

June 2, 2000

TO ALL EXEC 162F OWNERS
with
SECONDARY SHAFT SERIAL NUMBERS 5739 TO 5798
SECONDARY SHAFT SERVICE LETTER

With the change in the upper secondary mount bearing a new service interval has been established.

1. The secondary unit you have received in your new kit or as a rebuild unit requires an initial service of ten shots of grease. This extra grease should be added **slowly** through a grease gun while **rotating** the secondary shaft within the bearing assembly.

The correct type of grease to use is **Mystik JT-6**. One "shot" of grease equals one full stroke from a standard 14 oz. cartridge, lever action grease gun. The approximate shot dimension is .25 inch (6 mm) diameter by 1.5 inches (38 mm) long.

2. Included are new pages that should be inserted into your Maintenance Manual. The service interval for greasing for the new style upper secondary has been changed from one shot every 25 hours to one shot every 50 hours.

NOTE: THE INITIAL 10 SHOTS OF GREASE APPLIES ONLY TO UPPER SECONDARY MOUNT ASSEMBLIES WITH THE SINGLE BEARING AND THE SERIAL NUMBERS SPECIFIED ABOVE AND IS NOT TO BE USED WITH ANY OTHER SECONDARY UNITS.

Section 10: Drive Train

The drive train is a series of reduction pulleys and sprockets that transmit power from the engine to the main rotor system. No transmissions, gear boxes or drive shafts are used. The system is simple to monitor and maintain.

Reference prints: E23-2000, E27-2000, E33-2000 E49-2001

INSPECTION CHART				
PART NO.	DESCRIPTION	INSPECTION INTERVAL	R.C.O.	SERVICE REFERENCE
	Primary			
E49-6172	Main Sprocket	100 HR	1000 HR/OC	10-1
E49-7010	Sprocket Hub	100 HR	1000 HR/OC	10-1A
E00-2608	AN176H (3/8 x 3-1/8) Bolt	500 HR	2000 HR	Torque
E00-2450	AN4H12 (1/4 x 1-1/4) Bolt	100 HR	500 HR	Torque
E00-3410	Thin Locknut	100 HR	500 HR	Torque
E00-9028	Hose Clamp	500 HR	2000 HR	
E24-5110	Upper Clevis	500 HR	2000 HR/OC	
E24-5100	Upper Engine Mount Cup	500 HR	2000 HR/OC	
	Secondary			
E23-1002	Secondary Pulley Assembly	100 HR	1000 HR/OC	10-2
E23-5001	Upper Bearing Assembly	50 HR	500 HR/OC	10-2A
E23-6124	Secondary Shaft	100 HR	500 HR/OC	10-2
E23-1200	Lower Bearing	100 HR	500 HR/OC	10-3
E23-1210	Main Drive Belts	50 HR	500 HR/OC or 5 yrs	10-4
E23-7141	High Temp Fan	100 HR	2000 HR/OC	10-5
E23-1170	Snap Ring	500 HR	2000 HR	
E23-3001	Fan Pulley Assembly	500 HR	2000 HR/OC	10-6
E23-1221	Fan Pulley Bearing	500 HR	500 HR/OC	
E23-6191	Retainer Plate	1000 HR	2000 HR	
	Oil Bath			
E33-7101	Top Rear Cover	100 HR	OC	
E33-7121	Lower Oil Bath Pan	100 HR	OC	
E33-7111	Top Front Cover	100 HR	OC	
E33-1170	Rear Oil Seal Assembly	100 HR	500 HR/OC	10-8
E33-1140	Tension Spring	100 HR	2000 HR	
E33-3000	Rain Shield	100 HR	2000 HR	
	Chain			
E49-1290	Drive Chain W/Link	100 HR	100 HR/OC	10-9
	Clutch Idler Assembly			
E27-6100	Idler Pulley Assembly	100 HR	2000 HR/OC	10-10
E27-1231	Idler Pulley Bearing	100 HR	500 HR/OC	10-10
E27-1160	Rod End	100 HR	2000 HR/OC	
E27-1210	Idler Spring	100 HR	1000 HR	Grease
E27-2160	5/16 Rod End	100 HR	2000 HR	
E27-9020	Clutch Tube Weldment	100 HR	2000 HR/OC	10-11
E27-9010	Pulley Arm Weldment	100 HR	2000 HR	10-12
E27-5100	Clutch Arm Casting	100 HR	2000 HR/OC	
E00-2522	AN5-30A (5/16 x 3) Bolt	100 HR	2000 HR	

