

MAINTENANCE MANUAL

MES LINEAR SLIDE

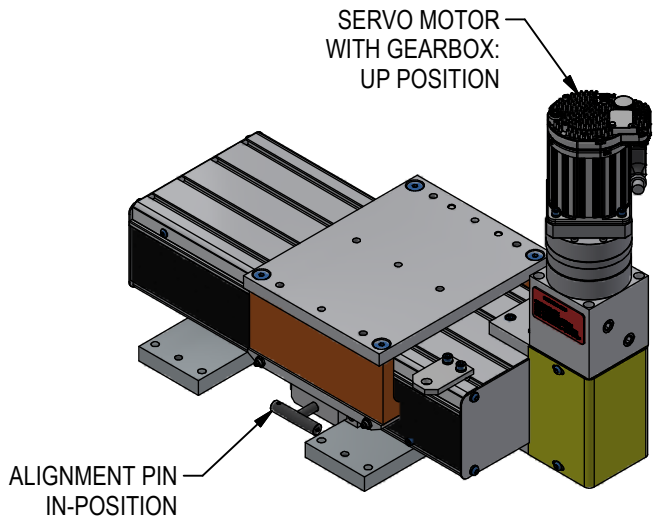
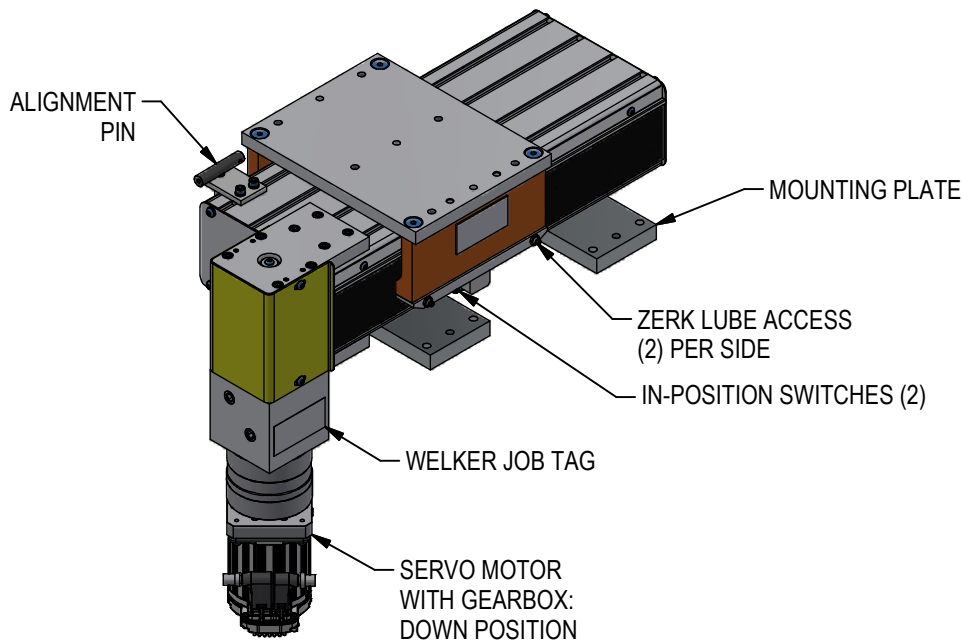


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MAINTENANCE ~ SAFETY FIRST!

MAINTENANCE SHOULD ONLY BE PERFORMED BY QUALIFIED PERSONNEL. PROPER SAFETY GEAR AND PROCEDURES MUST BE USED AT ALL TIMES. BEFORE PERFORMING MAINTENANCE, CUT OFF POWER SUPPLY TO THE UNIT.

PREVENTATIVE MAINTENANCE: Regularly inspect unit to verify proper operation. Check for debris build up inside extrusion as too much contamination can jam debris into bearing block, past seals. Clean as needed. Inspect all electrical, lubrication and mounting connections, making sure all connections are tight and secure.

NYLON BRUSH: Inspect every six (6) months. Replace when damaged or worn.

BEARING ASSEMBLY & RAIL: Bearings must be lubricated periodically: see Lubrication Schedule. Inspect rail for damage and debris.

SWITCHES: Switches may fail and need replacement; it is recommended to keep a spare switch on hand.

