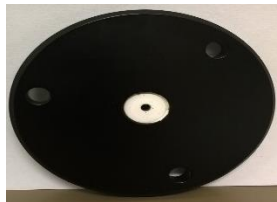


Tailcone Alignment Work aid, Using T-0199-1 (Laser Fixture), T-0200-5 (Target)

Required special tools:



T-0199-1



T-0200-5

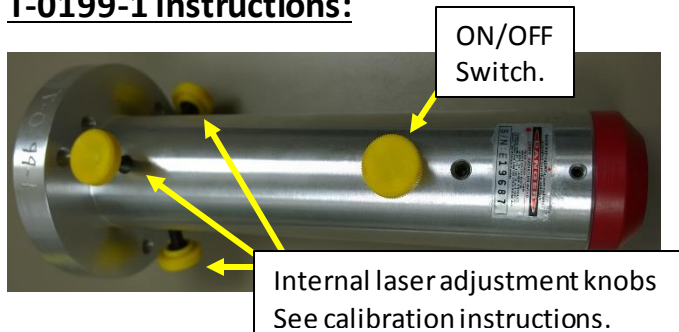
References:

1. Turbine: ***Maintenance Manual***, Page: 8-75, 8-76, 8-77. ***IPC*** page: 3-2, 3-30.
2. Piston: ***Maintenance Manual*** (Piston), Page: 8-37, 8-38, 8-39. ***IPC*** page: 7-37, 7-38.

NOTE:

1. If the tailcone is removed and to be reinstalled, record placement and stack up of shims between tailcone and pylon mounts, shims are reinstalled in the same position as removed from, no alignment is required.
2. If either tailcone or pylon is replaced, perform tailcone alignment as follows in accordance with the maintenance manual and this work aid.

T-0199-1 instructions:



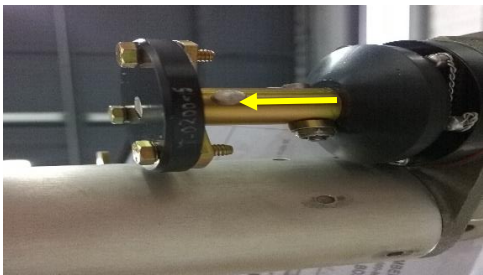
Installation:

Figure 1



1. Install T-0199-1 (laser fixture) onto the MRGB tail rotor driveshaft flex plate bracket using hardware supplied with the T-0199-1, or using the hardware removed during disassembly.

Figure 2



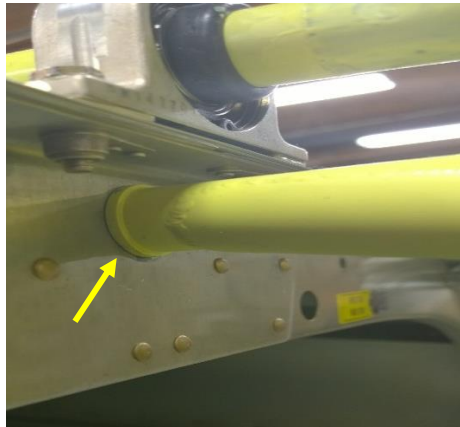
2. Install T-0200-5 (target fixture) onto the tail rotor gear box flex plate bracket using hardware supplied with the T-0200-5, or using the hardware removed during disassembly.

Available tailcone to pylon shims:

1. *Washer: 3/8 harper.
2. Shim: 4112025-11: .007"
3. Shim: 4112025-13: .020"
4. Shim: 4112025-15: .025"
5. Shim: 4112025-17: .032"
6. Shim: 4112025-19: .063"

*** Refer to the maintenance manual for use of this washer as a shim.**

1. The maximum total shim thickness is limited to 0.014" for the **upper mount**. If more shims are required contact Enstrom customer support department.



2. The maximum total shim thickness is limited to 0.135" for the **bottom mounts** (either side). If more shims are required contact Enstrom customer support department.

