

# **Section 16**

## **Rotor Hub Assembly**

---

**Procedures covered in this section:**

Fabricate collective scissor mount; adjust slider ball clamp; position and drill control arm "G"; install collective spring; install cyclic control cables.

**Cards used in this section:**

|               |             |             |
|---------------|-------------|-------------|
| HARDWARE CARD | E14 CARD 4F | E49 CARD 1F |
| E14 CARD 3F   | E15 CARD 1F | E49 CARD 2F |

**Prints used in this section:**

|          |          |
|----------|----------|
| E23-2000 | E49-2002 |
| E49-2001 |          |

**Templates used in this section:**

E13-1

**Tools required for this section:**

|                       |                  |               |      |
|-----------------------|------------------|---------------|------|
| Adjustable wrench 10" | Mallet           | Screwdrivers  | Vise |
| Air or electric drill | Pliers           | Spring scale  |      |
| Level                 | Protractor level | Torque wrench |      |

Drill bits of the following sizes: 1/8", 3/16", 1/4", 5/16", #19, #40

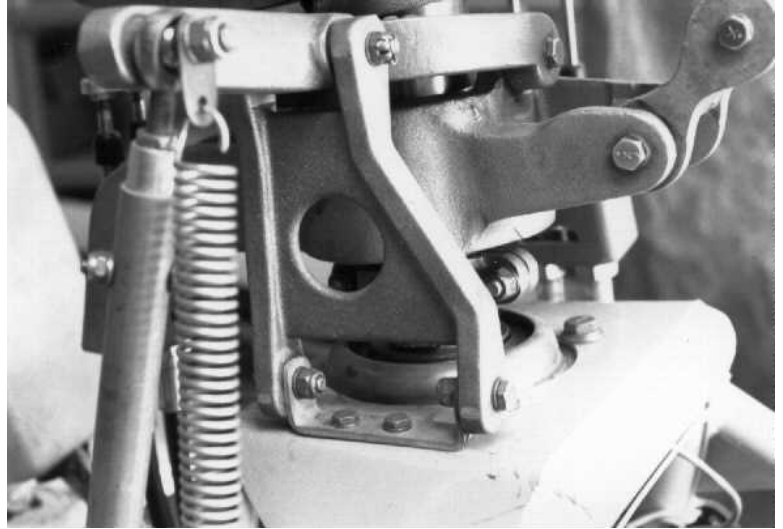
Ratchet with sockets of the following sizes: 3/8", 7/16", 1/2", 9/16", 7/8"

Wrenches of the following sizes: 3/8", 7/16", 1/2", 9/16", 7/8"



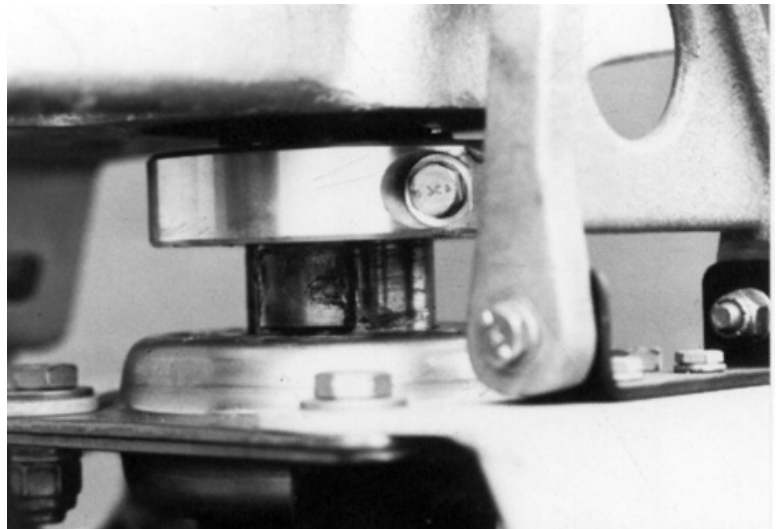
**Photo #1**

Fabricate the collective scissor mount as shown on print E23-2000. When bolting it to the hood bracket, be sure that the fore and aft ears of the non-rotating swash plate are parallel with the aircraft's center line.



**Photo #2**

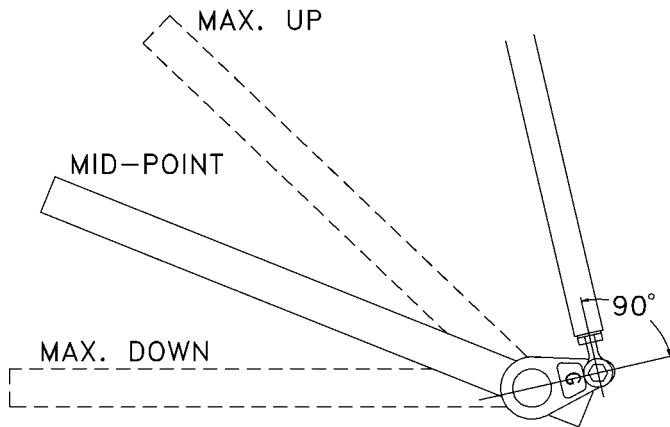
When the collective is in the full down position, the bottom of the slider ball should be approximately .050" from the top of the main shaft bearing. Adjust the slider ball clamp to achieve this measurement. The clamp is the down stop for the slider ball.