MOTOR: General inspection below. For detailed information, see MES Operations Manual.

INSPECT	CHECK	ACTION
Motor Exterior	Check the external surfaces for contamination. Accumulation of dirt and fibrous deposits must be removed. Check the external surfaces for oil film and greasy deposits. Check for evidence of damage or overheating.	Clean the motor external surfaces using clean, lint-free cloths. Clean deposits from between cooling fins using a vacuum cleaner and a stiff-bristled nylon brush. Clean the oil film and greasy deposits from the motor surface using clean, lint-free cloths. If necessary, moisten cloth with an approved non-flammable, residue-free solvent. Do not pour solvent on motor. If the motor has physical damage, replace the motor.
Motor Mountings	Make sure the mounting hardware is secure.	If the mounting hardware is not secure, check the motor/gearbox alignment, and tighten the mounting hardware.
Motor Electrical Connections	Check that all electrical connections are secure. Check the electrical connections for evidence of arcing.	If the electrical connections are not secure, tighten them. Loose electrical connections can cause arcing, which is evident by discoloration and charring. If you find evidence of arcing, replace the damaged connections.
Belt Tension	Check belt tension for excessive slack. When the belt is properly tensioned, the unloaded side of the belt (slack) should remain taught under operation. Any sag or flap indicates low tension.	Tighten as necessary. See Belt Tensioning procedure.

GENERAL TROUBLESHOOTING

For motor troubleshooting, see MES Operation Manual

Fault	Likely Causes	Corrective Action
Excessive noise or vibration	Linear bearings lacking lubrication Worn gearbox/gearbox failure	Inspect and lubricate bearings Replace gearbox
Carriage does not repeat position	Shaft coupling slippage Excessive backlash in gearbox (worn) Rail/bearing failure Motor encoder/drive failure Belt slippage over pulleys (belt too loose) Worn belt	Inspect all shaft couplings for proper tightening torque. Tighten as required. Inspect shaft surfaces for galling. Replace gearbox Inspect and replace rails and bearings Replace motor Inspect belt for proper tension. Inspect for tooth wear. Replace belt. Replace Belt
Carriage does not fully extend or retract	Contaminants/debris in slide Rail bearing failure Unit is over load capacity Motor fault	Inspect slide, clear debris, replace worn brushes. Inspect and replace rails and bearings Check unit max load or interference See MES OPERATION MANUAL if Welker standard motor. For all others, see motor manufacturer.

LUBRICATION SCHEDULE

Lubrication is required for rail bearings!

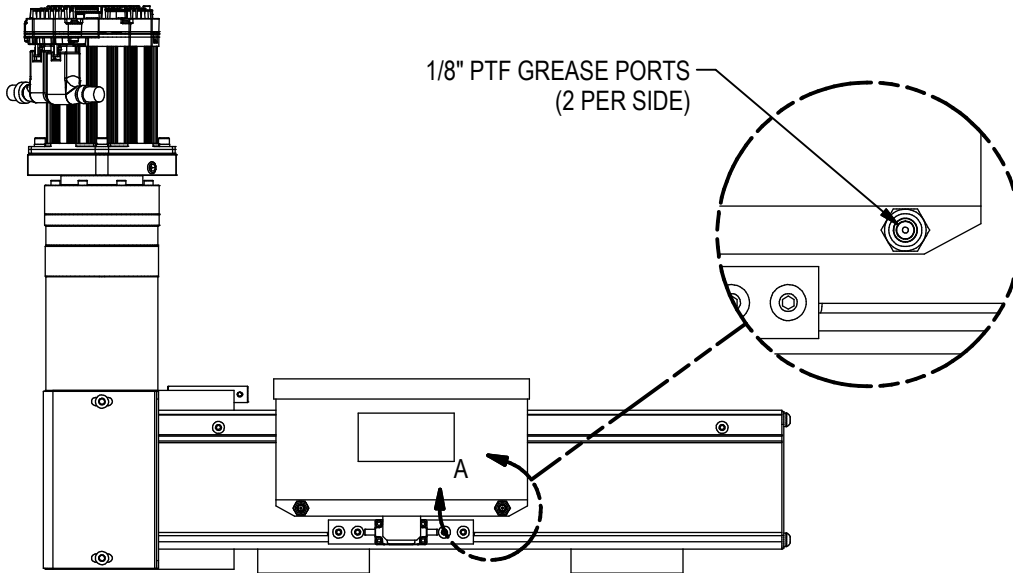
1/8" PTF grease ports are provided (2 each side of carriage) that feed rail bearings. Grease must be applied to each fitting.
Recommended lubricant: MOBIL XHP222 LITHIUM COMPLEX

Lubricate each bearing with 0.5CC applied per schedule >>>

Irrespective of running interval, we recommend to lubricate every 3 months.

