



Dependable Products From People You Trust



Mag Drive

Part No. #120-147

Instruction Manual

Updated 1/18/2023

Ver. 1

OFI Testing Equipment, Inc.

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Intro

The OFITE Mag Drive is designed for High Temperature High Pressure Consistometers. It has several advantages over traditional packed drives, such as preventing leakage, contamination, and heat from packing friction.

The OFITE Mag Drive uses external magnets to rotate internal magnets that are attached to the drive shaft.

The assembly consists of two parts: an outer magnet assembly and an inner shaft assembly.

Specifications

Maximum Allowable Working Pressure: 40,000 psi (275.8 MPa)

Maximum Temperature: 600°F (315°C)

Maintenance

Before performing any work on the Mag Drive, make sure the work area is clean and free of any metallic items.

Cleaning

Clean the Mag Drive once a week.

1. Remove the cover and gland from the bottom of the Mag Drive.
2. Pull the slurry cup table and rotor assembly up through the opening.
3. Clean all abrasive particles from the rotor assembly. Lay the assembly on a clean, flat, nonmagnetic surface.
4. Flush the cell and the Mag Drive housing with mineral oil. Use a soft brush to clean the inner portion of the Mag Drive.
5. Thread the slurry cup table back onto the rotor shaft assembly.
6. Pour a small amount of mineral oil into the cell. This will cushion the rotor assembly during insertion.
7. Insert the rotor assembly into the Mag Drive housing. Press down on the slurry cup table until it touches the top bearing.

Outer Drive Assembly

If it is necessary to disassemble the outer drive assembly, you can remove the top and bottom retainers only for flushing and cleaning. This will allow the magnets to stay in place in the outer holder.

Do not attempt to install new magnets. If new magnets are required, we recommend you send the drive magnet assembly back to OFITE for service.

Rotor Repair

The rotor can become bent if not handled carefully when it is out of the housing or during transport. If it is bad enough, it can cause the rotor to hit the housing during rotation.

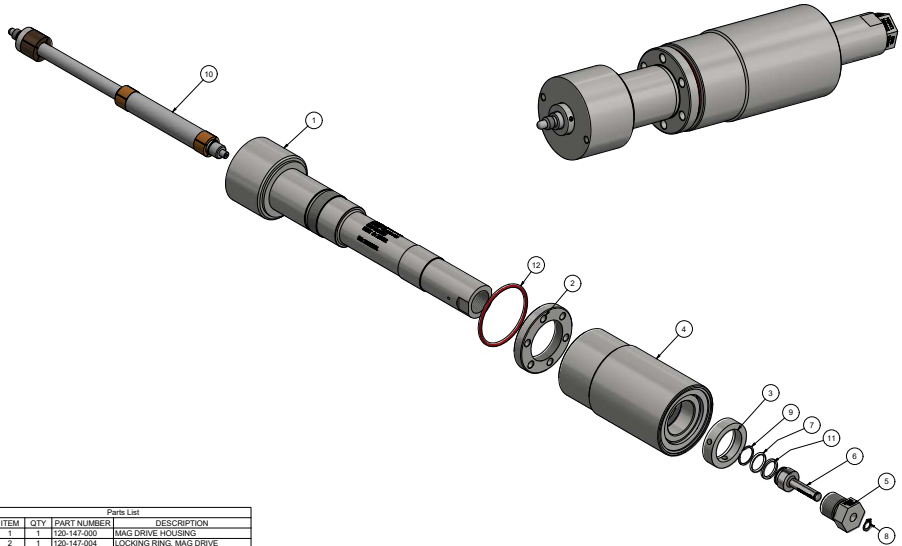
If you suspect the rotor is bent, use this procedure to verify and correct it:

1. Carefully mount the rotor in a lathe.
2. Turn the lathe slowly and use an indicator to determine if the rotor is bent and find and mark the high spot.
3. With the rotor still in the lathe, straighten it out by tapping the high spot using a mallet and wood block.
4. Repeat steps 2 and 3 until the high spot is less than .005".

