

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

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**FAA Project Number: ST02202AK-A**

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## Record of Revisions

Rev Level	Date	Page	Author	Explanation of Revisions
IR	10/04/2019	-	Doug Keller	Initial Release
A	11/01/2019		Doug Keller	Clarification of the trim wheel assembly
B	05/25/2020	6	Doug Keller	Clarification of aircraft model & S/N application

## Distribution of Changes

A current copy of this manual will be maintained on the QMI, Inc. website:  
[www.cessnarepairs.com](http://www.cessnarepairs.com)

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## 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.

QMI, Inc. has come up with a new aluminum replacement elevator trim wheel design that alleviates the above-mentioned OEM trim wheel shortcomings. The QMI 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 QMI aluminum elevator trim wheel is a low-cost direct replacement trim wheel for the ageing Cessna 180, early 182, 185 aircraft fleet.

## 2 Installation Instructions

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.

To install the new QMI aluminum trim wheel, reverse the steps above. See the diagram on the next page for clarification:

For Cessna 180 Aircraft:

Use QMI-0761205-03 "Early Elevator Trim Wheel Assembly for aircraft S/N thru 180-51607.

Use QMI-0761205 "Late Elevator Trim Wheel Assembly for aircraft S/N 180-51608 and later.

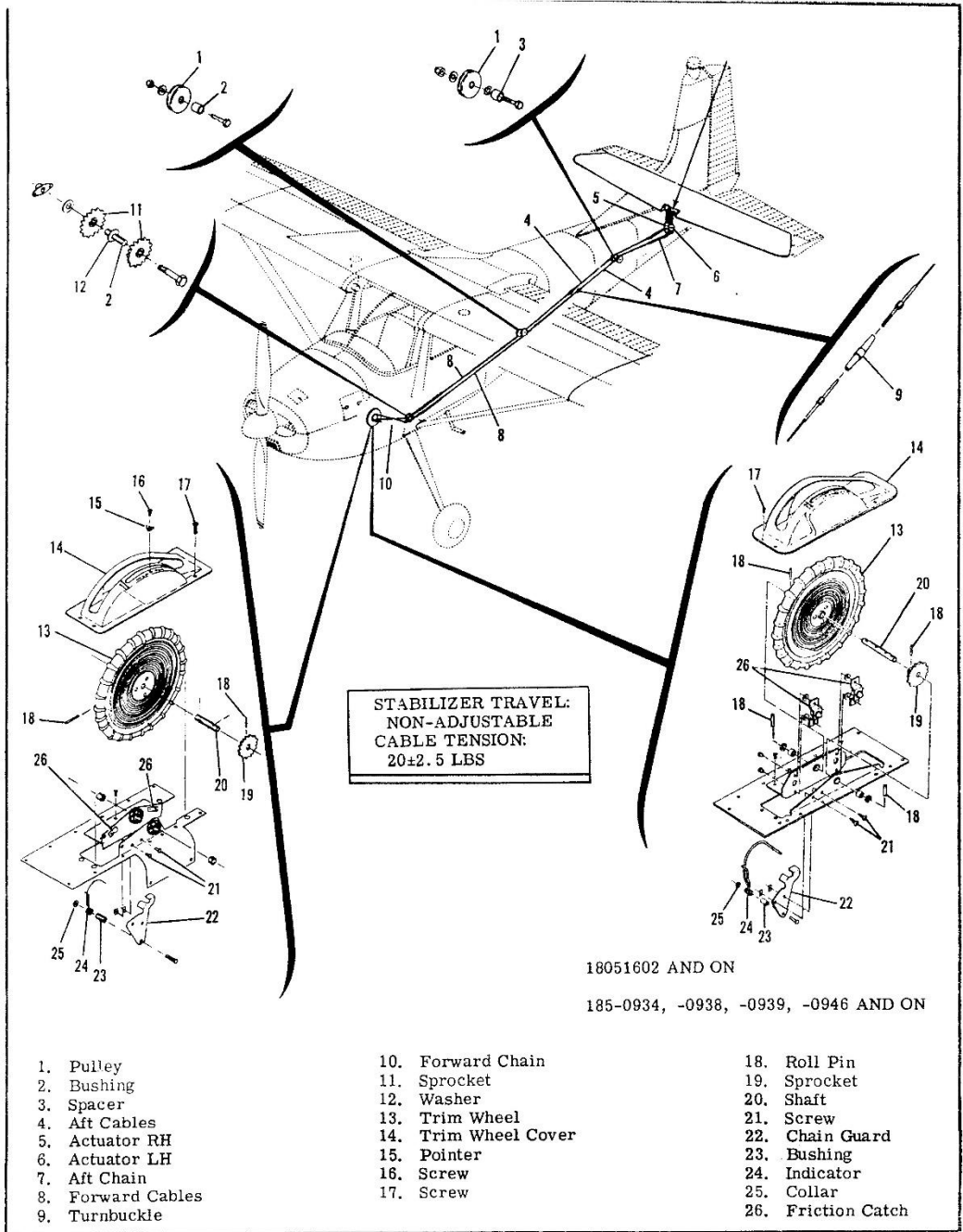
For Cessna 182 Aircraft:

Use QMI-0761205-03 "Early Elevator Trim Wheel Assembly for aircraft S/N thru 182-53598.

For Cessna 185 Aircraft:

Use QMI-0761205-03 "Early Elevator Trim Wheel Assembly for aircraft S/N thru 185-0949.

Use QMI-0761205 "Late Elevator Trim Wheel Assembly for aircraft S/N 185-0968 and later.



### 3 Weight and Balance

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

### 4 Trouble Shooting

To be updated with common Problems and Corrections if necessary when and if they arise when more kits are installed in the field.

### 5 Drawings and Diagrams

Descriptive Data List

Document Title	Document Number	Revision Level	Pages	Date
Instructions for Continued Airworthiness	Report 004	A		11/01/2019
Late Elevator Trim Wheel Assembly	Drawing QMI-0761205	A		5/25/2020
Early Elevator Trim Wheel Assembly	Drawing QMI-0761205-03	IR		5/25/2020

### 6 Engineering Changes and Amendments

In the event that a change or amendment is made to the design, components, or procedures contained within this manual or STC that affect airworthiness of the installation; QMI, Inc. will notify the recorded owners in writing of the affected element(s) and provide the necessary data for compliance.



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**CESSNA 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K, 182, 182A, 182B,  
182C, 185, 185A, 185B, 185C, 185D, A185E, A185F Elevator Trim Wheel STC MDL**

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Revision: D 5/25/2020

Drawing Number	Description	Date	Rev.
QMI-0761205	Late Elevator Trim Wheel Assembly	05/25/2020	A
QMI-0761205-01	Elevator Trim Wheel	05/14/2019	A
QMI-0761205-02	Backer Bushing	01/15/2019	IR
QMI-0761205-03	Early Elevator Trim Wheel Assembly	05/25/2020	IR
QMI-0761210-01	Sprocket	12/21/2018	IR
QMI-0761205-09	Shaft	01/15/2109	IR
QMI-0761205-002	Short Shaft	05/05/2020	IR
N/A	Trim Wheel Installation Instructions	05/25/2020	B