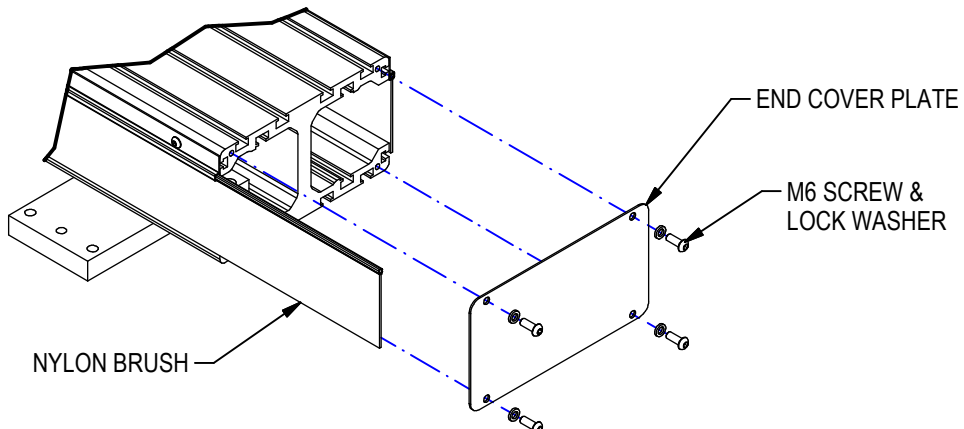
* Lubrication should be applied throughout the stroke distance and not injected in a single dose while stationary: file 1/4 of the amount, stroke 1/4 of distance, repeat.

LUBRICATION SCHEDULE	
STANDARD STROKE (mm)	FREQUENCY (CYCLES)
60 to 600	500,000
660 to 1200	250,000
1260 to 1800	165,000
1860 to 2400	125,000
2460 to 3000	100,000
3060 to 3720	80,000



REPLACE NYLON BRUSH

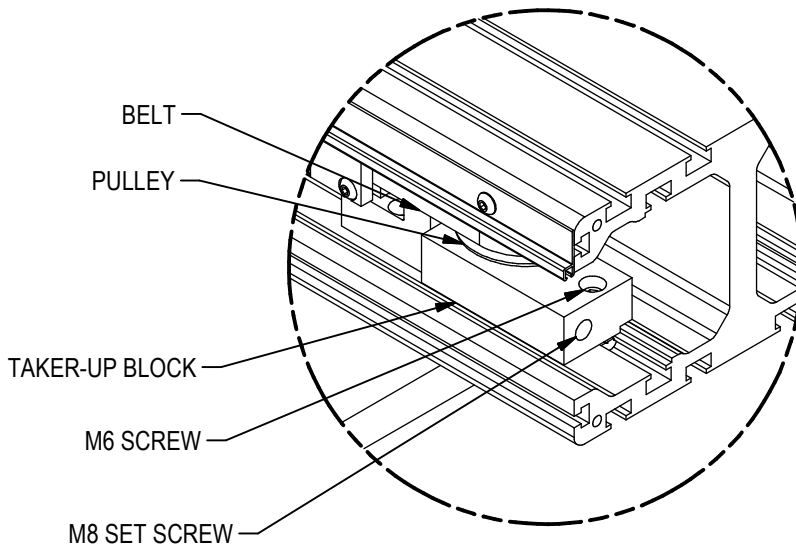
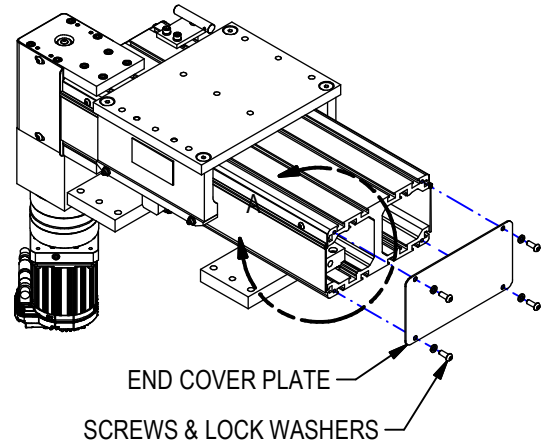
1. Turn off power to unit.
2. Remove screws & lock washers securing end cover plate.
3. Gently slide out nylon brush.
4. Install new nylon brush.
5. Align nuts in extrusion slot to holes of aluminum strip. Secure with M5 screws. Be sure strip is tight against inner edge of extrusion.



