

D. Remove safety wire and loosen bolts (4) attaching propeller to engine crankshaft, about 1/4 inch and pull propeller forward.

NOTE

Bolts (4) will have to be backed out evenly so that propeller may be pulled forward (approximately 1/4 inch at a time) until all bolts are disengaged from the engine crankshaft flange. As the propeller is separated from the engine crankshaft, oil will drain from the propeller and engine crankshaft cavities.

E. Pull propeller from engine crankshaft.

F. If necessary to remove the aft spinner bulkhead, remove bolts, washers and nuts (5) attaching bulkheads to the starter ring gear support.

NOTE

After removal of the propeller, the starter ring gear support assembly may be removed from the engine crankshaft to allow easier access of the aft spinner bulkhead attaching bolts. Loosen alternator adjusting arm and disengage alternator drive pulley belt from pulley on aft face of starter ring gear support assembly.

61-00-20 - PROPELLER INSTALLATION

1. If aft spinner bulkhead was removed, re-install on ring gear support, using bolts, nuts and washers in the reverse order of removal.

2. If starter ring gear support and aft spinner bulkhead were removed, clean mating surfaces of support assembly and engine crankshaft flange.

3. Place alternator drive belt in the pulley groove of the starter ring gear support. Fit starter ring gear over propeller flange bushings on crankshaft.

NOTE

Make sure the bushing hole in the ring gear support, that bears the identification "O", is assembled at the "O" identified crankshaft flange bushing. This bushing is marked "O" by an etching on the crankshaft flange next to the bushing. The starter ring gear must be located correctly to assure proper alignment of the timing marks on the ring gear.

CAUTION

Remove all rags or plugs placed in crankshaft or hub during propeller removal.

4. Clean propeller hub cavity and mating surfaces of propeller hub and ring gear support.

5. Lightly lubricate a new O-ring (8) (Figure 61-1) and the crankshaft pilot with clean engine oil and install O-ring in the propeller hub.

6. Align propeller mounting bolts (4) with proper holes in engine crankshaft flange and slide propeller carefully over crankshaft pilot until bolts can be started in crankshaft flange bushing.

7. Tighten bolts evenly and work propeller aft on crankshaft flange. Tighten bolts to 55-65 FT-LBS on McCauley propellers and 60-70 FT-LBS on Hartzell propellers.

8. INSTALL SAFETY WIRE THROUGH ROLL PINS SAFETYING BOLTS IN PAIRS.

9. Adjust alternator drive belt tension as outlined in Section 24-31-01.

10. Install spinner dome (5) making sure fiber washers are installed under all screws.

NOTE

The teflon tape (9) on hub (6) should be checked for smoothness of tape layers and that inner bulkhead (7) fits snug as spinner dome is being installed.

11. Conduct operational and leak check on propeller installation prior to flight.

61-10-00 - PROPELLER ASSEMBLY

No external lubrication is required on M20J propellers. Preflight inspection should be accomplished prior to each flight to determine: if blades have been damaged, if any abnormal looseness is evident between hub and blades or if there is any evidence of oil leakage.

61-10-10 -MINOR PROPELLER BLADE REPAIR

1. Minor nicks, dents and gouges may be dressed out by approved personnel. Blend any nicks or gouges into the leading edge with smooth curves or generous radii as shown in (Figure 61-2). Repaint area to reduce corrosive action.

61-20-00 - PROPELLER CONTROLLING**61-20-10 -GOVERNOR INSTALLATION**

1. Clean mounting pad and bottom of governor.
2. Coat new gasket w/ DOW Corning 7 compound release agent or equivalent before installation.
3. Install new gasket on mounting studs. Insure gasket has raised surface of the gasket screen toward the governor.
4. Position governor on mounting studs, aligning the governor splines and the splines of the accessory drive.
5. Install all mounting hardware. Torque nuts.
6. Connect governor control to governor and rig.