**Photo #3**

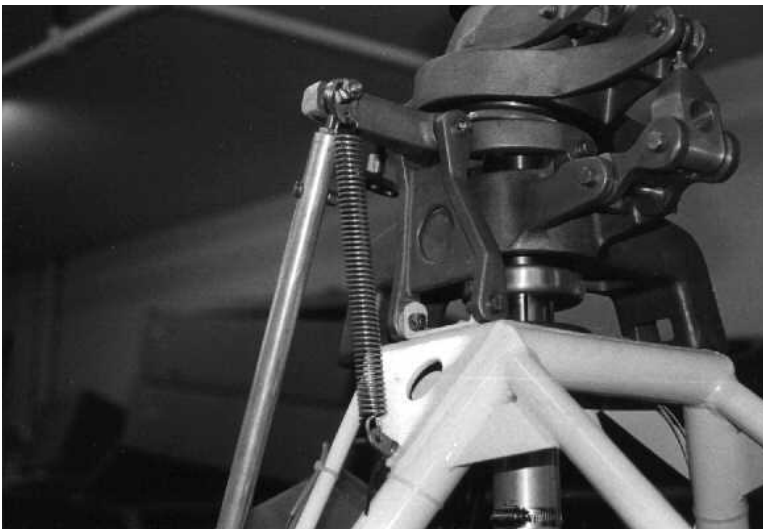
When the collective is in the full up position the lower part of the slider ball must not come out of the slider ball clamp.





**Photo #4**

When the collective is at the center of travel, control arm "G" and the collective control rod should be 90 degrees relative to each other. Hold this position, drill control arm "G" and install the bolt.



**Photo #5**

Drill the airframe hood bracket and install the eye bolt for the collective spring. Use an all metal thin locknut on the eye bolt. Make the collective spring bracket and install the spring.

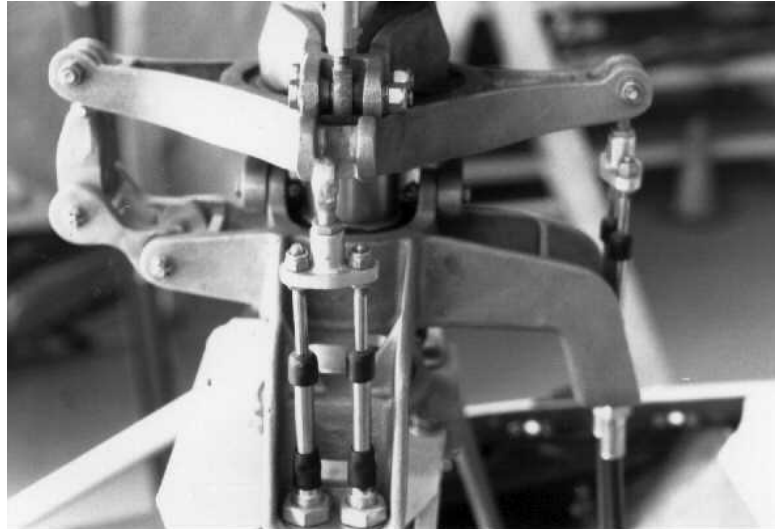


**Photo #6**

Install the cyclic control cables in the cyclic cable mount so there is an equal amount of thread on both the inside and outside of the cable mount.

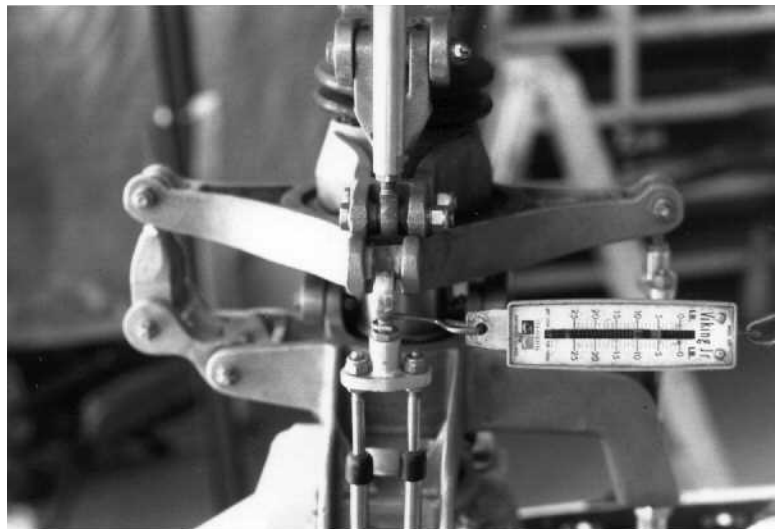
**Photo #7**

Install the cyclic control cable "T" on the end of the cyclic control cables so that the rod end is offset to one side of the opening in the non-rotating swash plate.



**Photo #8**

For the correct bias of the cyclic control cables, use a spring scale and attach it to the rod end. Pull four pounds in the direction shown to align the rod end with the opening in the non rotating swash plate. Adjust the 1/4" nuts on the end of the cables until this is achieved.



**Photo #9**

When the bias is correct, install the rod end in the non rotating swash plate.  
Note: Set the bias of both fore/aft and lateral cables using this method.