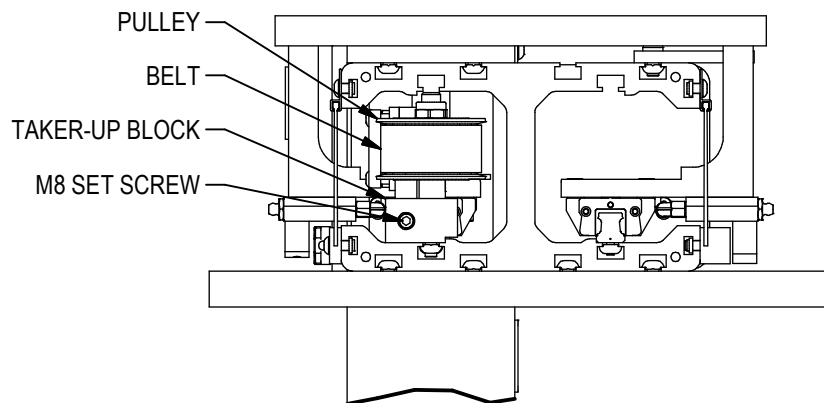
BELT TENSION ADJUSTMENT

When the belt is properly tensioned, the unloaded side of the belt (slack) should remain taut under operation. Any sag or flap indicates low tension. Recommended belt tension is 35-45 lb.

1. Turn off all power and follow necessary power lockout procedures.
2. Remove end cover plate.
3. Loosen M6 SHCS on end of taker-up block. Do not loosen more than 2 turns.
4. Loosen (or tighten) M8 set screw to achieve proper belt tension
5. Tighten M6 SHCS on end of taker-up block.
6. Replace end cover plate.

