

## **APR-5000-XL(S) Z-XIS LEADSCREW LUBRICATION**

The z-axis leadscrew for the APR head should be lubricated as part of regular maintenance. Recommended interval: every 2 or 3 months or as needed.

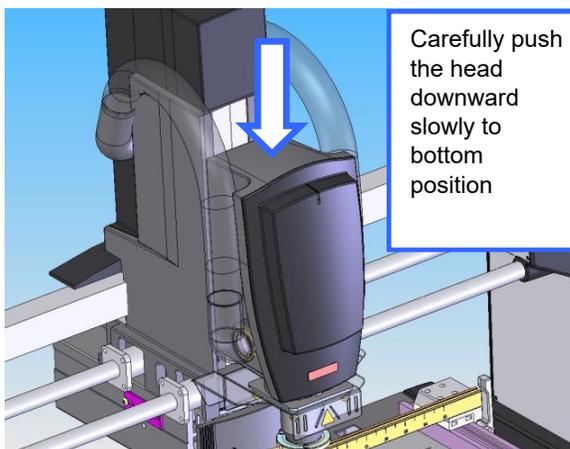
The z-axis leadscrew lubrication can be done by manually moving the head down with the machine off but the head can be difficult to move so alternatively the process can be done in the software manual mode (contact OK tech support).

**Tools:** Torx TR10x80 tamper-resistant driver (see appendix C)  
Or 3/32" hex key wrench (older models only) Long swabs

**Lubricant:** Teflon or PTFE-based grease (see example in appendix B). This type of grease does not break down as easily with friction (leadscrew movement) as with other types of greases. Do not use liquid or spray lubricants or these will drip down onto the camera assembly.

### **Manually Move Z-axis Head To Downward Position**

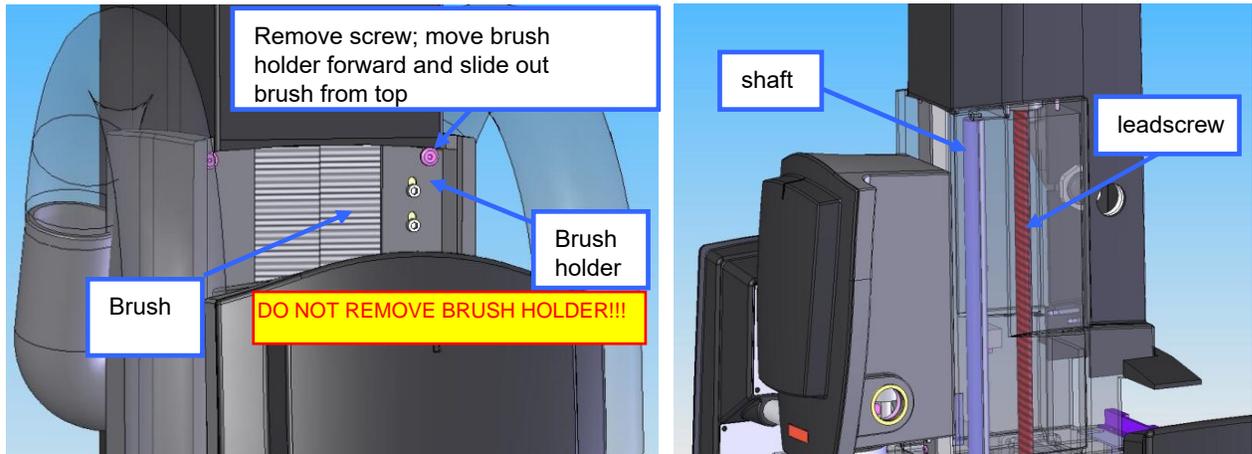
- 1) Machine is OFF.
- 2) Carefully push the head downward very slowly so that the head is at the bottom most position of it's travel. Select push points at the top of the head casting.



