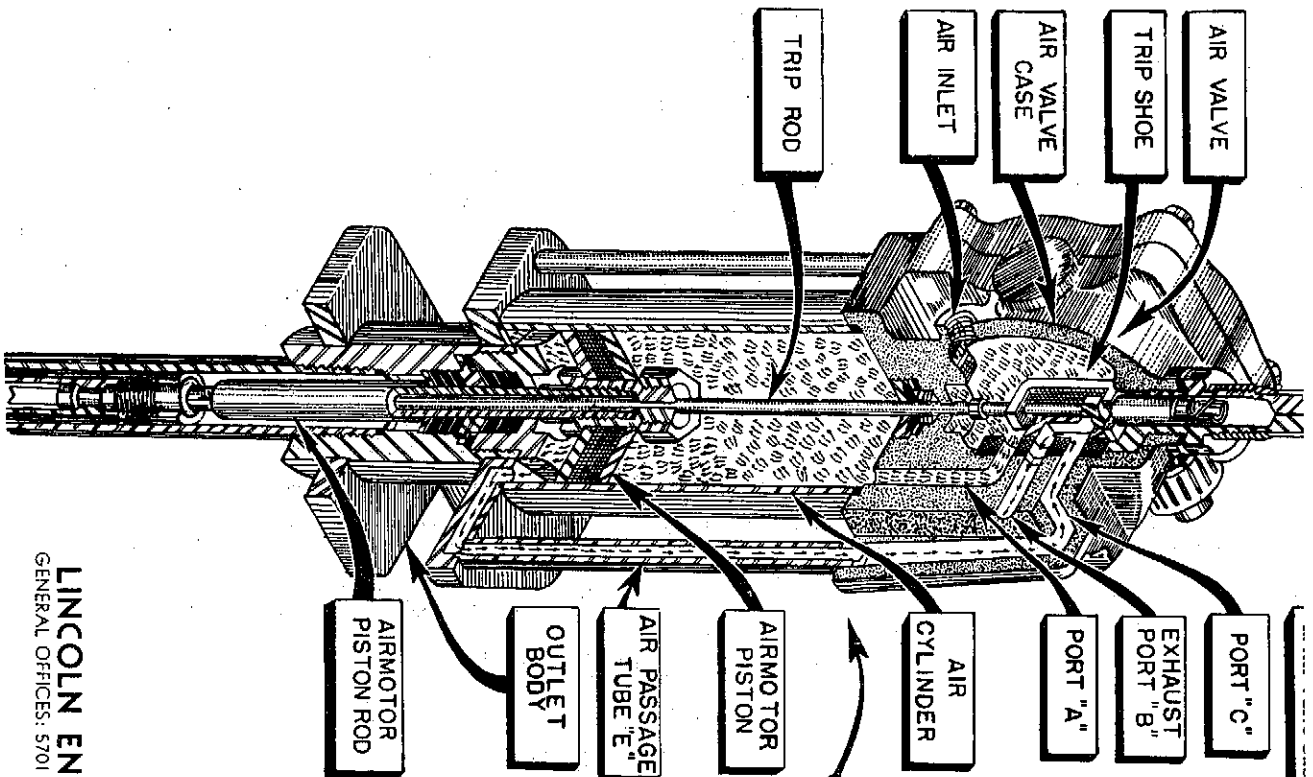
**PRINCIPLES OF OPERATION
FOR HYDRAULIC LUBRIGUN**



DESCRIPTION

The Lincoln Hydraulic Lubrigan is powered by a doubleacting Airmotor (see opposite side) which operates a fluid pump having a plunger in a Bushing and Ball Checks in the plunger to prevent backward flow of fluid. A Priming Check in the Priming Chamber prevents back flow of fluid into the Priming Chamber.

The Airmotor Piston Rod is coupled to the Pump Rod. Movement of the Airmotor Piston actuates the Pump Rod in the Pump Tube.



Toggle Linkage reaches a point slightly past dead center (See Fig. "B"). The Toggle Plunger is driven outward by the Air Pressure in the Air Valve Case collapsing the Toggle Linkage with a snap Action (See Fig. "C") causing the Trip Shoe to move the Valve Slide upward exposing opening of Port "A" and covering Port "C".

