

Trim Wheel Installation Instructions for Cessna 180, Early 182, and 185 Aircraft

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McFarlane Aviation, LLC.
696 E. 1700 Road
Baldwin City, Kansas 66006

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Cessna Trim Wheel Kit Installation Instructions

1. Background

Reports have highlighted issues with the OEM Cessna 180, early 182, and 185 trim wheels. The OEM Cessna trim wheel has a shaft with the trim wheel and sprocket pinned to it separately. There have been many cases where the pin has either sheared or fallen out completely. This has resulted in loss of elevator trim and in some cases run away trim.

Additionally, the OEM trim wheel is made of a Bakelite-Phenolic material which has been known to crack at the spiral indicator grooves. This allows the indicator wire to jump grooves. In addition, this can allow the indicator wire to get caught and wedged between the grooves which could lock the trim wheel making the elevator trim immovable.

McFarlane Aviation, LLC. now offers a new aluminum replacement elevator trim wheel design that alleviates the above-mentioned OEM trim wheel shortcomings. The McFarlane Trim Wheel design utilizes rivets to fasten the trim wheel to the sprocket ensuring that the two parts do not separate unlike the OEM trim wheel. The trim wheel sprocket assembly is pinned to the shaft, the shear load on the pin is minimized because all the torque is taken up by the rivets that mate the trim wheel and sprocket. The shaft is now free to rotate on the airframe bearings without any torque load. In doing this, the possibility of loss of elevator trim control or runaway trim is greatly reduced.

By manufacturing the trim wheel out of aluminum, the risk of breaking the spiral groove barrier is greatly reduced, if not entirely eliminated. This reduces or eliminates the potential of a trim indicator malfunction and a locked elevator trim wheel.

The new McFarlane aluminum elevator trim wheel is a low-cost direct replacement trim wheel for the ageing Cessna 180, early 182, and 185 aircraft fleet.

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2. Installation Instructions

2.1. Cessna Trim Wheel Kit Parts List

Ensure that you have received all the necessary parts for your kit. The table below lists all the parts you should have received with this STC. If your kit is missing any of the below parts, contact McFarlane Aviation immediately.

CESSNA TRIM WHEEL KIT – Parts List

Description	Part Number	Quantity
Elevator Trim Wheel	QMI-0761205-01	1
Backer Bushing	QMI-0761205-02	1
Sprocket	QMI-0761210-01	1
Rivet	MS20470AD3-17	3
Long Shaft ¹	QMI-0761205-09	1
Roll Pin, .094 x .500 ¹	MS16562-25	1
Roll Pin, .062 x .500 ¹	MS16562-6	2
Short Shaft ²	QMI-0761205-002	1
Roll Pin, .094 x .500 ²	MS16562-25	1

¹Long Shaft and indicated Roll Pins are bagged together.

²Short Shaft and indicated Roll Pin are bagged together.

2.2. Aircraft Eligibility

Before installing, use the table below to confirm you are using the correct shaft for your aircraft's model and serial number.

Cessna Aircraft Model	Aircraft S/N	Use Shaft:
180	Early aircraft up to 180-51607	QMI-0761205-002 (Short Shaft)
	180-51608 thru later aircraft	QMI-0761205-09 (Long Shaft)
182	Early aircraft up to 182-53598	QMI-0761205-002 (Short Shaft)
185	Early aircraft up to 185-0949	QMI-0761205-002 (Short Shaft)
	185-0968 thru later aircraft	QMI-0761205-09 (Long Shaft)

2.3. Aircraft Preparation

If the aircraft has the OEM trim wheel in place, it needs to be removed.

1. Disconnect the trim cables at the turnbuckles aft of the baggage compartment.
2. Remove trim wheel cover assembly by removing attaching screws.
3. Remove the screws attaching right bearing support bracket and remove the bracket. On later serial numbered aircraft, remove the roll pins and washers at the ends of the trim wheel shaft to remove the bracket.
4. Remove the trim wheel. Disengage the chain from the sprocket as trim wheel is being removed.



