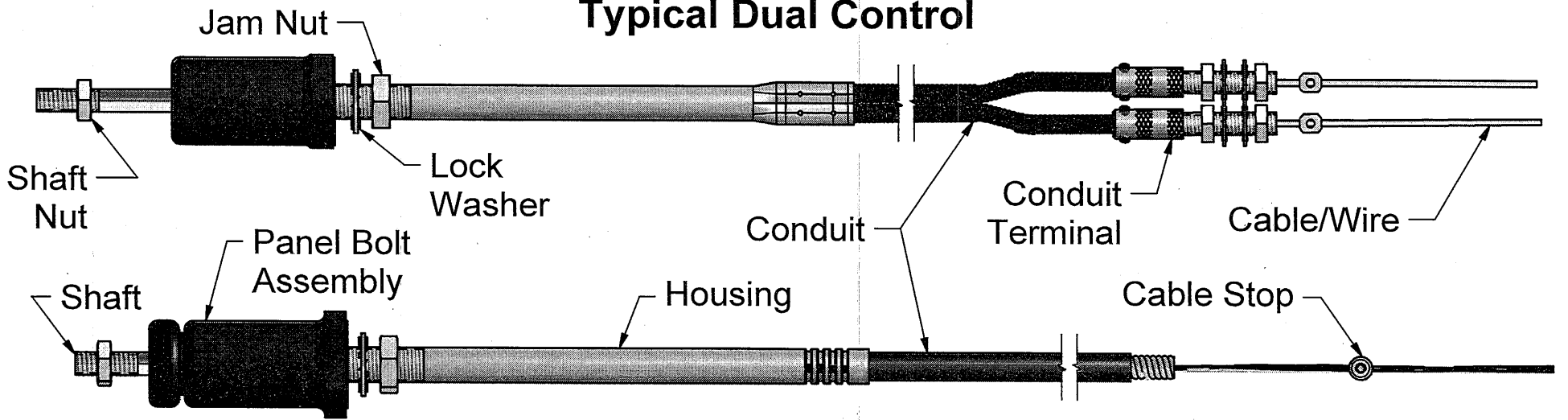


Vernier-Assist™ Control Without Push Rod Installation Instructions

Typical Dual Control

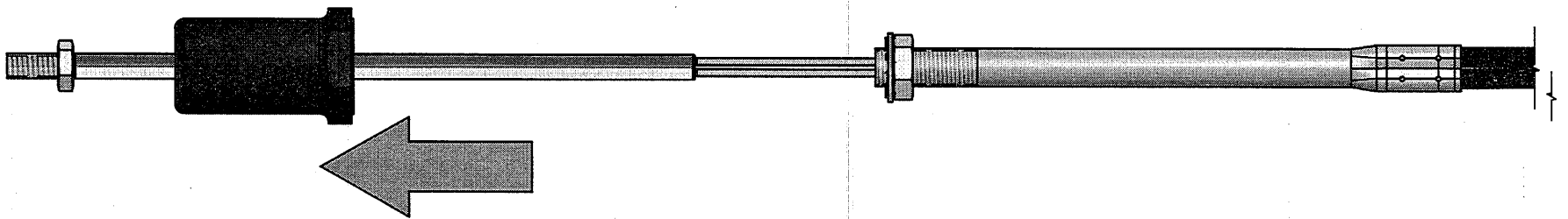


Typical Single Control

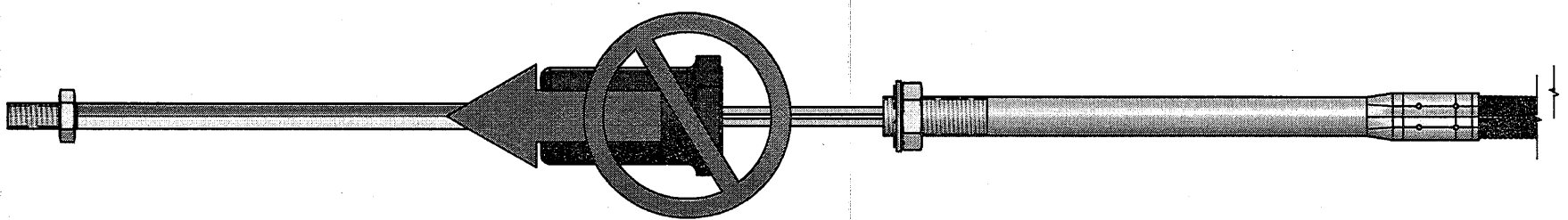
Caution: During the installation process, a shaft must always remain completely inserted though the Panel Bolt Assembly or internal parts will be lost or mis-aligned.