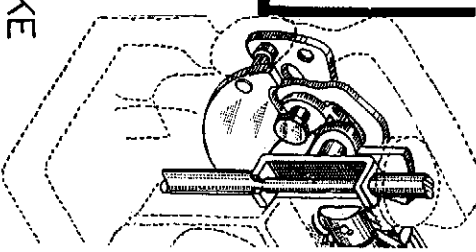
FIG. 3. DOWN STROKE
OF AIRMOTOR

When the Valve is so positioned that exhaust Port "B" and "C" are covered the Compressed Air entering the Air Valve Case will pass through Port "A" and enter the Air Cylinder above the Airmotor Piston forcing the Airmotor downward. Air under the Airmotor Piston is exhausted through the Outlet Body into the Air Passage Tube "E" and through Port "C" and exhaust Port "B".

Movement of the Trip Rod on the down stroke is similar to that described above for the up stroke the downward motion of the Trip Shoe actuates the Toggle Mechanism of the Air Valve in the same manner as on up stroke.

When the Valve is so positioned that exhaust Port "B" and "C" are covered the Compressed Air entering the Air Valve Case will pass through Port "A" and enter the Air Cylinder above the Airmotor Piston forcing the Airmotor Piston downward. Air under the Airmotor Piston is exhausted through the outlet Body into the Air Passage Tube "E" and through Port "C" and exhaust Port "B".

Movement of the Trip Rod on the down stroke is similar to that described above for the up stroke the downward motion of the Trip Shoe actuates the Toggle Mechanism of the Air Valve in the same manner as on up stroke.





PRINCIPLES OF OPERATION (2 1/2") AIRMOTOR

LINCOLN HYDRAULIC LUBRIGUN

Compressed air is required to operate the Airmotor. Maximum pressure per square inch, for the Airmotor is (See Note). Minimum pressure depends upon the particular requirements of the application.

Caution: Avoid restrictions in Air Supply Line to insure ample air to Airmotor. To insure maximum performance, the Air Supply Line should be at least a 1/2" Pipe Line if the distance is up to 30 feet, from 30 ft. to 60 ft. 3/4" Pipe should be used, for a line greater than 60 ft. it is advisable to use 1".

NOTE: Model 200025 44 to 1 ratio 200 lbs.
Model 200026 70 to 1 ratio 100 lbs.