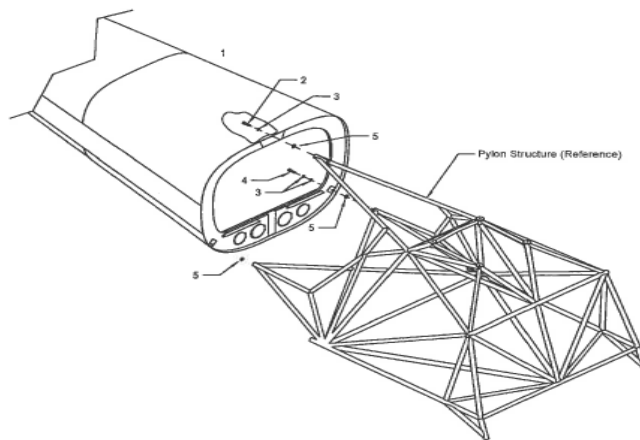


3. Shimming the top pylon to tailcone mount will move the projected laser up on the T-0200-5 target. Shimming the bottom pylon to tailcone mounts will bring the projected laser down on the target. Shimming just the left or right bottoms mounts will move the projected laser either left or right on the target. The ratio of adding shims to the movement of the projected laser dot is approximately .010" to 1"

NOTE: Shim limitations are due to the grip length of the bolts.

Tailcone Alignment Procedure:

1. Mount the tailcone to the pylon in accordance with the maintenance manual (piston) paragraph 8-38 (F-28F), (280FX), or TH-28/ 480 series maintenance manual, paragraph 8-77.



2. Switch laser fixture to ON to project the beam onto the target fixture.



3. Rotate the laser fixture 360° by turning the upper pulley to check for concentricity (wobble) of the projected beam.
 - a. If the projected laser beam does not rotate concentric to within 0.50" or less, (detectable wobble) the laser fixture must be calibrated. (See tailcone alignment tool T-0199-1 calibration procedure). Recheck the concentricity after calibration adjustments. See Fig, 3
 - b. If the projected beam rotates concentric to within 0.50" or less, see Fig, 4, proceed to paragraph 6.

NOTE:

Wobble can be defined as the path of movement of the projected laser dot on the tail rotor gear box target fixture.

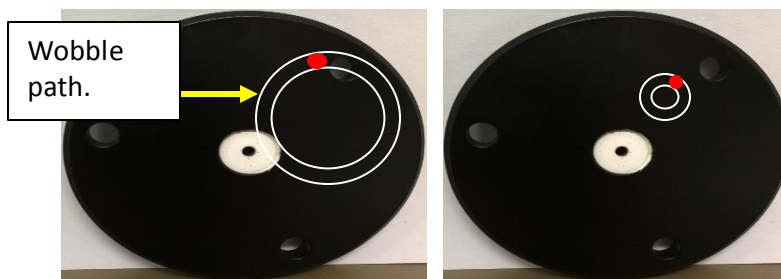
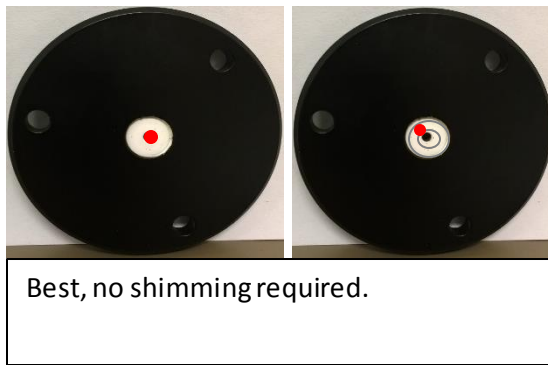
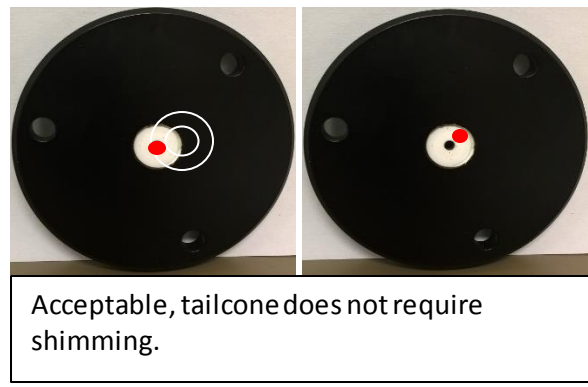
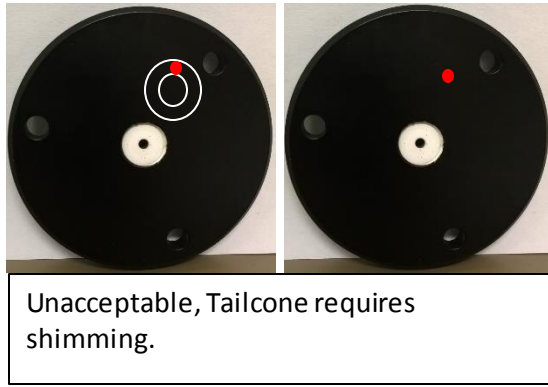