SERVICE NOTES:

1. Inspect the main drive sprocket for any noticeable wear around the teeth. First indication of wear will be an abnormal amount of aluminum flakes and dust in the oil bath and oil lubrication. Contact the factory for further inspection and instructions.
 - A. Check sprocket hub for backlash against the main drive shaft. This can be done by grabbing the main rotor shaft and applying pressure against the standard rotation of the rotor system. Monitor the relationship of the main rotor shaft to the sprocket hub for any movement. If any movement is apparent, contact the factory.
2. The secondary unit comes as a complete assembly and should not be tampered with or opened at any time. A visual inspection and a lock up inspection of the overrunning clutch should be done during the pre-flight inspection. Any other adjustments or work performed must be done by the factory service center at RotorWay, with the exception of the following:
 - A. The upper bearing assembly (part no. E23-5001) should have 1 shot of Mystik JT-6 grease every 50 hours.
3. Check the Construction Manual on bearing installation and removal. See also prints E49-2001 and E23-2000.
4. Replace the main drive belts at 500 hours of operation, or at 5 years, or on condition, whichever comes first. Shelf life, or time before entering service, is not included if the belts have not been exposed to the environment and have not been affected by aging. Conditional replacement includes damage resulting from excessive slipping, oil absorption, cracking, glazing, abnormal wear, or any other damage.

The main drive belts are replaced by following the procedures listed below. Pay close attention because you will follow the reverse procedures for reassembly.

- A. Clean the new belts with a clean rag lightly saturated with acetone.
 - B. Cut old belts off with aviation shears or a sharp knife. Be careful not to damage any of the parts.
 - C. Remove the radiator assembly (refer to print E30-2000 and E37-2000). Remove the radiator hoses from the radiator. Plug all water openings. Place the assembly out of the way until reinstallation.
 - D. Index the fan to the fan hub assembly and remove the fan from the hub.
 - E. Remove the two bolts that hold the lower bearing flange to the square drive tube. Then remove the two bolts that hold the lower bearing flanges together so you can lower the bottom flange, and move it from the square drive tube.
 - F. Remove bolts (part no. E00-2524) and lower the upper engine mount cup (part no. E24-5100) into the upper engine pulley on the engine. Loosen the belt tension by backing out the all thread adjustment bolt (part no. E00-2525).
 - G. Remove bolts (part no. E00-2531 and E00-2416). Remove the upper frame clevis casting.
 - H. Take one of the four belts and slip the belt between the secondary unit and the square drive frame tube. Pull the belt forward, up and over the pulley. **CAUTION:** Do not damage the belts. Repeat this procedure with the remaining three belts. Align all belts in the correct order on both the engine and secondary unit pulleys.
 - I. Reassemble all parts by following the above procedure in reverse. Follow the belt tensioning procedures shown in the Construction Manual.
5. Check the high temp fan for stress cracks on blades. Do not confuse stress cracks with excess resin cracks. Stress cracks will penetrate the fiberglass and resin cracks will be on the surface only.
 6. Check pulley for wear of anodizing and for chip or sand erosion. For bearing replacement do the following:
 - A. Remove the fan pulley assembly by loosening the set screws, removing the snap ring and lowering the pulley. It may be necessary to use a puller, as the pulley was originally assembled using Loctite. If necessary, use a file or fine sandpaper to remove the burrs on the shaft from the set screws.
 - B. Remove snap rings on both sides of the pulley bearing.
 - C. Heat the pulley in oven at 250 to 275 degrees F. **CAUTION:** Do not exceed 300 degrees.
 - D. Note which end of the bearing has the set screws, so that the new bearing will be installed in the same position. Lightly press out the old bearing with a press or vise.
 - E. Clean the pulley inner surface with acetone and then clean the new bearing.
 - F. Again reheat the pulley to 250-275 degrees F.
 - G. Insert snap ring into the pulley groove and make sure it is seated.