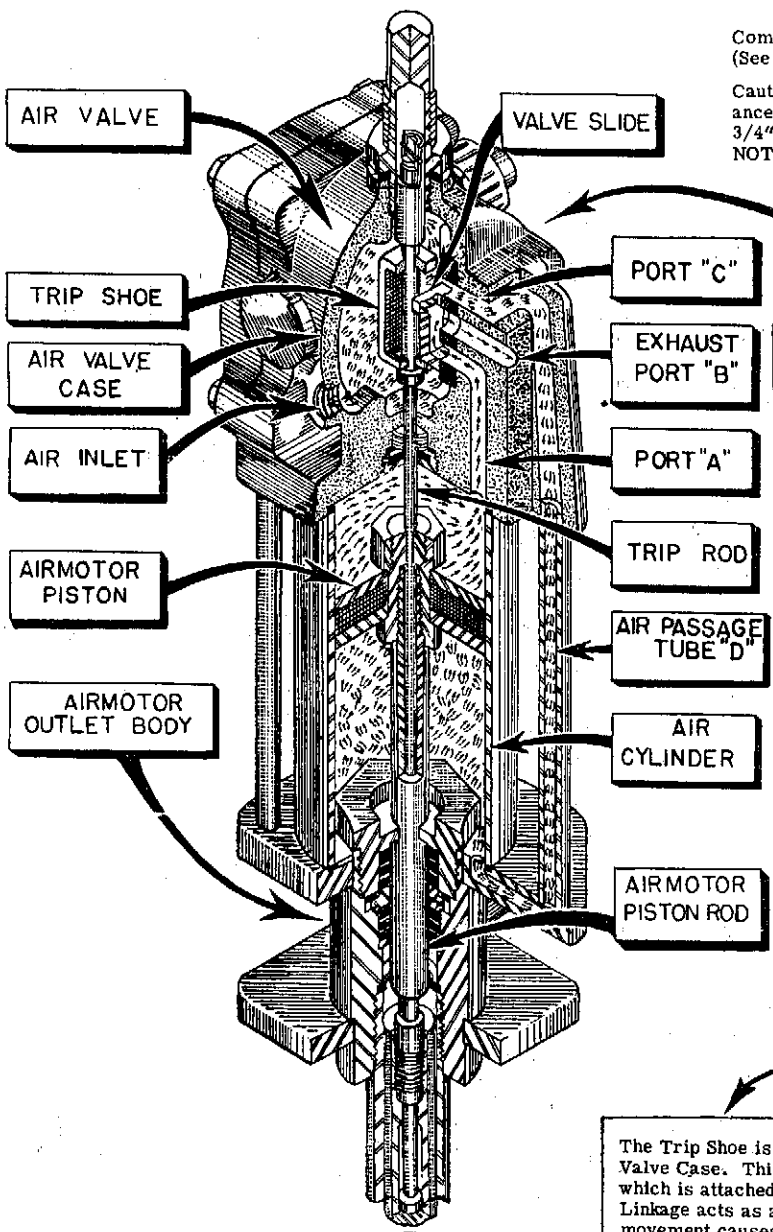


FIG. 1. UP STROKE OF AIRMOTOR

Compressed Air enters the Inlet of the Air Valve Case. Since the opening of Port "C" is uncovered the Air passes through this Port down through Air Passage Tube "D" into the Airmotor Outlet Body entering the Air Cylinder under the Airmotor Piston forcing the Piston up. Air in the Air Cylinder above the Airmotor Piston is exhausted through Port "A" and through exhaust Port "B". A Trip Rod is coupled to the Airmotor Piston this coupling allows for lost motion between the travel of the Airmotor Piston and the Trip Rod. Movement of the Trip Rod takes place as the Airmotor Piston nears the end of its up stroke the Trip Rod moves the Trip Shoe actuating the Toggle Mechanism in the Air Valve.

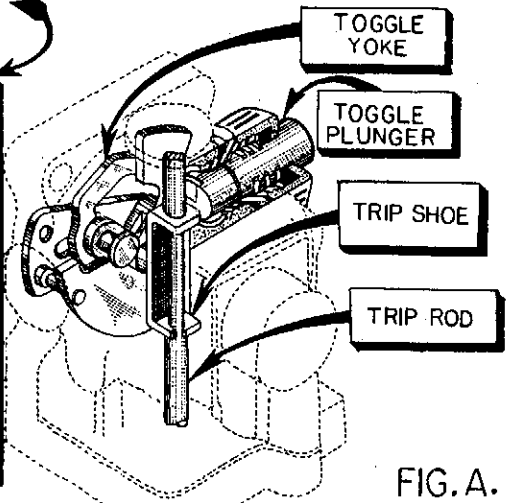


FIG. A.

FIG. 2. TOGGLE ACTION IN AIR VALVE

The Trip Shoe is engaged with a Toggle Linkage in the Air Valve Case. This Linkage is connected to a Toggle Yoke which is attached to a Toggle Plunger. Movement of the Toggle Linkage acts as a Cam on the Toggle Yoke, as the Trip Shoe movement causes the Toggle Linkage to spread, the Toggle

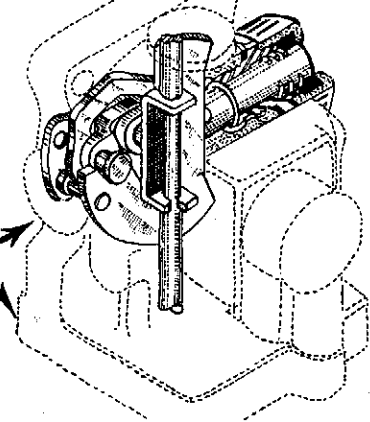


FIG. B.