Note: Minor configuration differences or alternate options from the controls shown will not affect the installation methods described.

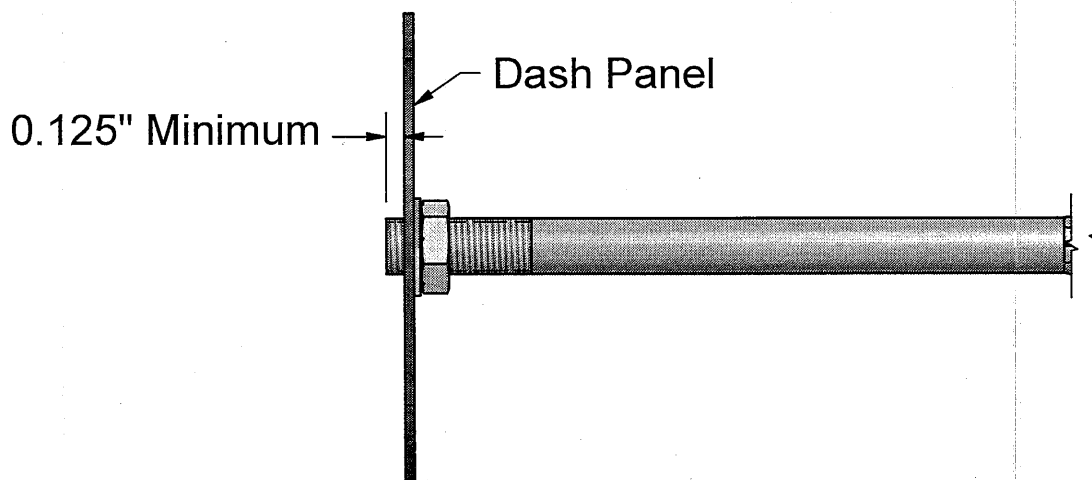
1. Remove the Cable Stop from the Cable(s)/Wire(s) and unthread the Panel Bolt Assembly from the Housing. Remove the Shaft, Shaft Nut, Panel Bolt Assembly, and Cable(s)/Wire(s) from the Housing and Conduit(s).



Caution: The shaft must remain inserted completely though the Panel Bolt Assembly or the control may be permanently damaged.



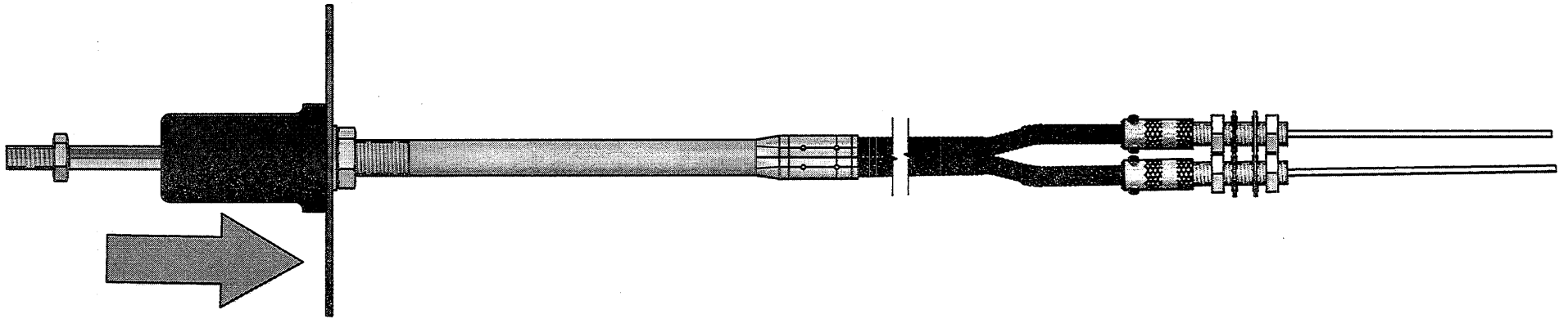
2. Insert the housing assembly through the back of the dash panel so that the housing extends past the dash panel by a minimum of 0.125". Route, install, and trim (if applicable) the remaining conduit and push rod end of the control. For best results, conduit routing should be as direct as possible with any bending kept at the largest possible radius.



