



# SERVICE INFORMATION LETTER

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Date: August 4, 1982  
Subject: Clutch Control & Belt Tension Rigging Procedure  
Models: F-28A, F-28C, F-28C-2, F-28F, 280, 280C & 280F  
Effectivity: All Serial Numbers

The following instructions are being issued to illustrate the correct procedure for maintenance personnel in checking and re-rigging of clutch control and belt tensioning mechanism. These instructions supersede all previous information including SIL No. 0080. It is recommended that the rigging be checked upon receipt of this letter and at all subsequent 100-hour inspections. This rigging procedure should be carried out in full when replacing any component in the clutch engagement system.

## STATIC INSPECTION (Checked with engine off)

This will allow the operator or maintenance personnel to determine if the drive belt tension, the belt tension mechanism, the actuator, and the clutch control handle are rigged correctly and in the proper operating position.

- (a) Engage clutch control handle in cockpit (Ref. Figure 2-A) and stow handle as indicated.
- (b) Viewing the belt tension mechanism, check that the overcenter stop (Figure 3, Item 8) is tightly against side plates (Figure 3, item 9). This will indicate if the mechanism is properly locked overcenter.

WARNING: Extreme caution should be used when belt tension mechanism is in engaged position. Keep hands away from this mechanism when engaging or disengaging clutch, or personal injury could occur.

If the mechanism is properly locked overcenter, proceed to Item (c). If not locked overcenter, disengage clutch and proceed to Section A and B to properly rig.

- (c) View bellcrank (Figure 3, Item 2). With clutch engaged, the top edge of the bellcrank should be horizontal (i.e., parallel) to lower aft pylon cross tube. Tolerance is horizontal to 3° below horizontal.

If bellcrank is in proper position, proceed to Item (d). If not, proceed to Section D, steps 5 and 6.

- (d) View spring capsule piston (Figure 3, Item 6). With clutch engaged, the proper extension of piston (6) is 1 5/8 to 1 3/4 inches from top of spring capsule to bottom of piston nut.

If piston has correct extension, proceed to Item (e). If not correct, proceed to Section D, step 7.

- (e) View clutch engagement lever. With clutch engaged and clutch lever in stowed position (Figure 2-A), the lever should lie flat on the floor.

If lever does not lie flat, rig per Section E, steps 1 and 2.

NOTE: Rigging between the clutch control handle and the belt tension mechanism will usually remain constant unless some portion of this system is removed or replaced.

Section D - Belt Tension Adjustment will have to be re-checked after belt replacement or drive system disassembly to assure proper belt tension and rigging.

### CLUTCH CONTROL RIGGING

NOTE: The clutch is rigged in the following steps. Rigging is to be completed in the sequence listed, with the engine off.

#### A. Preliminary Clutch Lever Adjustment

1. Disconnect idler rod end (1) from bellcrank (2). (Ref. Figure 1.)
2. Place clutch lever in engaged position. (Ref. Figure 2-A.) With clutch engaged, lift and release lever to stowed position. Adjust turnbuckle (3) until clutch lever will lie flat on floor. (Ref. Figure 2-A.)

#### B. Preliminary Belt Tension Mechanism Check

1. Check the following items before proceeding with clutch rigging. (Ref. Figure 3.)
  - a. Rod end (10) must be turned on clutch cable until it bottoms out. Back it off 1/2 turn for alignment and secure with jam nut.

- b. Clutch cable is to have one thread exposed above jam nut (11).
- c. Engage clutch lever and check that belt tension assembly is locked over center with stops (8) contacting side plates (9).

C. Spring Capsule Clearance Adjustment (Ref. Figure 1)

- 1. Connect idler rod end (1) to bellcrank (2).

NOTE: Adjust spring capsule clearance with clutch disengaged.

- 2. Loosen jam nut (5) and turn piston (4) in or out of spring capsule to obtain 1/16 to 1/8 inch clearance between threaded shaft and lower pivot spacer of bellcrank (2). (Ref. Figure 1.)
- 3. Re-check clearance after engaging and disengaging clutch.
- 4. Lock jam nut (5) against piston (4).

D. Belt Tension Adjustment

- 1. Disengage clutch.
- 2. Disconnect rod end (1) from bellcrank (2). (Ref. Figure 3.)
- 3. Loosen jam nut (5) and adjust shaft (3) in or out of idler yoke (4) until approximately 3/4 inch of threads are exposed beyond jam nut (5) as a preliminary starting point.
- 4. Connect rod end (1) to bellcrank (2) and engage clutch.

NOTE: Do not secure rod end to bellcrank at this time since adjustment to shaft (3) may be necessary.

- 5. With clutch engaged check the following: (Ref. Figure 3.)
  - a. Top edge of bellcrank should be horizontal (i.e., parallel) to lower aft pylon cross tube.

NOTE: Tolerance is horizontal to 3° below horizontal.