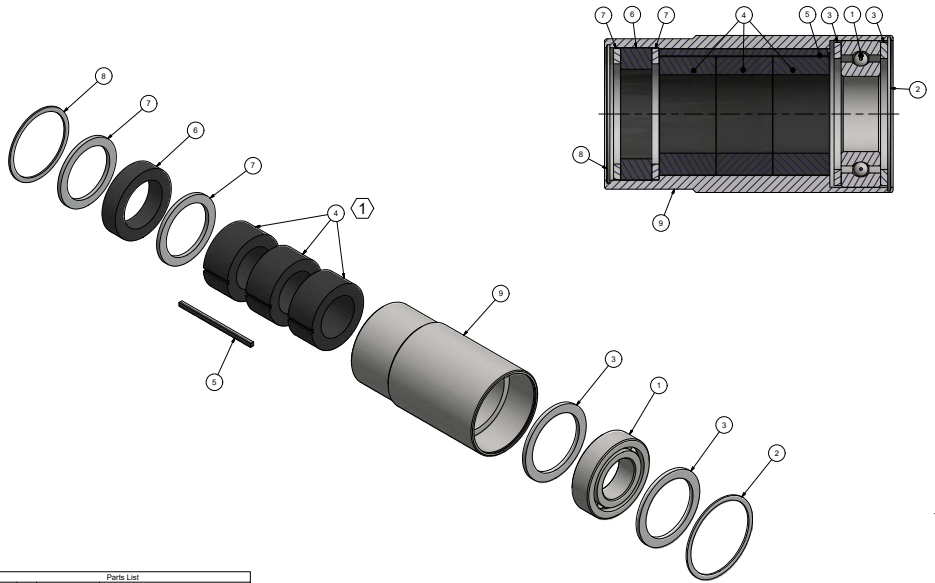
Bearing Maintenance

We recommend inspecting the bearings for damage and wear every 750 hours of operation. Replace as necessary.

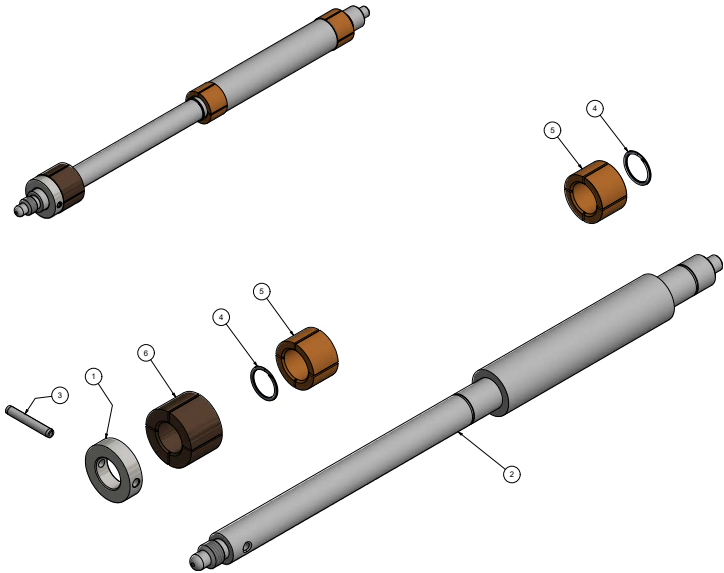
Diagrams



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	120-147-000	MAG DRIVE HOUSING
2	1	120-147-004	LOCKING RING MAG DRIVE
3	1	120-147-011	OUTER MAGNET RETAINER
4	1	120-147-007	OUTER MAGNET ASSY MAG DRIVE
5	1	120-147-005	GLAND MAG DRIVE
6	1	120-147-006	COVER MAG DRIVE
7	1	120-147-012	O-RING .016 VITON 900
8	1	142-59-002	RETAINING RINGS
9	1	120-147-004	RETAINING RING SS
10	1	120-147-008-1	INNER SHAFT ASSY MAG DRIVE
11	1	120-147-013	BACKUP RING GLAND
12	1	120-147-014	METAL O-RING MAG DRIVE GARLOCK PN:U8410-02408-SOA