Project Engineer: <i>[Signature]</i>	Engineering Manager: <i>[Signature]</i>	Quality Manager: <i>[Signature]</i>	Manufacturing Manager: <i>[Signature]</i>
Date: 6/16/12	Date: 8/15/12	Date: 8/17/12	Date: 6-12-12
McFarlane		McFarlane Aviation, Inc. 696 East 1700 Road Baldwin City, Kansas 66006	
Title: INSERT, V.A., GENERAL, WIRE			
Size: B	Drawn: BWM	Sheet: 1 of 2	
Part Number: N/A		Drawing Number: 6310	REVISION 2
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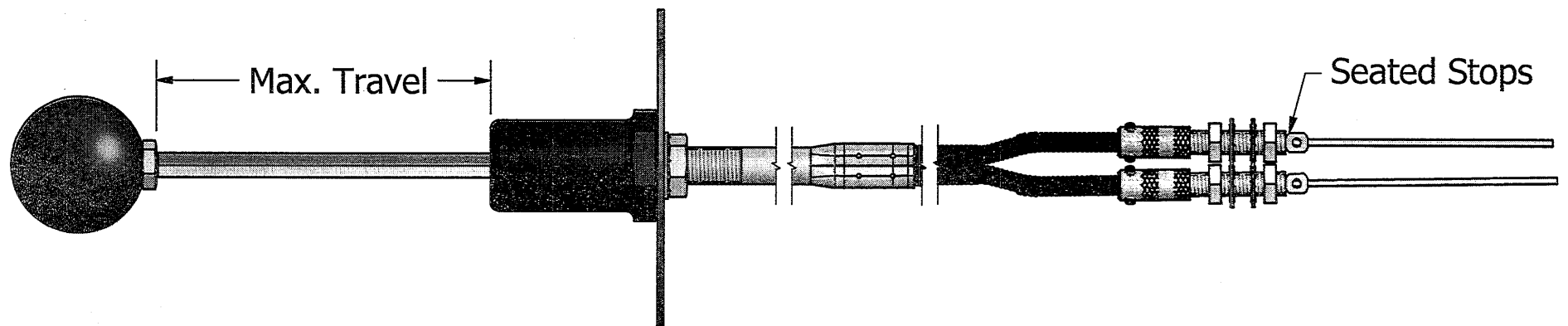
3. Carefully feed the inner Cable(s)/Wire(s) into the housing and conduit. Thread the Panel Bolt Assembly onto the Housing. Tighten the Lock Washer and Jam Nut to secure the control to the Dash Panel.

Caution: The shaft must remain inserted completely through the Panel Bolt Assembly or the control may be permanently damaged.



4. Trim and secure the Wire(s)/Cable(s) for the control. Secure the Cable Stop(s) so that they are flush with the end of the trimmed Conduit (or Conduit Terminal(s)) when the control is at the maximum rated travel.