### **Remove Right-Side Brush and Locate Z-axis Leadscrew**

- 3) Remove the right uppermost screw for the right-side brush holder (DO NOT remove the 2 screws holding the head homing metal flag).  
(note: for newer machines, a Torx TR10 (tamper resistant) tool will be required)

*Alternative: removing the right-side brush is preferable for access to z-axis leadscrew for lubrication procedure but if tool is not readily available then can carefully move brushes aside as best possible and continue with step 9.*



- 4) Carefully bend the right-side brush holder forward and slide the right side brush out of the brush holder **DO NOT REMOVE BRUSH HOLDER!!! ONLY REMOVE BRUSH! REMOVING HOLDER MAY CAUSE DAMAGE!!!**
- 5) Use a flashlight to look inside the rear head casting thru the middle of the brush holders. The z-axis leadscrew looks like a spiral corkscrew and is located behind the smooth shaft in front.  
(Note: it is not necessary to lubricate the smooth shaft)

### **Apply Lubricant Grease To Upper Portion Of Leadscrew**

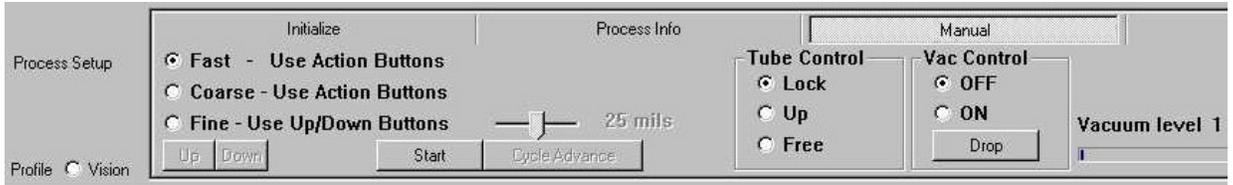
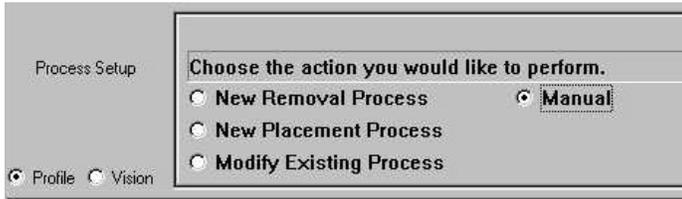
- 6) Use a long swab and apply a moderate amount of Teflon or PTFE lubricant grease to upper part of leadscrew above the head mount. Use the swab to cover as much area of the leadscrew as possible with the grease.

### **Re-install Right-Side Brush Into Brush Holder**

- 7) Carefully bend the right-side brush holder forward and slide the right side brush back into the brush holder.
- 8) Re-attach the right-side brush holder with the upper screw to the casting.

### **Go To Software Manual Mode**

- 9) Turn machine ON and open APR software.
- 10) Go to process setup > manual mode (if manual mode not enabled, refer to appendix A).
- 11) Continue to manual mode control screen.



### **Move Head Up and Down to Distribute Lubricant**

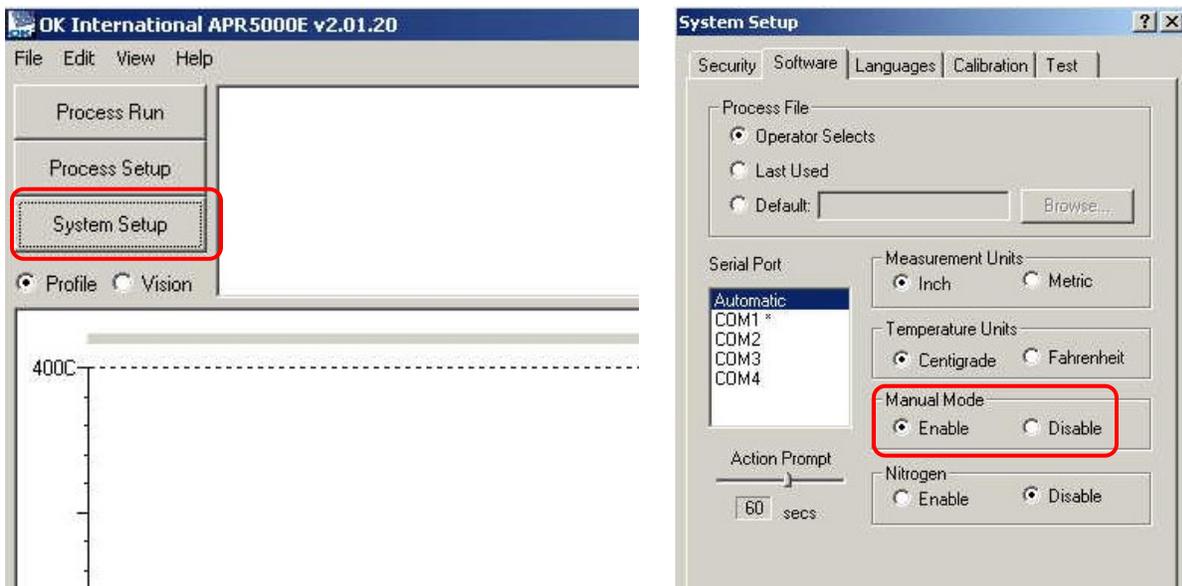
12) In FAST speed move the head downward and upward a few times using the UP/DOWN buttons to distribute the grease along the length of the z-axis leadscrew.