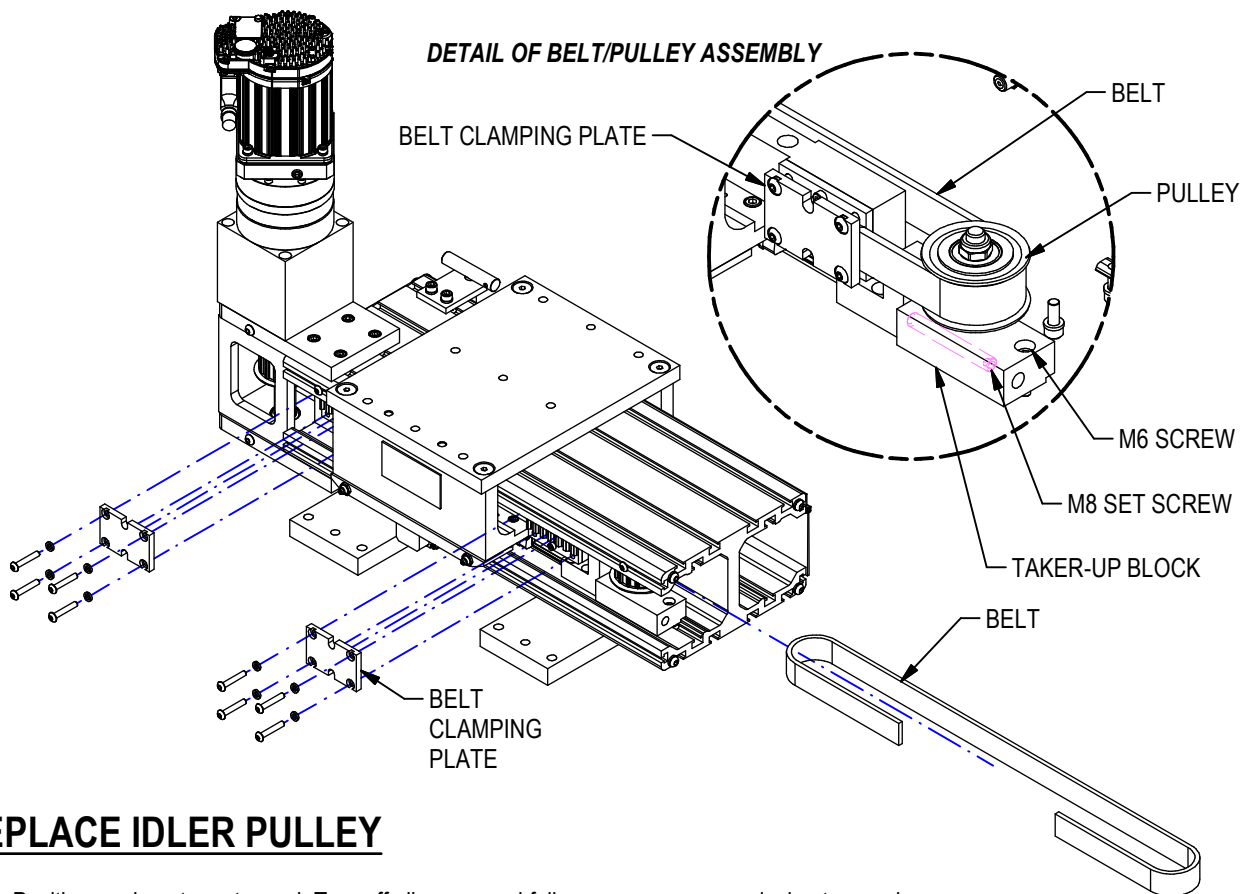
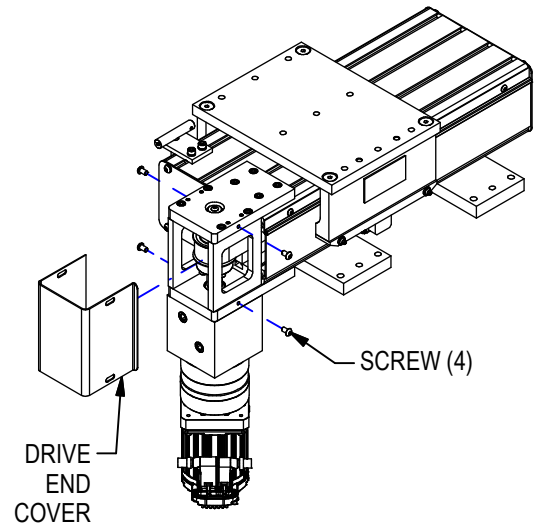


END VIEW (NON-MOTOR END)



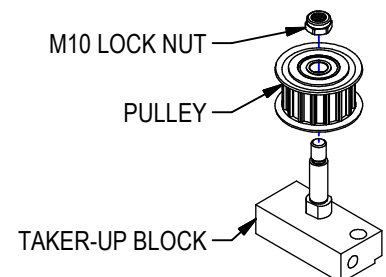
REPLACE BELT

1. Turn off all power and follow necessary power lockout procedures.
2. Remove end cover plate. See sheet 4 for detail.
3. Remove drive end cover.
4. Remove nylon brushes
5. Loosen M6 SHCS on end of taker-up block. Do not loosen more than 2 turns.
6. Loosen M8 set screw to remove belt tension.
7. Remove belt clamping plates.
8. Remove timing belt.
9. Feed new belt into slide.
10. Clamp one end of the belt with clamping plate.
11. While applying tension to the belt, attached other end to clamping plate. *Note: the belt may need to be trimmed to the exact length needed.*
12. Once both ends are clamped, adjust to the proper tension.
13. Re-assemble unit.
14. Check for proper operation.



