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UNIVERSIDAD DE LAS FUERZAS ARMADAS
INNOVACIÓN PARA LA EXCELENCIA

UNIDAD DE GESTIÓN DE TECNOLOGÍAS

DEPARTAMENTO DE CIENCIAS ESPACIALES

CARRERA DE TECNOLOGÍA EN MECÁNICA AERONÁUTICA MENCIÓN MOTORES

TEMA: INSPECCIÓN DE LOS TRENES DE ATERRIZAJE PRINCIPALES DE UNA AERONAVE FAIRCHILD F-27 MEDIANTE EL USO DE DOCUMENTACIÓN TÉCNICA PARA PRESERVAR EL AVIÓN ESCUELA DE LA CARRERA DE MECÁNICA AERONÁUTICA PERTENECIENTE A LA UNIDAD DE GESTIÓN DE TECNOLOGÍAS ESPE UNIVERSIDAD D

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OBJETIVO GENERAL

Inspeccionar los trenes de aterrizaje principal de la aeronave Fairchild F-27 HC-BHD mediante el uso de documentación técnica para preservar el avión escuela de la carrera de Mecánica Aeronáutica



OBJETIVOS ESPECÍFICOS

- ✓ Obtener la respectiva documentación técnica (Manuales de Mantenimiento) enviados por el fabricante para llevar a cabo dicha inspección.
- ✓ Analizar los procesos y herramientas para la realización de la inspección de los trenes de aterrizaje principales de la aeronave Fairchild F-27.
- ✓ Determinar el estado en el que se encuentran los trenes de aterrizaje.



DESARROLLO DEL TEMA

INFORMACIÓN
OBTENIDA

- ANÁLISIS DE LA INFORMACIÓN
- ELEMENTOS Y HERRAMIENTAS

ITEMS DE
INSPECCIÓN

- REVISIÓN DEL ESTADO INICIAL DEL TREN.
- EJECUCIÓN DE LAS TAREAS DE MANTENIMIENTO.

RESULTADOS
ADQUIRIDOS

- ESTADO ACTUAL DE LOS COMPONENTES.



MANUAL DE MANTENIMIENTO

FAIRCHILD
F-27 SERIES
MAINTENANCE MANUAL

MAIN LANDING GEAR - MAINTENANCE PRACTICES

1. LUBRICATION - MAIN LANDING GEAR. (See Figure 201.)
2. INSPECTION - MAIN LANDING GEAR.
 - A. Inspect.
 - (1) Gear assembly for cleanliness, corrosion, cracks, or other damage.
 - (2) Attachment fittings for proper installation, safety and evidence of looseness.
 - (3) Lock strut for proper adjustment and downlock operating mechanism for damage, excessive play and freedom of operation.
 - (4) Shock strut sliding member for evidence of leakage, cleanliness and damage.
 - (5) Torque arms for damage, play and proper installation.
 - (6) Uplock roller on strut for freedom of movement, security and damage.
 - (7) Door operating bars for evidence of wear and damage.
 - (8) Tires for uneven or excessive wear, slippage marks, correct pressure and general condition.
 - (9) Remove wheels and check bearings, bearing cups and axle for damage, cracks and corrosion.
 - (10) Wheels for damage, cracks and corrosion. Also, check that anti-skid wheel contact path is not worn more than 0.09 inch deep.
 - (11) With wheel installed, check for proper attachment, end play and security.
 - (12) Doors for cracks, condition of seals and other damage.
 - (13) Door tracks, trolleys, attachment rods, and connecting rods for security, damage, wear and condition of lock cam and trigger on trolleys.
 - (14) Uplock assembly for damage, excessive play in levers, and cleanliness.
 - (15) With doors detached, raise gear into uplock and check for proper adjustment of track.
 - (16) Proper contact between bumper and strut.
 - (17) With doors attached, raise gear and check doors for fairing-in with fuselage.
 - (18) Install ground lock and check lock for condition and ease of installation.

FAIRCHILD
F-27 SERIES
MAINTENANCE MANUAL

WHEELS - MAINTENANCE PRACTICES

1. REMOVAL/INSTALLATION - MAIN GEAR WHEELS.

A. Obtain Tools.

- (1) Axle Nut Wrench - Snap On N6562.
- (2) Brake Alignment Tool - P/N 27-810101.