Parts List		
ITEM	QTY	DESCRIPTION
1	1	BEARING BALL 168-2
2	1	RETAINING RING CARBON BEARING
3	2	SPACER LARGE
4	1	MAGNET ASSY OUTER
5	1	KEY STOCK .18" SQ X 2.95 LG
6	1	BEARING PURDON
7	2	SPACER LARGE
8	1	RETAINING RING CARBON BEARING
9	1	SHIELD OUTER MAGNET MAG DRIVE



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	120-147-003	RING, STAINLESS STEEL
2	1	120-147-008	INNER MAGNETIC ENCAPSULATION ASSY
3	1	120-147-010	RING, 1/8" DIA X 7/16" L X 5 SLOTTED SPRING SS
4	2	120-147-019	RETAINING RING, EXTERNAL, 5/8" SHAFT
5	2	120-683	BEARING, BRONZE, SMALL
6	1	120-684	BEARING, BRONZE, LARGE

Warranty and Return Policy

Warranty:

OFI Testing Equipment, Inc. (OFITE) warrants that the products shall be free from liens and defects in title, and shall conform in all respects to the terms of the sales order and the specifications applicable to the products. All products shall be furnished subject to OFITE's standard manufacturing variations and practices. Unless the warranty period is otherwise extended in writing, the following warranty shall apply: if, at any time prior to twelve (12) months from the date of invoice, the products, or any part thereof, do not conform to these warranties or to the specifications applicable thereto, and OFITE is so notified in writing upon discovery, OFITE shall promptly repair or replace the defective products. Notwithstanding the foregoing, OFITE's warranty obligations shall not extend to any use by the buyer of the products in conditions more severe than OFITE's recommendations, nor to any defects which were visually observable by the buyer but which are not promptly brought to OFITE's attention.

In the event that the buyer has purchased installation and commissioning services on applicable products, the above warranty shall extend for an additional period of twelve (12) months from the date of the original warranty expiration for such products.

In the event that OFITE is requested to provide customized research and development for the buyer, OFITE shall use its best efforts but makes no guarantees to the buyer that any products will be provided.

OFITE makes no other warranties or guarantees to the buyer, either express or implied, and the warranties provided in this clause shall be exclusive of any other warranties including ANY IMPLIED OR STATUTORY WARRANTIES OF FITNESS FOR PURPOSE, MERCHANTABILITY, AND OTHER STATUTORY REMEDIES WHICH ARE WAIVED.

This limited warranty does not cover any losses or damages that occur as a result of:

- Improper installation or maintenance of the products
- Misuse
- Neglect
- Adjustment by non-authorized sources
- Improper environment
- Excessive or inadequate heating or air conditioning or electrical power failures, surges, or other irregularities
- Equipment, products, or material not manufactured by OFITE
- Firmware or hardware that have been modified or altered by a third party
- Consumable parts (bearings, accessories, etc.)

Returns and Repairs:

Items being returned must be carefully packaged to prevent damage in shipment and insured against possible damage or loss. OFITE will not be responsible for equipment damaged due to insufficient packaging.

Any non-defective items returned to OFITE within ninety (90) days of invoice are subject to a 15% restocking fee. Items returned must be received by OFITE in original condition for it to be accepted. Reagents and special order items will not be accepted for return or refund.

OFITE employs experienced personnel to service and repair equipment manufactured by us, as well as other companies. To help expedite the repair process, please include a repair form with all equipment sent to OFITE for repair. Be sure to include your name, company name, phone number, email address, detailed description of work to be done, purchase order number, and a shipping address for returning the equipment. All repairs performed as "repair as needed" are subject to the ninety (90) day limited warranty. All "Certified Repairs" are subject to the twelve (12) month limited warranty.

Returns and potential warranty repairs require a Return Material Authorization (RMA) number. An RMA form is available from your sales or service representative.

Please ship all equipment (with the RMA number for returns or warranty repairs) to the following address:

OFI Testing Equipment, Inc.
Attn: Repair Department
11302 Steeplecrest Dr.
Houston, TX 77065
USA

OFITE also offers competitive service contracts for repairing and/or maintaining your lab equipment, including equipment from other manufacturers. For more information about our technical support and repair services, please contact techservice@ofite.com.