REPLACE IDLER PULLEY

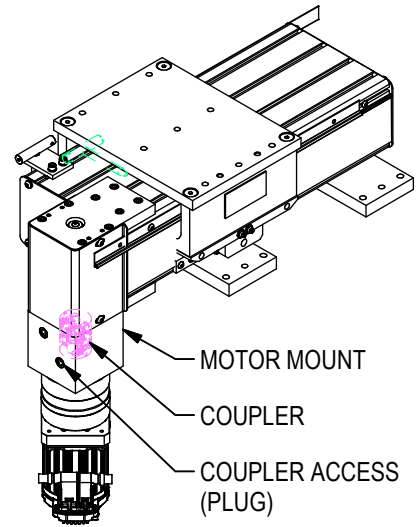
1. Position carriage to motor end. Turn off all power and follow necessary power lockout procedures.
2. Remove end cover plate. Remove nylon brushes as needed to provide access to carriage and idler pulley.
3. Loosen M6 SHCS on end of taker-up block
4. Loosen M8 set screw to remove belt tension.
5. Remove belt clamping plate from near-end of carriage.
6. Remove the take-up block with pulley from the extrusion.
7. Remove M10 nylon locknut from end of shaft.
8. Remove idler pulley from shaft.
9. Inspect shaft for damage. Place new pulley onto shaft, re-install M10 locknut.
10. Reassemble take-up block into slide.
11. See Setting Belt Tension for belt tensioning procedure.



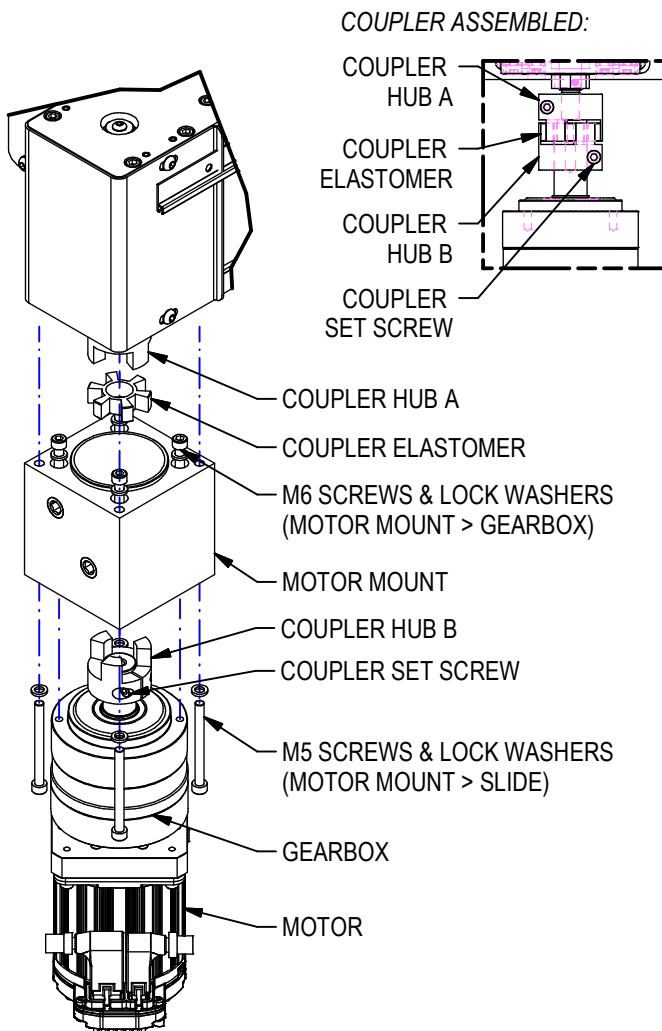
REPLACING MOTOR/GEARBOX

REPLACING GEARBOX

1. Turn off all power and follow necessary power lockout procedures. Disconnect motor cables.
2. Remove (4) M5 screws that secure motor mount to slide.
3. Remove motor/gearbox/motor mount assembly from slide. One half of the shaft coupler (hub A) should remain in place on the input shaft to the slide.
4. Remove access plugs from motor mount.
5. Loosen M5 clamping screw on the coupler from the gearbox output shaft.
6. Remove (4) M6 screws to remove gear box from motor mount.
7. Remove access plug on side of gearbox flange.
8. Loosen the M5 clamping screw on the shaft coupler in the gearbox.
9. Remove (4) M5 mounting screws from motor flange.
10. Separate motor from gearbox. Set motor aside.
11. Install new gearbox onto motor. Tighten M5 clamping screw on shaft coupler to 8Nm.
12. Install motor mount to gearbox using (4) M6 screws.
13. Install coupler hub B onto gearbox output shaft. Tighten clamping screw to 8 Nm.
14. Install elastomer to coupler hub B.
15. Reassemble motor/gearbox/motor mount assembly to slide. The assembly will need to be rotated to align the coupler hubs. The carriage may also be moved to rotate the input shaft to get the halves of the coupler properly aligned.
16. Install (4) M5 screws that secure motor mount to slide.
17. Reconnect cables.