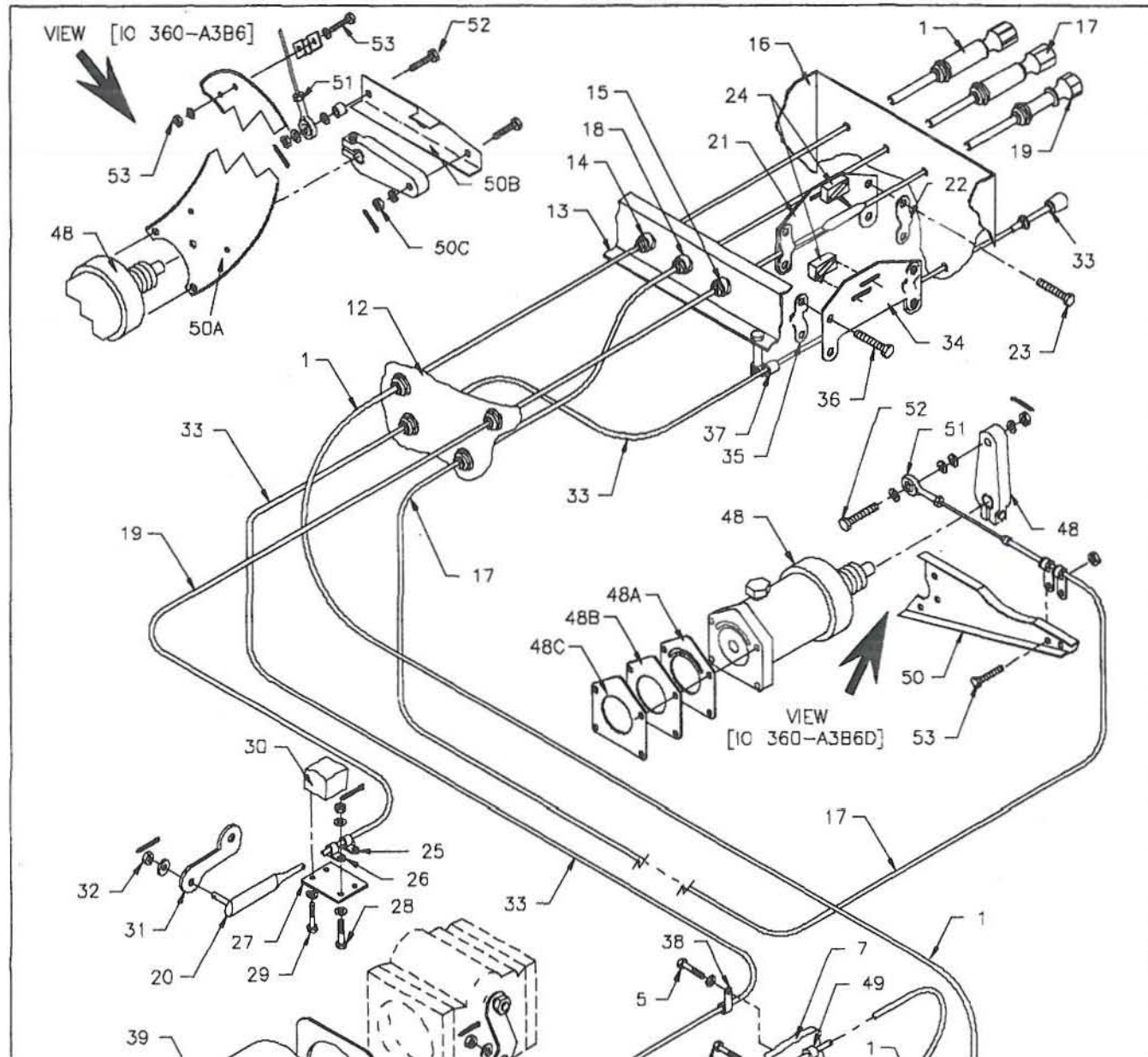
NOTE

All rigging to match governor arm location. Do not adjust governor high RPM stop to match the rigging.

61-20-20 - PROPELLER GOVERNOR CONTROL RIGGING

1. Disconnect propeller governor control rod.
 - A. Remove cotter pin, nut, bolt and washers from rod end at propeller governor control arm.
 - B. Remove bracket installed with propeller governor mounting bolts.
 - C. Disconnect control rod from governor control arm.
2. Adjust control arm spring to minimum tension which will return control arm to maximum RPM.
3. Push propeller control in cockpit full forward. Pull control back approximately 1/8 inch and lock in this position.