- b. Measure the exposed length of spring capsule piston (6) from the bottom of the piston nut to the top of the spring capsule (7). The exposed length should be 1 5/8 to 1 3/4 inches.

NOTE: Insure measurement is taken from the bottom of the piston nut, NOT the jam nut on top of piston nut.

6. Adjust shaft (3) to obtain the proper bellcrank position. (Ref. Figure 3.)
  - a. Disengage clutch.
  - b. Disconnect rod end (1) from bellcrank (2).
  - c. Adjust shaft (3) in or out of yoke (4).
  - d. Connect rod end (1) to bellcrank (2). Engage clutch and re-check bellcrank position.
  - e. Repeat steps (a) through (d) until top of bellcrank is horizontal.
  - f. Secure jam nut (5) against yoke (4).
  - g. Secure rod end (1) to bellcrank (2).
7. Engage clutch and check the 1 5/8" to 1 3/4" measurement of exposed piston (6). Adjust as follows:
  - a. Loosen jam nut on top of piston (6).
  - b. Turn piston in or out of spring capsule to obtain 1 5/8" to 1 3/4" measurement from top of spring capsule to bottom of piston nut. (Ref. Figure 3.)
  - c. With correct measurement, secure jam nut against piston.

#### E. Final Clutch Lever Adjustment

1. Place clutch lever in engaged position. (Ref. Figure 2—A.) Lift and release lever to stowed position and re-check that lever will lie flat on floor. Further adjust turnbuckle (3) to obtain this position.



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2. Secure jam nuts on turnbuckle.

NOTE: With clutch engaged, re-check that belt tension mechanism is locked in overcenter position. (Ref. Figure 3.) Stops (8) must contact side plates (9).

WARNING: Keep hands away from belt tension mechanism when engaging or disengaging clutch, or personal injury could occur.

