

WELCH TURBO-MOLECULAR PUMP

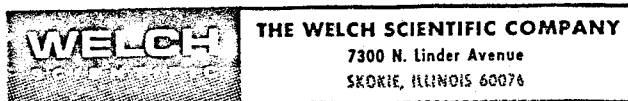
Installation Instructions for External Seal Replacement Kit #41-4710

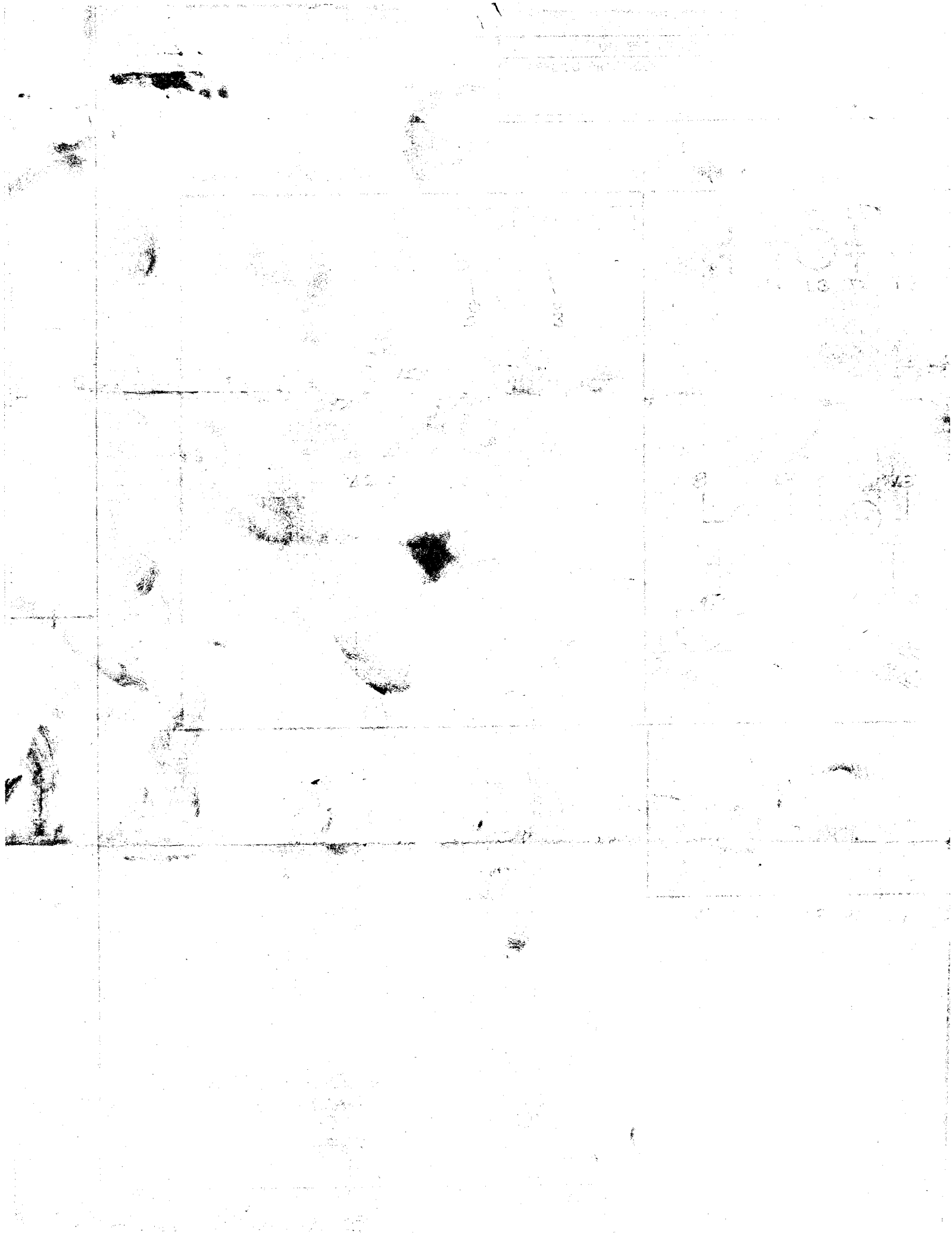
- Parts: 1 #41-4291 Face Seal (5/16)  
1 #41-4317 "O" Ring, 1-1/8" O.D.x 1 I.D.x 1/16" W  
1 #41-4703 Allen Wrench (3/32)