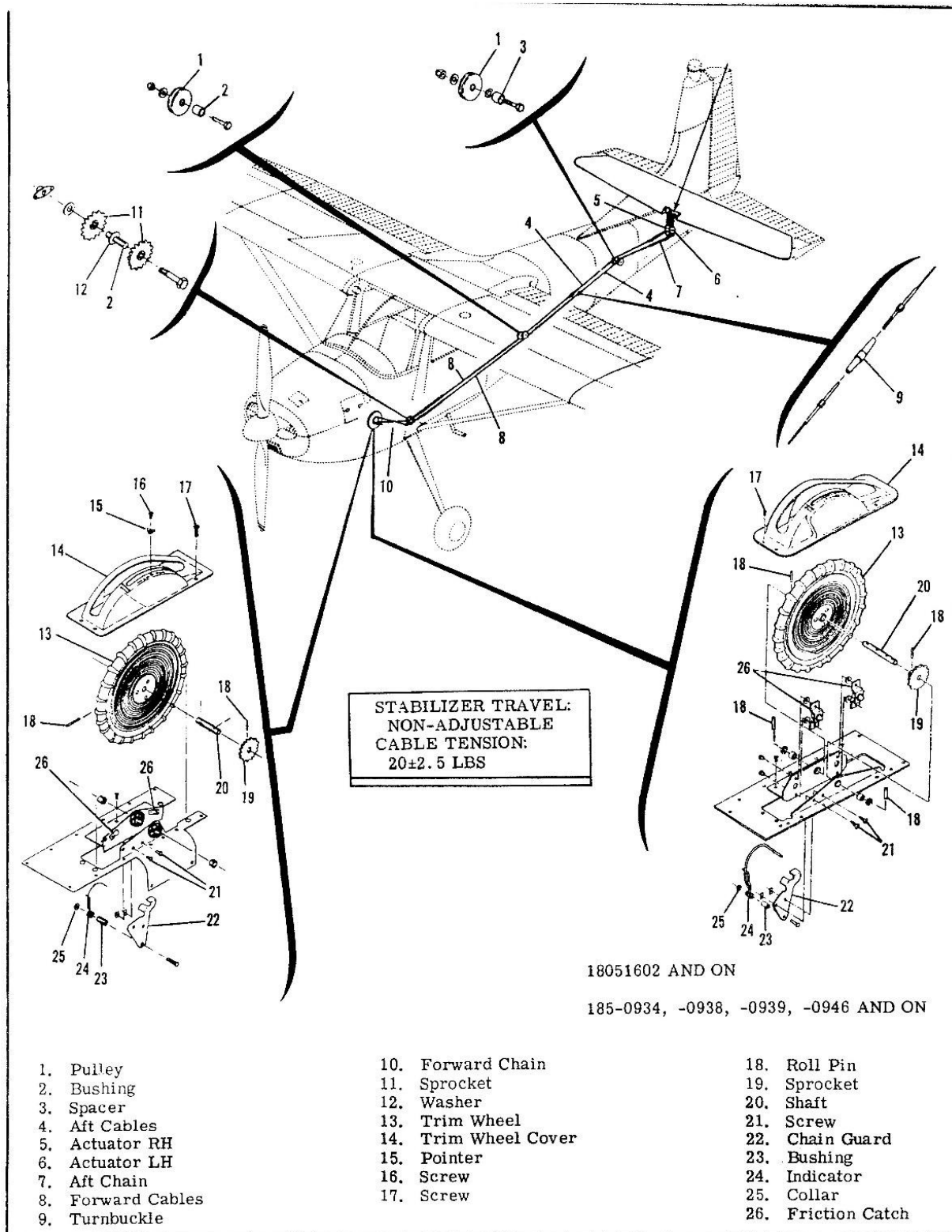
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2.4. STC Installation

To install the new McFarlane aluminum trim wheel, attach the appropriate shaft for your aircraft (see Section 2.2) to the trim wheel assembly using the provided MS16562-25 roll pin, then reverse the steps in Section 2.3 above. See the diagram on the next page for clarification:

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2.5. Installation Diagram





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3. Weight and Balance

The McFarlane aluminum trim wheel STC exchange weight is negligible therefore no changes to the aircraft Weight and Balance is required after installing this STC.

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