HOURLY SERVICE CHART EXEC 162F
REFERENCE SECTION 9: ENGINE AND EXHAUST SYSTEM

PART NO.	DESCRIPTION	25	50	100	200	250	500	1000	1500	2000
E24-9710	Exhaust Gasket			I			R			
E24-9840	Heat Wrap			I						R
E24-9011	Muffler/Tailpipe			I						R
E24-9001	Header Weldment			I						R
E24-1251	Spring, Exhaust Knuckle			I				R		
E24-9831	Heat Shield			I						R
E27-1160	Rod End			I				R		
E27-1240	Rubber Insert			I						R
E27-9000	Torque Link Weldment			I						R
A24-162F	R.I. 162F Engine	I								
E24-9950	Spark Plug Wires			I			R			
E24-9948	Spk.Plug Wire Separator			I			R			
E24-9740	Spark Plug		I	R						
E24-7560	Air Filter W/Clamp			I						
A24-1600	Engine Pulley		I					R		
	ACIS Components (Optional)									
E38-3000	Supercharger Assembly			I						
E38-5010	Stepper Motor			I						
E38-6010	Air Filter	I								
E38-6300	Mounting Bracket Weldment			I						R
E38-6420	Oil Drain Hose			I			R			
E38-6430	Oil Drain Hose			I			R			
E38-6600	ACIS Oil Cooler			I						R
E38-6610	Hose Assembly, Engine to Oil Cooler			I						R
E38-6620	Hose Assembly, Oil Cooler to Supercharger			I						R
E38-6640	Belt			I			R			

I INSPECT
 R REPLACE

HOURLY SERVICE CHART EXEC 162F
REFERENCE SECTION 10: DRIVE TRAIN

PART NO.	DESCRIPTION	25	50	100	200	250	500	1000	1500	2000
E49-6172	Main Sprocket			I				R		
E49-7010	Sprocket Hub			I				R		
E00-2608	AN176H (3/8 x 3-1/8) Bolt						I	R		
E00-2450	AN4H12 (1/4 x 1-1/4) Bolt			I			R			
E00-3410	Thin Locknut			I			R			
E00-9028	Hose Clamp						I			R
E24-5110	Upper Clevis						I			R
E24-5100	Upper Engine Mount Cup						I			R
E23-1002	Secondary Pulley Assembly			I				R		
E23-5001	Upper Bearing Assembly		I				R			
E23-6124	Secondary Shaft			I			R			
E23-1200	Lower Bearing	I					R			
E23-1210	Main Drive Belts		I				R			
E23-7141	High Temp Fan		I							R
E23-1170	Snap Ring						I			R
E23-3001	Fan Pulley Assembly						I			R
E23-1221	Fan Pulley Bearing						R			
E23-6191	Retainer Plate							I		R
E33-7101	Top Rear Cover			I						
E33-7121	Lower Oil Bath Pan			I						
E33-7111	Top Front Cover			I						
E33-1170	Rear Oil Seal Assembly			I			R			
E33-1140	Tension Spring			I						R
E33-3000	Rain Shield					I				R
E49-1290	Drive Chain W/Link			R						
E27-6100	Idler Pulley Assembly			I						R
E27-1231	Idler Pulley Bearing			I			R			
E27-1160	Rod End			I						R
E27-1210	Idler Spring			I					R	
E27-2160	5/16 Rod End			I						R
E27-9020	Clutch Tube Weldment			I						R
E27-9010	Pulley Arm Weldment			I						R
E27-5100	Clutch Arm Casting			I						R
E00-2522	AN5-30A (5/16 x 3) Bolt			I						R

I INSPECT
R REPLACE