Procedure

- 1) It is very important to use a clean cornered, close fitting 3/32" Allen Wrench on the drive pulley set screw. A worn, soft, or misfitting wrench will damage this critical set screw and make removal or adjustment impossible.
  - 2) Remove the drive belt pulley and the white ceramic disk.
  - 3) Remove the two screws that hold the plate on the front of the cartridge seal assembly.
  - 4) Pick out and discard the #41-4317 "O" Ring around the outside of the seal so that the seal will slip out.
  - 5) To install new seal, replace new #41-4317 "O" Ring in position around the seal. Grease the brass seal case and push seal through ring as far as it will go.
  - 6) Replace plate removed in step (3).
  - 7) To replace new ceramic disk and pulley:
    - A. Make sure the rubber ring in the ceramic disk is facing the pulley.
- NOTE: The shaft and the rubber ring in the ceramic should be dry and not oiled when installing the ceramic disk. The rubber must turn the ceramic without slipping.
- B. Use the pulley to push ceramic disk on the shaft. This will keep the rubber ring from being pushed out.
- 8) To permit proper compression of the seal, the pulley should move freely on the shaft. For the pulley and ceramic disk to be properly positioned, the seal carbon face should be pushed in 1/32" and the pulley set screw tightened on the shaft flat to 30 inch pound torque. If the set screw is too loose, the pulley will rattle and back off causing the external face seal to leak.

February 29, 1968





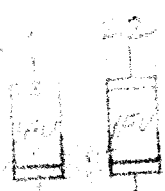
TITLE

*Dimensional Comparison*

FIRST MADE FOR *CR 163811023*

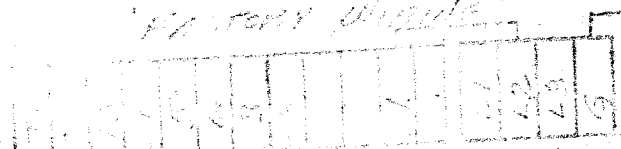
NO. OF SHEETS

REV. NO.



*12A 12B*

*FACTORY WIRE*



*See drawing to (1) (2) (3) (4) (5) (6) (7) (8) (9)*

*CUSTOMER WIRE*

REVISIONS	PRINTS
1	<i>May 15, 1964</i> <i>W. J. [unclear] 64-3189</i>
2	<i>W. J. [unclear] 7514 [unclear]</i> <i>W. J. [unclear] 012 [unclear]</i>
3	<i>Aug 10, 1965</i>