Figure 3

Figure 4

4. The beam must project within or pass through the center of the 0.50" diameter target zone in the center of the target fixture.





NOTE:

These diagrams depict typical examples of the projected beam (laser dot) on the target. The laser dot projected on the targets are with and without a wobble path.

5. Once the projected laser beam is within calibrated tolerance on the target note where the dot is projected on the target. Shim accordingly.
6. Remove the pylon mounting hardware where shims are to be positioned. Insert shims as required between the tailcone and pylon and reinstall the mounting hardware. Repeat as necessary to bring the laser dot within the acceptable range.

Tailcone Alignment Tool T-0199-1 (laser) Calibration Procedures:



T-0199-1

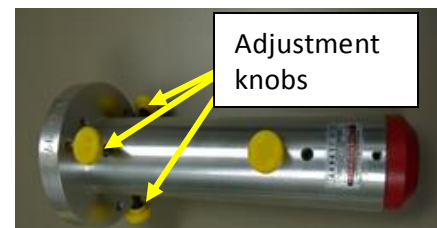


T-0200-5

Follow procedures 1 through 5 in Enstrom Work Aid Document: *Tailcone Alignment using T-0199-1 (laser) and T-0200-5 (target)*

To calibrate the laser within 0.5" of "wobble" or less use the three adjustment knobs nearest the mounting flange on tool T-0199-1.

Label the three adjustment knobs in order to monitor the adjustments being made.



The laser is held in place near the tip by **allen head screws that are not to be adjusted**. All adjustments are to be made at the adjustment knobs near the mounting flange of the tool.

Rotate the tool 360° several times on the transmission by turning the upper pulley. Note the laser track on the target.

Adjust the knobs as required to bring the laser wobble within 0.5" or less.

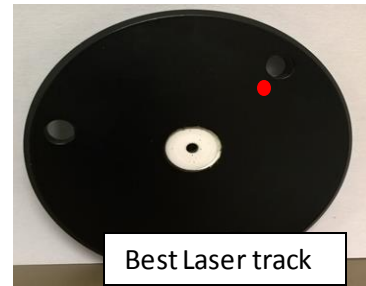
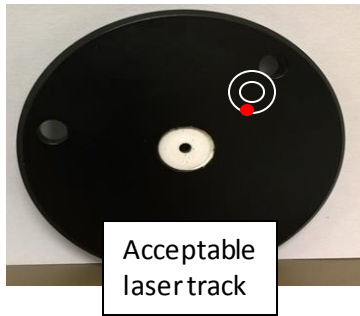
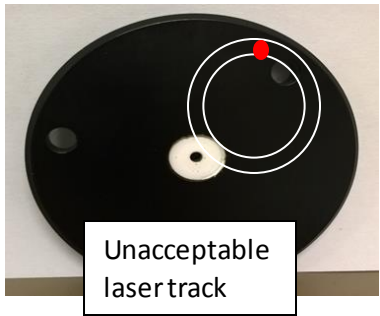


NOTE:

You must loosen at least one adjustment knob in order to tighten another adjustment knob.



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Once laser track is brought into within 0.5", continue with the installation and alignment of the tail cone assembly.