## APPENDIX (A): APR SOFTWARE MANUAL MODE

The software manual mode is a screen where the user has manual control of APR functions.

### 1) Enabling the Manual Mode in APR Software

If the manual mode is not already enabled, go into System Setup, click on the software tab and enable the manual mode. Click Ok and exit System Setup.



### 2) Enter the Manual Mode in APR Software

Go to process setup, select manual mode and continue “next” to manual mode control screen.



The Fast/Coarse/Fine are speeds for moving the z-axis head up and down using the UP – DOWN buttons on front of the machine. Both buttons for either UP or DOWN must be depressed at same time in order to move the head.

## APPENDIX (B) RECOMMENDED LUBRICANTS

A Teflon or PTFE-based synthetic grease should be used.

Super Lube is probably more readily found than Huskey and can be ordered on-line from super lube website.

[www.super-lube.com](http://www.super-lube.com)

<http://www.super-lube.com/synthetic-multipurpose-grease-ez-49.htm>

[http://www.super-lube.com/greases-synthetic-multipurpose-grease-c-4\\_9.htm](http://www.super-lube.com/greases-synthetic-multipurpose-grease-c-4_9.htm)

See the following supplier pages (for reference only)

NOTE: these are recommendations only and OK International is not associated with these suppliers nor do we stock their product.

## APPENDIX (C) TORX TR10x80 (TAMPER RESISTANT) DRIVER

Newer model APR will have tamper resistant Torx screws for the brush holders, and a Torx TR10x80 (tamper resistant) driver will be needed to remove them.

These tools are available from major supply houses.

(Example only)

In USA: McMaster Carr p/n 83335A61

<http://www.mcmaster.com/>

### Tamper-Resistant Torx L-Keys and Drivers

Use these keys and drivers to install and remove tamper-resistant pin-in-head Torx screws. All are steel. **L-keys** have tamper-resistant Torx on both ends. **Drivers** have a plastic handle with a cushion grip (unless noted) for maximum torque and comfort. *Note:* Also compatible with Torx-Plus screws, but will not give Torx-Plus performance.



Torx Size	L-Keys		Drivers		
	Lg.		Blade Lg.	O'all Lg.	
T7	1 39/64"	55525A22	2 13/32"	6 1/2"	83335A68
T8	1 45/64"	55525A23	2 13/32"	6 1/2"	83335A69
T9	1 29/32"	55525A24	2 13/32"	6 45/64"	83335A59
<b>T10</b>	<b>2"</b>	<b>55525A25</b>	<b>3"</b>	<b>7 1/2"</b>	<b>83335A61</b>
T15	2 7/64"	55525A26	3"	7 1/2"	83335A62
T20	2 13/64"	55525A27	4"	8 5/16"	83335A63
T25	2 13/32"	55525A28	4"	8 5/16"	83335A64
T27	2 45/64"	55525A29	4 1/2"	9 13/64"	83335A65
T30	2 45/64"	55525A31	4 1/2"	9 13/64"	83335A66
T40	3"	55525A32	5 7/64"	10"	83335A67
T45	3 13/64"	55525A33	---	---	---
T50	3 45/64"	55525A34	---	---	---
T55	4 13/64"	55525A35	---	---	---