B. Remove.

CAUTION: WHENEVER MAIN LANDING GEAR WHEELS ARE REMOVED AND/OR REPLACED, IT IS ESSENTIAL TO MOVE UNIL FLYWHEEL SHELL AWAY FROM WHEEL RIM. SERIOUS DAMAGE TO THE ANTI-SKID UNIT INSTALLATION CAN RESULT IF THIS PRECAUTION IS NOT OBSERVED.

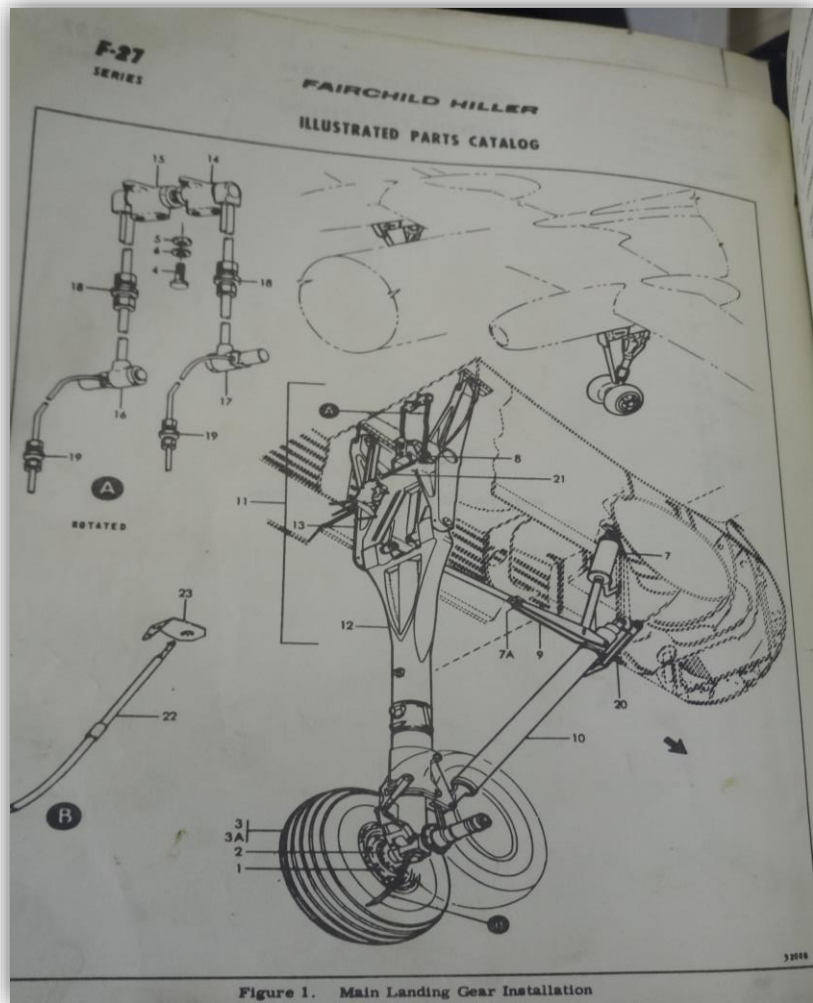
- (1) Jack gear assembly by use of axle jack.
- (2) Assure that parking brakes are applied to hold discs in position.
- (3) Remove lock bolt and remove wheel retaining nut.
- (4) Remove collar.
- (5) Remove wheel from axle, using axle nut wrench.
- (6) Remove snap rings, grease seal retainers and seal, and bearings from wheel.

C. Install.

- (1) Clean wheel bearings, bearing caps and seals with dry cleaning solvent and dry.
- (2) Insure axle and retaining nut threads are free from burrs.
- (3) Pack wheel bearings and coat all threads and bearing surfaces of retaining nut and washers with grease, Specification MIL-L-3545.
- (4) Install seal retainers and seal and secure with snap ring if applicable or the seal and inboard wheel bearing.

NOTE: After seal retaining snap ring is installed, ascertain that felt seal ring is equally centered around the periphery of the seal retainer when used. Wheel bearing grease may be used on the inner edge of felt seal to aid in retention and to facilitate wheel installation.