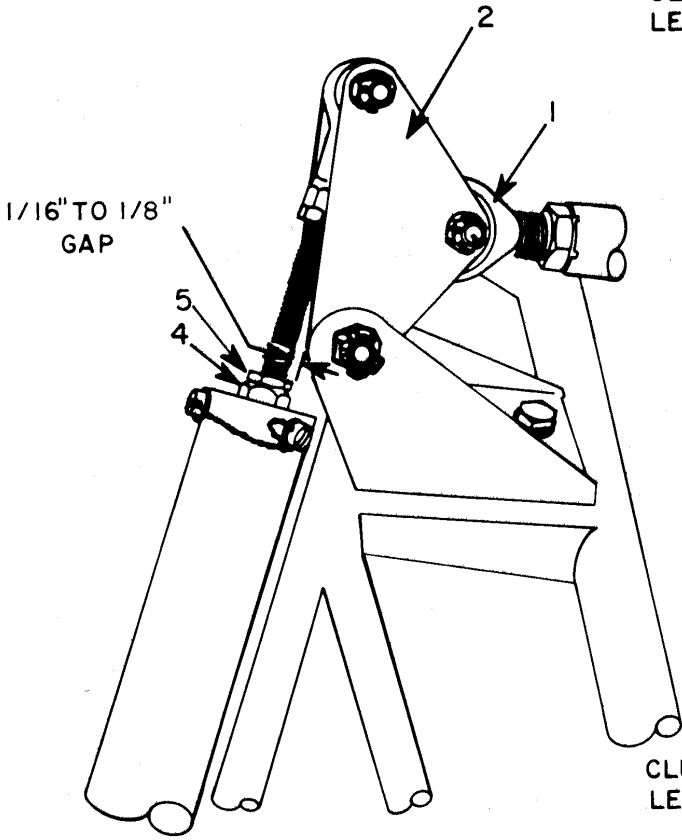


FIGURE 1

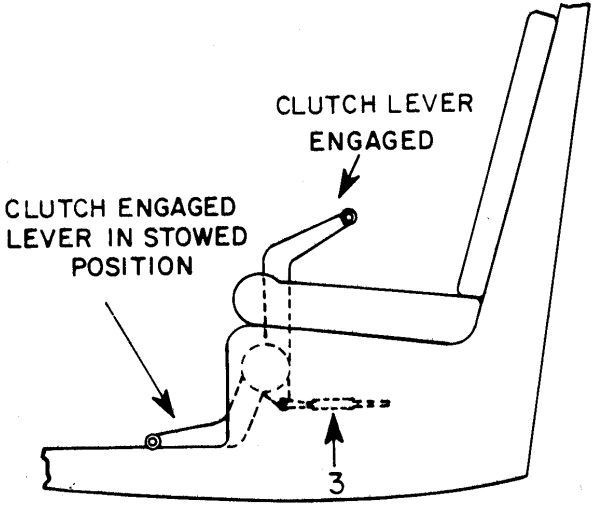


FIGURE 2-A

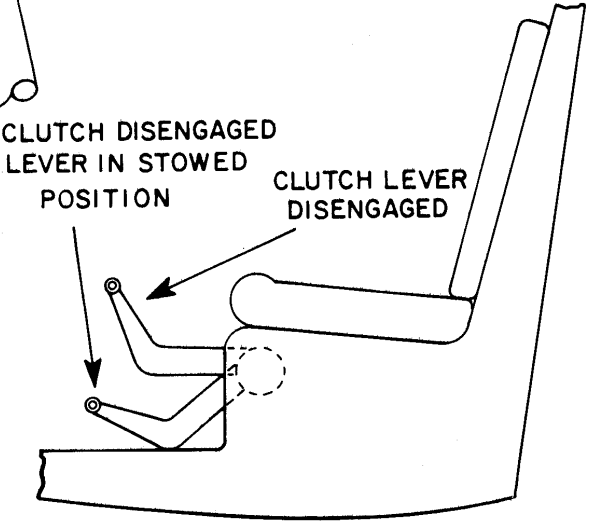


FIGURE 2-B

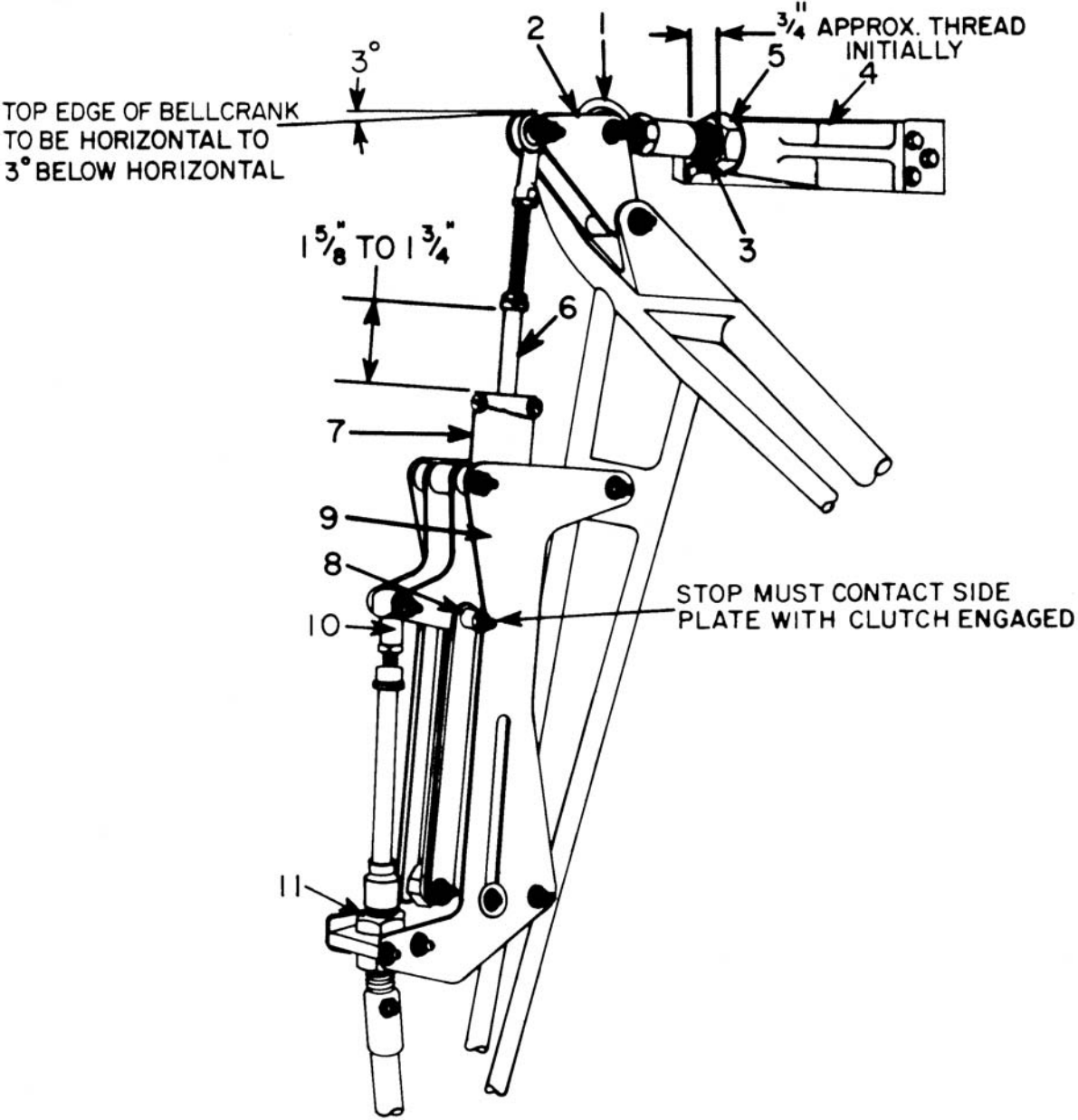


FIGURE 3