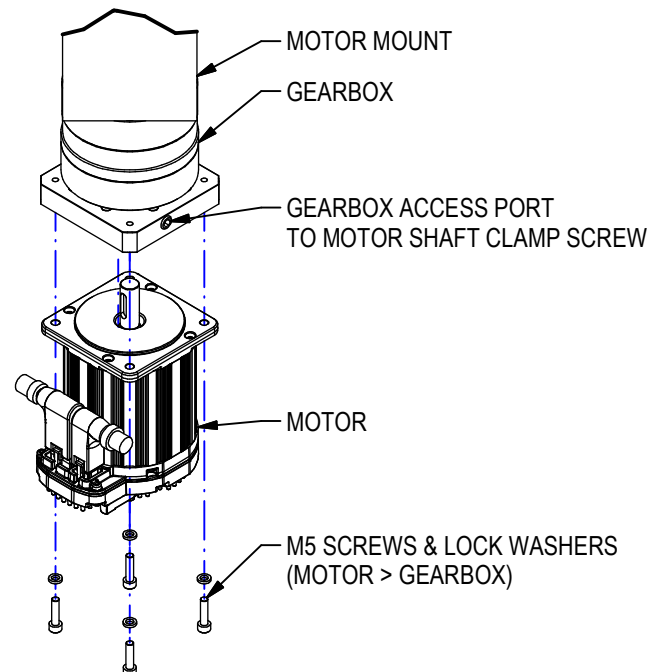


Coupler is a 3-piece component: coupler hub A is mounted to slide. Coupler hub B is mounted to gearbox. An elastomer is between. Coupler hubs are secured to shafts with set screw.



REPLACING MOTOR

1. Turn off all power and follow necessary power lockout procedures. Disconnect motor cables.
2. Remove access plug on side of gearbox flange.
3. Loosen the M5 clamping screw on the shaft coupler in the gearbox.
4. Remove (4) M5 mounting screws from motor flange.
5. Separate motor from gearbox.
6. Replace motor. Tighten M5 clamping screw on shaft coupler to 8Nm.
7. Reconnect cables.



REPLACEMENT PARTS

When requesting a replacement parts list, please have the unit's Welker part number and job number available and motor model/serial number if not customer supplied. Welker job tag is located on the motor mount.

ITEM	QTY	STOCK*	DESCRIPTION	PART NUMBER
1	1		RAIL/BEARING ASSEMBLY (INCL. RAILS, BEARING BLOCKS)	MES-RBA-JOB NUMBER
2	1		REPLACEMENT BELT	MES-BELT-JOB NUMBER
3	1		GEARBOX (MOTOR OPTIONS 100, 101, 102)	VRL-090C-3_10-S5-14EB12A
4	1		GEARBOX (ALL OTHER MOTOR OPTIONS)	CONTACT WELKER
5	1		MOTOR (OPTIONS 100/101/102)	CPM-MCPV-3436P-RLN
6	1		MOTOR (ALL OTHER OPTIONS)	CONTACT WELKER
7	1	1	NYLON BRUSH	MESE19-JOB NUMBER
8	2	2	PROX SENSOR	NMB6-F104M-E2-C-FE-200MM-V1
9	2		PROX SENSOR MOUNT KIT (INCL. MOUNTING BRKT & FASTENERS)	MES-PSM-KIT
10	1		T-HANDLE ALIGNMENT PIN	CLM-TP-C
11	1		IDLER PULLEY	AHTFW16-AT10250-12
12	2		DRIVE SHAFT SUPPORT BEARINGS	B6902ZZ

*RECOMMENDED PARTS TO KEEP IN STOCK