SECTION III
LANDING GEAR
Main Landing Gear Installation

FAIRCHILD
ILLUSTRATED PARTS CATALOG

F-27
SERIES

QUANTITY & INDEX NO.	PART NUMBER	NOMENCLATURE	USAGE CODE		UNITS PER ASSY
			FROM	TO	
1	27-410008-1 9541587	LANDING INSTL - MAIN (NHA 27-000001) -WHEEL ASSY (SIZE 9, 50-16) V(01297) (W/O S. B. 32-72)			2 R
	A9550332	-WHEEL ASSY (SIZE 9, 50-16) V(01297) (IAW S. B. 32-72) (USE AS SPARE REPL IN LIEU OF 9541587)			2 R
2	9541584 9550336	-BRAKE ASSY V(01297) (W/O S. B. 32-72) -BRAKE ASSY V(01297) (IAW S. B. 32-72) (USE AS SPARE REPL IN LIEU OF 9541584)			2 R 2 R
	MS20006-10 MS20006-12 MS20002C6 MS20002-6 AN363-624	ATTACHING PARTS -BOLT (USED WITH 9541584) -BOLT (USED WITH 9550336) -WASHER (USED UNDER HD) -WASHER (USED UNDER NUT) -NUT			8 R 8 R 8 8 8
3	9, 50 x 16-W 9, 50 x 16-B	-TIRE - TUBELESS 12 PLY R, 41 SKID DEPTH -TIRE - TUBELESS 12 PLY R, 41 SKID DEPTH BLACK SIDEWALL V(73606) (PER CUST REQ)			2 2
3A	9, 50 x 16	-TUBE - AIRCRAFT QUALITY (PER CUST REQ)			4
4	AN4-7A	-BOLT (USED ON SWIVEL COUPLINGS)			4
5	AN960-416	-WASHER (USED ON SWIVEL COUPLINGS)			4
6	AN960-416L	-WASHER (USED ON SWIVEL COUPLINGS)			4
7	558001	-ACTUATOR - RET V(01359) (USE AS SPARE REPL IN LIEU OF 56-466 (MOD. 4 & MOD. 5))			1 R
	AN178-22 AN960PD816 AN310-8	ATTACHING PARTS -BOLT -WASHER -NUT			1 2 1
7A	27-743174	-SWITCH INSTL - MLG (DETAILS 32-6-2)			REF
8	56-468 (MOD. 2)	-ACTUATOR - UP-LOCK V(01359)			1
9	2, 00257, 001	-LOCK STRUT ASSY V(93366)			1
10	2, 00259, 002	-DRAG STRUT ASSY V(93366)			1
11	2, 00042, 006 2, 00042, 008 2, 00042, 106 2, 00042, 108	-MAIN UNDERCARRIAGE UNIT V(93366) -MAIN UNDERCARRIAGE UNIT V(93366) -LEG - MAIN GROUP V(93366) -LEG - MAIN GROUP V(93366)	108 122		1 1 1 1
12	2, 00252, 001 2, 00450, 013	-MEMBER - UPPER GROUP V(93366) -MEMBER - UPPER GROUP V(93366)	108 122		1 1
13	C9029Y	--COUPLING - SWIVEL UPPER GROUP LH V(93366)	123		1
14	C9030Y	--COUPLING - SWIVEL UPPER GROUP RH V(93366)			1
15	A9031Y	--PIPE - SWIVEL CENTER GROUP LH V(93366)			1
16	A9032Y	--PIPE - SWIVEL CENTER GROUP RH V(93366)			1
17	MS21902-6S	--UNION			2
18	MS21902-3S	--UNION			2
19	27-412100	-DOOR MECHANISM ASSY - MLG FWD (DET. 32-8-1)			REF
20	27-412000	-DOOR MECHANISM INSTL - MLG MIDDLE & AFT (DETAILS 32-8-2)			REF
21	27-743170 27-746046-1	-STATIC DISCHARGER INSTL - MLG --STATIC DISCHARGER ASSY - MLG			1 1
	AN520-10R10 AN960C10 AN363-1032	ATTACHING PARTS --SCREW --WASHER - NUT			1 2 1
22	27-746047-1	--BRACKET ASSY - STATIC DISCHARGER			2





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INSPECCIÓN DE LAS LINEAS HIDRÁULICAS



INSPECCIÓN DE LAS COMPUERTAS



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REMOCIÓN DE LA RUDA DEL TREN



LIMPIEZA E INSPECCIÓN DE LOS COJINETES



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INSTALACIÓN DE LA RUEDA





**GRACIAS POR
SU ATENCIÓN**



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