*64-3189*

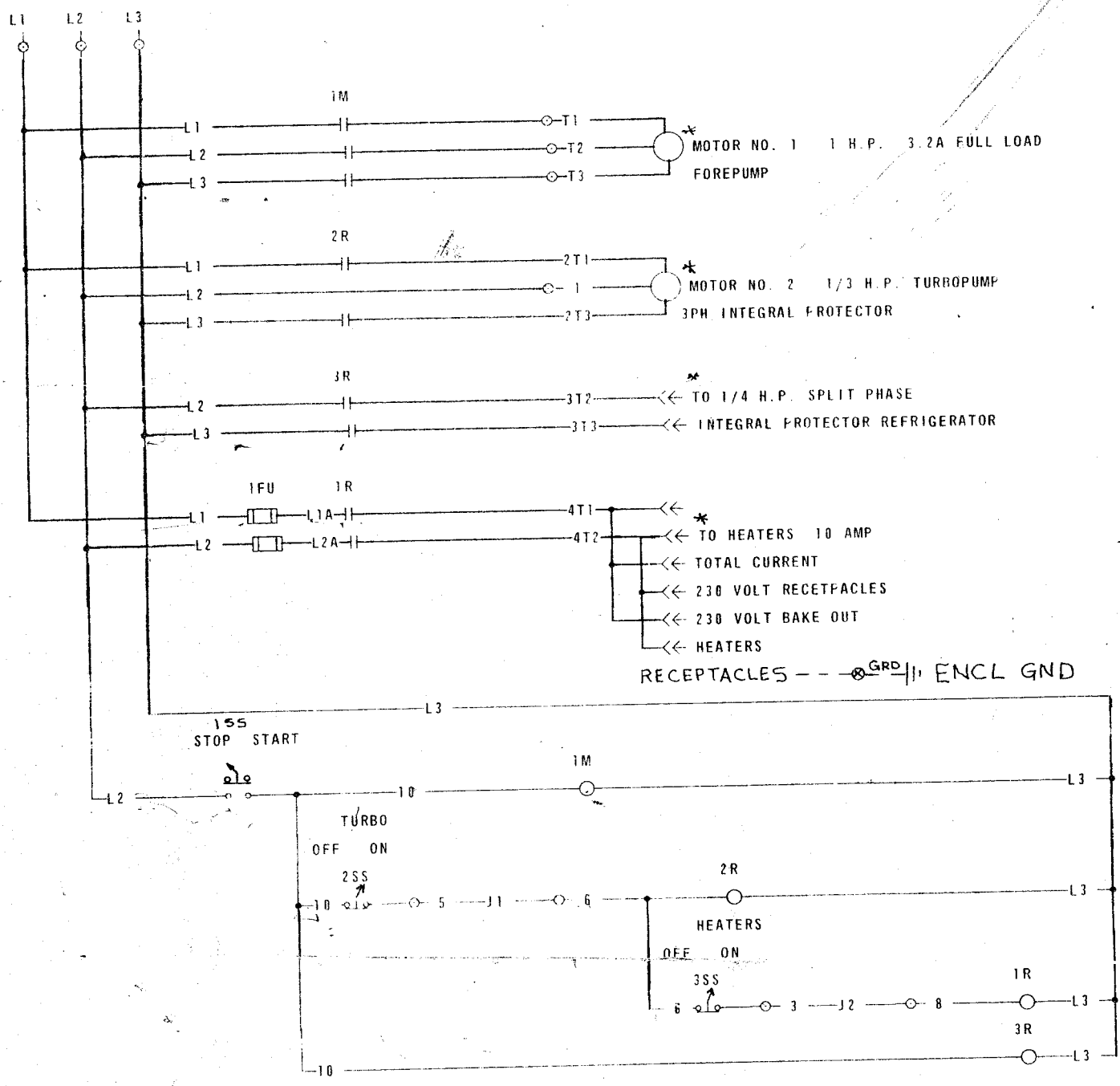
*W. J. [unclear]*



55-162215

WELCH SCIENTIFIC CR143B11024 REQ. 677 32700

230V 3PH 60 CYC



NOMENCLATURE

- 1M SIZE 00 CONTACTOR
- 1R, 2R, 3R CR120E RELAY
- 1SS CR2040 SLL SWITCH
- 2SS, 3SS TOGGLE SWITCH
- TERMINAL BOARD POINT
- \* EXTERNAL DEVICE
- 2SS CLOSED IN ON POSITION
- 3SS CLOSED IN ON POSITION

1	May 15, 1964 D. H. Huggert 64-3189	3	Aug. 10, 1965 R. B. Burrese
2	Oct 2, 1964 B. H. Huggert 64-3373		

MADE BY: *D. Kron* Jan 9, 1964  
 ISSUED: *Jan 13, 1964*  
 APPR: *OE M*  
 GENERAL PURPOSE CONTROL DEPT.  
 BLOOMINGTON, ILLINOIS  
 55-162215  
 CONT FL SH 1

# WELCH TURBO-MOLECULAR PUMP

## Installation Instructions for External Seal Replacement Kit # 41-4710

Parts: 1 # 41-4317 "O" Ring  
1 # 41-4703 Allen Hex Key 3/32W  
1 # 41-4754 Outer Seal  
1 # 41-4736 Outer Seal Mating Face  
1 # 41-4736 Outer Seal Drive Ring  
1 # 41-4737 Outer Seal Drive Disc  
1 # 41-4765 Allen Hex Key 1/8W

### Procedure

- 1) It is very important to use a clean cornered, close fitting 3/32" Allen Wrench on the drive pulley set screw. A worn soft, or misfitting wrench will damage this critical set screw and make removal or adjustment impossible.
- 2) Remove the drive belt pulley and the white ceramic disk.
- 3) Remove the two screws that hold the plate on the front of the cartridge seal assembly.
- 4) Pick out and discard the # 41-4317 "O" Ring around the outside of the seal so that the seal will slip out.
- 5) To install new seal, replace new # 41-4317 "O" Ring in position around the seal. Grease the brass seal case and push seal through ring as far as it will go.
- 6) Replace plate removed in step (3).
- 7) To replace new ceramic disk and pulley:
  - A. Make sure the rubber ring in the ceramic disk is facing the pulley.

NOTE: The shaft and the rubber ring in the ceramic disk should be dry and not oiled when installing the ceramic disk. The rubber must turn the ceramic without slipping.

  - B. Use the pulley to push ceramic disk on the shaft. This will keep the rubber ring from being pushed out.
- 8) To permit proper compression of the seal, the pulley should move freely on the shaft. For the pulley and ceramic disk to be properly positioned, the seal carbon face should be pushed in 1/32" and the pulley set screw tightened on the shaft flat to 30 inch pound torque. If the set screw is too loose, the pulley will rattle and back off causing external face seal to leak.

THE WELCH SCIENTIFIC COMPANY  
7300 N. LINCOLN AVENUE  
SKOKIE, ILLINOIS 60076