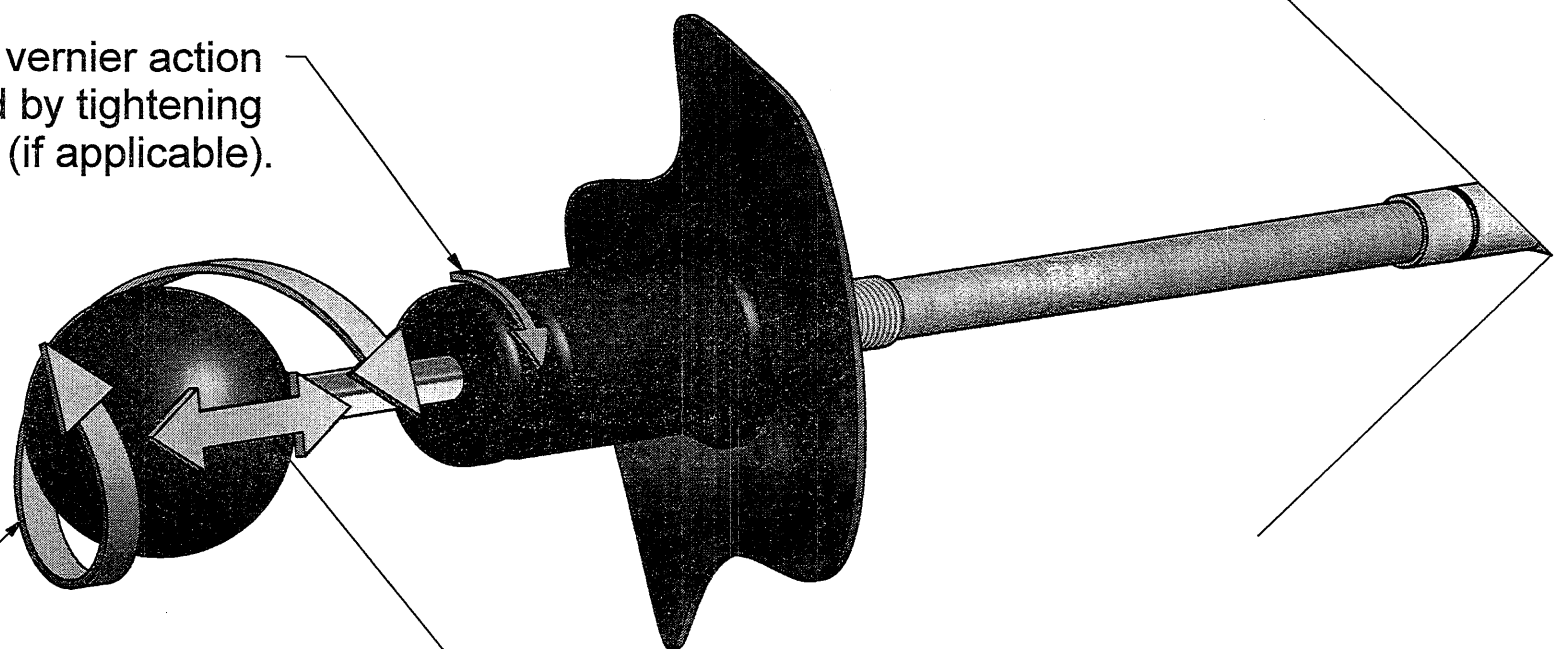
Caution: Do not exceed the maximum listed travel for the control or it could be permanently damaged.



5. Install the Jam Nut and Knob onto the Shaft to complete the control. This is best accomplished by gripping the Knob and tightening the Jam Nut, a thin strip of rubber or other high friction material will aid in holding the knob during installation.

Caution: Do not use pliers, vice grips, or any other tool that may damage the surface of the Shaft or the control's performance will be degraded.

Tension and vernier action is increased by tightening the tension nut (if applicable).



Large adjustments are made by pushing the knob inwards or pulling the knob outwards.

The McFarlane **Vernier-Assist** type control uses a patented spring and roller drive and does not use a positive lock thread engagement. Fine adjustments are made by rotating the knob clockwise or counterclockwise. During rotation, slight inward or outward pressure may be required for vernier action depending on the amount of drag produced by the conduit routing.

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Title: INSERT, V.A., GENERAL, WIRE			
Size: B	Drawn: BWM	Sheet: 2 of 2	
Part Number: N/A	Drawing Number: 6310	REVISION	2
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