## Greases

**Super Lube® Multi Purpose Synthetic Grease** is a patented synthetic NLGI grade 2 heavy-duty, multipurpose lubricant with PTFE. Synthetic base fluids and the addition of PTFE micro powders combine to form a premium lubricant that provides longer life protection against friction, wear, rust and corrosion. Machinery lasts longer, downtime is reduced, and productivity is increased. Does not run, drip, evaporate, or form gummy deposits and will not melt or separate. A synthetic, heavy-duty lubricant that is compatible with most other lubricants.

*USDA and NSF registered H-1 safe for incidental food contact.*  
 Benefits: Clean, non-toxic, non-staining; Dielectric; Impervious to salt water, safe in potable water; Long lasting; Reduces friction; Wide Temperature Range -40° to 450°F.

**SILICONE DIELECTRIC Grease** is waterproof and protects against moisture and contaminants in electrical connections. *Applications: Lubricates and moisture proofs; Protects battery cables, spark plugs, distributor caps, terminal strips and cable connections.*

**SILICONE Lubricating Grease** with Syncolon (PTFE) has a wider operating range than petroleum based lubricants; Excellent water protection and moisture barrier.

*Applications: Plastic gears, plastic threads, damping medium for dash pots; O-Rings; Electrical motor bearings; Rubber.*

**High Temperature/Extreme Pressure Grease** is a NLGI #2 grade grease ideal for manufacturing facilities where safety, thermal stability, and extended service is critical. Temperature range from -30°F to 475°F; Resistant to detergents and saltwater; Will not dry out or form deposits; Resists corrosive chemicals; No separation; Outlasts others!!

*Applications: Bearings; plain, anti-friction, or roller; Bakery conveyors; Blower fans; Lithographic ovens; Tenter frames.*

### SYNTHETIC MULTI-PURPOSE GREASE

Mfg#	Description
82340	1 cc Packet of Grease
21006	.6 cc Syringe
21010	1/2 oz Tube of Grease
21014	1/2 oz Tube of Grease - BULK
21030	.3 oz Tube of Grease
21036	.3 oz Cartridge of Grease
41150	400 gram Cartridge
41160	400 gram Can
41050	.5 lb Pail of Grease
41030	.30 lb Pail of Grease
41120	120 lb Keg of Grease
41140	400 lb Drum of Grease

### SILICONE DIELECTRIC & VACUUM GREASE

91003	.3 oz Tube
91016	400 Gram Can
91030	.30 lb Pail
91400	400 lb Drum

### SILICONE LUBRICATING GREASE

92003	.3 oz Tube
92150	400 gram Cartridge
92016	400 gram Can
92005	.5 lb Pail
92030	.30 lb Pail
92400	400 lb Drum

### SYNTHETIC HIGH TEMPERATURE E.P. GREASE

70006	.6 cc High Temp Syringe
71150	400 gram Cartridge
71160	400 gram Can
70050	.5 lb Pail
70300	.30 lb Pail

### SYNTHETIC RAILROAD GREASE

41040	.40 lb Pail
41400	400 lb Drum



# \* PRODUCT INFORMATION \*

## **HUSKEY™ LVI-50 GREASE**

### DESCRIPTION

**HUSKEY LVI-50** is a multi-service, non-melting, waterproof grease fortified with PTFE. It is designed specifically to lubricate, seal out water, and resist chemical attack under the most demanding conditions. **HUSKEY LVI-50** with its excellent film strength and extreme pressure qualities, forms a tough durable film of lubrication that prevents metal to metal contact. **HUSKEY LVI-50** is a pure synthetic based lubricant that is NSF/U.S.D.A. H-1 \*Registered and KOSHER approved, which gives it full acceptability for use in ALL areas where incidental food or potable water contact may occur.