MOONEY AIRPLANE COMPANY, INC.
M20J - ILLUSTRATED PARTS CATALOG



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SECTION FIG-ITEM	PART NUMBER	12345 NOMENCLATURE	EFFECT/ NOTES	UNITS/ ASSY
2 -47	AN960-416L	.@WASHER	I/	1
2 -47	AN960-416	.@WASHER	I/	1
2 -48	660115-503	.GOVERNOR, PROPELLER (McCAULEY P/N, C290D5/T17)		1
2 -48	660115-501	.GOVERNOR, PROPELLER (EDO-AIRE) (ALT)		1
2 -48	660115-515	.GOVERNOR, PROPELLER	VII/	1
2 -48	660115-519	.GOVERNOR, PROPELLER (P/N DC290D1/T22)	VII/	1
2 -48A	MS100009	.GASKET (GARWIN) (SUPPLIED W/ GOVERNOR)		1
2 -48A	B20024	.GASKET (ALT) (McCAULEY)		1
2 -48B	LW12347	.PLATE (LYC)		1
2 -48C	72053	.GASKET (LYC)		1
2 -49	AN742-3	.@CLAMP, MIXTURE CABLE		1
2 -50	660199-001	.BRACKET, SUPPORT (IO 360-A3B6D)	VII/	1
2 -50A	660235-001	.BRACKET, SUPPORT (IO 360-A3B6)	VII/	1
2 -50B	660235-003	.BELLCRANK, GOV. ARM (IO 360-A3B6)	VII/	1
2 -50C	AN3-10	.@BOLT (IO 360-A3B6)	VII/	1
2 -50C	AN3-6	.@BOLT (IO 360-A3B6)	VII/	1
2 -50C	AN960-10	.@WASHER (IO 360-A3B6)	VII/	2
2 -50C	MS14144L3	.@NUT (IO 360-A3B6)	VII/	1
2 -50C	AN380-2-2	.@PIN, COTTER (IO 360-A3B6)	VII/	2
2 -51	HF-3	.BEARING, ROD END, SWIVEL		1
2 -51	AN315-3R	.NUT, ADJUSTMENT		1
2 -52	AN3-10	.@BOLT (IO 360-A3B6D)	VI/	1
2 -52	AN3-12	.@BOLT (IO 360-A3B6)	VII/	1
2 -52	914019-006	.@SPACER (IO 360-A3B6)	VII/	1
2 -52	AN960-10	.@WASHER (IO 360-A3B6D)	VI/	2
2 -52	AN960-10	.@WASHER (IO 360-A3B6)	VII/	1
2 -52	AN960-10L	.@WASHER (IO 360-A3B6D)	VI/	2
2 -52	913025-000	.@WASHER (IO 360-A3B6)	VII/	1
2 -52	AN320-3	.@NUT (SS/B MS14144L3)		1
2 -52	MS14144L3	.@NUT (SPARES)	VII/	1
2 -52	AN380-2-2	.@PIN, COTTER		1
2 -53	AN3-5A	.@BOLT		2
2 -53	MS21919DG5	.@CLAMP, CONTROL/BRKT (IO 360-A3B6D)	VI/	2
2 -53	660017-003	.@CLAMP, CONTROL/BRKT (IO 360-A3B6)	VII/	1

EFFECTIVITIES:

I	24-0084, 24-0378 THRU 24-1685, 24-3000 THRU 24-3153
II	24-0378 THRU 24-0979
III	24-0980 THRU 24-TBA
IV	24-0378 THRU 24-2999
V	24-1686 THRU 24-2999, 24-3154 THRU 24-TBA
VI	24-0378 THRU 24-3373
VII	24-3374 THRU 24-TBA (IO 360-A3B6 ENGINES)

NOTES:

1. 660051-003 SWIVEL JOINT OR -005 SWIVEL ASSY MAY BE USED. -005 ASSY CONSISTS OF AN3-11 BOLT, 913022-009 WASHER, 2 EA. 550017-005 SPACERS, AN960-10L WASHER, AN310-3 NUT, AN380-2-2 COTTER PIN AND HF-3-M HEIM BEARING.
2. ZINC PLATE PER ASTM B6 TYPE III CLASS FE/ZN13 AND ZINC COBALT W/CLEAR CHROMATE PER FORD SPEC WSH.MIP86.A.