



8-53-J2

JOYSTICK LINKAGE

Control Linkage
Supplied Parts & Materials

Part No.	Qty.	Description	
8-53-004	2	.065 x 3/4 x 55 Alum. Tube	Pushrod Linkage
8-53-004B	4	5/8 x 2 Alum. Tapped Bushings	Rod End Bushings
8-53-SPM6	4	3/8 -24 Rod End Bearings	
3-11A	4	10-32 x 3/4 Grip Bolt	-004B Retention
960-10	4	3/16 x 7/16 Flat Washer	
364-1032	4	10-32 Lock Nut	
24-21	4	1/4-28 x 1 Grip Clevis Bolt	SPM6 to -012
960-416 L	8	1/4 x 1/2 THIN Flat Washer	Spacers
960-416	16	1/4 x 1/2 Flat Washer	Spacers
320-4	4	1/4-28 Castellated Nut	
380-2-2	4	1/16 x 1/2 Cotter Pin	
316-6	4	3/8-24 Check Nut	

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CONTROL LINKAGE

CONSTRUCTION MANUAL

HARDWARE SELECTION AND PLACEMENT

All hardware is identified on the Packing List by a PART NUMBER, with sizes. All hardware placement is identified on the drawing by this PART NUMBER. A flat washer is installed under all attaching nuts, unless otherwise instructed in the steps. All Castellated Nuts are safetied with a Cotter Pin.

Recommended Torque Values

3/16 Dia. Bolts ---- 25 inch lbs. 1/4-28 Bolts ---- 60 inch lbs.

USE THESE VALUES CONSISTENTLY UNLESS INSTRUCTED OTHERWISE IN THE PROCEDURE!

The components included with this package are cut to their final dimensions. The Rod End Bushings have been tapped to 3/8-24 threads for you.

Before assembly and installation of the 8-53-J2 Package, first follow instructions included with the 8-52-J2 Control System and install the Joystick on your Gyro, and the -012 Crossarm to the Rotor Head.

ASSEMBLY PROCEDURES

- Step 1 The -004B Rod End Bushing diameter may be too large to insert into the -004 Pushrod ends, as tube manufacturers tolerance may vary on the actual wall thickness of the tube. If yours are too large to allow a push-press fit into the pushrod, they should be filed or sanded until insertion can be made. An easy method to accomplish this is to chuck the Bushing in a drill chuck and hold sandpaper against the bushing with the drill running, until the correct diameter is reached.
- 2 Insert -004B Bushing with threaded end outward into each end of each pushrod tube and flush with the tube ends. Locate and drill a 3/16" hole as per drawing. Make certain holes are located on the same center line of tube. Insert both retention bolts from the same side of tube.
 3. Install 316-6 Check Nuts on the four 53-SPM6 Rod Ends. Install rod ends in tapped bushings in Pushrod.

When instructed to do so, following the 8-52-J2 Instructions, install completed Pushrod Tubes on -012 Crossarm, and 8-52-J2 Joystick Control System with a 24-21 Clevis Bolt. Use a 960-416 L THIN WASHER under bolt head and under Castellated Nut. Use two 960-416 Washer Spacers on each side of Rod End Bearing when connecting. (See Sketch 2) Torque the 320-4 Castellated Nuts to 40 - 50 Inch lbs, and install Cotter Pin.

4. Rotate Pushrods to leave the same amount of rod-end thread exposed on each end. Align Pushrod Bushing retention bolts with bolt head toward the Mast tube, and threads outward toward the wheels, 90 degrees to Keel tube. Align Rod Ends on each Pushrod to allow free-pivot of ends in all stick positions.

Make certain that both pushrods can rotate freely around their axes without jamming when stick is moved to full control limits of its travel. Perform pre-flight and lubrication inspections as instructed with the 8-52-J2 Package.