### USAGE

**HUSKEY LVI-50** with its waterproof and chemical resistant capabilities is an excellent lubricant on all sliding surfaces and slow to high speed bearings, operating in adverse conditions. Because of its pure synthetic base, high load carrying capacity and wear protection characteristics, **HUSKEY LVI-50** is far superior than petroleum, white oil based greases on the market today. This makes **HUSKEY LVI-50** a truly multi-service grease in both food grade and non food grade applications operating in temperatures from -10°F to 400°F. Due to its NSF/U.S.D.A. H-1 \*Registration, **HUSKEY LVI-50** is an excellent choice for both Food Processing plants, where equipment wash down is an everyday requirement and Water Industries, where contamination of conventional petroleum lubricants is a primary environmental concern. **HUSKEY LVI-50** is compatible with most rubbers and plastics and is a superior lubricant for "O" rings. Some of its diversified uses include:

- PUMP BEARINGS
- BUSHINGS
- CAN SEAMERS
- VALVES
- GASKETS AND "O" RINGS
- CONVEYORS
- STERILIZER CHAINS
- SLIDES AND WAYS
- POOL EQUIPMENT
- ELECTRIC MOTORS
- WATER FILTERS
- UNIVERSAL JOINTS

### ADVANTAGES

- NSF/U.S.D.A. H-1 \*Registration
- WATERPROOF
- NON-MELTING
- CONTAINS PTFE
- KOSHER APPROVED
- CHEMICAL RESISTANT
- NON STAINING
- WIDE TEMPERATURE RANGE
- REDUCES WEAR
- PREVENTS RUST & CORROSION

NSF H-1 Registration No. 059323



## **HUSKEY Specialty Lubricants**

manufactured by HUSK-ITT Corporation / SPECIALTY LUBRICANTS Corporation

**Western Region Office:**  
1580 Industrial Avenue, Norco, California 92860  
(951) 340-4000 • Fax: (951) 340-4011  
(888) 4-HUSKEY • [www.huskey.com](http://www.huskey.com)

**Eastern Region Office:**  
8300 Corporate Park Drive, Macedonia, Ohio 44056  
(330) 425-2567 • Fax: (330) 425-9637  
(800) 238-LUBE

# \* PRODUCT INFORMATION \*

## TYPICAL SPECIFICATIONS

<b>DESCRIPTION</b>	<b>HUSKEY Product:</b>	LVI-50 Grease
	Color:	Translucent White
	Base Oil:	Synthetic
	Thickener:	Synthetic
	Texture:	Smooth & Tenacious
	Base Solid:	PTFE
	NSF/U.S.D.A. Rating:	H-1

TEST METHOD	ASTM TEST	RESULTS
N.L.G.I. Grade	----	2
Worked Penetration	D-217	
60 Strokes		280
10,000 Strokes		290
Base Oil Viscosity,	D-445	
cSt @ 40•C		290
cSt @ 100•C		42
Pour Point, •F	D-97	-10
Flash Point, •F	D-92	400
Dropping Point, •F	D-566	NONE
Conradson Carbon, %	D-189	.001
Evaporation Loss, %	D-972	1.5
(10 hours @ 210•F)		
Corrosion Preventative Test	D-1743	PASS
Water Washout, % Loss	D-1264	1.9
Timken OK Load, lbs.	D-2509	35
4-Ball Wear Scar, mm	D-2266	0.50
(40 Kg, 1 hr. @ 1200 rpm, 167•F)		
Dielectric Strength, KV	D-877	30
WGK (German Water Classification)	-----	0



### PACKAGE AVAILABILITY

Convenient disposable gun loader 14 oz.  
Cartridges  
5-gal. Pail, 15-gal. Keg and 55-gal. Drum



The name of this product or group of products is for product identification only. HUSK-ITT CORPORATION makes no warranties, representations or conditions of any kind expressed or implied, whether for merchantability or fitness with respect to these products. The final determination of the suitability of the products for the application contemplated by the user is the sole responsibility of the buyer. HUSK-ITT CORPORATION sales personnel are not authorized to amend this warranty limitation.

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